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SOLUTIONS TO THE CHALLENGES FACING PRIMARY CARE MEDICINE

*Comprehensive Strategies from the
American College of Physicians*

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American College of Physicians
Policy Monograph
2009

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Policy Monograph of the
American College of Physicians

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Executive Summary

The future of primary care is at great risk at a time when the evidence suggests that the nation needs primary care more than ever before. In a previous white paper, the College documented over 100 studies that confirm the value of primary care (1). Studies at the state, county, and local level confirm that primary care improves health outcomes, increases quality, and reduces health care costs. Despite the availability of such evidence, the United States has done little to ensure that the supply of primary care physicians is sufficient to meet current and future needs.

The demand for primary care in the United States is expected to grow at a rapid rate, while the nation's supply of primary care physicians is dwindling and interest of U.S. medical school graduates in pursuing careers in primary care specialties is steadily declining. The reasons behind this decline in primary care physician supply are multifaceted and complex. Key factors include the rapid rise in medical education debt, decreased income potential for primary care physicians, and increased administrative hassles that have caused great dissatisfaction with the current practice environment (2).

Primary care physicians provide 52% of all ambulatory care visits, 80% of patient visits for hypertension, and 69% of visits for both chronic obstructive pulmonary disease and diabetes, yet they make up only one-third of the U.S. physician workforce (3, 4). Compelling evidence demonstrates better health outcomes and decreased health care costs when primary care physicians make up over 50% of a nation's physician supply (5). Whereas the number of graduates from primary care specialties increased in the early 1990s, reaching 9,348 in 1998, the number fell to 7,289 by 2005—only 1% above the 1995 level—during the same decade in which the U.S. population grew by nearly 12% (6).

A strong primary care infrastructure is an essential part of high-functioning health systems in developed countries. Compared with other industrialized countries, the U.S. health care system achieves worse quality and efficiency of care with lower patient satisfaction (7). The World Health Organization's 2008 World Health Report emphasizes the importance of primary health care. It provides a critical assessment of health care systems throughout the world and describes how all nations, regardless of national wealth, can benefit by enacting reforms organized around primary health care. When countries at the same level of economic development were compared, those in which health care was organized around primary care produced a higher level of health for the same investment (8).

Many areas of the nation are currently experiencing shortages in primary care physicians. The Institute of Medicine (IOM) reports that it would take 16,261 additional primary care physicians to meet the need in currently underserved areas (9). Two studies estimate that the nation will experience far greater shortages by 2025 (10, 11). These shortages will have substantial adverse implications for access, quality, and cost of care in the United States and jeopardize the public health. Comprehensive strategies are needed to halt and reverse the decline in the numbers of physicians choosing general internal medicine and other primary care careers. These strategies must recognize, support, and enhance primary care to the degree necessary to reverse a primary care shortage that is only worsening. This paper offers a comprehensive set of recommendations to address the challenges facing primary care. These strategies must be implemented concurrently for the nation to realize meaningful improvements in the primary care workforce. No single strategy can resolve the challenges facing primary care, but together they will revitalize primary care and prove to be a great investment for this country.

Recommendations of the American College of Physicians

Establish a National Health Care Workforce Policy

1. The federal government should develop a national health care workforce policy that includes sufficient support to educate and train a supply of health professionals that meets the nation's health care needs and specifically to ensure an adequate supply and spectrum of primary care physicians trained to manage care for the whole patient. General internists, who provide long-term, longitudinal, comprehensive care in the office and the hospital and manage both common and complex illness of adolescents, adults, and the elderly, are essential to a high-functioning primary care system.
2. The federal government should establish a permanent national commission on the health care workforce to provide explicit planning at the federal level by setting specific targets for increasing primary care capacity, including training and retaining more primary care physicians whose training is appropriate for the present and anticipated health care needs of the nation. The Commission should also recommend policies, including changes in graduate medical education funding, to achieve those targets and metrics to evaluate the success of each policy intervention.

As a preliminary target, ACP recommends that the number of Medicare-funded graduate medical education positions available each year in adult primary care specialties be increased to graduate 3000 additional primary care physicians each year for the next 15 years to meet the nation's anticipated health care needs.*

The College has identified three major challenges facing primary care physicians in practice and those considering careers in primary care that the commission must address: high levels of educational debt; lifestyle concerns due to administrative hassles and practice design; and payment issues, including the disparity in salaries between primary care physicians and specialists and payment policies that do not appropriately recognize the care that primary care physicians provide. Students should be able to choose a specialty independently of concern about educational debt and inequities in remuneration. These barriers must be addressed simultaneously and swiftly for the nation to meet the demand for the number of primary care physicians necessary to care for the U.S. population.

*This estimate is presented as a placeholder but is not intended to substitute for a more rigorous evaluation by the commission.

Improve Training, Recruitment and Retention of Primary Care Physicians

1. The federal government should create incentives for medical students to pursue careers in primary care and practice in areas of the nation with greatest need by developing or expanding programs that eliminate student debt for physicians who choose primary care, linked to a reasonable service obligation in the field, and creating incentives for these physicians to remain in underserved areas after completing their service obligation. This should include:
 - a. New loan repayment and medical school scholarship programs in exchange for primary care service in critical shortage health facilities, or in critical shortage areas of the country, with funding for 1000 awards each year for the next 15 years.
 - b. Increased funding for scholarships and loan repayment programs under Title VII for an additional 500 awards annually for the next 15 years.
 - c. Increased funding for National Health Service Corps (NHSC) scholarships and loan repayment programs for an additional 1500 awards annually for the next 15 years for primary care medicine.
 - d. New practice-entry bonuses for scholarship or loan repayment award recipients who remain in underserved communities after completion of service obligation.
2. Congress should enact legislation to allow deferment of educational loans throughout the duration of training in primary care residency programs.
3. The federal government should support education and training reform in primary care by:
 - a. Providing funding to encourage medical schools and post-graduate residency training programs to improve primary care education and training through grants for:
 - i. Mentorship programs
 - ii. Curriculum development for primary care models
 - iii. Development of materials to promote careers in primary care
 - b. Eliminating barriers to increased training time in ambulatory care settings for primary care trainees.
 - c. Increasing funding for primary care training programs under Title VII.
4. The federal government should develop public policies that support the retention of senior physicians in primary care practice, including appropriate expense reduction in medical liability insurance and other financial or administrative barriers to reduced practice load for senior physicians who choose part-time practice, and other incentives for senior physicians to stay in practice.

Quality of Practice Life: Provide Relief from Administrative Burdens

1. Congress should request that the IOM or other appropriate entity conduct a comprehensive assessment of administrative, paperwork, and medical review requirements imposed on primary care physicians by federal regulatory agencies, public and private health plans, and state governments. This study should determine the amount of time typically required by primary care physicians to meet such requirements and identify specific strategies to reduce the time required.
 - a. Based on the results of such a study, the federal government should implement reforms to reduce the amount of time required to complete administrative tasks, especially tasks required by the Medicare program, leading to an overall improvement in the practice conditions for primary care physicians and practices and allowing them to better serve patients.
 - b. Private payers that participate in programs subsidized, directly or indirectly, with public dollars should be required to implement comparable strategies as a condition of qualifying for such subsidies.
 - c. Other private payers should be encouraged to implement comparable strategies.

Quality of Practice Life: Develop, Study, and Support New Primary Care Delivery Models

1. Public and private payers should support expansion of the patient-centered medical home model.
2. Public and private payers should invest in other new practice models that support the ability of primary care physicians to deliver comprehensive, preventive, and coordinated care to patients.

Reimbursement: Provide Payment That Is Commensurate with the Value of Primary Care

1. The federal government should provide immediate, sufficient, and sustained increases in Medicare fee-for-service payments for services provided by primary care physicians by:
 - a. Raising absolute and relative compensation of general internists and other primary care physicians to achieve market competitiveness in choice of specialty and to sustain and increase the practice viability of general internists and other primary care physicians already in practice.
 - b. Improving the accuracy of work and practice expense relative value units, to increase payments for evaluation and management services, and provide for separate payment for care coordination services provided principally by primary care physicians.
2. Congress should provide a dedicated source of federal funding to support such immediate, sufficient, and sustained increases in Medicare payments for services provided by primary care physicians, not limited to budget-neutral redistribution within Medicare physician payments.

3. **Congress should eliminate the linking of physician reimbursement by Centers for Medicare & Medicaid Services (CMS) to the sustainable growth rate (SGR). The instability of the SGR formula and its role in restraining payment updates below the rate of medical inflation are especially harmful to primary care practices, which typically run on low margins and have limited ability to increase the volume of services they provide. Any replacement for the SGR should allow for continued improvements in Medicare payments for primary care.**
4. **Public and private payers should continue to design, implement, evaluate, and expand payment and delivery system reforms to support care provided through the patient-centered medical home (PCMH) and other innovative models.**
5. **Public and private payers should support development, implementation and evaluation of other new payment models to support the provision of primary care linked to accountability for quality, patient satisfaction, efficiency, and effectiveness of the care rendered.**

What Is Primary Care?

The IOM defines primary care as “the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community (12).” Primary care physicians provide not only the first contact for a person with an undiagnosed health concern but also continuing care of varied medical conditions, not limited by cause, organ system, or diagnosis.

The hallmarks of primary care medicine—first contact care, continuity of care, comprehensive care, and coordinated care—are going to be increasingly necessary in taking care of an aging population with growing incidence of chronic disease and have proven to achieve improved outcomes and cost savings. Without primary care, the health care system will become increasingly fragmented and inefficient—leading to poorer quality care at higher costs.

The two specialties that provide the majority of adult primary care in the United States are family medicine and internal medicine. The training and care that family physicians and general internists provide are distinctly different. Family physicians are trained to diagnose and treat a wide variety of ailments in patients from children to old age. Family physicians receive a broad range of training that includes adult medicine, pediatrics, obstetrics and gynecology, psychiatry, and geriatrics. Special emphasis is placed on prevention and the primary care of entire families, utilizing consultations and community resources when appropriate (13).

General internists provide long-term, comprehensive care in the office and the hospital, managing both common and complex illnesses of adolescents, adults, and the elderly. Internists receive in-depth training in the diagnosis and treatment of conditions that affect all organ systems. General internists are specially trained to solve puzzling diagnostic problems and can handle severe chronic illnesses and situations where several different illnesses may strike at the same time. They are also trained in the essentials of primary care internal medicine, which incorporates an understanding of disease prevention, wellness, substance abuse, and mental health. Internists’ training is solely directed to care of adult patients; consequently, internists are especially focused on the care of adult and elderly patients with multiple complex chronic diseases.

Why Is an Investment in Primary Care Important?

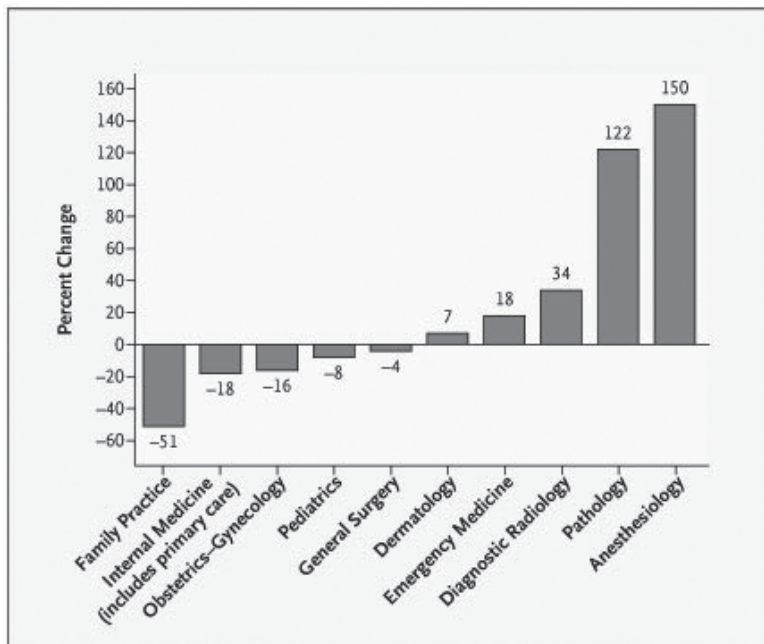
In 2008, the American College of Physicians conducted a comprehensive literature review and found over 100 studies that demonstrate the value of primary care (14). When compared with other developed countries, the United States ranked lowest in primary care functions and health care outcomes yet highest in health care spending (15). States with higher ratios of primary care physicians to population have better health outcomes, including decreased mortality from cancer, heart disease, or stroke (16, 17). The supply of primary care physicians is also associated with an increase in life span (18, 19).

The preventive care that primary care physicians provide can help to reduce hospitalization rates (20, 21, 22). In 2000, an estimated 5 million admissions to U.S. hospitals, with a resulting cost of more than \$26.5 billion, may have been preventable with high-quality primary and preventive care treatment. Assuming an average cost of \$5,300 per hospital admission, a 5% decrease in the rate of potentially avoidable hospitalizations alone could reduce inpatient costs by more than \$1.3 billion (23). At the state level, an increase of 1 primary care physician per 10,000 population in a state was associated with a rise in that state’s quality rank by more than 10 places and a reduction in overall spending of \$684 per Medicare beneficiary (24).

Primary Care Workforce: The Numbers

In our increasingly complex health care system, patients seek out the characteristics of primary care physicians and have indicated a desire for a “continuous healing relationship” with “my doctor,” who provides accessible, competent, comprehensive, whole-person care (25).

Unfortunately, on the basis of the available evidence, there will not be enough primary care physicians to care for them. Over the past decade, the number of U.S. medical school graduates (USMDs) choosing to pursue careers in primary care specialties has significantly declined. This decline has largely been offset by increases in the numbers of international medical graduates and doctor of osteopathy graduates entering primary care residencies.



ACP is particularly concerned about the adequacy of the supply of general internists who provide care in outpatient settings. General internists are leaving practice sooner than other physician specialties at the same time that fewer medical students and residents are choosing to make the practice of general internal medicine and primary care their central career goal. Primary care physicians who are satisfied with their careers are more likely to indicate that they plan on remaining in the field than those who are not (98% vs. 65%) (26). Approximately 21% of physicians who were board-certified in the early 1990s have left internal medicine, compared with a 5% departure rate for internal medicine subspecialists (27). According to the AMA's *Physician Characteristics and Distribution in the U.S.*, 35% of physicians nationwide are over the age of 55 and will most likely retire within the next 5 to 10 years, contributing further to anticipated workforce shortages.

The number of third-year internal medicine residents choosing to pursue a career in an internal medicine subspecialty or other specialties has risen each year for the past 8 years, whereas the percentage choosing careers in general internal medicine has steadily declined. In 2007, only 23% of third-year internal medicine residents intended to pursue careers in general internal medicine, down from 54% in 1998 (28). For some students, internal medicine has become a less competitive “fall-back” option rather than a true career choice (29).

Trends in Career Plans of Third-Year Residents Enrolled in U.S. Categorical and Primary Care Internal Medicine Training Programs, 1998-2007

Year	No. of Respondents	Career Plan, %					
		General Internal Medicine	Hospitalist	Subspecialty	Other	Undecided	Missing
1998	4008	54	N/A	42	3	N/A	1
1999	4338	49	N/A	47	2	N/A	2
2000	4562	44	N/A	51	4	N/A	2
2001	4565	40	N/A	54	4	N/A	2
2002	3495	28	4	56	2	6	4
2003	4732	27	7	57	2	6	1
2004	4974	24	8	56	4	8	0
2005	4926	20	12	58	1	7	1
2006	4817	24	8	63	1	4	0
2007	4810	23	10	58	3	6	0

Source: Internal Medicine In-Training Examination Survey.

Medical students' career plans are even more disheartening. In a survey of fourth-year medical students at 11 U.S. medical schools in the spring of 2007, 23.2% reported they were most likely to enter careers in internal medicine, including **only 2.0% who reported that they were likely to enter careers in general internal medicine (30)**. If this trend continues, a shortage of primary care physicians will likely develop more rapidly than many now anticipate.

Primary Care Workforce: Projections

A March 2009 report by the National Association of Community Health Centers estimated over 60 million Americans lack adequate access to primary care because of shortages of such physicians in their communities (31). It is estimated that over \$18 billion a year in visits to hospital emergency rooms (ERs) could be prevented if care patients have a primary care physician. Such reductions in ER visits may be associated with the ability of primary care physicians to provide recommended preventive care and to manage chronic illnesses effectively, reducing the need for patients to visit emergency rooms because of complications or because of acute conditions that could have been prevented (32). The IOM has reported that it would take 16,261 additional primary care physicians to meet current needs in underserved areas (33).

The AAMC estimates that there will be a shortage of 124,000 physicians by 2025. Demand for primary care physicians outpaces supply faster than for any other specialty group. Specifically, the AAMC estimates that primary care accounts for 37% of the total projected shortage in 2025—about 46,000 FTE primary care physicians (34). These findings are consistent with recently published projections by researchers from the University of Missouri and the Health Resources Services Administration. The study also predicted that population growth and aging will increase family physicians' and general internists' workloads by 29% between 2005 and 2025 (35). Further, greater use of nurse practitioners (NPs) and physician assistants (PAs) are not expected to make enough of an impact on this shortfall (36). Annual numbers of NP graduates fell from 8,200 in 1998 to 6,000 in 2005 and are projected to fall to 4,000 by 2015. In addition, only about 65% of NPs currently work in primary care settings. The number of PA graduates have remained stable at about 4,200 per year, but it is important to note that only one third of PAs practice in primary care settings (37).

Projected Shortage in 2025, by Specialty Group

	Projected Shortage in 2025 (FTEs)	Percent of Total Shortage
Total Patient Care Physicians	-124,000	100.0
General Primary Care	-46,000	37.3
Medical Specialties	-8,000	6.3
Surgery	-41,000	32.9
Other Patient Care	-29,000	23.4

Source: AAMC: The Complexities of Physician Supply and Demand: Projections Through 2025.

Universal health care coverage could add 4% to the overall demand for physicians, increasing the projected physician shortfall by 25% or roughly 31,000 physicians (38). This could disproportionately affect the demand for primary care physicians, likely the first line of contact for individuals newly entering the health care system. In Massachusetts, where health insurance coverage was recently expanded and nearly 95% of the state's residents have coverage, some low-income residents have reported difficulty finding a physician or getting an appointment (39). In fact, the wait to see primary care physicians in Massachusetts has reportedly grown to as long as 100 days (40).

The Challenges Facing Primary Care

Reasons for the decline in medical students choosing primary care careers can be attributed to rising medical education debt combined with lifestyle issues and reimbursement under Medicare that consistently undervalues services provided by primary care physicians (41,42,43,44,45,46). A 2007 survey of fourth-year medical students confirmed these findings. The survey revealed that compared with other specialties they had chosen or considered, medical students perceived internal medicine as requiring more paperwork (68.0% of respondents), requiring a greater breadth of knowledge (62.1%), and having a lower income potential (64.6%). In addition, 26.1% of medical students surveyed indicated that debt load was a factor in not pursuing a career in internal medicine (47).

Practicing primary care physicians are increasingly dissatisfied with their work environment (48,49,50,51). A national study of generalist and subspecialist internists revealed that 40% would, if given the choice, select a career other than internal medicine and 40% discouraged medical students from entering their specialty (52). Career satisfaction of physicians in practice is extremely important as they have a strong influence on medical students and residents. In a national survey of 460 students and residents, having a positive role model was a strong predictor of choice of a generalist career among senior students (53).

A recent study revealed that a typical primary care physician must coordinate care for Medicare patients with 229 other physicians working in 117 different practices, and this role is expected to expand (54). It is important to note that the actual amount of care coordination by a primary care physician would probably be much higher if the analysis had been expanded to a practice's entire patient population. Primary care physicians face other barriers, such as poor reimbursement by Medicare and other payers, payment systems that do not adequately recognize the care coordination services provided by primary care physicians, and excessive regulatory burdens. The physician payment system today places more value on the volume of services than on the preventive care and coordination of care that can lead to better outcomes. For example, Medicare will pay \$30,000 on average under Medicare Part A for a limb amputation for a diabetic patient but pay very little to primary care physicians for helping their diabetic patients avoid the medical complications that lead to amputations (55). Furthermore, Medicare payments—largely due to annual cuts triggered by the SGR—are consistently inadequate and unpredictable, which forces physicians to make difficult decisions about whether to lay off staff, reduce their Medicare patient population, defer spending investments on such capital improvements as electronic medical records or health information technology, or opt for early retirement. In addition, the constant barrage of daily regulations and documentation requirements coming from federal health agencies and private payers forces physicians to spend more time on red tape, which ultimately takes away from patient care and necessitates that primary care physicians work longer hours.

Medical Education Debt

According to the Association of American Medical Colleges, median private medical school tuition and fees increased by 50% (in real dollars) in the 20 years between 1984 and 2004. Median public medical school tuition and fees increased by 133% over the same time period. In 2006, the average tuition in the United States was \$20,978 for public medical schools and \$39,413 for private medical schools (56).

The increase in medical school tuition is just one source of increasing debt burdens for medical students. Many students are entering medical school with more debt from educational loans for their undergraduate degrees. In addition, the interest that accrues over time on these loans and the new loans for medical school add to the total cost of student debt. Increasingly, many medical students have children to support, which also contributes to the pressure of high levels of debt.

The AAMC estimates that over 86% of graduating medical students have educational debt. In 2008, graduates of public medical schools in the United States carried a debt burden of over \$145,000 and debt for graduates of private schools was \$180,000. About 23% of all medical students will graduate with debt of at least \$200,000. In contrast, the average U.K. medical student graduated with \$32,600 of debt (57).

Educational Debt, Combined With Other Factors, Affects Specialty Choice

Students with large debts are more likely to be influenced by debt in their career choices because the threshold for debt repayment is greater for primary care physicians, who typically earn an average of 30% to 50% less than specialists. Although studies of the impact of debt on student specialty choice have garnered mixed results, compelling evidence suggests that debt influences career decisions for certain students. Students who are more concerned about their level of debt are more likely to choose nonprimary care specialties (58). Students with debt that exceeds \$150,000 are the least likely to select a primary care residency (59). In one study, each \$10,000 increase in debt was found to have a 1% increase in the probability of choosing a nonprimary care specialty (60).

A study at the Jefferson Medical College of Thomas Jefferson University that examined whether medical students' levels of debt had an influence on selection of family practice careers revealed that a high level of indebtedness was a significant independent predictor of specialty choice (away from family medicine) (61).

A study of 4,128 internal medicine residents revealed that a substantial number had financial distress that could have interfered with their training. Forty-three percent had monthly disposable income of less than \$100, 16% could not afford safe housing, and 52% were unable to purchase necessary books or equipment. In addition, 33% moonlighted, and this percentage increased progressively with increasing educational debt (62). High levels of debt lead to career dissatisfaction among primary care physicians (63).

A survey of medical school students graduating between 2000 and 2003 at the Duluth campus of the University of Minnesota Medical School, a medical school designed to produce rural family doctors where students are recruited for their interest in rural medicine and family medicine/primary care, revealed that those students with more debt chose specialties with increased earning potential more often than students who graduated with less debt (64).

Quality of Practice Life: Administrative Burdens and Need for New Practice Models

Administrative burdens are unnecessarily limiting physicians' ability to provide patient care and are also diminishing the attractiveness of careers in primary care. The average physician practice often contracts with nearly a dozen or more health plans and must follow each payer's requirements for contracting, credentialing, preauthorizing, coding, billing, and reimbursing (65). Primary care physicians may be disproportionately affected by hassles compared with other specialties because their role in coordinating care and making needed referrals to specialists typically involves frequent interaction with managed care organizations and other third-party payers to obtain required approvals, services, and payment (66). This increased amount of interactions per day requires much more administrative work (67). As a result, the average primary care physician spends only 55% of his or her workday on face-to-face patient care (68).

Primary care physicians see more patients than other physicians, and their practices consist of a higher proportion of Medicare patients. Their paperwork and overhead expenses can be almost twice as great as those of other physicians. For general internists, time pressure during office visits was related to lower satisfaction with autonomy and patient care and lower overall job satisfaction (69).

Quality of Practice Life Affects Specialty Choice and Career Plans

Many physicians in practice are choosing to work part-time or flexible schedules, whereas others seek positions that do not require hospital rounding and limit the amount of time they spend on-call or provide after-hours coverage. Women represent a growing portion of U.S. medical school graduates, rising from nearly 20% in 1980 to approximately 49% in 2007. They are more likely to work part-time and to take extended leave than their male counterparts. In addition, female physicians work an average of 7.4 hours fewer per week than male physicians (70).

Practice Factors Cited as "Very Important" by Physicians Under 50

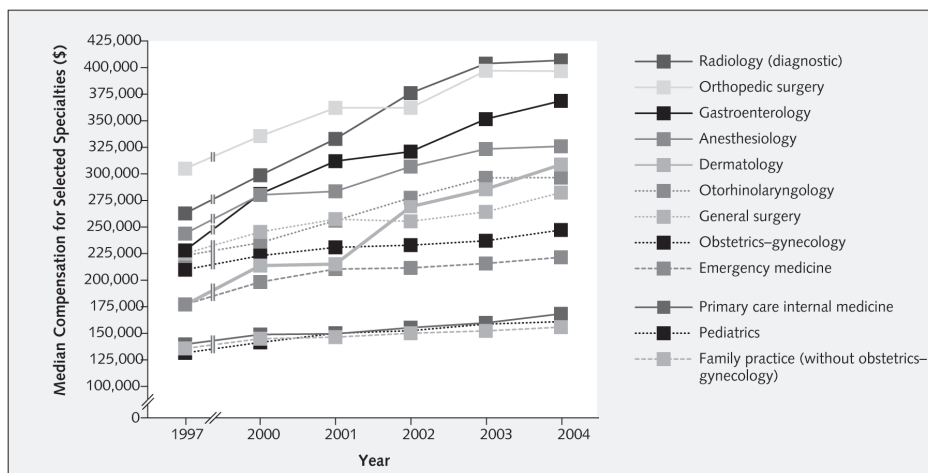
	Percent "Very Important"	
	Male	Female
Balance		
Time for family/personal life	66	82
Flexible scheduling	26	52
No/limited on call	25	44
Minimal practice management responsibilities	10	18
Career/Income		
Practice income	43	33
Long term earning potential	45	36
Opportunity to advance professionally	29	27

Source: Analysis of AAMC-AMA Survey of Physicians Under 50.

New medical school graduates are also increasingly seeking quality of work/life balance. Fewer USMDs are choosing primary care specialties because they associate them with an uncontrollable lifestyle due to lack of control over work hours and patient care duties. One study found that controllable lifestyle accounted for more than 55% of the variance in students' specialty choices from 1996 through 2002 (71). A study of 1,334 fourth-year medical students surveyed between 1998 and 2004 found that lifestyle has become more important to medical students and has had an increasing influence on their career decisions over the years (72).

Reimbursement

Reimbursement for primary care physicians is not competitive with other medical specialties. This not only has a negative impact on recruitment of primary care physicians but also retention of those currently in practice. The primary care–specialty income gap is wide and growing. A recent study found that the difference in salary between diagnostic radiology or orthopedic surgery and primary care was \$250,000 in 2005 (73). Between 1996 and 2003, the income of primary care physicians, adjusted for inflation, dropped by 10.2%, whereas the amount of work increased (74). A specialist spending 30 minutes performing a surgical procedure, diagnostic test, or imaging study is often paid up to three times as much as a primary care physician conducting a 30-minute visit with a patient who has a chronic condition (75). Specialists can perform more procedures more quickly, whereas primary care physicians cannot see more patients more quickly without compromising quality of care, career satisfaction, and patient satisfaction. Therefore, the volume of procedures can, and has, increased more rapidly than the volume of office visits.



Median Compensation for Selected Medical Specialties.

Data are from the Medical Group Management Association Physician Compensation and Production Survey, 1998 and 2005.

Reimbursement Affects Specialty Choice

A recent study compared residency position fill rates with average starting salaries by specialty and found that U.S. medical students tend to choose more highly compensated specialties. For example, the lowest average starting salary of any specialty was family medicine (\$130,000), whereas the highest average starting salaries were in radiology and orthopedic surgery. In 2007, only 42.1% of first-year family medicine residency positions were filled by U.S. medical school graduates, compared with 88.7% in radiology and 93.8% in orthopedic surgery (76).

A 2008 analysis found a strong direct correlation between higher overall salary and higher fill rates with U.S. graduates (77).

Table 4. Salary and Residency Match Data, 2007

Specialty	PGY-1 Positions Offered, No. ³	Starting Salary, Mean, \$ ²	Overall Salary, Mean, \$ ²	Filled Positions, No. (%) ³					Total Filled Positions, % ³
				US Allopathic Graduates	US IMG	Non-US IMG	Osteopathic	Unfilled	
Family medicine	2603	130000	185740	1096 (42.1)	335 (12.9)	538 (20.7)	227 (8.7)	304 (11.7)	88.3
Pediatrics	2328	125000	185913	1695 (72.8)	113 (4.9)	282 (12.1)	129 (5.5)	63 (2.7)	97.3
Internal medicine (all)	4798	135000	193162	2680 (55.9)	392 (8.2)	1303 (27.2)	233 (4.9)	78 (1.6)	98.4
Psychiatry	1057	160000	200871	633 (59.9)	71 (6.7)	176 (16.7)	30 (2.8)	57 (5.4)	94.6
Neurology	160	177500	222998	83 (51.9)	4 (2.5)	56 (35.0)	9 (5.6)	4 (2.5)	97.5
Pathology	513	NA	247506	296 (57.7)	22 (4.3)	75 (14.6)	29 (5.7)	47 (9.2)	90.8
Emergency medicine	1288	178000	255530	1027 (79.7)	58 (4.5)	23 (1.8)	120 (9.3)	6 (0.5)	99.5
Obstetrics/gynecology	1155	NA	297887	837 (72.5)	78 (6.8)	120 (10.4)	87 (7.5)	6 (0.5)	99.5
Otolaryngology	270	220000	327399	251 (93.0)	1 (0.4)	8 (3.0)	0	2 (0.7)	99.3
General surgery	1057	220000	327902	826 (78.1)	56 (5.3)	74 (7.0)	74 (7.0)	2 (0.2)	99.8
Anesthesiology	575	275000	344691	448 (77.9)	24 (4.2)	32 (5.6)	48 (8.3)	14 (2.4)	97.6
Radiology	141	350000	414875	125 (88.7)	3 (2.1)	4 (2.8)	6 (4.3)	0	100
Orthopedic surgery	616	NA	436481	578 (93.8)	4 (0.6)	10 (1.6)	2 (0.3)	2 (0.3)	99.7

Abbreviations: IMG, international medical graduate; NA, not available; PGY-1, postgraduate year 1.
³Does not include nonsenior US graduates, Canadian graduates, and graduates using the Fifth Pathway.

Ebell, M. H. JAMA 2008;300:1131-1132.

Solutions to the Challenges Facing Primary Care

ACP recommends that immediate, comprehensive strategies be implemented to avert the emerging shortage of primary care physicians. To address the impending shortages in the physician workforce, and the primary care workforce in particular, the College calls on the federal government to take immediate action in the following ways:

Establish a National Health Care Workforce Policy

- 1. The federal government should develop a national health care workforce policy that includes sufficient support to educate and train a supply of health professionals that meets the nation's health care needs and specifically to ensure an adequate supply and spectrum of primary care physicians trained to manage care for the whole patient. General internists, who provide long-term, longitudinal, comprehensive care in the office and the hospital and manage both common and complex illness of adolescents, adults, and the elderly, are essential to a high-functioning primary care system.**

In the United Kingdom and Canada, countries with single-payer systems, the government has leverage to manipulate the health care workforce supply, including both training capacity and employment opportunities. In the U.S., the numbers and types of health care professionals being trained are largely determined by the availability of training programs, the number of applicants, and inpatient service needs of academic medical centers. But, institutional service needs are a poor indicator of national health workforce requirements, particularly as patient care has continued to shift from inpatient to outpatient settings. The nation needs sound research methodologies embedded in its workforce policy to determine the nation's current and future needs for appropriate numbers of physicians by specialty and geographic areas. The Council on Graduate Medical Education has made numerous calls on the federal government to establish a national health care workforce policy, most recently in September 2007 (78). In its December 2008 report, the IOM did so as well, recommending that the Department of Health and Human Services, along with other public and private partners, "develop a comprehensive national strategy to assess and address current and projected gaps in the number, professional mix, geographical distribution, and diversity" of the health care workforce (79).

Policies to expand primary care workforce capacity need to be implemented immediately to influence the career choices of medical students and physicians completing residency and the retirement and career decisions of primary care physicians already in practice. Given that it takes a minimum of 7 years to train a primary care physician (medical school and residency combined), the United States cannot afford to delay implementation of policies that attract more new physicians to primary care and sustain those already in practice.

- 2. The federal government should establish a permanent national commission on the health care workforce to provide explicit planning at the federal level by setting specific targets for increasing primary care capacity, including training and retaining more primary care physicians whose training is appropriate for the present and anticipated health care needs of the nation. The commission should also recommend policies, including changes in graduate medical education funding, to achieve those targets and metrics to evaluate the success of each policy intervention.**

As a preliminary target, ACP recommends that the number of Medicare-funded graduate medical education (GME) positions available each year in adult primary care specialties be increased to graduate 3000 additional primary care physicians each year for the next 15 years to meet the nation's anticipated health care needs.*

*This estimate is presented as a placeholder but is not intended to substitute for a more rigorous evaluation by the commission.

The commission should determine the optimal mix and numbers of primary care physicians per population and as a percentage of the total physician workforce; provide recommendations for policies to achieve the desired goals, including changes in medical education, GME, and payment policies; and report annually on progress in attaining such goals, including new policies, should results fall short of the benchmarks. The commission should identify specific metrics to evaluate the impact (success or failure) of each policy that is implemented to expand the primary care physician workforce, including measures of medical student and new physician choice of specialty, measures of the career plans of established physicians, and measures of patient access to primary care (see Appendix 1). The commission should also ensure that there will be sufficient numbers of other health professionals, including nurses and physician assistants, to support the demand for primary care in collaboration with primary care physicians.

In June 2006, the AAMC recommended a 30% increase in U.S. medical school enrollment and an expansion of GME positions to accommodate this growth (80). The current Medicare GME-funding limits on residency training positions are impeding the establishment of new residency programs and additional training positions in existing programs. Although medical schools have done their part to expand class sizes, this effort will not increase the total number of U.S. physicians unless GME capacity is increased as well. ACP has considered the option of increasing the number of overall GME positions to increase the supply of physicians, but concluded that increasing the overall pool of physicians would not ensure that adequate numbers enter and remain in practice in primary care. Instead, ACP recommends a more targeted approach, recognizing the nation's increasing demographic demands for health care and the dwindling supply of primary care physicians. ACP recommends strategically increasing the number of Medicare-funded GME positions in adult primary care specialties. For internal medicine, the College recommends that the positions be increased in IM-primary care positions rather than IM categorical positions.

With an estimated shortage of 44,000–46,000 primary care physicians anticipated by 2025, the federal government must act now to eliminate such a deficit. ACP estimates that by increasing the number of Medicare-funded GME positions in adult care primary care specialties to graduate an additional 3000 primary care physicians annually for the next 15 years, the federal government will ensure that an adequate number of primary care physicians are trained and practicing by 2025. Since primary care residency programs take 3 years to complete, each graduate will need to be funded for 3 years. Therefore, an additional 9000 Medicare-funded GME positions will be needed each year in order to graduate 3000 primary care physicians. This funding can be phased in with 3000 the first year, 6000 the second, and 9000 the third year and beyond. Assuming roughly 90,000 current Medicare-funded GME positions, the additional 9000 positions represent an increase of 10%. If the nearly 850 residency programs in family medicine and internal medicine that currently exist were used to fulfill this goal, each program would need to graduate an estimated 3.5 to 4.5 additional graduates in primary care specialties annually (81). Alternatively, new residency programs could be established if existing programs were unable to accommodate such expansions. Since it takes 7 years to educate and train a primary care physician, this expansion of GME positions must start now to avert the predicted shortfall.

ACP recommends that a corresponding number of service-based scholarship and loan repayment awards be funded to encourage medical students and residents to not only pursue careers in primary care and fill these newly funded

positions, but also to ensure that they practice in areas of the nation where they are needed the most. Our proposal for such an expansion is discussed in further detail in Position 1 in the next section.

The Nation Needs to Invest in Primary Care		
Problem	Solution	
Number of additional adult primary care physicians needed by 2025: 44,000–46,000	Increase adult primary care graduates by 3000 for the next 15 years starting in 2010.	Additional 45,000 adult primary care physicians by 2025.
	Provide scholarships or loan repayment awards in exchange for service in HPSAs or critical shortage facilities for each graduate.	Additional 45,000 adult primary care physicians by 2025 practicing in areas where the nation needs them most.

It should be noted that although the College is offering these recommendations as preliminary targets, any programs to increase primary care workforce capacity will need to be continued for as long as is necessary, and expanded as needed, to ensure the necessary and measurable increases in capacity. Programs should also be recalibrated should the impact in any year, beginning in 2010, indicate that the policies are not having a big enough impact on achieving *measurable* gains in the numbers of young physicians and medical students choosing primary care, sustaining primary care physicians already in practice, ensuring adequate patient access to primary care, and fulfilling other metrics of primary care workforce capacity.

Improve Training, Recruitment, and Retention of Primary Care Physicians

1. **The federal government should create incentives for medical students to pursue careers in primary care and practice in areas of the nation with greatest need by developing or expanding programs that eliminate student debt for physicians who choose primary care, linked to a reasonable service obligation in the field, and creating incentives for these physicians to remain in underserved areas after completing their service obligation. This should include:**
 - a. **New loan repayment and medical school scholarship programs in exchange for primary care service in critical shortage health facilities, or in critical shortage areas of the country with funding for 1000 awards annually for the next 15 years.**

Medical school scholarships and loan repayment programs in exchange for service in underserved areas for those pursuing careers in primary care are essential for those who are interested in careers in these critical but less remunerative specialties. Because of high student debt, many medical students who otherwise might consider going into office-based primary care may instead choose to go into subspecialties or other specialties that offer higher anticipated career earnings, allowing them to pay off their accumulated debt more rapidly. Such programs will ensure that new primary care physicians practice in areas of the country where they are needed the most. They are also necessary to ensure that opportunities for careers in primary care medicine continue to be available to the best-qualified candidates and are not restricted only to those with substantial financial wealth. The availability of these programs should be better publicized to prospective applicants.

There are many health care facilities across the country facing shortages of primary care physicians. A Critical Shortage Health Facility is defined as a public or private nonprofit health facility that does not serve a health professional shortage area (HPSA) but has a critical shortage of primary care physicians. ACP proposes the establishment of scholarships (not to exceed \$35,000 per year to a maximum of 4 years) in family medicine and general internal medicine through HHS that require graduates to practice in Critical Shortage Health Facilities for a minimum of 2 years and up to 4 years for each year that such scholarship is awarded. The College also calls for the establishment of a loan repayment program to primary care physicians in the fields of family medicine and general internal medicine who agree to practice in an area of the country that is experiencing a critical shortage of physicians but does not qualify as a HPSA. A maximum of \$35,000 per year in loan repayment (principal and interest) should be provided for each year of such service obligation.

These programs would require service in critical shortage health facilities or areas as an alternative option to service in HPSAs through NHSC and would offer a broader impact because they would be limited to primary care physicians. Because the NHSC requires that physicians practice in designated HPSAs, it excludes many areas of the country and facilities that are experiencing critical shortages. ACP believes that the NHSC, by itself, will have a more limited impact and anticipates that these new programs will effectively complement the NHSC's efforts by addressing shortages in critical shortage health facilities throughout the country. ACP proposes that the federal government appropriate funding for 1000 awards for these new programs annually for the next 15 years.

b. Increased funding for scholarships and loan repayment programs under Title VII for an additional 500 awards annually for the next 15 years.

The Primary Care Loan (PCL) program awards funds to accredited schools for medical students who agree to enter and complete residency training in primary care within 4 years after graduation and practice in primary care for the life of the loan. Such loans can serve as a great incentive for medical students considering careers in primary care.

The Faculty Loan Repayment Program is designed to assist degree-trained health professionals from disadvantaged backgrounds in pursuing academic careers. Individuals selected agree to serve on the faculty of an accredited health professions college or university for a minimum of 2 years for payment of up to \$20,000 of their educational loans. In FY 2004, this program received 148 applications, but only 43 were funded.

The Scholarships for Disadvantaged Students Program provides scholarships to full-time, financially needy students who are from disadvantaged backgrounds and are enrolled in health professions and nursing programs. In FY2008, the Scholarships for Disadvantaged Students program distributed \$42.3 million in scholarship funds to 224 colleges and universities, ranging from \$1,548 to \$1,781,268; the average award was \$189,121. Such scholarships help greatly to diversify the health care workforce.

ACP recommends increasing funding for scholarship and loan repayment programs under Title VII by an additional 500 awards annually for the next 15 years. These awards should be targeted to primary care faculty and students who commit to training in primary care.

c. Increased funding for NHSC scholarships and loan repayment programs for an additional 1500 awards annually for the next 15 years for primary care medicine.

The NHSC scholarship and loan repayment programs provide payment toward tuition/fees or student loans in exchange for service in an underserved area. The programs are available primary medical, oral, dental, and mental and behavioral professionals. Participation in the NHSC for 4 years or more greatly increases the likelihood that a physician will continue to work in an underserved area after leaving the program. Over the years, the number of clinicians in those programs has grown from 180 to over 4,000. In 2000, the NHSC conducted a large study of NHSC clinicians who had completed their service obligation up to 15 years before and found that 52% of those clinicians continued to serve the underserved in their practice (82). The programs under NHSC have been proven to make an impact in meeting the health care needs of the underserved, and with more appropriations, they can do more.

The NHSC estimates that nearly 50 million Americans currently live in health professions shortage areas (HPSAs)—underserved communities that lack adequate access to primary care services—and that 27,000 primary care professionals are needed to adequately serve the people living in HPSAs. Currently, over 4,000 NHSC clinicians are caring for nearly 4 million people (83). The outstanding need remains unmet.

Limited funding has reduced new NHSC awards from 1,570 in FY 2003 to an estimated 947 in FY 2008, a nearly 40% decrease. The NHSC scholarship program already receives seven to fifteen applicants for every award available. The National Advisory Council on the NHSC has recommended that Congress double the appropriations for the NHSC to more than double its field strength to 10,000 primary care clinicians in underserved areas (84). The College

recommends increasing funding to provide an additional 1500 awards annually for the next 15 years. The AAMC made a similar recommendation in its 2006 statement on the physician workforce (85). The College recommends that the additional scholarships to medical students and loan repayment awards be targeted to primary care physicians to have the most impact on the supply of primary care physicians in the workforce.

ACP was pleased that the American Recovery and Reinvestment Act of 2009 signed into law by President Barack Obama on February 17, 2009, provided \$300 million to the NHSC and \$200 million for programs under Title VII. We support targeting a large portion of these funds toward scholarships and loan repayment awards for primary care physicians. Although this funding is a much-needed temporary boost for both programs, the College would like to see a commitment to consistently fund these programs at levels that will have a meaningful impact in addressing the primary care physician workforce crisis.

d. New practice-entry bonuses for scholarship or loan repayment award recipients who remain in underserved communities after completion of service obligation.

ACP calls for the development of a practice-entry bonus for primary care physicians who have received scholarships or loan repayment awards in exchange for service in underserved facilities or areas as an incentive for them to continue to practice in an underserved community after fulfilling his/her obligation. This money could be used to help establish the physician in a new practice setting or purchase equipment or hire additional staff necessary to establish a patient-centered medical home.

2. Allow deferment of educational loans throughout the duration of training in primary care residency programs.

ACP recommends allowing the deferment of interest and principal payments on educational loans until after completion of residency training in primary care specialties. During residency training, physicians receive a stipend in acknowledgment of the patient care services they provide. However, medical residents receive far less income and typically work many more hours per week (up to 80 hours) than their counterparts with postgraduate degrees in other professions. Loan repayment in residency makes it even more difficult for physicians-in-training to start or support a family and leaves little discretionary income for products that will advance physicians' professional development (e.g., conferences or journal subscriptions). By deferring payment of interest and principal on medical student loans until after completion of postgraduate training, residents will have increased funds necessary for professional development and more of an opportunity for a reasonable lifestyle. This will reduce financial pressure for residents to moonlight to supplement their income. It will also better enable young physicians who want to enter primary care careers to do so with less pressure to enter a more lucrative specialty to pay off their student debts.

3. The federal government should support education and training reform in primary care by

a. Providing funding to encourage medical schools and post-graduate residency training programs to improve primary care education and training through grants for:

- i. Mentorship programs and faculty development**
- ii. Curriculum development for innovative models of care, such as the patient-centered medical home**
- iii. Development of materials to promote careers in primary care**

Role models in medical school serve an important role for physicians-in-training, providing advice, experience, and a window into the future of a medical career (86,87,88). These role models can help accentuate the positive aspects of primary care specialties, such as the intellectual challenge of medical care (89). Conversely, teaching faculty, residents, and attending physicians who are dissatisfied with their careers can send negative messages that have been shown to discourage other residents and students from pursuing careers in internal medicine (90). Medical schools and training programs should be provided grants to cultivate great leaders in primary care and develop primary care mentorship programs to expose medical students and residents to primary care physicians in a variety of practice settings who are satisfied with their careers and can provide guidance to those considering careers in primary care specialties.

Grants should also be provided for curriculum development for primary care models, such as the patient-centered medical home, to provide graduating residents with the skills necessary to function as integral leaders of a health care team. An evaluation of a categorical internal medicine residency program at the University of Cincinnati Academic Health Center that was redesigned to adopt the Chronic Care Model and provide residents with extensive instruction in quality improvement and interprofessional teams found that patients were more satisfied with the comprehensiveness of care that was provided through primary care, rather than disease-specific management, and residents reported an increase in personal reward and a greater sense of relationship with their patients (91).

Finally, grants should also be provided to medical schools and training programs to promote careers in primary care, to emphasize the important role that primary care physicians play in the health care delivery system; new models for providing care, with the primary care physician serving as the leader; and scholarship and loan repayment options available to those considering careers in primary care.

b. Eliminating barriers to increased training time in ambulatory care settings for primary care trainees.

Traditionally, medical education has been inpatient-oriented. Such training rarely provides medical students and residents with opportunities to learn about the vast majority of primary care delivered in ambulatory care settings. In its 19th report to Congress, CoGME highlighted the problem: “GME funds are tied to inpatient, hospital-based care, while medical practice and education are shifting more to the ambulatory setting for both primary care and specialty care services . . . The future practice of medicine, and therefore training, should be coordinated, interdisciplinary, and patient-centered, rather than fragmented among multiple unrelated providers and settings of care. Unfortunately, the current GME funding streams continue to perpetuate an outmoded style of medicine.”

With a disproportionate amount of inpatient training and limited exposure to ambulatory care settings, internal medicine residents are more or less trained to become hospitalists and are choosing careers in hospital medicine at rapidly increasing rates. Residents in primary care training programs need increased exposure to the ambulatory care setting, in a practice environment that demonstrates the satisfaction to be gained from providing ongoing care to patients. The evidence suggests that residents who spend increased time in outpatient settings, as opposed to the hospital, delivered a higher quality of care and had more satisfaction in their duties (92). However, current GME financing mechanisms provide limited support for such ambulatory training.

Teaching hospitals should be held to greater accountability to public need for the public monies they spend on training new physicians. They also need fewer barriers and more incentives to develop and/or expand primary care training programs that expose residents to both inpatient and nonhospital settings. Since 1987, teaching hospitals have been allowed to count the time residents spend in nonhospital settings for the purpose of direct GME payments, subject to agreements between the hospital and the nonhospital site where training occurred, as long as the hospital incurred “all or substantially all” of the costs associated with the resident. However, since 2002, the CMS began denying payments for the time residents spent in nonhospital settings where teaching physicians were volunteering their time to supervise resident training. ACP believes that CMS’s actions are in direct conflict with Congressional intent expressed in provisions of the 1997 and 1999 balanced budget acts, which were designed to encourage rural and out-of-hospital experiences. This has the effect of reducing, by fairly large amounts, the payments a teaching hospital or teaching program receives for residents training in nonhospital settings and creating a disincentive to expand training in nonhospital settings. They also put at risk the agreements that teaching hospitals, residency programs, physicians, clinics, and community health centers have carefully negotiated to ensure that residents are exposed to much-needed ambulatory training. If such regulatory barriers are not eliminated, hospitals will be forced to train all residents in the hospital setting or eliminate programs. Allowing hospitals to receive payments for the time residents train in a nonhospital setting is sound educational policy and the federal government should take the necessary measures to encourage training in office-based and community settings.

c. Increasing funding for primary care training programs under Title VII.

The Title VII Training in Primary Care Medicine and Dentistry grant program has been the most important federal intervention to help build and maintain the primary care medical and dental training infrastructure in this country. The history and impact of this major federal program is documented thoroughly in the November 2008 issue of *Academic Medicine*. Since its origins, the federal government, through the Title VII health professions grant program, has invested over \$1.2 billion in training family physicians, general internists, pediatrics, physicians assistants, and general and pediatric dentists. These dollars have also supported training community and academic primary care clinicians as teachers and research fellows who have gone on to make major contributions to such fields as health disparities, quality improvement and patient safety, prevention and community health, and cost-effectiveness analysis. Much of the fruit of these federal dollars are manifest now with the primary care workforce this country enjoys. Unfortunately, these federal dollars were cut severely in 2006, and more important, have not kept pace with

expansion of funding for subspecialty residency and fellowship training over the past two decades, such that primary care residency programs have been cut and departments of family medicine have been eliminated. Additionally, the primary care physician-to-specialist ratio of trainees has been skewed heavily toward specialists and subspecialists since more federal funds have flowed in this direction. One obvious and effective strategy to address this imbalance would be to substantially increase funding through the Title VII Training in Primary Care Medicine and Dentistry grant program, because the administrative mechanism remains in place to deliver these funds to communities and training sites to prepare the clinicians the U.S. public needs and deserves.

A study published in *Academic Medicine* compared students in a Title VII-supported medical education program with those in a traditional medical program and found that 86% of Title VII graduates plan to work in an underserved community, compared with 20% of graduates from a traditional medical program. (93) Another study found that residents in general medicine, family medicine, and pediatrics, who received their training in residency programs that had Title VII grant funding, reported being prepared to provide cross-cultural care across all 8 measures and feeling more skilled in cross-cultural care for 6 of 10 measures. This outcome significantly exceeded the self-reported skills and confidence in cross-cultural care by residents trained in programs that did not receive Title VII funding (94). A study of the impact of 25 years of Title VII funding to the establishment of the primary care internal medicine residency training program at Bellevue/NYU concluded that the Bellevue/NYU primary care residents outperformed their specialty colleagues on important measures, such as clinical productivity, patient satisfaction, and cost-effective care (95). Many agree that the time has come to recommit to re-invigorating and refunding the programs under Title VII at the necessary level to prepare the primary care medical professionals of the future to care for an increasingly diverse U.S. population (96,97). ACP recommends increased funding for these programs to at least double the FY2005 levels.

4. The federal government should develop public policies that support the retention of senior physicians in primary care practice, including appropriate expense reduction in medical liability insurance and other financial or administrative barriers to reduced practice load for senior physicians who choose part-time practice and other incentives for senior physicians to stay in practice.

The available data indicates that general internists are leaving practice sooner than other specialties (98). With an anticipated shortage of 40,000 to 45,000 primary care physicians by 2025, it is more important than ever to retain primary care physicians currently in practice. Every effort should be made to eliminate barriers and create incentives for senior primary care physicians currently in office-based practice to stay in practice, through reduction in medical liability insurance premiums, administrative barriers, and promotion of part-time practice. Physicians who are dissatisfied with practice are two to three times more likely to retire than satisfied physicians. A 10% increase in physician dissatisfaction would lead to 6.3% more retirements within 12 years (99). Satisfied senior physicians also serve as important mentors for young physicians and those considering careers in primary care.

Quality of Practice Life: Provide Relief from Administrative Burdens

- 1. Congress should request that the IOM or other appropriate entity conduct a comprehensive assessment of administrative, paperwork, and medical review requirements imposed on primary care physicians by federal regulatory agencies, public and private health plans, and state governments.**

This study should determine the amount of time typically required by primary care physicians to meet such requirements and identify specific strategies to reduce the time required. On the basis of the results, the federal government should implement reforms to reduce the amount of time required to complete administrative tasks, especially tasks required by the Medicare program, leading to an overall improvement in the practice conditions for primary care physicians and practices and allowing them to better serve patients. Private payers that participate in programs subsidized, directly or indirectly, with public dollars should be required to implement similar strategies as a condition of qualifying for such subsidies. Other private payers should be encouraged to implement comparable strategies.

The costs associated with health plan administration of programs and insurance costs make up a sizable portion of overall health care expenditures and the cost to physicians to administer their practices and engage with health plans and programs is also large. Administrative costs account for an average of 25% of health care spending, with a sizable portion attributed to billing and insurance-related functions. It is estimated that nearly 10% of private payer revenue is consumed by administrative costs, with approximately 8% attributed to billing and insurance-related functions. It is estimated that physician offices spend 27% of revenue on administration, with nearly 14% of their revenue consumed by billing and insurance-related functions (100). Although the federal government spends less to administer the Medicare program than the typical private health plan, it is costly for physicians to engage with the program. Further, studies by Medical Group Management Association calculate the annual cost of administrative tasks, many of which are of dubious value, at around \$25,000 per year per physician.

Even a small reduction in overall administrative expense would generate significant savings. Below is a discussion of areas for which for physicians find the administrative burden especially challenging and how improvements can improve the physician practice environment.

As noted elsewhere in this paper, a typical physician practice has a contract with 12 or more health plans (101). The great majority of physicians participate in Medicare, with many also participating in Medicaid. Each physician must be credentialed by each plan with which he or she participates. There is little variation in the information plans seek to decide to make a credentialing decision. Recognizing the administrative burden and the opportunity to generate efficiencies, the Council for Affordable Quality Healthcare, a not-for-profit organization comprising health plans and trade associations working to simplifying the administration of health care, established a Uniform Provider Datasource (UPD) that allows physicians to report information to a secure, centralized database from which health plans can draw for credentialing purposes. Over 615,000 physicians and other providers have used the UPD, with information being accessed by over 400 health plans and other users. There is no cost to physicians to report their information—health plans that use the information pay an annual subscription fee and a fee to use the data (102). The fact that the number of health plans using the data continues to grow indicates that they view this as a cost-effective model. Reporting information in a standard form to a single source is certainly advantageous to physicians.

The lack of Medicare involvement with the UPD is a glaring omission. CMS has recently moved to an electronic provider enrollment system in an attempt to handle credentialing and maintenance of billing privileges in a manner more efficient for all stakeholders. Linking this Medicare enrollment effort with the UPD project would be a giant step toward further reducing the unnecessary and costly redundancy in this area.

Physicians continue to find dealing with pharmacy benefits managers and other efforts to control utilization of prescription drugs a costly and time-consuming challenge. A Medical Group Management Association (MGMA) survey determined that the average yearly cost for a 10-physician practice to handle issues related to ensuring patients receive prescribed drugs, which includes efforts related to prior authorization and phone conversations with pharmacies, is approximately \$137,000 (103). The introduction of the Medicare prescription drug benefit in 2005 has significantly increased the number of patients for whom drug coverage is managed. Although Medicare and other payers have taken steps to make the physician role in engaging pharmacy benefit managers and plans more tenable, much more needs to be done. Requiring benefit and managers, plans to make their formulary available online and using an all-payer standard form for prior authorizations and substitutions are the type of actions that will enable physicians to better facilitate patient access to needed, appropriate drugs.

Subjecting physicians who participate in projects linked to process, outcomes, and patient experience to fewer activities that Medicare and other payers deem important to ensure accountability—but physicians view as administrative and onerous—is a concept worth testing. Requiring physicians to adhere to very specific guidelines for documenting office encounters (and other evaluation and management services) with patients and to navigate prescription drug prior authorizations and cost containment processes may be unnecessary and even redundant when a physician is participating in a project that provides accountability through measurement. The requirements for a physician to have his or her practice recognized as a PCMH, supplemented by the likely metrics that Medicare and other health plans will use to assess the effectiveness of the PCMH model, provide an example. Practices need to be able to track patients by condition and other factors, must coordinate among the practice team and with external caregivers, and use e-prescribing technology to be recognized as a PCMH. Nearly all plans testing the PCMH expect increased appropriate use of generic drugs and will assess their pharmacy expenditures as part of the project.

In addition to working to minimize the administrative burden associated with the existing practice environment, equally important is avoiding new costly, unfunded requirements that fail to improve quality of care. The recent decision of the Health and Human Services (HHS) Department to implement the next revision of the International Classification of Diseases—Clinical Modification (ICD-10) coding system will impose a significant cost on physician practices. This decision sets in motion a process by which practices must be prepared to use this dramatically expanded set of diagnosis codes to indicate why they furnished specific services. Nachimson Advisors, LLC, estimates that the change to ICD-10 diagnosis codes will cost the typical small practice of 3 physicians approximately \$83,000. In addition to these one-time costs, it estimates that there will be ongoing additional costs associated with a 3% to 4% decrease in physician productivity that will result from the increased effort involved in selecting the appropriate diagnosis code under the new, expanded system code (104).

Although HHS estimates a lower cost associated with the move to ICD-10, which currently must be implemented by 2013, it imposes a costly and challenging adjustment for practices, one that is especially acute for small primary care practices. Further, the government and other payers must assess the aggregate cost of administrative requirements on practice as opposed to viewing each in isolation. Although the cost of a single requirement can be high, the cumulative impact can be devastating.

Physicians would also benefit from a study on paying physicians at the time they provide/bill for a service, ensuring that physicians have access to Medicare officials who make decisions that affect them and their patients, and having Medicare find opportunities to collaborate with the private sector for maximum impact. Taking these actions—in addition to other improvements to reduce burden—would serve a complimentary, broader purpose. Reducing the administrative burden would send a message to physicians that policymakers understand that they face real challenges that can adversely affect the practice environment—an important message, because physicians-in-training and those in practice find it increasingly hard to overlook the challenges inherent in primary care practice.

Quality of Practice Life: Develop, Study, and Support New Primary Care Delivery Models

1. Public and private payers should support expansion of the PCMH model.

The College strongly advocates adopting a patient-centered primary care model for health care delivery. This model would provide additional reimbursement and potentially reduce administrative burdens for practices that have the infrastructure and capability to provide patient-centered, physician-guided, coordinated, comprehensive, and longitudinal care and that report on evidence-based quality, effectiveness, efficiency, and satisfaction with the care provided.

Practices that organize to deliver patient-centered care through the PCMH model should be paid a monthly, risk-adjusted care management fee for each eligible patient; plus fee-for-service payment for face-to-face encounters with patients; plus performance-based payments for reporting on quality, patient satisfaction, and efficiency metrics. A shared savings component might also be included. The total payments for the PCMH should be high enough to fully cover the costs—including those for physician and other clinical staff work and health information systems associated with care management—and result in an overall and substantial gain in net revenue to primary care physicians in such practices. Total compensation for PCMH should support the goals of making primary care more attractive and competitive and also that of furthering the PCMH itself.

2. Public and private payers should invest in other new practice models that support the ability of primary care physicians to deliver comprehensive, preventive, and coordinated care to patients.

Such support should help practices organize and utilize team-based care, provide care coordination and disease management services to their patients, use secure e-mail and Web portals, and adopt group scheduling. Payers should provide financial support and incentives to primary care practices to help them acquire the capabilities they need to support comprehensive, preventive, and coordinated care to all patients. Alternatively, payers should provide them with such capabilities through funding of “in kind” practice support services at little or no cost to the practice.

Reimbursement: Provide Payment That Is Commensurate with the Value of Primary Care

1. **The federal government should provide immediate, sufficient, and sustained increases in Medicare fee-for-service payments for services provided by primary care physicians by:**
 - a. **Raising absolute and relative compensation of general internists and other primary care physicians to achieve market competitiveness in choice of specialty and to sustain and increase the practice viability of general internists and other primary care physicians already in practice.**

The College recommends improving the payment and practice environment of existing primary care physicians and advocates reforming Medicare payment policies so that physicians who engage in primary care can receive reimbursement that is commensurate with the value of their contributions. Medicare, as the single largest purchaser of health care in the United States, has a particular responsibility to replace policies that are antithetical to primary care with ones designed to encourage and support its central importance. The current process for establishing relative values has resulted in payment rates that undervalue office visits and other evaluation and management services provided principally by primary care physicians and overvalue many technological and procedural services. Primary care is perhaps the most vital part of patient care. Medicare should begin paying physicians more for spending time with patients and evaluating and managing their care; investing in health information technology to improve quality; and helping patients with chronic illnesses manage and control their diseases to avoid later complications. The program should begin paying primary care physicians for e-mail and telephone consultations that can reduce the need for face-to-face visits and increase patients' ability to get medical advice in a timely manner. Medicare reimbursement policies should also recognize the value of the time that physicians spend outside the face-to-face visit in coordinating the care of patients with multiple chronic diseases, including the work involved in coordinating care with other health care professionals and family caregivers.

The College urges reform of Medicare payments so that the career choices of medical students and young physicians are largely unaffected by considerations of differences in earnings expectations. Medical students and young physicians should make career decisions on the basis of their interests and skills instead of being influenced to a great extent by differences in earnings expectations associated with each specialty. However, extensive evidence shows that choice of specialty is greatly influenced by the undervaluation of primary care by Medicare and other payers compared with other specialties (105). One author suggests that achieving a national goal of 50% of clinicians practicing in primary care will require "improving the payment gap between primary care physicians and specialists such that the generalist-to-population ratio increases (106)."

Measurable objectives of market competitiveness should be developed to determine the level of compensation for primary care, relative to other specialties, that is needed to neutralize or reduce income expectations as a significant factor in career choice, when combined with such other policies as elimination of student debt for those choosing primary care. Measurable objectives should also be developed to reduce incentives for established primary care physicians to retire early or migrate into nonprimary care careers.

ACP's recommendations for raising absolute and relative compensation for primary care physicians are discussed in more detail in a new companion ACP policy paper, *Reforming Physician Payments to Achieve Greater Value in Health Care Spending*, also being released in April 2009 (107).

b. Improving the accuracy of work and practice expense relative value units (RVUs), to increase payments for evaluation and management services, and to provide separate payment for care coordination services provided principally by primary care physicians.

Congress requires that CMS use the resource-based relative value scale (RBRVS) to determine Medicare fee-for-service payments. The RBRVS measures the resource costs required to provide each physician service, ranking each service relative to all other services. These resource costs are expressed in the form of RVUs. The total relative value assigned to each service is divided into three components, signifying the amount of physician work that goes into furnishing the service; the amount of practice expense, or overhead, the physician incurs in providing the service; and the professional liability insurance (PLI) cost that is attributed to the service. Medicare adjusts RVUs to reflect cost differences by geographic area, by using Geographic Practice Cost Indices (GPCI). It converts the geographically adjusted total RVU for each service into a payment amount by multiplying it by a dollar multiplier, called a conversion factor.

The Medicare payment formula is:

$$\text{Payment Amount} = [(\text{Work RVU} * \text{Work GPCI}) + (\text{PE RVU} * \text{PE GPCI}) + (\text{PLI RVU} * \text{PLI GPCI})] * \text{Conversion Factor}$$

The great majority of non-Medicare payers, including private health plans, use the RBRVS as the basis for determining payments (108).

CMS maintains the RBRVS through annual and periodic updates to RVUs assigned to each service and changes to the underlying methodology.

It is imperative to ensure that the RBRVS changes are appropriate, as the RBRVS drives approximately \$80 billion in annual Medicare payments for physician services and an even larger amount in payments from other payers. Recent reports from MedPAC and the Center for Studying Health System Change have highlighted the adverse effect of improperly valued services, or misvalued services, on our health care system (109, 110). Misvalued services distort incentives and may result in the overuse and potential underuse of specific services on the basis of financial as opposed to clinical reasons. The inappropriate valuation of services also affects physicians' decisions to enter or remain in specialty fields that perform undervalued services.

ACP's recommendations for improving the accuracy of work and practice expense RVUs are discussed in more detail in the College's position paper, *Reforming Physician Payments to Achieve Greater Value in Health Care Spending* (111).

2. Congress should provide a dedicated source of federal funding to support such immediate, sufficient and sustained increases in Medicare payments for services provided by primary care physicians, not limited to budget-neutral redistribution within Medicare physician payments.

By law, any increases in payments for physician services under the Medicare fee schedule requires across-the-board "budget neutrality" offsets to all services in the Medicare fee schedule. One argument for making the primary care payment increases "budget neutral" within the Medicare fee schedule is that it not only would increase payments for primary care but would create more parity by lowering payments for higher-paid specialties.

This option, however, has several disadvantages. It is opposed by some nonprimary care physician specialty societies. Such opposition will make it more difficult to get the political support needed to enact higher payments for primary care. The temptation to reduce offsets to other specialists could result

in payment gains for primary care that are too modest to make a difference. It also has the disadvantage of reducing payments for nonprimary care services that may not be overvalued, since the budget neutrality adjustment applies to all services, whether overvalued or not. And it even reduces the expected gains for the primary care services the policy is intended to benefit, because primary care services too would be subjected to the budget neutrality offset, taking away on one hand a portion of the gains provided by the other.

A better way to fund primary care would be to redefine budget neutrality rules to consider the impact of paying more for primary care on total aggregate Medicare spending, Parts A, B, C and D combined. A portion of anticipated savings in other parts of Medicare (such as from fewer preventable hospital or emergency room admissions associated with care coordination by primary care physicians) could then be applied to fund increased payments for primary care.

To illustrate how much can be saved by creating payment incentives for primary care, a recent study in *The American Journal of Medicine* found that “higher proportions of primary care physicians [in each metropolitan statistical area] were associated with significantly decreased utilization, with each 1% increase in the proportion of primary care physicians associated with decreased yearly utilization for an average size metropolitan statistical area of 503 admissions, 2968 emergency department visits, and 512 surgeries (112).”

It stands to reason, then, that Congress should allow for some of the aggregate savings from reduced utilization associated with primary care to be used to fund payment increases targeted to primary care.

ACP’s proposals for funding primary care are discussed in greater length in *Reforming Physician Payments to Achieve Greater Value in Health Care Spending* (113).

3. Congress should eliminate the linking of physician reimbursement by CMS to theSGR. The instability of the SGR formula and its role in restraining payment updates below the rate of medical inflation are especially harmful to primary care practices, which typically run on low margins and have limited ability to increase the volume of services they provide. Any replacement for the SGR should allow for continued improvements in Medicare payments for primary care.

Over the past several years, ACP has been urging Congress to reform Medicare’s flawed physician payment formula, known as the SGR. This formula has led to scheduled annual cuts in physician payments for the past 7 consecutive years. On January 1, 2010, physicians face a 21% Medicare payment decrease unless Congress intervenes to avert this cut. This uncertainty concerning Medicare reimbursement rates makes it nearly impossible for physicians to budget for their practices.

Since 2002, Congress has enacted temporary “patches” to stop the SGR cut nearly every year, but has not come up with a permanent replacement. Rather than accounting for the difference between the lower amount mandated by the SGR and the higher amount paid out under the patch, Congress assumed that the higher spending will be made up with an even deeper SGR pay cut the following year. This is why the patch for an estimated 5% SGR cut in 2008 resulted in a scheduled 10.5% SGR cut in 2009 and the patch for the 10.5% SGR cut in 2009 results in a scheduled 21% cut in 2010.

Each patch by Congress has essentially increased the debt that the law requires to be recouped under the cumulative SGR system. This dynamic has gradually increased the cost to enact each annual fix and the cost associated with any long-term fix, because the process by which the Congressional Budget

Office (CBO) determines the cost of legislative action is to compare expenditures that result from the action to compare with those that would occur absent the

legislative change under the current law. The hypothetical case of Congress averting the approximately 21% cut in physician payments slated to occur in January 2010 by replacing it with a 1% increase from 2009 rates is illustrative. The cost associated with this change is not the amount of money required to increase physician payments by 1% for 2010—it is the amount required to fund the roughly 22% payment increase above what is determined by the law prior to any change.

The accumulated SGR debt has grown dramatically as a result of this vicious cycle. In December 2008, the CBO estimated that it would cost CBO \$318 billion over 10 years to replace the SGR cuts with a freeze in payments at their current level and \$439 billion over 10 years to replace it with an annual update equal to medical inflation (114). This situation is serious and will only get worse without dramatic action to eliminate the accumulated deficit or overhang. Dr. Peter Orszag, who heads the White House's Office of Management and Budget, had this to say in testimony before the House Budget Committee:

“Our Budget includes the Administration's best estimate of future SGR relief given the agreed-to fixes for Medicare physician reimbursement in past years. As a result, projected deficits are about \$400 billion higher over the next 10 years than they would otherwise be. In contrast, past budgets accounted for no SGR relief in any years. (Although our Budget baseline reflects our best estimate of future SGR relief given past policy actions on SGR, as discussed below we are not asserting that this should be the future policy and we recognize that we need to move toward a system in which doctors face stronger incentives for providing high-quality care rather than simply more care.)”

President Obama's budget is a marked departure from past practices, because it acknowledges what we all know to be true: that preventing pay cuts to doctors will require that Medicare baseline spending be increased accordingly. Accounting for funds needed to reform the flawed SGR payment formula, as the President proposes, could remove the greatest single barrier to reaching a consensus on a long-term solution to the SGR payment cuts.

Once the true costs of a long-term SGR fix are accounted for in the budget, Congress and the administration should enact a long-term solution that will permanently eliminate the SGR as a factor in updating payments for physicians' services. Instead, payment updates should provide predictable increases based on the costs to practices of providing care to Medicare patients. This is especially important for physicians in smaller practices, where Medicare payments are not keeping pace with their overhead costs. ACP's proposals for replacing the SGR with a more predictable and appropriate way to update physician services are presented in *Reforming Physician Payments to Achieve Greater Value in Health Care Spending* (115).

4. Public and private payers should continue to design, implement, evaluate, and expand payment and delivery system reforms to support care provided through the PCMH and other innovative models.

The PCMH is a team-based model of care led by a personal physician who provides continuous and coordinated care throughout a patient's lifetime to maximize health outcomes. The PCMH is responsible for providing all of the patient's health care needs or appropriately arranging for care with other qualified health professionals. This includes the provision of preventive services, treat-

ment of acute and chronic illness, and assistance with end-of-life issues.

The PCMH enjoys the support a wide range of health care stakeholders, including physician organizations, consumer organizations, employers, health plans, and quality-focused organizations. Policymakers view it as a promising reform model, with Congress authorizing the Medicare Medical Home demonstration project through a 2006 law and supplementing it with dedicated funding and increased ability for expansion through a 2008 law. MedPAC recommends a Medicare medical home pilot project, to supplement the demonstration currently being developed, that focuses on practices that use advanced health information technology. Other bills have been or are likely to be introduced that would direct additional Medicare medical home test projects.

Numerous states are incorporating PCMH tests into reform of their Medicaid and SCHIP programs. A myriad of private payer PCMH tests, many involving multiple health plans, are underway or being developed across the country.

Practices must demonstrate that they have the structure and capability to provide patient-centered care to be recognized as a PCMH. The most recently used PCMH recognition module classifies a qualifying practice as one of three medical home levels, each indicating a progressive level of capability. Although practices must demonstrate capability beyond what is typical, they have some ability to reach the requisite PCMH recognition score in different ways. ACP is aware that government programs exist that address focused areas that are relevant to the PCMH. The current scope of work governing the Medicare Quality Improvement Organization program involves 14 organizations focusing on improving transitions in care (e.g., inpatient to ambulatory setting in certain geographic areas) (116). The HHS Department maintains a program that facilitates the ability of physicians to provide language translation services to patients. The federal government should provide sufficient funding for programs to help smaller physician practices qualify as PCMHs.

In addition, the current Medicare Medical Home Demonstration, which is limited to eight states, should be expanded to a national pilot. CMS should also set a timeline for expeditiously transitioning to a new payment model for all practices nationwide that have voluntarily sought and received recognition as a PCMH following completion of the Medicare demonstration/pilot.

The federal government should also provide states with dedicated federal funding to implement PCMH demos for Medicaid, SCHIP, and all-payer programs.

The Commonwealth Fund's Commission on a High Performing Health Care System recently issued a report that advocates that the federal government "Strengthen and reinforce patient-centered primary care through enhanced payment of primary care services and changing the way we pay for primary care to encourage the adoption of the medical home model to ensure better access, coordination, chronic care management, and disease prevention." The report estimates that widespread implementation of the medical home model would reduce national health care expenditures by \$175 billion over 10 years (117).

5. Public and private payers should support development, implementation, and evaluation of other new payment models to support the provision of primary care linked to accountability for quality, patient satisfaction, efficiency, and effectiveness of the care rendered.

The PCMH is not the only model to reform payment policies to support primary care that should be considered by policymakers.

The College strongly supports the need to develop new payment models

that align physician incentives with effectiveness and efficiency of care instead of paying on the basis of the number of services. Promising proposals range from expansion of the PCMH Model, as discussed above, to accountable care organizations, bundling of services around episode groups or diagnoses, paying for bundled services associated with evidence-based care, and many others.

Most of these alternatives are in the early stage of testing and some are still conceptual and lack definition. This lack of real-world experience poses a challenge to policymakers. To address this concern, ACP's companion policy paper, *Reforming Physician Payments to Achieve Greater Value in Health Care Spending* (118), proposed a framework for evaluating proposals to reform payments linked to accountability for quality, patient satisfaction, and effectiveness of the care rendered.

It is essential to assess payment reform models with the promise to make our health care system more rational and sustainable going forward—for primary care physicians, internal medicine subspecialists, other physicians, other providers, and patients. An environment that provides for the design, implementation, and evaluation of reform models is needed to provide policymakers and other stakeholders with the information needed to determine the best payment reform path to achieving optimum performance from our health care system.

Conclusion

Primary care is essential to an effective and high-performing health care system. Primary care saves money and improves health, yet primary care is nearing collapse. Efforts to expand coverage will fail to achieve improvements in access, quality and efficiency of care without primary care physicians. The long pipeline of medical education and training and the retirement and career changes of older physicians necessitate that the nation have a constant influx of new students embarking on medical careers. Because it takes a minimum of seven years to train a physician in a primary care specialty, it is imperative that policymakers take immediate, comprehensive, and sustained action to avert the impending collapse of primary care. The recommendations being advanced in this paper by the American College of Physicians offer a comprehensive strategy to address the challenges facing primary care by providing reforms in medical education and relief from educational debt and redesigning how primary care is financed and delivered to halt and reverse the decline in the number of physicians going into primary care. Many of the recommendations in this paper have been included in the "*Preserving Patient Access to Primary Care Act of 2008*" (H.R. 7192), introduced by Representative Allison Schwartz on September 27, 2008. The College urges reintroduction and passage of this important legislation in the 111th Congress.

Appendix 1

Suggested Metrics for the Proposed Commission on National Health Care Workforce
Goals and Measures
Improve Access to Primary Care Physicians
Long-term goal: Improve the distribution of health professionals in underserved areas and critical shortage health facilities.
Goal: Increase the number of scholarships provided to medical students who agree to work in critical shortage health facilities.
Goal: Increase the number of loan repayment awards provided to physicians who agree to work in critical shortage health facilities.
Goal: Increase the number of individuals served through the placement and retention of NHSC clinicians.
Goal: Increase the field strength of the NHSC through scholarship and loan repayment agreements.
Measure: Proportion of primary care physicians completing funded programs who are serving in medically underserved communities.
Measure: Proportion of persons who have specific source of reliable, continuing primary care.
Long-term goal: Improve diversity in the primary care physicians workforce and increase cultural competency among primary care physicians.
Goal: Increase the number of scholarships for disadvantaged students awarded.
Measure: Proportion of health professions completing Health Professions-funded programs who are underrepresented minorities and/or from disadvantaged backgrounds.
Goal: Increase the degree to which primary care training programs have incorporated cultural competence elements into their curricula and training.
Increase the Overall Supply of Primary Care Physicians
Goal: Increase the number of medical students choosing to train in primary care residency programs.
Goal: Increase the number of internal medicine residents choosing to practice ambulatory general internal medicine.
Measure: The ratio of primary care physicians to other specialists. For example, it has been recommended that the U.S. set a national policy goal that half of all U.S. clinicians practice in primary care.
Retain the Current Supply of Primary Care Physicians
Goal: Decrease the number of primary care physicians who close their practices or stop practicing ambulatory primary care.
Goal: Decrease the number of primary care physicians choosing to retire early because of the poor practice environment.
Goal: Increase in ease of finding a primary care physician by patients.
Goal: Increase in each of getting an appointment with a primary care physician by patients.

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Figure 3-1

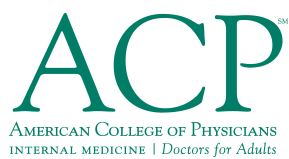
Percent Change between 1998 and 2006 in the Percentage of U.S. Medical School Graduates Filling Residency Positions in Various Specialties. Data are from the National Resident Matching Program. Source: Woo B. "Primary Care – The Best Job in Medicine?" 2006 *New England Journal of Medicine* 355; 9:864-866.

Figure 3-2

Median Compensation for Selected Medical Specialties. Data are from the Medical Group Management Association Physician Compensation and Production Survey, 1998 and 2005.

Figure 3-3

The Nation Needs to Invest in Primary Care.



Product #