

THE FUTURE OF GENERAL INTERNAL MEDICINE

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FINAL REPORT & RECOMMENDATIONS

Unabridged

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The Task Force report and its recommendations were accepted by the SGIM Council in August 2003. The final report—[released Sept. 20th, 2003](#)—is the product of the commitment and dedication of the Task Force members who incorporated feedback from SGIM members and leaders, as well as numerous stakeholder groups outside of SGIM.

SGIM would like to extend its gratitude for all the feedback it received, and intends for this report to open dialog among stakeholder groups and decision makers to create change and strengthen the future of General Internal Medicine.

SECTIONS: Abstract
Introduction
Core Values
Adapting to a Changing Environment
A View to the Future
Implications for Practice, Training, and Research
Summary
Recommendations
References

ABSTRACT

The Society of General Internal Medicine asked a Task Force to redefine the domain of general internal medicine. The Task Force believes that the chaos and dysfunction that characterize today's medical care, and the challenges facing general internal medicine, should spur innovation. These are our recommendations: While remaining true to its core values and competencies, general internal medicine should stay both broad and deep—ranging from uncomplicated primary care to continuous care of patients with multiple, complex, chronic diseases. Postgraduate and continuing education should develop mastery. Wherever they practice, general internists should be able to lead teams and be responsible for the care their teams give, embrace changes in information systems, and aim to provide most of the care their patients require. Current financing of physician services, especially fee-for-service, must be changed to recognize the value of services performed outside the traditional face-to-face visit and give practitioners incentives to improve quality, and efficiency and provide comprehensive, ongoing care. General internal medicine residency training should be reformed to provide both broad and deep medical knowledge as well as mastery of informatics, management, and team leadership. General internal medicine residents should have options to tailor their final one to two years to fit their practice goals, often earning a certificate of added qualification (CAQ) in special generalist fields. Research will expand to include practice and operations management, developing more effective shared decision-making and transparent medical records, and promoting the close personal connection that both doctors and patients want. We believe these changes constitute a paradigm shift that can benefit patients and the public and re-energize general internal medicine.

INTRODUCTION

The Society of General Internal Medicine (SGIM) is dedicated to improving patient care, education, and research in primary care and general internal medicine. As generalists, general internists possess no exclusive franchise to any unique component of clinical care. General internists are particularly adept at providing care for chronically ill adults and managing patients with multiple diseases. General internists can also provide primary medical and hospital care across a broad age group. General internists may be ideally suited to provide ongoing, primary medical care for the growing number of seniors.

General internal medicine gained a new identity with the primary-care movement of the 1970s and experienced broad growth up until the early 1990s, realizing its zenith when it appeared that managed care or Clinton-inspired managed competition plans would place primary-care generalist physicians in a critically important role (1).

Now, however, many are questioning the future of general internal medicine. Practitioners do remain committed to providing high-quality patient care, and, in particular, to ongoing personal relationships with patients; but many struggle with low reimbursement, demands for brief (“five-minute”) visits that satisfy neither doctor nor patient, and seemingly endless increases in administrative burdens associated with practice (2). Medicine as a field is less attractive overall, as evidenced by declining application rates to U.S. medical schools (3). Interest in general internal medicine and other generalist disciplines (especially family medicine) has declined, in contrast to increased interest in medical specialization and resurgence of interest in ancillary specialties like anesthesiology, pathology, radiology, and higher-paying subspecialties like orthopedics, ophthalmology, cardiology, and gastroenterology. Anecdotes support the notion that students who enter medical school with an interest in general internal medicine and primary-care specialties may be discouraged by the uncertain financial status of the field, especially now that so many students have large educational debts (4).

Many practicing general internists report increasing role strain, working to provide comprehensive care to patients in the face of time constraints, restricted encounter-based reimbursement, an ever-changing and increasing knowledge base and merciless bureaucratic requirements (5, 6, 7). Ironically, academic general internists are increasingly being pressed into roles dominated by service demands—serving not only as preeminent teachers and leaders in many schools of medicine and academic medical centers, but increasingly as practicing generalist physicians necessary to support growing academic medical center clinical enterprises. Their practices are often justified for their “front-end” function—as a “loss leader” to bring people to the academic medical center for the downstream revenues generated from specialty, ancillary, and inpatient services. Many rank and file academic general internists now complain of increasing demands for productivity, brief visits, and increasing administrative burdens—echoing the frustrations of general internists practicing in the community (8, 9). Paradoxically, while general internists and other doctors at the local level seem mostly discontented, general internal

medicine is a source of uniquely talented leaders at the institutional and national level. This paradox may reflect that general internists are selected and trained to consider health problems broad context—contextual skills are currently better appreciated in large organizations than they are in the daily practice or in the reward structure of today’s academic centers.

Patients are also confronted with a rapidly changing healthcare environment, which is arguably in decline for patients and especially for the poor and disadvantaged minorities (10). Medical science continues to make major strides in the effectiveness of the preventive, acute, and chronic care we offer our patients. However, it is widely recognized that the delivery system is plagued by marked inefficiencies, a quality chasm between best possible care and routine everyday care (11), previously undisclosed problems related to medical errors and unsafe systems (12), and over 40 million uninsured Americans lacking access to general medical care. Now, double-digit medical cost increases have appeared again—without evidence that rising costs will lead to better outcomes. Emergency rooms and, in many cities, hospitals are overcrowded—often due to lack of access to and underdeveloped primary medical care. Since 9/11, the threats of terrorism and global infectious diseases have exposed Americans to the current healthcare system’s limited ability to deal with a dramatic catastrophic event (13). People with sufficient wealth are opting to obtain their care from so-called boutique practitioners who offer guaranteed access to the type of care most insured people used to expect as routine. By contrast, Medicare patients in many communities increasingly find that generalist and specialist physicians no longer accept new patients because of declining Medicare reimbursement rates (14).

Chaos may be the word that best characterizes American medicine for many patients and doctors today; **however, chaos can be a precondition for innovation.** Alternatively, fear of change, especially major change, can paralyze privileged professionals like physicians who may prefer to live with the chaos and despair they know as opposed to the unknown possibility that a major change could result in loss of cherished core values. These core values drew many practitioners to the medical profession, continue to attract idealistic medical students, and are near and dear to most patients. It is in the context of this chaotic environment that the SGIM has established a Task Force to examine the domain of general internal medicine, now and in the light of an uncertain future.

The Task Force began its deliberations by reflecting on the famous centering message of Francis Peabody: “The secret of the care of the patient is in caring for the patient” (15)—and the first phrase of the SGIM’s mission statement “to promote improved patient care.” The Task Force has chosen to organize a report to include a description of the core values of general internal medicine, particularly in contrast to assumptions that may no longer apply. We then propose to redefine the domain of general internal medicine based on a new and different paradigm. This paradigm shift should drive where general internal medicine develops, always guided by what is best for patients at large, especially but not only the patients of general internists. These changes have implications for clinical practice,

teaching, and research, which form the recommendations of the SGIM Task Force on the Domain of General Internal Medicine.

The report has received extensive review and feedback from the SGIM Council, from members, and at national meetings. The Council sought and the Task Force also received feedback from many other voluntary internal medicine organizations representing academic internal medicine, practitioners, board certification, program and clerkship directors, hospital medicine, geriatrics and others. The Task Force members have incorporated much of this feedback into the final report—while acknowledging that they gladly assume the responsibility for and privilege of the report’s authorship.

CORE VALUES

General internal medicine has always been grounded on a set of core values; some are common to all professions, and others are common to virtually all medical specialties. Although shared by internal medicine subspecialties and other primary-care fields, there are also undoubtedly some core values that many would regard as distinguishing features of general internal medicine. (See Table.) These values are not new; rather they have withstood the test of time and sustained our specialty, and patients appreciate them (16).

The foundation and hallmark of general internal medicine is expertise in the care of adult patients, especially those with complex and chronic illnesses. Most general internists model the competencies of providing high-value, comprehensive, and longitudinal patient care for both the healthy and infirm and coordinating complex treatment within a healthcare system. That longitudinal care can last decades, through health and illness, as medical issues come, go, and grow in number and complexity. It can be delivered primarily in the outpatient setting, with inpatient care provided by hospitalists, who as generalist internists provide the high-value, complex care valued by our specialty, or it can be provided by the same general internist who acts as both an outpatient and hospitalist physician. Now, especially in mature practices, older patients receive much of that care (9).

General internists adopt approaches that are comprehensive and integrative— aspiring to care for the whole patient. Some may argue that it is anachronistic to provide lifelong care to individuals through life changes and for various acute and chronic diseases; but patients seek and value such care in their doctor–patient relationship (17, 18). The entire spectrum of patient care depends on effective communication, with patients and other health professionals alike. Both patients and general internists value a close and at times intimate personal connection, the ongoing doctor–patient relationship in all its many guises (17–19). Although not unique to general internal medicine, strong emphases on quality outcomes and both primary and secondary preventive services mark the field. General internists are “adult-tricians” as in the ACP’s slogan, “Doctors for Adults.”

General internists have also cultivated a commitment to evidence-based practice—characterized by scientific and intellectual rigor, adherence to principles of evidence-based

medicine, and an expectation to use and share this knowledge. Like all professionals, general internists place a high value on education; lifelong learning is a natural outgrowth of educational commitment. Many are also committed to promoting education for other learners—colleagues, other health professionals, and trainees. General internists, perhaps somewhat uniquely, also place high value on educating their patients as well as the lay public in general. We are often the information managers for our colleagues and patients (20).

Adaptability has been a hallmark of the specialty of general internal medicine as demonstrated by a willingness to take on the newer domains of clinical medicine (e.g., refugee care and HIV) where others may not usually step up to the plate. Adaptability has been a value that general internists assume when they embrace and disseminate new realms of therapeutics, communications, and diagnostic and information technologies. It also underlies ongoing efforts to achieve cultural sensitivity and competency and our support for a more diverse healthcare workforce for an increasingly diverse society.

General internists have been characterized as committed to quality and have been leaders in the movement to quantify the outcomes of medical care. They occupy prominent leadership positions in many medical organizations, and, as a group, are well-connected to medical care and education organizations. As such, they espouse values related to promoting improved access, especially for underserved populations; system efforts to improve coordination of care; and innovations leading to improved health and healthcare delivery. Internal medicine organizations have been at the leading edge of movements to promote universal access and equality in healthcare.

The aspirations of general internists to provide care that is comprehensive and integrative, to adapt to changes in medicine, and improve quality continuously has been the basis for leadership emerging as a core value that currently distinguishes general internal medicine. This value may reflect that internists appreciate that understanding context is key to good outcomes—especially for patients, but also for the institutions and societies where internists work.

Professionalism is a widely held value in medicine. For general internal medicine, professionalism is a particularly respected core value that draws many to the field. Empathy and compassion form the basis of patient-centered medical care. The humanistic aspects of medicine have sustained many internists in their careers during these troubled times. The importance of professionalism has recently been demonstrated well by leadership in efforts like the Medical Professionalism Project and the physician charter (21).

As medicine advances and becomes more chaotic, general internal medicine will need to adapt. We believe that no matter how we accomplish this adaptation, general internal medicine must remain true to its strengths—its core values—to survive. If we are to continue to espouse these values and competencies, they must remain relevant and realistic to promote general internal medicine and benefit the future patients and society general internists serve.

Core Values	Core Value Attributes and Competencies
<p><i>Expertise in Adult Patient Care*</i></p>	<p><i>Providing patient-centered, comprehensive, longitudinal care</i> <i>Treating complex and chronic illnesses</i> <i>Coordinating care in health systems</i> <i>Commitment to quality outcomes</i> <i>Commitment to preventive care</i> <i>Expertise in geriatric medicine</i> <i>Evidence-based practice of disease prevention and health promotion</i> Using outstanding communication skills Establishing personal, ongoing doctor–patient relationships Cultural sensitivity and competency</p>
<p><i>Acquiring and Sharing Knowledge</i></p>	<p><i>Depth and breadth of knowledge</i> <i>Practice of evidence (science)-based medicine</i> <i>Intellectual rigor</i> <i>Information management</i> <i>Education</i> - <i>Commitment to lifelong learning</i> - <i>Educating patients, other professionals, and trainees</i> <i>Adaptability</i> - <i>New knowledge</i> - <i>New diseases, treatments, technology, information technology, cultural diversity, and communications</i></p>
<p>Leadership</p>	<p>Understanding context Commitment to quality, quality improvement, public good</p>
<p>Professionalism</p>	<p>Altruism Accountability Accessibility Commitment to excellence Duty and service Honor and integrity Respect for others Equity</p>
<p><i>*Italics indicate core values and competencies that particularly distinguish general internal medicine.</i></p>	

ADAPTING TO A CHANGING ENVIRONMENT

The chaos that characterizes American medicine challenges many of the time-honored assumptions that internal medicine has cherished. Some are probably not worth defending, while others are intrinsic to our specialty. Some are worth noting in anticipation of the paradigm shift we expect.

We begin by acknowledging that the domain of general internal medicine is critical to patient well-being through the work of general internists. The well-being of patients and the lay public is our overarching goal. If we advocate for the well-being of internists and internal medicine, that advocacy must always be grounded in the ultimate goal of improving the health of patients and the medical care we provide—not some short-term gain for individual doctors or medical institutions. We acknowledge the challenge inherent in balancing professional well-being with our patients' private interests and the public's interest. Ideally, the practice of general internal medicine empowers our patients to achieve better health outcomes (22) while contributing to the health of the population. We dare not abandon these core aspirations. Generalists are necessary for understanding the complex context in which we provide care for individual patients and confront both the general and local healthcare environments where we provide that care. As Schroeder has written, if generalist care is abandoned, it will need to be reinvented—again (8)!

However, what we do need is enthusiastic adoption of new models that coordinate and synthesize care (23, 24, 25). Primary care is not the same as general internal medicine. The practice of general internal medicine is sometimes, but not always, primary care. Some general internists do primary care some of time. Most family practice physicians do primary care most of the time. General internists do—and should do—primary care, both so-called uncomplicated as well as complex care. Patients do not necessarily distinguish uncomplicated from complex care but see both as essential, with uncomplicated care often the first step in developing an ongoing doctor–patient relationship.

Breadth and Depth

Our distinguishing identity is care of older adults and patients with multiple, complex, chronic diseases (9). We also occupy a unique niche in interpreting information and promoting self-management for our patients. We do this with an intellectual rigor that many patients value. As the principal practitioner for adults, general internists must acquire skills “owned” by other specialties—specifically gynecology, dermatology, orthopedics, otolaryngology, psychiatry, not to mention internal medicine subspecialties. Depth and breadth are typically required of many general internists. General internists have training in pathophysiology and therapeutics and fascination with diseases of adults and of the changes that occur in the adult life cycle. Breadth and depth are especially valuable in an increasingly aging society where principal care practitioners need a commitment to promoting patient-valued outcomes and functional well-being and to be familiar with common chronic diseases and both simple and complex management. An open question is whether the marketplace values that understanding (26) and whether there is objective evidence that it translates into better management of chronic disease and improved

outcomes, including more satisfied patients (22). Another question is whether general internal medicine can have multiple foci, albeit overlapping ones encompassing chronic disease care, primary care, hospital care, and a commitment to generalism (27).

While breadth and depth constitute general internal medicine's distinguishing feature, they are perhaps its greatest challenge for individual practitioners. General internists in practice and in academics feel demoralized by the message that they should work harder, add new skills while maintaining existing ones, and simply do more care. Rather than just increasing the expectations placed on them, the systems in which they work will need to be redesigned. The redesign of systems affecting general internists will need to acknowledge that both breadth and depth are relative and will vary based on the context in which general internists practice and patients receive care.

Old Assumptions

Several traditional assumptions cherished by general internal medicine are either invalid or at best not worth dwelling on as we contemplate a new paradigm. First, we probably need to abandon the comforting notion that we and others enjoy the benefits of unbridled professional autonomy when we actually live in an increasingly competitive, mercantile environment (26, 27, 28)) where absolute autonomy no longer exists if it ever did. We should also abandon our preoccupation with competing with family medicine and especially the notions that internists are somehow smarter than family physicians and that general internal medicine is synonymous with primary care. There clearly are differences in cherished values of general internal medicine and family practice, but the people we serve, patients and payers, may not recognize the tribal differences that preoccupy professionals who want to distinguish themselves—usually in a self-serving fashion. We must focus instead on what our patients value (17).

In a related vein, we must honestly acknowledge that generalist physicians, working independently, cannot deliver flawless care to all patients across a broad spectrum of disease, when provided very limited time and support. General internists must embrace the exponentially increasing complexity of medicine in constructive ways. Paradoxically, in many settings, the notion of a well-rounded physician who can care independently for all types of patients, referring only a small fraction of cases to specialists, is obsolete. General internists must devise new and creative ways to manage patients jointly with their subspecialty colleagues (29, 30, 31, 32). Increasingly, research demonstrates that for specific groups of patients with chronic diseases, specialists appear to provide better quality of care than generalist physicians, but that **generalists working in concert with specialists appear to provide the best quality** (33). Patients are less interested in precisely who provides care than in the quality of both its technical and humanistic aspects. Ultimately, in collaboration with specialists, and ever mindful of public preferences, general internists must choose those areas in which they will maintain breadth, not depth; areas where mastery is essential; and areas where depth and breadth will vary by the context of their practice. There will also be areas that individual internists will abandon.

Communication

Any redefinition of the domain of general internal medicine must address powerful secular trends. The availability of advances in information systems and especially email (asynchronous) and other real-time systems for efficient information and data exchange make collaboration and communication easier than it has ever been. However, current medical informatics practice and standardization are distressingly poor (34).

Healthcare costs are increasing, as is demand. Patients are going to be more empowered and less dependent on doctors. The baby boom generation will undoubtedly have its typical huge impact—predictably on healthcare as baby boomers enter old age. Communication technology will increasingly affect practice and education. An oversupply of some providers will likely stress and change the traditional boundaries of other providers. Competition and consumerism will create more pressure for tiered levels of medical care (35). For a while, it appears that the existence of multi-tiered medical care (as exemplified by so-called boutique medicine) will be acceptable.

The growing diversity of cultural and ethnic groups in our country challenges doctors' communication skills and cultural competence. This is especially true for clinicians offering history taking, doctor-patient relationships, and cognitive skills as key services.

Mastery

Professional satisfaction will be increasingly rooted in attainment of mastery (36). Meaning from mastery will likely be found when the professional's area of mastery is one in which both professional and patient expectations are being met.

Today's market and social forces seem to be working against general internists and their aspirations to apply mastery to patient care—especially since areas of general internal medicine mastery are not often procedural but typically cognitive. Our sense of mastery is also challenged because even the best generalist cannot have breadth and depth in all areas of medicine. Rather, mastery in one area should be superimposed on an appreciation of breadth and context in others—always mindful of how that translates to patient benefit.

Some prominent gaps are evident. Training in practice management is critical yet lacking. Leadership skills develop haphazardly. Team leadership is not taught and should be. There is more than a gap—a chasm—between the training and delivery models that internal medicine residents experience and the actual practice experience of most general internists (37). This disparity is less evident for family physicians and hospitalists. There are deficiencies and huge variations in the information systems of everyday medicine; an information revolution is required to overcome these variances. Information system standardization will help tremendously (34). There is great uncertainty about what general internal medicine wants to do—and probably should do. Expectations vary from one extreme of adding an endless array of tasks to restricting the domain of general internal medicine. In practice, many new procedures and skills may be done more quickly and incorporated in specialty practice

in many communities because specialists are faster and more focused on adopting new practices, often in advance of an accepted evidence base, and reflecting financial incentives of a market place that seems inexorably to favor new procedures (38).

Finally, the workforce of medicine is changing dramatically (39). There is evidence of a mismatch between lifestyle expectations (time with family, finances, personal autonomy) of students and physicians-in-training and the current practice environment of general internal medicine (40). At the same time, the growing diversity of society has not been matched by a more diverse general internal medicine work force nor as much mastery as is needed in cultural competency.

A VIEW TO THE FUTURE

Of What Kind of Care Is Internal Medicine Uniquely Capable?

A Day in the Life

Dr. Jones goes to his office at 7:30 a.m. and logs onto his computer to begin the day. He answers queries via email from patients who have recently had their diabetes diagnosed and await instructions for their morning insulin dose. He checks a recent systematic review about indications for endoscopy and risks for Barrett's esophagitis, preparing an answer for the 45-year-old man with chronic reflux esophagitis who asked during yesterday's visit whether endoscopy was really necessary.

At 8:00, he meets with the nurse in his office responsible for outpatient disease management to discuss a few complicated management issues. Their patients on warfarin use self-testing devices to monitor their international normalized ratio (INR) and follow protocols to adjust their doses. They check with the nurse if they have questions or are outside the protocol management guidelines. In addition, Dr. Jones and the nurse check their database to ensure that all their patients on warfarin are having their INR tested at appropriate intervals; adherence to INR testing is one of the practice's quality standards.

Between 8:30 and 11:30, Dr. Jones sees patients with urgent or complicated problems. The nurse practitioner in his office also performs routine health maintenance exams and sees patients with stable chronic diseases. Dr. Jones' schedule is booked so that he can see patients with acute and complex problems, including "flex" time if needed. There's a computer in his exam room, so he can chart simultaneously and often uses the computer to answer quick clinical questions with patients. Several patient education websites are bookmarked on his computer, and he instructs patients on appropriate information sources. Dr. Jones sees patients ranging from a care-establishing "first-time" visit to follow-up visits with patients he's seen for many years who have developed ongoing chronic diseases requiring frequent visits to him and the team helping them live with chronic diseases, which had often required hospital care when he started practice and which are now occurring later in life.

At noon, Dr. Jones reviews notes about his hospitalized patients sent by email and notes from the hospitalist physician. One of his inpatients is having a particularly difficult time emotionally after a myocardial infarction, and Dr. Jones makes a phone call to the

patient during his lunch break. He advises a hospitalist physician caring for a patient who has developed congestive heart failure and atrial fibrillation that beta-blockers would likely cause problems related to the patient's asthma history, of which the hospitalist physician was unaware. He also engages in an online dialogue with his colleagues, including a nephrologist and rheumatologist, about managing systemic lupus erythematosus in Mrs. Duncan. While her specialists provide excellent care, she is sometimes confused about decisions and relies on Dr. Jones to help her weigh the risks and benefits of treatment options that her specialists suggest. He will ask Mrs. Duncan to come into the office for a more in-depth conversation about her treatment options.

In the afternoon, Dr. Jones dedicates much of his time to managing his patients who have been discharged from the hospital during the last five days. Since the length of stay in his hospital is typically two to three days, many of them have active medical problems that require his input in this transition period. Most of them have email, so he communicates in that fashion, but needs to make some phone calls to the home-care nurse. He has a meeting with the Patient Safety Review Committee for an error analysis about a recent drug-dosing mistake during a hospitalization. In addition, on this day he spends time in a monthly meeting with his practice partners and the quality-assurance professional to discuss the progress on quality indicators. This month the group has targeted the use of angiotensin-converting enzyme inhibitors and pneumococcal vaccine, and they review the clinic's performance.

Dr. Jones goes home for dinner with his family and helps his children with their homework. After the children are in bed, he does a quick literature search on lupus nephritis and recent treatment approaches before settling in to read his novel to prepare for his upcoming neighborhood book club.

A future in which real-time streaming data and other information move from patient to doctor in a common database already exists, albeit in limited examples only. Such a system increases two-way communication and connectivity but likely decreases "physical" visits. This can occur in an automated, community-oriented, primary-care setting. General internists (and family physicians) may be the specialists who could be most closely linked to what patients want: information and care management—as participants in the patient's and family's healthcare team. Ideally, all Americans would have access to care. They would also have better information about what services accomplish, and what they cost. An ideal system would support excellence in medical practice, leading to good outcomes through shared information and well-designed structures. Physicians would be paid for everything they do including nonoffice services (for example, phone and email consultation) (38). Payment would also be based on complexity and conceivably also on meaningful measures of quality of care. Point-of-service clinical information systems based on published literature would be available, as would decision aids for patients and families.

This setting leads us to suggest features for the future domain of general internal medicine. The core element of the domain is primary and principal care of adults—either directly

or as a member of a team. General internists will aspire to meet patients' ever-higher expectations and the public's demand for technical quality of care. Chronic and complex disease management and primary medical care, especially for preventive and health-promoting services, will be increasingly evidence based. The internist's unique role will involve information and knowledge management in the setting of an ongoing personal and caring relationship with patients. Educating patients, colleagues, and team members will be a norm, an internist's responsibility.

The domain of general internal medicine will require expertise and mastery of evidence-based medicine, and interpretation and application of the knowledge stream. Clinical skills will be valued and closely linked to communication and interpersonal skills. The content of internal medicine will be dominated by the serious complications of common chronic diseases (41, 42), including heart disease, diabetes, arthritis, pulmonary diseases, neurodegenerative disorders, and general therapeutics including pharmacology. Expert knowledge and skills in prevention and health promotion will still be the internist's domain as will skills to activate patients and promote adherence and healthy behaviors, always providing best-quality information. Sorting skills will be valuable, from the daily triage of who's sick and who's not, to helping patients sort out data, to patient-centered professional time management. Competency in geriatrics will become increasingly important (43). Doctors will work in systems and thus must have mastery in systems thinking and development. Chronic disease management will be systematized and integrated. Chronic disease management principles will be applied generically and to specific diseases (21, 25, 26). Community-oriented care will be automated and will aim to reduce chronic disease load by focusing on a few risk factors common to many chronic diseases (tobacco, diet, and physical activity) (13). Internists will need to be familiar with the so-called biopsychosocial models of wellness and also have mastery of physician self-awareness and care. Skills in behavioral medicine are needed for both the mental health component of internal medicine practice and to facilitate stages of change needed to realize healthy behavior change. Practitioners must be both comprehensive and efficient. They will need to monitor outcomes of patients in their practice regularly and routinely.

General internal medicine will move to a system of management designed to monitor and promote successful outcomes management. Practitioners will be team based and highly wired. General internists will have a profound understanding of context and will be trained in team management and leadership. Certain patients will want to include complementary practitioners, physician specialists, home-care providers, and mental health and family perspectives, among others. Nurses and physician extenders can be on the team also. Team members (e.g., cardiologists, other generalist physicians, nurses, case managers, and others) will review data online both synchronously but usually asynchronously. Team members will change over time, but the internist, patient, and family will remain constant. Internists will continue to look for and fill voids as they become evident (e.g., as has evolved with HIV and cross-cultural medicine). General internal medicine specialists will be able to provide the majority of care that a

particular patient with a chronic disease requires. To accomplish this, they must be trained to achieve and maintain expertise in problems commonly found in adult medicine (including those in the domain of other subspecialties) and able to coordinate care across a healthcare system.

At the same time, general internists will maintain close communication with specialists who share in the management of patients with complex diseases. The current standard practice of receiving parallel, often uncoordinated care from two or more physicians will be outdated, and all those involved in a patient's care will strive to ensure optimal quality and efficiency in a coordinated and seamless manner (21, 25, 26). As experts in chronic illness management, general internists are well-suited to communicate effectively with specialists and to interpret and integrate their recommendations into an individual plan of care.

General internists are also logical providers to respond to increasing demands for quality performance measures by becoming the quality-accountable physician. This role will be challenging, given recent evidence that more spending for care is not associated with better access and quality (44, 45) and subsequent pressures to reduce spending (46, 47) while pursuing lofty evidence-based performance measures.

IMPLICATIONS FOR PRACTICE, TRAINING, AND RESEARCH

The organizing principle of supporting optimal patient care guides our vision for the future of general internal medicine. The general elements of that vision include team-based medicine practices (including practices involving those in training programs) designed to serve patients better and support the core values of general internal medicine. Practices would also be guided by the principle of providing more cost-effective service—over the long term and not just driven by short-term profitability concerns. Practice organization should aim to promote professional satisfaction so doctors are happier and student interest remains high. For patients, satisfied practitioners are associated with higher quality of care and more satisfied patients (17).

Practice

In the future, we believe most general internists will belong to and often lead a team (48) rather than practicing autonomously. The team, comprising nurses, pharmacists, social workers, other professionals, and other physician specialists, will be organized based on characteristics of people or populations served. It will be designed to provide primary and principal care, including care of people with common chronic diseases. Use of the chronic care model will become increasingly prevalent as a design principle (23, 29, 30). System supports are required for the team to function well—both information infrastructure and human resources. Acuity will be variable, but generally higher as the base population ages and lives longer with chronic diseases. Thus, to meet patient needs, scheduling must be flexible and determined by the physician.

A more open, proactive system will emphasize patient involvement in self-care and self-efficacy. Patients will be more involved and more responsible for their own healthcare—which will require additional flexibility (49). In some cases, the team

may be broadened to include nontraditional healthcare providers, who can provide evidence-based practices tailored to meet outcomes that patients value.

Current traditional fee-for-service financing does not accommodate this model and will be a barrier to achieving the best possible patient care (50). Much work is needed to develop and adopt a new reimbursement system designed to promote this new model. This report is an important first step in the path to the new model. Patients need a system that will give physicians incentives, rather than penalizing them, for providing cognitive services. A time-based metric (similar to the legal profession), a salary system, patient management fees, or capitation are alternatives (51). These approaches to payment will encourage health professionals to work closely together, as opposed to the present fee-for-service system, which discourages collaboration. Barriers that keep physicians from spending adequate time with patients need to be removed, including current administrative burdens and unreasonably rigid “brief-visit-only” scheduling. Electronic records and secure clinical email may help reduce administrative burden and promote reimbursement changes (49).

Physicians will need to participate in, and welcome openly, measurement designed to promote quality improvement and more open information exchange. Patients will likely feel much more confident as they experience increased information sharing and better guidance from physicians and the healthcare team.

At the national level, priorities need to change to provide funds designated solely to develop a better infrastructure for medicine and patient care across a continuum involving many settings of care, across specialties, and including procedures obtained in diverse settings. To date, there are no effective systems designed to promote physician self-care and professionalism. Voluntary societies, large physician groups, or nonprofit service groups would do well to fill this gap.

Training

We believe that residency training programs should train pluripotent generalists, capable of practicing in any setting that they choose, and with a field of generalist expertise related to a likely practice site. The internist practicing today and in the future needs a wide array of skills, many of which are not mastered in current training programs, which focus on inpatient care in a traditional model. Small primary-care programs do address a wider range of necessary knowledge and skills. However, few if any large training programs have heeded the call, now almost two decades old, for training that is more relevant, more ambulatory, more procedure-based, and more applicable to practice in the broad range of settings and populations in which general internists work (37).

There is also a need for inpatient training geared to modern practice (52). Patients on the general medical service in our hospitals are sicker, take more medications, stay fewer days, and require more diagnostic and therapeutic decision-making than ever before. Now in addition to clear educational needs in the ambulatory arena, general internists may require additional training (or at least, not less training) in inpatient medicine, in chronic disease management across the spectrum of inpatient and outpatient care. General internists of the future will need to

be trained with attention to the integrative tasks of population-based monitoring of process quality and outcomes. They will need to learn about leadership skills and working in a team of providers. As work hours of residents decline, as medical knowledge expands, as medical care becomes more complex, and as patients live longer with more chronic medical illness, our residencies will be hard-pressed to train general internists competent in inpatient and outpatient settings, in urban and rural environments, who are competent at managing chronic illnesses, caring for older adults, and the additional qualifications that they will likely need. In addition to the obvious need for outstanding inpatient and outpatient clinical medicine, we anticipate that programs will need to incorporate the following:

- longitudinal training directed to a specific population chosen by the resident (e.g., HIV, geriatrics, women's health, refugees), including population-based quality measurement and improvement techniques, and often across the spectrum of inpatient, outpatient, subacute, and home care
- opportunities for training in rural or community-based settings
- training in geriatrics to include sub-acute, chronic, and home care
- enhanced training in communication skills (including electronic) and in building and leading teams
- quality-monitoring and quality-improvement techniques
- enhanced opportunities for interested residents to gain skills in performing procedures, including skin biopsy, endometrial biopsy, casting, fine-needle aspiration, screening and other endoscopy, and basic cardiology procedures
- education about information technology and medical informatics

This Task Force believes that the current training system is inadequate for the needs of the present and future general internist. It is beyond the scope of this Task Force to make specific recommendations about the curricula, content, and length of residency training, but we are skeptical that so much can be taught in our current three-year programs (53, 54). Only a truly exceptional resident would be able to finish a three-year program capable of practicing in health promotion, in ambulatory and hospital settings, competent in geriatrics and chronic disease management, and with enough medical and management expertise to lead a team of providers in the care of a population, in a rural or urban setting.

Although internal medicine training has common and uniform characteristics across various programs, the same is not true for individual practices. Diversity of practices sites, patient populations, geography and healthcare systems demands different sets of skills. While all internists generally will share core values and build on common skill sets, many recently trained internists are unprepared for their practice environment. Training programs that adapt to career goals should produce internists with better preparation and skills for their work, raising the likelihood of meeting the needs of their patients and achieving greater career satisfaction. The following two scenarios illustrate tailor-made mastery training:

Rural Medicine Scenario

Raised in a small town and having enjoyed a stimulating block rotation with a rural general internist as a third-year medical student, this resident hopes to practice general internal medicine in a small community where there are few subspecialists. He knows that practicing in such a community will demand both breadth and depth of knowledge and skills. After PGY-1 and -2 years similar to those of his peers, the resident enters a tailored period of training that will specifically prepare him for his chosen career path. In addition to his established continuity clinic, he and his program director choose electives that will teach certain needed sub-specialty and procedural skills and will compose an important part of the next two years; together the resident and program director have decided that a fourth year will be necessary. Included in his learning may be upper and lower gastrointestinal endoscopies, fine-needle aspirations, bone marrow biopsies, basic orthopedic and podiatric techniques, exercise stress testing and echocardiography interpretation, dermatology procedures, and joint and soft-tissue injection techniques. Focused outpatient clinic time in each of these areas is also needed. Hospital and intensive care expertise must be maintained to some extent in the last two years to meet the needs of future practice. Part of his chosen fourth year will be spent in women's health clinics and in geriatric training, both clinic and long term facility-based. Throughout these training years the resident will need to become fluent with information technology and Web-based learning to be able to adapt to the challenges of lifelong learning in a nonurban community. It is evident that this resident could not achieve the expertise to be prepared for this type of broad-based medicine in a traditional three-year program. This ambitious agenda made possible by the option of a fourth year will set him on the road to mastery in rural medicine. This will indeed be a value-added internist for his future patients, hospital, and community.

Hospitalist—Private Practice Scenario

Stimulated by team interactions during medical school while on the wards and excited by the advances in hospital care delivery, this resident seeks specific training that will provide the best preparation for a career as a hospitalist. After two years of internal medicine residency training that covers the breadth of both ambulatory and hospital care of patients with common medical diseases and issues, she next focuses on aspects unique to hospital medicine. The third year of residency is structured to allow time for clinical situations that hospitalists commonly encounter in community hospitals, but not necessarily in academic training sites. During the final year of residency, she commits multiple blocks of time to medical consultation or surgical co-management and care of patients in the intensive care unit. This ensures the resident is comfortable with critical-care procedures such as endotracheal intubation, central line and chest tube placement, and arterial line placement. Additionally, she learns medical consultative management of patients undergoing surgical procedures such as hip and knee replacement. While honing clinical skills, the resident also undertakes specific electives that provide training in quality improvement and patient safety practices, interdisciplinary care using a team approach, and facilitation of transitions of care from the hospital to home or non-hospital settings, such as rehabilitation facilities, nursing homes, or assisted-living facilities. Through this focused training, she comes to

understand the critical role that services such as nursing, social services, physical therapy, occupational therapy, nutrition, and pharmacy play in managing patients in the various settings. As part of this structured training, the resident pursues a yearlong quality improvement project with faculty supervision, which allows real experience integrating the various services into improving care delivery in the hospital. By the end of her internal medicine residency training, she feels comfortable with the broad range of clinical situations and consultations requested in a community hospital.

Hospitalist—Academic Medicine Scenario

A resident who entered an internal medicine residency aiming to become a hospitalist enjoyed the first year of training. While leading a team caring for patients with general medical problems, he became enamored with teaching medical students and first-year residents. Following discussions with faculty, the resident decides that a career in academic medicine seems most desirable. To become an accomplished clinician-educator, he takes third-year electives focused on teaching skills (didactic and small-group), evidence-based medicine, mentorship, and providing feedback. Based on this experience, the resident realizes that the capability to analyze and share experience through scholarly research and publications will facilitate a career in academic hospital medicine. That is why he seeks a one-year fellowship in hospital medicine at a major academic institution that provides additional training in research skills and lets him participate in a research project. An additional year could be added to allow time and opportunity to obtain a masters degree emphasizing acquisition of clinical research skills.

Internal medicine training programs need radical restructuring to accomplish what we have set forth. We recommend that SGIM, together with other academic and practice organizations, convene a group of educators to review the data that currently exist about the successes and failures of our residency programs and to make concrete recommendations about the ideal training program for the future general internist. That process should include a realistic determination of what constitutes a common base of breadth, depth, and mastery for all general internists at each point in their training. The process must also acknowledge that training programs cannot simply add expectations for all in general internal medicine; rather, they must offer training tailored to the various contexts in which general internists will practice.

We further suggest that any new model of training incorporate expected levels of competence at graduation in each of the areas necessary for future practice as a general internist. A few extraordinary residents might take two or three years to attain the expected levels and to graduate, while others might take four years or even longer (53, 54). We hope that as part of this process, the convened group will work with the Accreditation Council for Graduate Medical Education (ACGME) and American Board of Internal Medicine (ABIM) to think creatively about how to create tracks within training programs so that interested residents could qualify for certificates of added qualification (CAQs) as value-added evidence of their training. We hope that reinvigorated training will “raise the bar” of general internal medicine (53), as mastery

will enhance professional satisfaction and the attractiveness of the field. Finally, we believe that in addition to “adding” training in many areas, any recommendations should also determine what general internists are not expected to know or master.

Restructuring of training programs has been advocated in the past, but barriers in most large academic medical centers have prevented moving teaching into ambulatory and off-campus settings. Medicare dollars, which fund training, currently flow to hospitals, not to educational directors or even directly to departments. Replacing residents on inpatient wards with other providers or with attending-only services is necessary to liberate time, but expensive to implement (37, 54).

Today’s educational system has significant financial rewards for inpatient, academic rotations that prevent expansion of training into ambulatory, community-based, and rural sites. Also, our current concept of the “best” teachers does not typically let us, or our trainees, view busy nonacademic practitioners as potentially some of the most desirable mentors and trainees—yet many practicing physicians are best suited to teach some of the new core skills that the generalist of the future will need. Financial and educational barriers present in the past, and which blocked change then, persist today, and will work against the radical restructuring of programs.

The restructuring of training needs to take place in the context of redistributing graduate medical education funding, but also in the context of fee restructuring that rewards physicians for the kind of comprehensive usually longitudinal, coordinated care, electronic communication, team leadership and disease management that the future generalist will practice. To attract students to general internal medicine, a field that is vital to the future health of our society, will likely require reimbursement reform. Internists will need a payment system with incentives (as opposed to today’s fee-for-service disincentives) to provide telephone and electronic communications, incentives for avoiding unnecessary procedures, and incentives for the population-based supervision practicing internists should and will provide (38, 49).

While admitting that payment reform is a cornerstone for the future of general internal medicine, we believe that efforts to change training to reflect the skills required to achieve the new paradigm of general internist care should not await a magic moment when reimbursement suddenly is “fair” to our field. Efforts to reform training are needed today and should proceed as a high priority.

Reforms that are no less critical are needed at the level of medical student training in internal medicine. Although many students enter medical school with career aspirations for primary care, the educational process often derails those goals. This has led to a serious, progressive decline in the number of medical school graduates choosing primary-care specialties, including internal medicine. Without attention to the issues of career choice for these potential future internists, all of the recommendations in this report are rhetorical. Debt load, potential income of various specialties, lifestyle and family concerns certainly play into a career choice. Anecdotally, there are negative influences that also affect career choice, such as the

all-too-common scenario of their internal medicine rotation on a hectic inpatient service managed by overworked interns and residents or with attending physicians who lack enthusiasm for managing and teaching comprehensive care of the patient. Students want and need experience both in inpatient and outpatient settings with mentors whose teaching and practice demonstrate the core values that we embrace.

Research

Over the past quarter century, academic generalists have made important contributions to clinical research, addressing a wide array of issues, especially those relevant to routine practice (9). Their work has emphasized studies of the effectiveness of medical interventions, as contrasted with efficacy studies conducted in idealized settings, which are far more common. Effectiveness studies seek to determine whether a test or a therapy truly benefits typical patients under usual clinical circumstances, as opposed to highly selected patients under artificial conditions of a research setting. Public investment in medical research has grown dramatically during the past decade, as evidenced by the current \$27.5-billion budget of the National Institutes of Health (55). Yet all but a tiny fraction of this amount is devoted to basic laboratory studies and evaluating emerging technologies in clinical applications. Research on effectiveness is rarely supported (56). Even the Agency for Healthcare Research and Quality (AHRQ), for which the support of effectiveness research is a basic mission, expends only a relatively small proportion of its budget on such studies. Thus, as today's physician works to understand how to apply existing technology efficiently and effectively, the pipeline of new developments offers both hope for vastly improved patient well-being and a potentially overwhelming challenge to conscientious clinicians.

A serious reconsideration of national research priorities is desperately needed at this point. There has been growing concern that the massive investment in molecular biology and now gene therapy research has not yet yielded the substantial benefits expected and important payoffs in improved health for the American public (56, 57, 58, 59). For those people alive today, particularly those suffering from multiple chronic illnesses, there is an expanding need for studies that help physicians apply extant technologies to achieve the greatest benefit while conserving precious healthcare resources. Depending on the problems studied, a variety of methodologies are appropriate, including traditional randomized trials as well as nonrandomized, quasi-experimental, and descriptive studies. Even a relatively modest increase in support for such studies stands to furnish enormous societal benefit.

The research agenda, however, should also match the new domain of general internal medicine and involve studies designed to test the new models of care we have proposed. These investigations will fall into the category of research designed to improve the practice of general internal medicine and medical practice as a whole. Such studies should not be restricted to evaluations of single tests or limited interventions. It is becoming increasingly apparent that improvements in the quality of management for chronic illness usually involve multifaceted interventions characterized by coordination, comprehensiveness, and continuity; an activated patient; and

systems to support patients and providers (23, 29, 30, 60, 61). For example, early studies failed to show substantial improvement in the outcomes of patients with depression with screening, audit, feedback, and dissemination of clinical practice guidelines. More recent studies have demonstrated impressive gains from combining all of these with reorganizing care delivery to ensure better coordination and active involvement of patients (23–29, 30, 62, 63, 64, 65, 66, 67). Similar studies are beginning to emerge in the care of patients with diabetes, asthma, or heart failure (30, 60). Studies demonstrating the advantages of inpatient care provided by hospitalists compared to traditional or usual hospital care helped to establish the legitimacy of this new field (52, 68, 69). The studies conducted to date, however, are quite broad, and a host of additional investigations are needed on a variety of other chronic conditions and with patients who have several chronic conditions. Such studies will require creativity not only in designing new, potentially effective modes of care for chronic illness but also in devising imaginative methods of evaluation. As the physicians well-suited to provide this care, general internists should also assume responsibility for the conduct of this important arena of research (60).

Researchers should also devote themselves to the considerable problem of determining the depth, breadth, and special mastery areas of general internal medicine. In what areas must all general internists be competent? What areas are important in which practice sites and settings? Are there areas of the field where in-depth skills and knowledge are no longer relevant to the patients for whom general internists care? In past surveys, practitioners report which skills they need compared with what their training program provided them. However, to date there has been no systematic effort to calibrate training programs to some surveillance system that reflects the present and likely future practice of medicine. This complex task is worthy of focused research engaging academic leaders, practitioners, managers, and policy makers.

It is also essential that research be conducted to assess the quality of care delivered (29, 70, 71). Results of some recent studies suggest that generalist physicians may not be providing the highest level of care for specialized problems, such as ischemic heart disease, congestive heart failure, and HIV/AIDS. However, with increasing experience, higher-quality care from generalists is evident, as would be expected. Without adequate information about what is working and what is not, there can be little progress toward improving overall levels of care. In the past, however, such studies have relied mainly on administrative databases that lack sufficient clinical information to reach definitive conclusions. With the increasing availability of electronic medical records, new methods are needed to use the information contained in these systems to measure and improve the quality of care (49). The case needs to be made to the public that these studies can be conducted without compromising privacy, and that this research is worthy of funding, with a goal of ever-improved standards of care.

Investigations in other related areas are also sorely needed. These include studies about how to use electronic medical record systems to the greatest benefit. Although these costly systems are being deployed widely, less field research has addressed

issues such as how individual physicians can best implement systems and what features help or hinder care. Clinical reminders are widely viewed as a panacea for improving physician behavior; but research on their use in chronic disease management has provided only limited evidence of effectiveness (72). The same is true for other decision support technologies.

SUMMARY

We believe that medicine today is in a state of chaos for doctors, patients, and payers—albeit chaos within a state of plenty for some. Chaos can be a pre-condition for innovation. Or fear of major change can paralyze privileged professionals who inherently fear uncertainty and the possibility that privileges or core values may be lost.

We recommend that general internal medicine needs to move from chaos and confusion to innovation. The field must adapt to a changing world characterized by widespread information dissemination, rising public expectations and consumerism in medicine, increased demand for care of patients with chronic and complex diseases, and a need for ongoing adult primary medicine care. Innovation should be based on our abiding goals to improve patient care, realizing that “the secret of the care of the patient is in caring for the patient.”

The domain of general internists will continue to be primary and principal care of adults. Increasingly, the practice of general

internal medicine will be team-based care. Important skills that can distinguish general internists and improve patient well-being include an emphasis on increasing patient self-efficacy and on transparent information management, increasingly in direct partnership with patients. General internists should aspire to be skilled and knowledgeable so that they can provide the vast majority of the general ongoing medical care of their patients, including those with common chronic diseases.

This paradigm shift will require major changes. Reimbursement reform is a cornerstone for the future of general internal medicine. A new system should be developed to support this model. We also recommend a major overhaul of the basic internal medicine residency. Increased opportunities and flexibility to lengthen the residency should let generalists in internal medicine develop along different generalist tracks, including hospital- and office-based and rural practitioners; doing geriatrics, medicine–pediatrics, or both, as well as other generalists aspiring to in-depth mastery in internal medicine. We predict some of the most profound objections to this proposal will come from academic hospitals and departments—where turf may be threatened, especially if community-based teaching changes the flow of graduate medical education funding. Ultimately, we believe our proposal will improve patient care and respond to opportunities that technologic changes provide.

RECOMMENDATIONS

Recommendation 1:

We believe that general internal medicine should remain true to its strengths—the field’s core values and competencies—although market forces may tempt the field to abandon them while adapting to chaos. These core values and competencies are critical to serving our patients’ needs, promoting their well-being, and providing compassionate care.

Recommendation 2:

The domain of general internal medicine should continue to be both deep and broad—ranging from providing or supervising uncomplicated primary care to delivering continuous care to patients with multiple, complex, chronic diseases. As the principal provider for adults, general internists need skills in gynecology, dermatology, orthopedics, otolaryngology, psychiatry, and the internal medicine subspecialties.

Recommendation 3:

General internal medicine should enthusiastically embrace and adapt to changes in information systems, especially those that promise to increase partnership with patients, promote self-efficacy, increase efficiency of care, reduce costs, and ultimately improve outcomes.

Recommendation 4:

Postgraduate and continuing medical education should be tied to mastery—which is ultimately a key element for both patient and professional satisfaction. Mastery for general internal medicine should include care delivery, practice management, information systems, and the organization and management skills required to lead teams, in addition to the traditional internal medicine knowledge and skill base.

Recommendation 5:

General internists should usually work in teams and provide services through their own direct contact with patients, traditional telephone communication (directly or through staff), and more and more asynchronous communication using email and other new communication technologies. General internists should lead and assume responsibility for the care that their team members give, aiming to be able to provide the majority of the care their patients require, wherever they practice.

Recommendation 6:

Current financing of physician services, especially fee-for-service, must be abandoned, reformed, or restructured to include reimbursement for services provided outside of traditional face-to-face visits. Physicians should be reimbursed for time spent supervising long-term care, managing teams, and providing services by phone and email. Alternatively, physicians could be paid a patient-management fee plus reimbursement for specific services or a salary with incentives for productivity, quality, and improved outcomes. We endorse the development of reimbursement based on quality and outcomes.

Recommendation 7:

General internal medicine residency training should be reformed and reconstituted to provide both broad, in-depth medical knowledge as well as mastery of additional skills in informatics, management and team leadership. General internal medicine residents should have options to tailor the final one to two years of their program to meet the special needs of their anticipated practice and career goals, often earning a certificate of added qualification (CAQ) or its equivalent in special generalist fields. Sub specialists would typically diverge from internal medicine residency after two or three years. **For this recommendation to be viable, reimbursement reform is required.**

Recommendation 8:

General internal medicine educators and researchers should emerge as leaders, promoting the changes in the academic world that this new vision implies. They will need the support of other academic leaders, especially department chairmen. Skill development and research must expand to let faculty gain the mastery and tools to teach medical informatics, team leadership, and practice management. Research will expand to include practice and operations management, developing more effective shared decision-making and transparent medical records, and promoting the close personal connection that both doctors and patients want. Research should continue not only to document but also to improve the value of generalist, comprehensive, and continuous care.

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