

SUNSETTED by the Board of Regents on 2/15/2022

ACP^{SI}

AMERICAN COLLEGE OF PHYSICIANS
INTERNAL MEDICINE | *Doctors for Adults*

**CONTROLLING HEALTH CARE
COSTS WHILE PROMOTING
THE BEST POSSIBLE
HEALTH OUTCOMES**

SUNSETTED by the Board of Regents on 2/15/2022

American College of Physicians
A White Paper
2009

Controlling Health Care Costs While Promoting the Best Possible Health Outcomes

Summary of Position Paper Approved by the ACP Board of Regents, September 2009

What are the Major Drivers of Health Care Costs?

Major drivers of health care costs include: inappropriate utilization especially of advanced medical technology, lack of patient involvement in decision-making, payment system distortions that encourage over-use, high prices for health care services, a health care workforce that is not aligned with national needs, excessive administrative costs, medical liability and defensive medicine, more Americans with declining health status and chronic disease, and demographic changes including an increase in elderly persons. This paper addresses each of these drivers of health care costs and provides recommendations for controlling them.

Why Do We Need to Control Health Care Costs?

Improvements in health care have the ability to provide opportunities for all people to live better, healthier lives. However, the rate of increase in U.S. spending on health care continues to exceed economic growth at an unsustainable pace. The rate of growth in health care spending is the single most important factor undermining the nation's long-term fiscal condition.

Why Should Controlling Health Care Costs be Linked to Promoting Good Health Outcomes?

Increasing pressure to control health care costs necessitates that limited healthcare resources be used equitably and judiciously. Healthcare expenditures must be correlated with high quality and efficiency in the delivery of services to improve health outcomes. This requires understanding the benefits and effectiveness of clinical procedures, recognizing the major drivers of health care costs, and identifying potential means for achieving savings.

Key Findings and Recommendations from the Paper

The key policy options most likely to achieve the greatest cost savings are those that:

- Reduce avoidable, ineffective, and duplicate use of services—including technology that does not improve patient care—and encourage clinically effective care based on comparative effectiveness research and implementation of information technology.
 - Analyze costs and benefits before new medical technology is allowed to enter the market.
 - Coverage decisions should reflect evidence of effectiveness.
 - Benefits should be designed to encourage patient responsibility without deterring needed care.
 - Shared decision-making should be encouraged.

- Pay appropriately for health care services, and encourage adoption of innovative models of health care delivery.
 - Pilot test and adopt new models to align incentives with desired outcomes.
 - Accelerate adoption of the Patient-Centered Medical Home.
 - Reimburse physicians for care coordination.
 - Make primary care compensation competitive with other specialties.
- Ensure accurate pricing of services.
 - Require an independent study to evaluate and address inappropriate regional variation in pricing and costs.
 - The federal government should use its purchasing power to negotiate the price of drugs covered by public plans.
 - Improve the accuracy of relative values for physician services.
- Ensure an appropriate physician workforce specialty mix.
 - Establish specific and measurable goals for desired physician workforce.
 - Strategically lift caps on Medicare funded graduate medical education positions.
 - Increased funding for programs that provide scholarships or loan forgiveness to primary care physicians who complete a service obligation in underserved areas.
- Reduce administrative costs.
 - Health insurance claims should be uniform across all payers.
 - Study and reduce administrative burdens on physicians.
 - Establish an on-line platform for all benefit and medical necessity determinations.
- Reduce costs from medical malpractice and defensive medicine.
 - Study no-fault systems including health courts.
 - Enact caps on non-economic damages.
 - Provide physician immunity from malpractice claims for “failure-to-inform” for appropriately administered treatments in conjunction with patient shared decision-making.
- Promote wellness, prevention, chronic care management, changes in unhealthy behaviors, and encourage patient responsibility for health and cost-consciousness.
 - Increasing funding for wellness and prevention programs, health promotion, public health activities, and support of the public health infrastructure.
 - End agricultural subsidies for products harmful to health, such as tobacco, increase taxes on tobacco products, and strengthen regulation of the marketing and labeling of tobacco products. Revenue from such measures should be used to promote programs to improve population health.

For More Information

This issue brief provides an overview of the ACP position paper, *Controlling Health Care Costs While Promoting the Best Possible Health Outcomes*. The full paper, containing 47 recommendations for controlling the major drivers of health care costs, is available at http://www.acponline.org/advocacy/where_we_stand/policy/controlling_healthcare_costs.pdf.

CONTROLLING HEALTH CARE COSTS WHILE PROMOTING THE BEST POSSIBLE HEALTH OUTCOMES

A White Paper of the
American College of Physicians

This paper, written by Jack Ginsburg, was developed for the Health and Public Policy Committee of the American College of Physicians: Richard Neubauer, MD, FACP, *Chair*; David Fleming, MD, FACP, *Vice-Chair*; David L. Bronson, MD, FACP; Robert M. Centor, MD, FACP; Robert A. Gluckman, MD, FACP; Richard P. Holm, MD, FACP; Mark Liebow, MD, FACP; Mark E. Mayer, MD, FACP; Robert McLean, MD, FACP; Kenneth Musana, MBChB, MSC, FACP; P. Preston Reynolds, MD, FACP; Matthew Rudy, *Student*; and Baligh Yehia, MD, *Associate*. It was approved by the Board of Regents on 11 July 2009.

How to cite this paper:

American College of Physicians. Controlling Health Care Costs While Promoting The Best Possible Health Outcomes. Philadelphia: American College of Physicians; 2009: Policy Monograph. (Available from American College of Physicians, 190 N. Independence Mall West, Philadelphia, PA 19106.)

Copyright ©2009 American College of Physicians.

All rights reserved. Individuals may photocopy all or parts of Position Papers for educational, not-for-profit uses. These papers may not be reproduced for commercial, for-profit use in any form, by any means (electronic, mechanical, xerographic, or other) or held in any information storage or retrieval system without the written permission of the publisher.

For questions about the content of this White Paper, please contact ACP, Division of Governmental Affairs and Public Policy, Suite 700, 25 Massachusetts Avenue NW, Washington, DC 20001-7401; telephone 202-261-4500. To order copies of this White Paper, contact ACP Customer Service at 800-523-1546, extension 2600, or 215-351-2600.

Executive Summary

Public policymakers in the United States, like those in most other countries, have struggled to find ways to restrain rapidly rising health care costs while providing opportunities for all persons to live better, healthier lives. Yet the rate of increase in U.S. spending on health care continues to exceed the rate of economic growth at an unsustainable pace. Pressures to reduce costs in the United States are intensifying due to current fiscal and economic constraints, an aging population, and many other factors. The American College of Physicians (ACP), the nation's largest medical specialty organization representing 129,000 physicians and medical students, is particularly concerned that the high cost of health care in the U.S. is not correlated with high quality and efficiency in the delivery of services or improved health outcomes.

Prior to being selected as director of the Office of Management and Budget, Peter Orszag, then-director of the Congressional Budget Office, declared that the rate of growth in health care spending is the single most important factor determining the nation's long-term fiscal condition (1). The Obama Administration and Congress will need to deal quickly with the mounting fiscal pressure to take action to reduce the rate of growth in health care spending. This white paper is designed to help guide public policymakers as they grapple with this Herculean task. It begins by providing an overview of U.S. health care spending and identifies the principal payers. It then discusses the major drivers of rising health care costs and identifies potential means for achieving savings. The paper does not address environmental factors that may contribute to the costs of health care. It also does not address long-term care or mental health care, which are major factors in the costs of health care worthy of a separate study.

In this paper we identify and analyze 10 key drivers of health care costs: Advancing Technology, Demographics and Declining Health Status, Lack of Productivity Growth, Inappropriate Utilization, Payment System Distortions, Consumer Price Insensitivity, Medical Errors and Inefficiency, Medical Malpractice and Defensive Medicine, Higher Prices, and Administrative Costs. We then present public policy options to control health care costs generated by each of these key drivers.

The key policy options most likely to achieve the greatest cost savings are those that:

- A. Reduce avoidable, ineffective, and duplicate use of services, including technology, and encourage clinically effective care based on comparative effectiveness research and implementation of information technology.**
- B. Pay appropriately for health care services, and encourage adoption of innovative models of health care delivery, such as the Patient-Centered Medical Home.**
- C. Ensure accurate pricing of services.**
- D. Ensure an appropriate physician workforce specialty mix.**
- E. Reduce administrative costs.**
- F. Reduce costs from medical malpractice and defensive medicine.**
- G. Promote wellness, prevention, chronic care management, changes in unhealthy behaviors, and encourage patient responsibility for health and cost-consciousness.**

This paper addresses the maldistribution of health care expenditures and the need for equitable and judicious use of resources. In addition to the options presented in this paper, others could be considered that have been used in other countries, but are not likely to be accepted by the American public, at least until other approaches have been tried. Accordingly, this paper does not specifically address approaches, such as global budgets, explicit rationing of services (denial of services based on health status, age, quality of life for the cost involved, or other factors), or nationalization of U.S. health care.

ACP has much existing policy that addresses both the drivers of health care costs and options for controlling them. Existing ACP policies are summarized. The reader is referred to the full position papers for further details and rationale. This paper contains summaries of existing policies relevant to reducing costs as well as new ACP public policy positions.

Options for Controlling Costs from Inappropriate Use

Enhance and Coordinate Technology Assessments

- 1. A coordinated, independent, and evidence-based assessment process should be created to analyze the costs and clinical benefits of new medical technology before it enters the market, including comparisons with existing technologies. Such information should be incorporated into approval, coverage, payment, and plan benefit decisions. The assessment process should balance the need to inform decisions on coverage and resource planning and allocation with the need to ensure that such research does not limit the development and diffusion of new technology of value to patients and clinicians or stifle innovation by making it too difficult for new technologies to gain approval.**
- 2. Coverage of tests and procedures should not be denied solely on the basis of cost-effectiveness ratios; coverage decisions should reflect evidence of appropriate utilization and clinical effectiveness.**
- 3. Useful information about the effectiveness and outcomes of technology and public education should be widely disseminated to reduce patient and physician demand for technologies of unproven benefit.**

Comparative Effectiveness Research

- 4. Efforts should be made to improve access to information comparing clinical management strategies.**
- 5. An adequately funded, trusted national entity should be charged with systematically developing both comparative clinical and comparative cost-effectiveness evidence for competing clinical management strategies. It should prioritize, sponsor, or produce comparative information on the relative clinical effectiveness, safety, and cost-effectiveness of medical services, drugs, devices, therapies, and procedures.**
- 6. The federal government should have a significant role in funding, implementing, and maintaining this comparative effectiveness entity.**
- 7. Cost should never be used as the sole criterion for evaluating a clinical intervention, but it should be considered alongside the explicit, transparent consideration of the comparative effectiveness of the intervention.**

8. Health care payers, physicians and other health professionals, and patients should consider both comparative clinical and cost-effectiveness information in evaluating a clinical intervention.
9. Employers and health plans should consider adopting value-based benefit design programs that use comparative research on clinical outcomes and cost effectiveness developed by an independent entity that does not have an economic interest in the benefit determinations.

Enhance Use of Health Information Technology

10. Payment policies should create incentives for physicians and other health professionals and providers to use health information technologies that have the functions and capabilities needed to improve clinical decision-making at the point of care, including functions designed to support care consistent with evidence-based guidelines, care coordination, and preventive and patient-centered care.
11. Technical support, training, and funding should be provided to help primary care practices, especially smaller ones, acquire health information technologies that have the functions needed to become Patient-Centered Medical Homes (PCMHs).

Encourage Cost-Consciousness and Patient Involvement in Shared Decision-Making

12. Health insurance benefits should be designed to encourage patient cost-consciousness and responsibility without deterring patients from receiving needed and appropriate services or participating in their care.
13. Physicians and other health care providers, including medical technology and pharmaceutical manufacturers and suppliers of medical equipment, should provide price transparency on the goods and services they provide.
14. Physicians should engage patients in shared decision-making and provide patients with sufficient information about all clinically appropriate treatment options and risk and risk/benefits, so that patients can make informed choices.
15. All payers should encourage shared decision-making and pay physicians for the additional time and resources involved, including the cost of providing patient-shared decision-making tools and maintaining a shared decision-making process.
16. Medicare should undertake demonstration projects to develop implementation models for shared decision-making and for the development and testing of decision aids.
17. Physicians and patients should engage in advance planning to help ensure that treatment decisions, including surrogate decision-making, are in accord with the patient's values and wishes. Medically appropriate care should never be withheld solely because of costs.
18. Research should seek to enhance the quality of life for terminally ill patients and their caregivers, and incentives should be provided for palliative care programs and hospice services in all settings.

Certificate of Need Laws and Health Planning

19. Local, state, and regional health planning should be done to identify health care needs and to appropriately allocate resources to meet those needs. This planning should be conducted in a way that promotes public engagement in the development of the plans and subsequent adherence to them.
20. Research is needed on the effectiveness of Certificate of Need (CON) programs for reviewing proposed capital expenditures, acquisitions of major medical equipment, and new institutional facilities to reduce maldistribution and redundancy and to ensure that health care resources are best allocated in accord with health care needs. This research should include exploration of the characteristics of CON programs that have had the greatest or least beneficial impact on reducing unnecessary capacity with sufficient public support to be accepted.

Options for Controlling Costs from Payment System Distortions

Pay Appropriately for Health Care Services, and Encourage Adoption of the Patient-Centered Medical Home and Other Innovative Models of Health Care Delivery

21. Congress should provide the Secretary of the Department of Health and Human Services with authority and funding to conduct voluntary pilots of innovative models to better align physician payment with desired outcomes pertaining to quality, cost-effectiveness, and efficient patient-centered care and create a fast-track process and timeline for widespread adoption of the models that are shown to have the greatest positive impact on these desired outcomes.
22. Medicare and other payers should accelerate adoption of the PCMH model by transitioning to a coverage and payment structure for qualifying practices. Payments to qualified PCMHs should include severity-adjusted monthly bundled care coordination payments, prospective payments per eligible patient, fee-for-service payments for visits, and performance-based payments based on evidence-based quality, patient satisfaction, and efficiency measures. The monthly bundled care coordination payment should cover the practice overhead costs of a PCMH linked to the costs of providing services that are not currently paid under the present system. It should also cover the work value of physician and non-physician clinical and administrative care coordination activities of the PCMH that take place outside of face-to-face visits. Other payment models to support care provided through a PCMH could also be pilot-tested.
23. Physicians and multidisciplinary teams should be paid for care management and care coordination services provided on a fee-for-service basis.
24. Fee-for-service payments to primary care physicians should be increased to be competitive with payments for other fields and specialties in medicine to ensure a sufficient supply of primary care physicians that will help save costs in the long run.

Options for Controlling Costs from Inappropriate Prices

Ensure Accurate Pricing of Services

25. Congress should charge the Institute of Medicine or another appropriate study group to explore the factors behind regional variations in health care services and issue a report. The report should recommend public policy interventions to improve outcomes and lower the costs of care in areas of the country that have higher per capita expenditures and poorer outcomes, even after correcting for differences in demographics and other characteristics of the population served.
26. The Federal government should take action to reduce the high cost of prescription drugs in the United States by using its purchasing power to obtain the best prices from pharmaceutical manufacturers covered by publically funded plans, including Medicare, similar to the prescription drug purchasing process used by the Veterans Administration. However, ensuring high-quality and patient safety and support for continued innovation and research on drugs that can advance medical care must remain the top priority of any program to address the price of prescription drugs. Prescription drug importation is not a long-term solution to the high cost of prescription drugs. Efforts to reduce prescription drug prices should include:
 - a. Encouraging increased competition among brand-name manufacturers
 - b. Studying the effectiveness of prescription drug substitutes, such as lower-cost, therapeutically equivalent medications and expediting approval of generic drugs and encouraging their use
 - c. Negotiating volume discounts on prescription drug prices and pursuing prescription drug bulk purchasing agreements under the Medicare program
 - d. Encouraging pharmaceutical manufacturers to expand their patient assistance and drug discount programs and increase patient education for these programs.
27. The accuracy of relative value determinations under Medicare should be ensured through improvements in the processes for identifying potentially undervalued and overvalued services, for recommending new and revised physician work relative value units, and for determination of practice expenses.

Options for Ensuring an Appropriate Physician Workforce Specialty Mix

28. Congress should charge a federal agency to convene an advisory group of experts on physician workforce. The advisory group should include representatives of national membership societies representing primary care physicians, nursing, physician assistants, and consumer and patient advocacy groups. It should also develop specific and measurable goals regarding numbers and proportions of primary care physicians and other clinicians needed to meet current and future demands for primary care, including those associated with expansions of coverage.

29. Congress should strategically lift restrictions on the number of residency training positions that Medicare can reimburse for the direct and indirect costs of graduate medical education to encourage increased opportunities for the training of physicians in primary care.
30. The federal government should design and implement policies to produce immediate, measurable increases in primary care workforce capacity and to improve the training environment for the primary health care professions.
31. Appropriations should be increased for scholarship and loan repayment programs under Title VII and the National Health Services Corps to increase the number of positions available to physicians who agree to train in a primary care specialty and complete a reasonable primary care service obligation. New pathways to eliminate debt should be created for internists, family physicians, and pediatricians who meet a service obligation in a critical shortage area or facility.

Options for Controlling Administrative Costs

32. Congress should request that the Institute of Medicine or another appropriate entity conduct a comprehensive assessment of administrative, paperwork, documentation, and medical review requirements imposed on physicians by federal regulatory agencies, public and private health plans and state governments. This study should determine the amount of time typically required by physicians to meet such requirements and identify specific strategies to reduce the time required. Particular attention should be given to the administrative burdens imposed on primary care physicians, such as micromanagement of E&M documentation.
33. Congress should enact legislation to:
 - a. Require that any new regulatory requirements that would create added costs to physician practices be accompanied with funding to offset such costs and establish a moratorium on any new regulations that would create additional unfunded costs to physician practices.
 - b. Simplify and shorten the physician enrollment process under Medicare by allowing physicians to use external databases to submit demographic and credentialing information required to establish and maintain Medicare participating physician status.
 - c. Study "real-time" adjudication of claims for physician services.
 - d. Study opportunities to collaborate with private sector relief and simplification efforts.
 - e. Test models that eliminate documentation requirements for E/M services, pre-authorizations, retrospective medical utilization review, and other regulatory and paperwork requirements for physician practices that qualify as PCMHs or that participate in other designed programs where the performance of such practices are measured based on quality, efficiency, and patient satisfaction metrics.
34. Health insurance forms should be uniform across insurers, (e.g., a single durable medical equipment approval form, a single referral form).

35. An online platform should be established in which all benefit information, forms, formularies, and prior approval information could be accessed and completed online with as little disruption to medical practices as possible.
36. A standard physician credentialing and re-credentialing form should be used, with the input of practicing physicians in the development of the form. The universal credentialing form should be linked to an electronic database so the re-credentialing form can be prepopulated with previously submitted data from the physician.
37. Health insurance companies should be required to disclose fully and uniformly the portion of health care premiums that is spent on administration, including the percentage of premium dollars allocated to marketing, claims processing, other administrative expenses, profits, and reserves as well as the payment for covered benefits.

Options for Controlling Costs from Medical Malpractice and Defensive Medicine

Tort Reform

38. Further studies should be done on the value of professional liability insurance reforms, including no-fault systems, enterprise liability, the bifurcation of jury trials, raising the burden of proof, shorter statutes of limitation on claims, and elimination of joint and several liability claims.
39. Professional liability reforms should be considered at both the state and federal levels including allowing periodic payments of future damages over \$50,000, establishing sliding scales for attorneys' fees, and giving states flexibility to develop Alternative Dispute Resolution programs, including health courts.
40. Legislation should be enacted to establish \$250,000 caps on noneconomic damages for professional liability cases.
41. Offsets for collateral source payments should be allowed in professional liability cases.
42. Physicians should be immune from patient malpractice claims of "failure-to-inform" for appropriately administered treatments provided by physicians in conjunction with documented patient-shared decision-making.

Options for Controlling Costs from Declining Health Status and Demographics

Wellness, Prevention, and Chronic Disease Management

43. Encourage individuals to take responsibility for their own health through exercise, preventive care, healthy diets and nutrition, and other health-promotion activities. ACP supports efforts to evaluate the effectiveness of wellness programs and to encourage employers to purchase benefit packages that include cost-effective wellness care. ACP also advocates that Medicare should provide coverage for preventive care, including appropriate screening services.

44. **Federal and state funding for health promotion, public health activities, and support of the public health infrastructure should increase.**
45. **Public policy should support steps to increase the health and wellness of the population, promote changes in unhealthy behaviors, and reduce the burden of chronic disease, such as obesity, diabetes, and smoking-related illnesses. Steps should include ending agricultural subsidies for products harmful to health, such as tobacco, increasing taxes on tobacco products, and strengthening regulation of the marketing and labeling of tobacco products. Revenue from such measures should be used to promote healthy nutrition, smoking cessation, and obesity prevention as well as to promote healthy nutrition and physical education in our schools and communities. Policies should promote community planning that supports walking, bicycling, and other physical activities for healthy lifestyles.**
46. **Public and private health insurers should encourage preventive health care by providing full coverage, with no cost-sharing, for preventive services recommended by an expert advisory group, such as the U.S. Preventive Services Task Force.**
47. **Employers and health plans should fund programs proven to be effective in reducing obesity, stopping smoking, deterring alcohol abuse, and promoting wellness and providing coverage or subsidies for individuals to participate in such programs.**

Overview of U.S. Health Care Expenditures

The U.S spends more on health care than any other country. Spending on health care in the United States has been growing at a faster pace than spending in the rest of the economy since the 1960s. In 1960, total spending on health care was 4.7% of the gross domestic product (GDP). Between 1960 and 1999, real per capita health spending exceeded growth of the GDP by about 2.4% a year (2). In 1965, when the Medicare program was enacted, national health care spending was \$42.3 billion, 5.9% of GDP. By 2007, national health care spending was \$2.2 trillion, 16.2% of GDP or \$7,421 per person (3). By 2017, health care spending is expected to reach \$4.3 trillion (\$13,101 per person) and 20% of the GDP (4). The major components of U.S. health care spending are hospitals (31%), physician and clinical services (21%), pharmaceuticals (10%), and other spending (25%) (5). Prescription drug spending went from 5.8% in 2005 to 8.5% in 2006; total spending reached \$216.7 billion. The Congressional Budget Office (CBO) projects that without any changes in federal law, total spending on health care will reach 25% of GDP in 2025, 30% by 2035, and 49% in 2082 (6).

High health care costs lead to higher premiums for employers and employees, increased expenditures for public programs, slower growth in real wages, and greater out-of-pocket costs for individuals. Rising health insurance premiums mean more Americans do not have health insurance. A recent study commissioned by the Robert Wood Johnson Foundation attributed much of the growth in the number of uninsured to rising costs. It noted that "total premiums for employer plans have risen six to eight times faster than wages, depending on whether individual or family coverage is picked." The study found that "about 20.7 million workers were uninsured in the mid-1990s. A decade later, it was 26.9 million, an increase of about 6 million." (7)

The high cost of health care is particularly alarming considering that it is not correlated with better health outcomes. International comparisons of measures of health (life expectancy at birth, infant mortality, and deaths per 100,000 for diseases of the respiratory system and for diabetes) indicate that health in the United States is not better than in most other industrialized countries despite the higher level of expenditure (8).

U.S. Compared with Other Developed Countries

Even after adjustment for higher per-capita income levels, the U.S. spends \$1,645 per capita more on health care than other industrialized countries (9). It spends a greater share of its GDP on health care than any other country. Data for 2005 from the Organisation for Economic Co-operation and Development (OECD) for its 30 member countries show that the United States spent 15.3% of its GDP on health care, whereas other industrialized countries spent 8% to 11%, with an average of 9.0%. Despite much greater expenditures, the volume of medical services (e.g., physician and hospital visits) used by U.S. residents is roughly similar to that of other OECD countries (8).

As a wealthy nation, the United States can devote more of its national income to health care than other countries. However, despite high spending, surveys by the Commonwealth Fund on patient primary care experiences found that the U.S. health care system ranked last on patient safety, patient-centeredness, efficiency, and equity. Of 51 indicators of quality of care, the U.S. ranked first on only six indicators, including effectiveness of care, but was last or tied for last on 27 (10). Detailed comparative analysis of health care in the United States and 12 other developed countries is provided in the ACP position paper, *Achieving a High Performance Health Care System with Universal Access: What the United States Can Learn from Other Countries* (11).

Major Drivers of Health Care Costs and Options for Cost Control

A recent report from the Synthesis Project and the Center for Studying Health Systems Change identifies the top drivers of growth in health care spending as advancing technology, declining health status, and lack of growth in productivity (including inappropriate utilization) (12). It characterizes as a myth that demographic factors (aging baby boomers) account for much of the growth in health care spending. In this paper, we also address controlling costs from payment system distortions, demographics, lack of patient involvement in decision-making, controlling costs from medical errors and inefficiency, medical malpractice and defensive medicine, administrative costs, and higher prices and salaries.

In the following sections, we address each of the major cost drivers, discuss preferred options for controlling the costs attributable to each, and present ACP policy positions.

Cost Driver: Inappropriate Utilization and Advancing Technology

Technology is broadly defined to include the drugs, devices, and medical and surgical procedures used in health care, as well as measures for prevention and rehabilitation of disease (13). According to an analysis by the Kaiser Family Foundation, at least half of the growth in medical spending in recent years is attributable to technological change (14). Technological progress has been seen as accounting for as much as 75% of the increase in U.S. health care expenditures over time (15). A recent review by the Congressional Budget Office also

found that "The general consensus among health economists is that the large increase in health care spending over the past several decades was principally the result of the emergence of new medical technologies and services and their adoption and widespread diffusion by the U.S. health care system."(16) The myriad benefits of technological innovation in health care have included increased life expectancy, reduced disability among the elderly, and reductions in mortality from many diseases, including heart attacks, strokes and breast cancer. These health care improvements, and their associated indirect savings in reducing potential lost economic output, more than offset their direct costs. However, the high costs of many new technologies make it imperative that these resources be used wisely (17).

It must be recognized that although the high use of new technology is a factor, it is also high *prices* that produce profits to investors and manufacturers and prompt vigorous lobbying to remove barriers to technology use. The price in Europe or Canada for many of the same technology-dependent services is far less, corresponding profits are less, and utilization is less, but clinical outcomes are similar or better.

As the Institute of Medicine (IOM) has observed, "new pharmaceuticals, medical devices, biologics and procedures are introduced constantly, and the pace is quickening." The use of technology is determined primarily by physicians and hospitals. Yet, as the IOM also notes, "there is a lack of reliable and practical information about what works best at either the level of the individual patient or the level of the population as a whole."(18) Greater availability of technology is associated with greater per capita utilization and higher spending (19). As an example, treatment of myocardial infarction has been transformed from a single form of treatment of a week in the coronary care unit with pharmacologic intervention, to multiple possible modalities of therapy, including thrombolytic therapy, angiography, angioplasty or coronary bypass surgery. These innovations require more capital, labor and other expenses associated with increased knowledge. Early adoption is associated with higher introductory prices and costlier new technologies tend to replace, or are used in addition to, older, less expensive ones (20).

The process of owning and operating medical equipment for imaging and minor surgeries has changed over time. Many outpatient centers and even smaller physician-owned centers now provide services, such as CT and MRI scans. Yet prices for these services reflect the high prices when the technology was new, even though the equipment now has become ubiquitous. To cover the cost of leasing an MRI machine, an office needs to perform approximately four scans per day per scanner. The U.S. has approximately 54% more CT scanners and 40% more MRI machines per million of population than other developed nations. Only Japan has more scanners per capita than the U.S. However, in Japan prices are low, incentives to intervene are lower and profits are therefore lower; thus, high capacity and use does not generate high costs. The excess capacity and high prices in the U.S. translates into some \$40 billion of additional cost to the U.S. health care system (9).

As the prices, utilization and cumulative costs of drugs and technology increase in the face of limited available financial resources (public, private and individual), there is growing pressure to use health care resources more wisely. But scientific data on clinical effectiveness and cost-effectiveness is often lacking. The appropriate applications and likely outcomes for many medical interventions are unclear. This "evidence gap" hinders medical care decision-making, typically leaving physicians and patients without sufficient information for making informed choices among diagnostic and therapeutic options.

The IOM advises,

Ultimately, the central challenge is not best expressed as primarily one of over-use or under-use of services, but one increasingly related to the lack of available evidence to achieve the right care for any given patient. Information on which to compare the results from drugs with the same purpose is often not available. For example, both *Lucentis* and *Avastin* are promising new drugs for treatment of macular degeneration, but head-to-head information on the relative outcomes is not available—and one costs about 20 times the amount of the other. Similarly, different approaches to radiation therapy—intensity-modulated radiotherapy and conformal radiotherapy—have very different costs but currently inadequate information on which to base clinical judgments. And the pace of introduction of new genetic prognostic tests is on an exponential course without the necessary evidence on the results for clinical decisions and outcomes (18).

The United States lacks a coordinated policy on health technology assessment and has little regulation of the diffusion of technology. There is no centralized authority for coordinating assessments of the clinical effectiveness or cost-effectiveness of new technology. Instead, technology assessments in the United States are conducted by a variety of public and private organizations, including the Agency for Healthcare Research and Quality (AHRQ), the Medicare Coverage Advisory Committee, Blue Cross/Blue Shield, and the Department of Veterans Affairs. Clinical effectiveness evaluations and determinations of best practices are also made by professional organizations, such as ACP, the American College of Cardiology, the American Heart Association, and the American Academy of Obstetrics and Gynecology. AHRQ also contracts with institutions in the United States and Canada to serve as Evidence-based Practice Centers that produce evidence-based reports and technology assessments. Health insurance plans and health maintenance organizations (HMOs) are free to base coverage decisions on any available evaluations, to make their own assessments, or to ignore research findings. Likewise, physicians, hospitals, and patients are free to order or utilize health care technology regardless of evaluations of clinical effectiveness or costs in relation to benefits.

The United States attempted to control the use of health care technology on a national basis during the 1970s through several mechanisms. The National Health Planning Act provided funds to states for health planning efforts that included requirements for health care entities to obtain prior approval through a Certificate of Need process prior to the purchase of new facilities or major capital expenditures for new technological equipment. The Office of Technology Assessment (OTA) also was created as an advisory agency to the Congress. It studied a variety of health care topics, including the costs and benefits of screening tests for several diseases, and produced an extensive review and analysis on improving evidence about the clinical effectiveness and cost-effectiveness of medical treatments. The National Center for Health Care Technology, established in 1978, had a broad mandate to conduct and promote research on health care technology. However, the new Administration and the Congress as well as opposition from some provider and industry groups resulted in the demise of the Center (21) and repeal of the Health Planning Act in 1981. OTA was eliminated in 1995.

Consequently, access to the latest technology is widely available in the U.S. with little or no waiting time to anyone with adequate insurance or ability to pay (22).

With relatively little restraint on the spread of technology and high profit margins on the use of much technology, such innovations as tomography, magnetic resonance imaging, and neonatal intensive care units are more readily adopted and more rapidly dispersed in the United States than in other countries. Rapid diffusion of highly reimbursed health care technologies with undocumented benefits (e.g., coronary calcium scanning) contributes to the rapidly rising costs of the U.S. health care system, not only from overuse of high-cost technology but also by the costs of additional testing to follow-up on abnormal tests. In markets, as currently exist in the United States, where prices (reimbursement) are predominantly determined by regulatory authorities (Medicare and Medicaid) and political processes, an abundance of available services fails to drive down high prices and profit margins. Likewise, lack of a free market fails to raise prices for undervalued services or correct for shortages, such as low payments for evaluation and management services and shortages of primary care physicians (17). In contrast, where a free market does exist for services not covered by Medicare or insurance, price competition more normally reacts to the market influences of supply and demand. For example, charges for LASIK surgery have dropped dramatically to as low as \$199 per eye in some areas from prices as high as \$2500 per eye a few years ago.

Options for Controlling Costs from Inappropriate Utilization and Advancing Technology

Enhance and Coordinate Technology Assessments

The Institute of Medicine (IOM) defines technology assessment broadly as:

any process of examining and reporting properties of a medical technology used in health care, such as safety, efficacy, feasibility and indications for use, cost, and cost-effectiveness, as well as social, economic, and ethical consequences, whether intended or unintended (22).

A narrower definition considers it to be "studies of safety, efficacy, outcomes, and costs, usually performed to inform coverage or benefit design decisions." (23)

At least 45 agencies in 22 countries, including AHRQ for the United States, share technology assessment information through the International Network of Agencies for Health Technology Assessment (INAHTA). INAHTA "seeks to inform health policy makers by using the best scientific evidence on the medical, social, economic and ethical implications of investments in health care." Technology assessments collected by INAHTA seek to:

1. Identify evidence, or lack of evidence, on the benefits and costs of health interventions
2. Synthesize health research findings about the effectiveness of different health interventions
3. Evaluate the economic implications and analyze cost and cost-effectiveness
4. Appraise social and ethical implications of the diffusion and use of health technologies as well as their organizational implications (13).

In Great Britain, the National Institute for Health and Clinical Excellence (NICE) conducts assessments of health care technology to provide guidance on effective means for the prevention of and treatment of illness. Technology appraisals are conducted on the use of new and existing medicines, treatments and procedures. The incremental costs of new technologies are calculated on

the basis of quality-adjusted life-years per unit of health benefit. Those with a score above a certain threshold, such as \$50,000 per quality-adjusted life-year, are not recommended for coverage by the British National Health Service (24). Australia and other countries also have mechanisms for equitably judging and deciding on the adoption of new health care technology.

The downside of restricting adoption of technology is that it impedes advances in medical science and improvements in patient care. Basing insurance coverage decisions on calculations of benefits using quality-adjusted life-years results in rationing that limits access for treatments that could be beneficial for individual patients, particularly for those suffering from rare diseases for which the calculated economic benefit for society as a whole would be relatively small.

Since 1989, the AHRQ has been the most prominent federal agency supporting various types of research on the comparative effectiveness of medical treatments (25). The formation of an independent agency in the United States, insulated from political pressure, has often been proposed to conduct analyses of clinical and cost-effectiveness of new technology (25-27).

Recommendations

- 1. A coordinated, independent, and evidence-based assessment process should be created to analyze the costs and clinical benefits of new medical technology before it enters the market, including comparisons with existing technologies. Such information should be incorporated into approval, coverage, payment, and plan benefit decisions. The assessment process should balance the need to inform decisions on coverage and resource planning and allocation with the need to ensure that such research does not limit the development and diffusion of new technology of value to patients and clinicians or stifle innovation by making it too difficult for new technologies to gain approval.**
- 2. Coverage of tests and treatments should not be denied solely on the basis of cost-effectiveness ratios; coverage decisions should reflect evidence of appropriate utilization and clinical effectiveness.**
- 3. Useful information about the effectiveness and outcomes of technology and public education should be widely disseminated to reduce patient and physician demand for technologies of unproven benefit.**

Comparative Effectiveness

Comparative effectiveness research, when utilized by medical decision-makers, has the potential to reduce overutilization of procedures and services and avoid use of unnecessary or unproven medical services. When there are no alternatives, studies should determine if a procedure is clinically effective. Savings result if the research prompts use of less costly services that achieve comparable outcomes. Cost savings are also possible by preventing avoidable adverse outcomes.

Comparative effectiveness data would be useful for employers and consumers using value-based benefit design for controlling health care costs. This is somewhat similar to the practice of pharmacy benefit managers in limiting coverage or reducing co-payments only for those medications, typically generic drugs, found to be the most cost-effective. Health plans using this model link the amount of coverage to the value of the technology or service. Those tech-

nologies, services, or procedures deemed to be of high-value would have little or no co-payment requirements for patients; those of lower value would require higher cost-sharing amounts. Products and services not shown to be effective would not be covered. Health plans using value-based benefits seek to save money by discouraging the use of services when the benefits do not justify the costs. Concerns exist about seeking savings by linking coverage and cost-sharing provision to comparisons of the value of alternative medical treatments, the cost-effectiveness among physicians, and costs among generalists versus specialists and among physicians and nonphysician providers (28). Concerns also arise about who determines the values, how they are determined, and the impact on medical decision-making. Application of value-based benefit design could also have adverse effects for patients with special needs requiring expensive technology, such as kidney dialysis patients (29).

Much clinical research is conducted by insurers, health manufacturers, health care delivery organizations, and professional societies. U.S. pharmaceutical and biotechnology research companies spent \$58.8 billion in 2007 on research and development (30). Much industry R&D was for Phase 3 and 4 clinical trials, but relatively little of this was for comparative studies of clinical effectiveness (18). National expenditures on comparable effectiveness research are miniscule compared with total health care spending. Total federal government appropriations for all health services research, only a small portion of which is for clinical effectiveness research, were about \$1.5 billion in 2005 (31). Federal funding for comparative effectiveness research amounts to less than 0.1% of the \$2 trillion that the nation spends annually on health care. In a recent report on restructuring the U.S. Department of Health and Human Services, the IOM recommended that HHS establish "a formal and substantial capability to compare the effectiveness of medical interventions and procedures." (32)

After reviewing comparative effectiveness efforts in this country and internationally, the ACP concluded that, "the United States expends insufficient funds to develop comparative effectiveness data; that no coordination or prioritization of current efforts exists in either the public or private sectors to produce comparative effectiveness information; and that the absence of readily available comparative effectiveness information interferes with the ability of physicians and their patients to make effective, informed treatment choices that meet the unique needs and preferences of the patient and facilitate the ability of payers to optimize the value of their health care expenditures". (33) Accordingly, the College asserts that the availability of data on both clinical and cost-effectiveness in an explicit and transparent form is vital to obtaining value for health care expenditures (34). Efforts should be made to make information comparing the effectiveness of different clinical management strategies more readily available and comprehensible.

The Congressional Budget Office (CBO) estimates that 5% of the nation's Gross Domestic Product (GDP)—\$700 billion per year—is spent on tests and procedures that do not actually improve health outcomes (35). Although the potential savings from the development and use of comparative effectiveness research may be substantial, the CBO warns that it would take several years, perhaps a decade or more, before additional research on comparative effectiveness could have a noticeable impact on health care spending. The CBO explains that it would take considerable time to get new research activities underway, there would be a lag before results were generated, additional time would elapse before a substantial body of results was amassed, more time and studies could be needed to achieve consensus on for appropriate conclusions to be drawn, and "much would depend on how private and public insurers used that information and whether and how the results were incorporated into the incentives facing providers and patients." (25)

The CBO found that Federal funding for comparative effectiveness research would need to begin at \$100 million in 2010, grow to \$400 million in 2014, and remain at that level through 2019. It expects that there would be only modest changes in medical practice in response to evidence on the effectiveness of alternative treatments. The net effect would be to reduce total spending on health care in the United States by an estimated \$8 billion over the years 2010–2019 (less than one-tenth of 1 percent). However, reductions in federal spending on health care—primarily for Medicare, Medicaid, and the Federal Employees Health Benefits program—would total about \$100 million over the 2010–2014 period and about \$1.3 billion over 2010–2019. Because of the time lag between funding research and implementation into practice, CBO projects the effect would be to *increase* Federal spending by \$490 million during the first 5 years and by \$1.1 billion over 10 years. After completion of the 10-year period, annual reductions in federal health care spending would be slightly larger than the increased spending on research (36).

The American Recovery and Reinvestment Act of 2009 (H.R. 1) provided \$400,000,000 for comparative effectiveness research (37). Included in this funding was \$1,500,000 for a study by the IOM to develop recommendations on national priorities for comparative effectiveness research. A final report of the IOM Committee listing priority topics for comparative effectiveness research was issued on June 30, 2009 (38).

Recommendations

4. **Efforts should be made to improve access to information comparing clinical management strategies.**
5. **An adequately funded, trusted national entity should be charged with systematically developing both comparative clinical and comparative cost-effectiveness evidence for competing clinical management strategies. It should prioritize, sponsor, or produce comparative information on the relative clinical effectiveness, safety, and cost-effectiveness of medical services, drugs, devices, therapies, and procedures.**
6. **The federal government should have a significant role in funding, implementing, and maintaining this comparative effectiveness entity.**
7. **Cost should never be used as the sole criterion for evaluating a clinical intervention, but it should be considered alongside the explicit, transparent consideration of the comparative effectiveness of the intervention.**
8. **Health care payers, physicians and other health professionals, and patients should consider both comparative clinical and cost-effectiveness information in evaluating a clinical intervention.**
9. **Employers and health plans should consider adopting value-based benefit design programs that use comparative research on clinical outcomes and cost effectiveness developed by an independent entity that does not have an economic interest in the benefit determinations.**

Enhance Use of Health Information Technology to Better Ensure Appropriate Utilization and Reduce Inefficiency and Medical Errors

The IOM's 1999 Report, *To Err is Human—Building a Safer Health System*,⁽³⁹⁾ suggested that up to 98,000 Americans die each year as a result of medical errors. The report also highlighted preventable medication errors and other inefficiencies. The IOM report recommended that systemic changes were needed to improve the quality and safety of medical care. According to a recent annual report by HealthGrades, errors are still common at hospitals across the country (40). The study of Medicare patients found 913,215 patient-safety events in hospitals between 2005 and 2007 and 97,755 in-hospital deaths among patients who experienced one or more of those events. These events were estimated to account for more than \$6.9 billion in costs. Another IOM report, *Crossing the Quality Chasm—A New Health System for the 21st Century*, introduced the notion that many lives could be saved through widespread use of health information technology (HIT) (41). The IOM report cautioned, however, "In the absence of a national commitment and financial support to a build a national health information infrastructure...the progress of quality improvement will be painfully slow."

Numerous studies and policy experts have shown that full adoption and utilization of HIT can revolutionize health care delivery by reducing errors, improving quality of care, and lowering medical costs (41-43). The greatest cost-reducing effects from the adoption of HIT will probably result from both improved coordination among providers and from decision support that improves the use of tests and treatments. This support could decrease variation among physicians in the use of health care services and thus reduce both baseline costs and cost trends (44).

Despite all the positive claims about the value of HIT, few physician practices are able to afford the substantial initial capital investment or the ongoing costs associated with training personnel and maintaining the technology. According to a 2006 review by the Robert Wood Johnson Foundation, only 13% to 16% of solo practitioners were able to adopt HIT (45). The National Ambulatory Medical Care Survey (NAMCS) found that although 23.9% of physicians were using electronic health records (EHRs), only 9% had systems that had four or more of the key functionalities of an EHR, as identified by the IOM (46). Subsequent studies have shown a steady increase in the rate of adoption, but solo and smaller practices have been slowest among all groups to adopt (47). The substantial cost of acquiring the equipment is the most-often cited reason. Adoption of HIT will also require cultural change among physicians, which could be encouraged through payment incentives.

Adoption of e-prescribing is seen as another major means of reducing medication errors due to misinterpretation of physician handwriting. Electronic prescribing systems can also help prevent adverse drug reactions by alerting physicians and pharmacists of apparent errors in dosages and potential drug interactions. Former Health and Human Services Secretary Michael Leavitt estimated that widespread use of e-prescribing could save as much as \$156 million over 5 years.

In order to achieve widespread adoption and use of HIT, EHRs, and e-prescribing, the complex issues surrounding financing, practice workflow redesigns, and provision of ongoing technical support and training must be addressed. The federal government will need to play several key roles. It must play an essential role in developing uniform standards for HIT. The federal government will need to lead efforts to adopt and enforce standards for storing and transmitting health information (48). It will also need to provide targeted financial assistance

for the initial start-up costs of solo and small medical practices to acquire the technology, and financial recognition of the ongoing costs. A study by the Commonwealth Fund estimated that if the federal government levied a 1% tax on private insurance and spent an additional 1% of Medicare expenditures on HIT, there would be an initial net increase in costs of \$13.6 billion for the first 5 years, but a net savings of \$87.8 billion by the 10th year (28).

The CBO estimates that requiring all physicians to adopt EHR systems, as a condition for participation in Medicare, would reduce federal deficits by about \$2 billion over 2010–2014 and by \$11 billion over 2010–2019. Applying the requirement to hospitals would reduce deficits by about \$5 billion over 2010–2014 and by \$23 billion over 2010–2019 (36).

Recommendations

- 10. Payment policies should create incentives for physicians and other health professionals and providers to use health information technologies that have the functions and capabilities needed to improve clinical decision-making at the point of care, including functions designed to support care consistent with evidence-based guidelines, care coordination, and preventive and patient-centered care.**
- 11. Technical support and funding should be provided to help primary care practices, especially smaller ones, acquire health information technologies that have the functions needed to become Patient-Centered Medical Homes (PCMHs).**

ACP has also recommended the use of a secure Web messaging infrastructure to ensure the highest levels of privacy and confidentiality for electronic communications between physicians and their patients. The College supports the development of a national process to certify for trustworthiness the content of Web sites that offer consumer health information. The PCMH model encompasses use of evidence-based medicine and clinical decision support tools to guide decision-making at the point of care.

Further policies concerning the use of HIT and electronic health services are contained in the ACP position papers *E-Health and Its Impact on Medical Practice* (49) and *Pay Physicians for Computer-Based Consultations* (50).

Cost Driver: Lack of Patient Involvement in Decision-Making

When patients are not fully informed about the full range of treatment options available to them and do not understand the risks and benefits involved, they cannot make informed decisions about their medical care. Consequently, they may receive care that they do not want and would not otherwise have chosen. The Dartmouth Atlas Project explains that part of the extreme variation in rates of surgery among regions of the country is because patients typically delegate decision-making to physicians. There is an assumption that physicians know not only what is best for the patient medically, but that they also understand the patient's treatment preferences. However, the researchers report, "studies show that when patients are fully informed about their options, they often choose very differently than their physicians." Even when a proposed treatment or surgery is medically necessary and appropriate based on scientific evidence, the patient, when fully informed, may choose not to proceed based on his or her own values and preferences (51).

Health insurance plans with low coinsurance, low deductibles, and/or low co-payment requirements insulate patients from the true cost of their care, causing waste of health care resources and contributing to rising overall costs. Patients as consumers are often unaware of the actual costs of their care and are precluded from making fully informed decisions. This also contributes to the overuse and misuse of health care services. Patients pay out-of-pocket for only 14% of their health care (52); the rest is paid by third-party payers (e.g., private health insurance, Medicare, Medicaid, VA). In addition, because patients incur very low out-of-pocket costs for lab test, there is little incentive for them to question the clinical value of tests ordered. Although more testing may be reassuring, unnecessary diagnostic testing can be very costly. "Medigap" insurance policies that reimburse patients for the cost-sharing costs of Medicare undermine the efforts of the Medicare program to encourage cost-consciousness.

Increasingly, consumer cost-sharing is seen as an encouragement for consumers to be more cost-conscious and to use health services more judiciously. In the short term, a greater share of health insurance costs is shifted from employers and public programs to employees and beneficiaries. Advocates for cost-sharing maintain that in the longer-run, more prudent use of health care services will reduce the rate of increase in health insurance premiums and the costs of public programs like Medicare and Medicaid.

Others point out that cost-sharing can impose serious financial burdens for families and result in reduced access to care (53). While catastrophic medical expenses obviously can cause financial hardships, even insured patients with relatively modest levels of out-of-pocket spending can have trouble paying their medical bills. A 2007 survey by the Center for Studying Health System Change found that 40% of people with medical bill problems had out-of-pocket expenses of \$500 or less in the previous year, and 59% had expenditures of \$1,000 or less (54). The impact of cost-sharing on constraining health care costs is limited, since about 5% of the US population account for about half of all health care expenditures and 10% of the population account for 70% of health care spending (55). Consequently, high deductibles and co-payments are not likely to provide strong financial incentives for the sickest patients, who incur most of the costs, and will have limited impact in reducing overall health care spending.

Many employers and health care plans have increased employee cost-sharing requirements in an effort to reduce their health insurance costs. The percentage of workers enrolled in employer-sponsored health plans that were required to pay a share of their hospital bill increased by more than 60% between 1999 and 2003—from 33.8% to 54.7%. In the same period, the percentage of enrolled workers required to make co-payments for doctor visits increased from 92.4% to 95.3%. Co-payment amounts for doctor visits increased substantially. The percentage with co-payments of less than \$10 per physician visit shrank from 57% to 23.5%, while the percentage with co-payments of \$10 to \$20 per physician visit almost doubled, rising from 33.4% to 60.8%, and the percentage paying more than \$20 per visit increased from 2% in 1999 to 11% in 2003 (56).

Cost-sharing has also increased for Medicare beneficiaries. Median out-of-pocket health care spending of Medicare beneficiaries rose steadily from 11.9% of income in 1997 to 16.1% in 2005. The 25% of beneficiaries with the largest out-of-pocket expenses in 2005, spent nearly one third (30.7%) of their income on health care (57).

Options for Controlling Costs from Utilization Due to Lack of Patient Involvement in Decision-Making

Encourage Cost-Consciousness

Studies by RAND demonstrated that modest cost-sharing can reduce the total amount of health care spending per adult (including both insurance and out-of-pocket payments) with little impact on health outcomes. However, cost-sharing reduces both appropriate as well as inappropriate use (58). While increased cost-sharing can help deter patients from excessive and unnecessary use of services, it can also create a financial burden and a barrier to obtaining needed health care services. Increased cost-sharing also raises out-of-pocket costs more for people in poor health, those with chronic conditions, and those requiring hospitalization (59). High cost-sharing requirements and high-deductible health insurance policies also create financial burdens that especially impact low-income people. Cost considerations also may cause patients to skip preventive health care services that could prevent more serious health problems and which ultimately would be more cost-effective. Consequently, cost-sharing provision must be judiciously applied.

For cost-sharing provisions to work, patients must have better access to accurate and understandable information so they can make informed decisions. Health systems should provide easy access to information about the actual prices of medical services and available treatment options. Patient education should include information about health, diet and nutrition, and preventive health care. Patients should have access to treatment options, but also to information about the effectiveness of medical tests and procedures. Improved transparency with public access to information about the qualifications and performance of physicians, hospitals, and other providers of health care services would also help patients in their decision-making. The Commonwealth Fund estimates that the use of patient decision aids in Medicare patients before high-cost procedures would increase the use cost-effective interventions; decrease the use of unnecessary invasive procedures; and save \$9.2 billion over 10 years (27).

Recommendations

- 12. Health insurance benefits should be designed to encourage patient cost-consciousness and responsibility without deterring patients from receiving needed and appropriate services or participating in their care.**
- 13. Physicians and other health care providers, including medical technology and pharmaceutical manufacturers and suppliers of medical equipment, should provide price transparency on the goods and services they provide.**

Promote Shared Decision-Making

Involving the doctor and patient in shared decision-making is a way to ensure that treatment decisions are optimally aligned with patient values and preferences, prevent unwanted treatments and procedures, and avoid potential health care costs. Many tools have been developed to facilitate the participation of patients in shared decision-making and to ensure that they are well-informed. These aids include Internet tools, DVDs, pamphlets, and videos that describe treatment options and prompt patients to participate in decision-making after considering possible benefits and harms in light of their own preferences and

values. Clinical trials have found that decision aids improve people's knowledge of options, create realistic expectations of benefits and harms, reduce difficulty with decision-making, and increase participation in the decision-making process (60). Clinical trials of shared decision-making have shown that patients are less likely to choose interventions, such as invasive surgery, when they are fully informed (51).

Informed consent laws generally require only passive patient involvement in decision-making--reading and signing a consent form. They do not require that patients be fully informed about treatment options or the pros and cons of alternative treatments. They also do not encourage patients to be involved in shared decision-making where there are multiple clinically appropriate choices. Shared decision-making and the use of patient decision aids may provide greater legal protection from malpractice litigation by providing proof that patients have been informed. Acknowledgment of shared decision making by a competent patient constitutes evidence that the patient has given his or her informed consent.

Legislation passed in the state of Washington in 2007 formally recognizes shared decision-making in the state's laws on informed consent and encourages collaborative efforts to develop, certify, use, and evaluate decision aids. It endorses informed patient choice as the preferred standard of practice and empowers the state Health Care Authority (HCA) to implement shared decision-making demonstration projects. The legislation also provides immunity from patient malpractice claims of "failure-to-inform." (61)

Involving patients in shared decision-making entails additional costs in terms of physician time and resources. These costs to the physician should be reimbursed, but will be more than offset by the potential savings to Medicare and other health plans from not performing health care services that otherwise would be provided.

According to the CBO, research indicates that patient-shared decision-making might be a promising avenue for the Center for Medicare & Medicaid Services (CMS) to pursue to improve quality and reduce costs in Medicare. However, it raises questions about designing a workable policy about shared decision-making and how Medicare should pay for the cost of providing decision-making tools. It also questions how spending would be affected, and concludes that it cannot make estimates of savings at this time (36).

Recommendations

- 14. Physicians should engage patients in shared decision-making and provide patients with sufficient information about all clinically appropriate treatment options and risk and risk/benefits, so that patients can make informed choices.**
- 15. All payers should encourage shared decision-making and pay physicians for the additional time and resources involved, including the cost of providing patient-shared decision-making tools and maintaining a shared decision-making process.**
- 16. Medicare should undertake demonstration projects to develop implementation models for shared decision-making and for the development and testing of decision aids.**

Advance Planning and Informed Decision-Making for End-of-Life Care

Health care expenditures in the United States at the end of life, particularly during the last 6 months, are extremely high. Of all Medicare beneficiaries who die each year, 5% to 6% of those who die account for 27%-30% of the cost (62). Average costs at the end of life vary widely among states in both number of hospital days and average number of physician visits per decedent during their last 6 months of life (63).

Patients and their physicians can engage in advance planning to guide decision-making in the event that the patient loses decision-making capacity. Written advance directives can be in the form of living wills that describe the kinds of treatment they would want. Patients may also designate surrogates with durable power of attorney to make health care decisions if the patient becomes unable to do so.

Although many patients may wish to avoid extraordinary or resuscitative care when they are terminally ill and the outcome is unlikely to improve or stabilize their health status, only 29% of patients have living wills and only 50% of terminally ill patients have advance directives to guide their doctors and families about their wishes. Seventy-eight percent of patients with life-threatening illnesses prefer to leave decisions about resuscitation to their physicians and families. Even when there is a living will, 62% of patients do not give them to their physicians, 64% of dying patients' living wills do not apply to their clinical situation, 30% of surrogates incorrectly interpret their loved ones' written instructions, and 25% of patients receive care contrary to their expressed wishes. In addition, 29% of patients change their minds about life-sustaining treatment over time (64).

Providing information on treatment options and the associated costs could better enable patients and their families to make informed decisions, preferably in advance of life-threatening circumstances, to avoid unwanted treatments and reduce financial burdens. However, more research is needed on alternative mechanisms to improve the quality of life of the dying patient and their family-caregivers. Research should focus on end-of-life care that emphasizes dying with dignity and should examine alternative care services, including home care, psychological services, massage physical therapy, and appropriate sedation.

ACP ethics policy asserts that informed adults with decision-making capacity almost always have the legal and ethical right to refuse any recommended life-sustaining medical treatment. The patient has this right regardless of whether he or she is terminally or irreversibly ill. Physicians should routinely raise the issue of advance planning with competent adult patients during outpatient visits and encourage them to discuss their values and preferences with their surrogates and family members. Accordingly, ACP supports legislation, such as the Life Sustaining Treatment Preferences Act of 2009 (H.R. 1898), proposed by Rep. Earl Blumenauer, that would provide Medicare coverage for physician consultations regarding advance planning for orders about life-sustaining treatments. When patients lack decision-making capacity, treatment should conform to what the patient would want on the basis of written or oral advance directives. If these instructions are not available, care decisions should be based on the best evidence of what the patient would have chosen or, failing that, on the best interests of the patient. High-quality patient support programs should be developed and promoted to encourage appropriate use of resources focusing on quality of life. The College maintains that the prior existence of advance directives should not jeopardize the provision of medically appropriate care, if the care is consistent with agreed-upon limits. ACP further advises that individual

physicians should not in any way be reprimanded by reviewing bodies for abiding by the wishes of patients when providing appropriate care to individuals who have exercised advance directives (65).

ACP also has serious ethical and other concerns about physician-assisted suicide. ACP ethics policy notes, "Doctors cannot give to individuals the control over the manner and timing of death that some seek. But, throughout their lives, including as they face death, medicine must strive to give patients the care, compassion, and comfort they need and deserve." Consequently, ACP does not support legalization of physician-assisted suicide (66).

Recommendations

- 17. Physicians and patients should engage in advance planning to help ensure that treatment decisions, including surrogate decision-making, are in accord with the patient's values and wishes. Medically appropriate care should never be withheld solely because of costs.**
- 18. Research should seek to enhance the quality of life for terminally ill patients and their caregivers, and incentives should be provided for palliative care programs and hospice services in all settings.**

Certificate of Need Laws and Health Planning

The National Health Planning and Resource Development Act of 1974 (P.L. 93-641) created a national health planning program to replace previous overlapping and duplicative health planning programs that had been created since the Hill-Burton Act of 1946. The 1970s national program involved local, regional, state, and federal planning agencies in a regulatory process to improve the accessibility and quality of health care. It sought to ensure the appropriate allocation of health resources at the state and local levels by development and adherence to plans reflecting state and local health care needs. Cost controls were sought by reducing duplication of health care resources, restricting construction of new hospitals and other health care facilities, and limiting capital equipment expenditures. Medicare and Medicaid funding for services provided at health care facilities was contingent on obtaining a Certificate of Need (CON), reflecting review and approval from state and local planning agencies. The national program was controversial. Proponents claimed that the program was needed to efficiently allocate scarce health care resources to improve access and quality of health care and to help constrain upwardly spiraling health care costs. The Institute of Medicine found,

"The most persuasive case for health planning rests with the divergence of interests of autonomous providers and the broader public. The public interest is not well served when individual institutions, no matter how good their intentions, are free to pursue their own goals and to expand services for their own patients and physicians. There will be unnecessary and costly duplication of services, as well as gaps in services..." (67)

Critics said the program failed to keep health care costs down, created additional bureaucratic hurdles, and stifled competition. They asserted that it protected existing facilities and prevented competition and innovation for access to low-cost, high-quality care. The national program ended in the 1980s when it was not reauthorized during the Reagan Administration, which sought to

reduce the regulatory role of government. By the beginning of the 21st century, some states were reconsidering reinstating or reinvigorating CON programs to limit capital investment in hospitals in response to construction of physician-owned specialty facilities, which posed a competitive threat to community hospitals (68). Thirty-six states and the District of Columbia currently have CON laws, and many state and regional health planning agencies continue to function (69).

Recommendations

19. **Local, state, and regional health planning should be done to identify health care needs and to appropriately allocate resources to meet those needs. This planning should be conducted in a way that promotes public engagement in the development of the plans and subsequent adherence to them.**
20. **Research is needed on the effectiveness of Certificate of Need (CON) programs for reviewing proposed capital expenditures, acquisitions of major medical equipment, and new institutional facilities to reduce maldistribution and redundancy and to ensure that health care resources are best allocated in accord with health care needs. This research should include exploration of the characteristics of CON programs that have had the greatest or least beneficial impact on reducing unnecessary capacity with sufficient public support to be accepted.**

Cost Driver: Payment System Distortions

Health insurance plans and governmental programs in the United States generally pay for episodic, acute care health care services on a fee-for-service basis. This creates incentives for physicians to generate more visits and to perform more diagnostic tests and procedures to increase income. Services involving new technology are highly reimbursed and highly profitable, while services where payment is predominantly for the physician's time (evaluation and management) are poorly reimbursed. Services provided by primary care physicians are systematically undervalued in terms of their work, practice expenses, and value to patients. While increasing the volume of services is encouraged, there are few incentives for efficiency or accountability. Lack of awareness by both patients and physicians of the spending implications of clinical decisions further contributes to increasing health care utilization and rising costs (70).

Payment and reimbursement do not reflect the increasing shift in health care delivery from acute to chronic care. Coordinated care management, proactive or planned care, cross-discipline management, and even some preventive care services are often not covered by insurance or are poorly reimbursed.

By paying more for the time and expertise required to provide procedures delivered by specialists compared with the same level of time and expertise for evaluation and management services by primary care physicians, payment systems foster distortions in the specialty mix of physicians. These payment disparities produce huge inequities in earnings that favor procedural specialists over primary care physicians. Primary care physicians on average earn substantially less than other medical specialists (71). These earnings disparities act as a strong disincentive for younger physicians, who typically have student debt of \$140,000 or more, to choose primary care. The economics of primary care practices are so adverse that many established primary care physician practices are struggling to remain open.

Currently, the average primary care physician earns approximately 55% of the average earnings of nonprimary care physicians (72). Not surprisingly, these payment distortions and the resulting disparities in potential career earning play a significant role in the career plans of young physicians. Annual surveys of graduating medical students have shown a declining interest in entering careers in primary care and an increasing preference for entering specialty training. While 12.2% of the graduating students were planning on entering training for general internal medicine in 1999, only 5.1% of the graduating class of 2007 had such plans (73). Pediatrics and family medicine have experienced a similar trend. According to a recent study in the *Journal of the American Medical Association*, only 2-% of fourth-year medical students plan to go into primary care internal medicine (74). Two recent studies project shortages of primary care physicians for adults from 35,000 to 46,000 by 2025 (74-75).

The growing shortage of primary care physicians will soon reach crisis proportions. Access to health care services provided by primary care physicians will become even more difficult if health insurance coverage is extended to the 47 million Americans who are currently uninsured. This will have huge, adverse implications for access, quality, and cost of care. The United States already has a much lower proportion of primary care physicians to specialists than other industrialized nations that score better on measures of cost and quality (76). This imbalance between specialty and primary care exists even though hundreds of studies show that the availability of patient-centered primary care is positively and consistently associated with better quality, reduced mortality, higher patient satisfaction, and lower costs (77). Yet there are no comprehensive national strategies to recognize, support, and enhance primary care to the degree necessary to reverse the trend of the declining numbers of primary care physicians.

Options for Controlling Costs from Payment System Distortions

Pay Appropriately for Health Care Services, and Encourage Adoption of the Patient-Centered Medical Home and Other Innovative Models of Health Care Delivery

Bundling payments and paying for episodes of care would be one means of reducing incentives to increase the volume of acute care services provided. Payments could be made prospectively for a comprehensive bundled per episode case rate. Under Medicare, this could be done by diagnosis-related groups. For example, comprehensive payments for hip replacements, acute myocardial infarctions, and coronary artery bypass surgeries could cover acute care episodes as well as hospitalization and postsurgical care. This payment would cover all inpatient, physician, and related (e.g., home health) services traditionally covered under Medicare Parts A and B for care of the patient from the time of admission through a period of post hospitalization (in most cases, 90 days). The Commonwealth Fund estimates that these bundled payments would result in a net cumulative savings to national health spending of \$96.4 billion over 5 years and \$229.2 billion over 10 years (26).

Patient-Centered Medical Homes offer enhanced primary care services, such as care management, care coordination, comprehensive care, patient education, and advanced access and are responsible for authorizing and coordinating all specialty referrals. High functioning medical homes also have an information technology infrastructure to support clinical care and deliver care using multidisciplinary teams. The Commonwealth Fund estimates that the use of medical homes in the Medicare population would save \$60.0 billion over five years and \$193.5 billion over 10 years (26). However, the CBO estimates that giving beneficiaries with multiple chronic conditions the option to choose a

medical home would cost an estimated \$2.2 billion over the 5 years 2010–2014 and \$5.6 billion over the 10 years 2010–2019. The CBO acknowledges that medical homes by "improving care could reduce spending by eliminating duplicated services, making more appropriate use of specialists, and averting serious complications from chronic conditions through better medical management." However, it also cautions that in other cases, improving care could lead to increases in spending for chronically ill patients who were not receiving all recommended care. It concludes that it cannot estimate whether the net result would be to increase or decrease spending for the Medicare program (36).

ACP advocates providing incentives for comprehensive, coordinated, patient-centered care. ACP policies in support of the PCMH are presented in detail in position papers on the *Advanced Medical Home* (78) and *Restructuring Payment Policies to Support Patient-Centered Care* (79). ACP calls for a transition to a new payment structure that fosters the delivery of care that is patient-centered, longitudinal, comprehensive, and coordinated. The PCMH offers the benefits of a personal provider with a whole-person orientation who accepts overall responsibility for the care of the patient and leads a team that provides enhanced access to care, improved coordinated and integrated care, and increased efforts to ensure safety and quality. Under the ACP proposal, payments for the PCMH would be risk-adjusted and would consist of a blend of prospective bundled payments for practice overhead and care coordination in addition to fee-for-service payments for visit-based services and performance-based payments for achievement of quality and efficiency goals.

Patients with multiple chronic conditions may visit up to 16 different physicians per year. A typical Medicare beneficiary sees two primary care physicians and five specialists each year, in addition to accessing diagnostic, pharmacy, and other services (80). The typical primary care physician, however, interacts with 229 other physicians working in 117 practices to coordinate care provided to patients. For every 100 Medicare beneficiaries managed by primary care physicians, coordination services involve 99 additional physicians and 53 practices (81).

Comprehensive and coordinated care can avoid wasteful duplication of diagnostic testing, potentially dangerous overmedication and drug interactions, and confusion about conflicting care plans (82). Yet, fee-for-service physician payment systems pay primarily for face-to-face visits and not for the time between visits when coordination of services generally occurs. Lacking financial reimbursement and stressed for time within 15-minute visits, primary care physicians have financial disincentives to take the time to coordinate services with other primary care physicians, subspecialists, diagnostic centers, pharmacies, home care agencies, acute care hospitals, skilled nursing facilities, and emergency departments. Additional payments for care coordination with adjustments for the complexity of coordinated care required by the patient would create positive incentives for primary care practices to improve between-visit coordination of care for their patients (83).

In the ACP position paper, *Reforming Physician Payments to Achieve Greater Value in Health Care Spending*, (84) the College emphasized the need to design, test, and evaluate new payment models that align physician payment incentives with appropriate, high-quality, efficient, coordinated, and patient-centered care. Accordingly, ACP recommended a process by which multiple innovative models can be developed, pilot-tested, and then rapidly expanded. It further recommended that the Secretary of Health and Human Services establish criteria for determining which physician payment reform models should receive priority for fast-track funding and implementation so that models shown to be most effective can be rapidly expanded.

Many initiatives are being tried and tested to improve performance and lower health care costs, including public reporting, pay-for-performance (P4P), value-based purchasing, and quality improvement programs. One model currently receiving much consideration involves structuring payments to Accountable Care Organizations (ACOs), in which groups of providers work together to manage and coordinate care for patients. ACOs could include physicians practicing in groups, networks of physician practices, partnerships or joint ventures among hospitals and physicians, hospitals employing physicians, integrated delivery systems, or community-based coalitions. Savings are expected to result from financial incentives in return for greater accountability on the part of providers for their performance. ACP is currently examining this alternative.

ACP has maintained that payments for health care should reflect the value of the service performed, the expertise and training of the health professional required, and the related overhead costs (e.g., costs of office practice, malpractice insurance). The payment structure should not create financial disincentives for providing the most appropriate health care (84).

Evaluation and management (E&M) services are generally diagnostic and care management services provided by primary care physicians, although they can also be provided by subspecialists. They are defined by certain CPT codes and include visits in physicians' offices as well as in other settings, such as hospitals and nursing homes. They do not include the actual tests or other services that are furnished during those visits.

E&M services comprise the majority of the work of primary care physicians. Low payment rates for E&M services account for the relatively low compensation of primary care physicians compared with more procedurally oriented specialists. ACP has advocated for changes in the current payment system to promote improved service valuation. Disparities in payments for physician services under Medicare can be addressed by increasing relative values for E&M services under the Medicare Resource-based Relative Value System (RBRVS). Payments for primary care services provided by physicians in a designated primary care specialty could be increased as recommended by the Medicare Payment Advisory Commission (MedPAC) in June 2008 (85).

The CBO has also identified using the Medicare Economic Index (MEI) to update physicians' fees for E&M services as an option for controlling health care costs under Medicare and Medicaid. The MEI measures changes in the prices of inputs used to provide services (such as physicians' salaries and expenses related to a physician's practice), minus an adjustment for changes in productivity.

Increasing fees for E&M services could help reverse the trend of primary care physicians leaving practice and medical students being deterred from pursuing careers in primary care. (See discussion below regarding ensuring an appropriate physician workforce specialty mix). Since primary care physicians provide high-quality, cost-effective, and coordinated care, increasing fees for E&M services would result in patients receiving better care at lower costs (77). Increasing payments for E&M services will result in increased costs, at least in the short-run, but longer-term benefits will result from addressing the payment disparities that directly contribute to the shortage of primary care physicians and by ultimately making it possible for physicians to spend more time with their patients.

Recommendations

21. Congress should provide the Secretary of the Department of Health and Human Services with authority and funding to conduct voluntary pilots of innovative models to better align physician payment with desired outcomes pertaining to quality, cost-effectiveness, and efficient patient-centered care and create a fast-track process and timeline for widespread adoption of the models that are shown to have the greatest positive impact on these desired outcomes.
22. Medicare and other payers should accelerate adoption of the PCMH model by transitioning to a coverage and payment structure for qualifying practices. Payments to qualified PCMHs should include severity-adjusted monthly bundled care coordination payments, prospective payments per eligible patient, fee-for-service payments for visits, and performance-based payments based on evidence-based quality, patient satisfaction, and efficiency measures. The monthly bundled care coordination payment should cover the practice overhead costs of a PCMH linked to the costs of providing services that are not currently paid under the present system. It should also cover the work value of physician and nonphysician clinical and administrative care coordination activities of the PCMH that take place outside of face-to-face visits. Other payment models to support care provided through a PCMH could also be pilot-tested.
23. Physicians and multidisciplinary teams should be paid for care management and care coordination services provided on a fee-for-service basis.
24. Fee-for-service payments to primary care physicians should be increased to be competitive with payments for other fields and specialties in medicine to ensure a sufficient supply of primary care physicians that will help save costs in the long-run.

Cost Driver: Higher Prices

Health Care Prices and Services

Compared with other developed nations, the U.S. health care system is intrinsically more expensive. A study of the U.S. and six other developed nations showed that the average price of care for an acute myocardial infarction with angioplasty is three to four times greater in the U.S. While the average number of hospital days per year in the U.S. is relative low—second only to Canada—the hospital cost per day in the U.S. is 4.3 times higher than the average of other developed countries. There is also significant price dispersion in procedures within geographic markets that can range from 26% to more than 200% (9). In addition, physician income for general practitioners as well as specialists and the ratios of physician income to average wages are higher in the U.S. than in most other nations as reported by the Organization for Economic Cooperation and Development (86).

One explanation for wide variations in utilization is the limited availability of evidence-based clinical guidelines and the failure of physicians to adhere to those guidelines that have been developed. Translating clinical research findings into medical practice often proceeds slowly and requires educational efforts to promote best practices. Researchers at the Dartmouth Atlas Project have concluded, after analyzing 35 years of research documenting geographic variations in health care, that "many, if not most, of the clinical decisions doctors make are driven by local medical opinion and the local supply of medical resources, rather than sound science or the preferences of well-informed patients."(51)

Prescription Drugs

In 2006, 7 out of 10 visits to physician offices and hospital outpatient and emergency departments in the United States resulted in the provision or prescription of at least one medication, accounting for a total of 2.6 billion medications. Analgesics (pain relievers) were the most common; amounting to 13.6% of all drugs prescribed, and were most often used during primary care and emergency department visits (87). The United States spends \$792 per capita on prescription drugs, more than any other country and almost twice the average of \$401 per capita in other industrialized countries in the Organization for Economic Cooperation and Development (OECD) (88). However, U.S. pharmaceutical spending is 12.4% of total health spending, which is below the OECD average of 17.8%. This indicates that U.S. spending on prescription drugs is lower than that of the rest of the industrialized world, unlike its spending on other types of health care (89). International comparisons of prescription drug costs are difficult and should reflect the volume and mix of medicines consumed (generic, brand name, and over-the-counter drugs), as well as the prices. A 2003 study comparing US drug prices with prices in eight other countries found that brand-name prescription drugs still under patent were most expensive in Japan, but the United States was second. In the other seven countries, prices of prescription drugs on-patent were 24% to 39% less expensive than in the United States; however, the United States had the second-lowest prices for generic drugs and the lowest prices for over-the-counter drugs (90). One reason that drug prices are higher in the U.S. is that it is an early adopter of newly launched patent-protected drugs, which are sold at prices higher than those that are off-patent.

Under current law, drugs available to enrollees in each drug plan under Medicare Part D are determined by the formulary set by the plan (subject to certain minimum requirements for inclusion). Prices paid by plans for each drug are subject to negotiation between the plans and drug manufacturers or distributors.

Options for Controlling Costs from Higher Prices

Ensure Accurate Pricing of Health Care Products and Services

The Medicare and Medicaid programs currently set prices for covered physician and hospital services. Medicare also prohibits participating physicians from billing Medicare beneficiaries for charges above the Medicare approved rates (balance billing). Private health insurance plans also set limits on the amounts they will reimburse, and often base their prices on Medicare payment rates. The national Medicare program does not set prices for prescription drugs and is prohibited by law from using its purchasing power to negotiate prescription drug prices. Medicaid generally pays lower amounts for physician services and drugs.

One option to reduce prescription drug costs would be for Congress to give the Secretary of Health and Human Services the authority to negotiate drug prices for Medicare and Medicaid. The size of the Medicare and Medicaid populations would give the Secretary greater leverage than pharmacy benefit managers to negotiate greater discounts from drug manufacturers, and costs to Medicare and Medicaid could consequently be reduced (91).

ACP has extensive policy regarding physician payment reform. ACP has worked to better ensure that prices are accurately determined for physician services reimbursed by Medicare under its resource-based relative value system (RBRVS). The College has sought to have payments reflect the true resource costs, including physicians' work, practice expenses, and medical liability costs.

ACP favors efforts to lower the cost of prescription drugs but prefers that government not require the use of formularies for covered prescription drugs (92). More detail on ACP policy on controlling prescription drug costs can be found in the policy monograph, *Prescription Drug Importation as a Policy Option to Lower the Cost of Medications in the U.S.* (91).

Recommendations

25. Congress should charge the Institute of Medicine or other appropriate study group to explore the factors behind regional variations in health care services and issue a report. The report should recommend public policy interventions to improve outcomes and lower the costs of care in areas of the country that have higher per capita expenditures and poorer outcomes, even after correcting for differences in demographics and other characteristics of the population served.
26. The Federal government should take action to reduce the high cost of prescription drugs in the United States by using its purchasing power to obtain the best prices from pharmaceutical manufacturers covered by publically-funded plans including Medicare, similar to the prescription drug purchasing process used by the Veterans Administration. However, ensuring high quality and patient safety and support for continued innovation and research on drugs that can advance medical care must remain the top priority of any program to address the price of prescription drugs. Prescription drug importation is not a long-term solution to the high cost of prescription drugs. Efforts to reduce prescription drug prices should include:
 - a. Encouraging increased competition among brand-name manufacturers
 - b. Studying the effectiveness of prescription drugs, such as lower-cost, therapeutically equivalent medications and expediting approval of generic drugs and encouraging their use
 - c. Negotiating volume discounts on prescription drug prices and pursuing prescription drug bulk purchasing agreements under the Medicare program
 - d. Encouraging pharmaceutical manufacturers to expand their patient assistance and drug discount programs and increase patient education for these programs.
27. The accuracy of relative value determinations under Medicare should be ensured through improvements in the processes for identifying potentially undervalued and overvalued services, for recommending new and revised physician work relative value units, and for determination of practice expenses.

Cost Driver: Inappropriate Physician Workforce

Numerous studies have shown that the physician workforce specialty mix affects the quality and cost of health care. Data for 2005 indicated that approximately 37% of new physicians were entering generalist specialties, and 63% were entering other specialties (93). Interest of medical students in pursuing careers in primary care has declined to the point where only 2% of fourth-year medical students are interested in careers in general internal medicine (94). The nation now faces shortages in the primary care physician workforce (95). ACP declared in 2006 that a crisis was looming (96). However, as the "baby boomer" population ages and incidences of multiple chronic conditions rise, the need for primary care physicians will increase. An expansion of health insurance coverage to millions of currently uninsured individuals will further extenuate the demand for primary care services. Two decades of research, consisting of over 100 studies, show that the availability of primary care physicians is consistently associated with better outcomes; fewer preventable hospital, emergency room, and ICU admissions; and lower per capita health care expenditures (77).

A study of 13 industrialized countries found that primary care-oriented countries showed better health outcomes even after adjusting for income inequalities, smoking rates, and other factors. Countries with weak primary care were found not to perform as well on most major aspects of health, and stronger primary care systems were associated with lower costs (97).

The preventive care that primary care physicians provide can help to reduce hospitalization rates (98-99). 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 (100). It is clear that excessive costs of the U.S. system are not related to high hospitalization rates (as these rates are lower than in most comparable countries); costs will not decline if in-hospital technology use is transferred to outpatient settings even if hospitalization rates are lowered (101).

Options for Ensuring an Appropriate Physician Workforce Specialty Mix

A recent study found that for a population of 775,000, an increase from 35% to 40% primary care physicians could reduce inpatient admissions by 2500 per year. At approximately \$9000 per admission, this would produce a savings of \$23 million for an average standard metropolitan statistical area (projected nationally this would mean a savings of \$8.32 billion per year for the 362 metropolitan statistical areas in the United States). The study concluded that higher proportions of primary care physicians were associated with significantly decreased utilization, with each 1% increase in the proportion of primary care physicians being associated with decreased yearly utilization of 503 hospital admissions, 2968 emergency department visits, and 512 surgeries for an average-sized metropolitan statistical area (102).

Analysis of Medicare data show that increasing the number of primary care physicians in a state by one per 10,000 population is associated with an increase in that state's quality rank of more than 10 places and a reduction in overall spending of \$684 per Medicare beneficiary. In contrast, an increase of one non-primary care specialist per 10,000 population was found to result in a drop in overall quality rank of nearly 9 places and an increase in overall spending of \$526 per Medicare beneficiary (103).

In January 2005, the Council on Graduate Medical Education (COGME) recommended that:

The Nation undertake studies to track overall specialty-specific need, demand, and distribution and to share this information with the medical education and training community. Specialty-specific need and demand for physicians are likely to vary over time and by region. Therefore, a single national goal is inappropriate. Physicians should be encouraged to select specific specialties with shortages. This selection could be facilitated by providing physicians information on practice opportunities by specialties and, where appropriate, should be offered such fiscal incentives as loan repayment opportunities (93).

Insufficient and inadequate payment by Medicare and other payers is a key reason why primary care is in crisis. Measures as outlined above—increasing payments for evaluation and management services, paying for care management and care coordination, rewarding physicians for high-quality and clinically effective performance, and encouraging efficient models of health care delivery like the patient-centered medical home—would help to correct these payment disparities.

However, it could still take many years before these improvements in payment have a major impact on changing the physician workforce specialty mix. A student about to enter college in 2009 would not complete the minimum requirements for education and training to practice medicine until at least 2020. The educational path would involve 4 years of college, 4 years of medical school, and a minimum of 3 years of full-time clinical postgraduate residency training (minimum 7800 hours).

Control over the supply of different types of physicians is a characteristic of well-performing health care systems. In the United Kingdom and Canada, countries with single-payer systems, the government has leverage to manipulate the health care workforce supply, including controlling both training capacity and employment opportunities. In the U.S., the federal government's primary policy for influencing physician supply is through Medicare reimbursement of graduate medical education residency training positions. The federal government also provides limited funding to support primary care training programs (Title VII) and scholarship programs with service obligations, such as the National Health Service Corps, Uniformed Services, and Indian Health Service.

One lesson that ACP learned from comparing the U.S. health care system with health care systems in other countries is that societal investment in the education of health care professionals not only reduces costs to students but "can also help achieve a health care workforce that has the right proportion of primary care physicians and subspecialists, is well trained, and is large enough to ensure access to care" (11). Concerted action is needed now to avert the impending crisis in primary care. Otherwise, the supply of primary care physicians will be insufficient to meet increasing demand. ACP believes that general internists, who provide long-term, comprehensive care in the office and the hospital, managing both common and complex illness of adolescents, adults, and the elderly, should be a crucial component of a high-functioning primary care system.

Recommendations

28. Congress should charge a federal agency to convene an advisory group of experts on physician workforce. The advisory group should include representatives of national membership societies representing primary care physicians, nursing, physician assistants, and consumer and patient advocacy groups. It should also develop specific and measurable goals on the numbers and proportions of primary care physicians and other clinicians needed to meet current and future demands for primary care, including those associated with expansions of coverage.
29. Congress should strategically lift restrictions on the number of residency training positions that Medicare can reimburse for the direct and indirect costs of graduate medical education to encourage increased opportunities for the training of physicians in primary care.
30. The Federal government should design and implement policies to produce immediate and measurable increases in primary care workforce capacity and to improve the training environment for the primary health care professions.
31. Appropriations should be increased for scholarship and loan repayment programs under Title VII and the National Health Services Corps to increase the number of positions available to physicians who agree to train in a primary care specialty and complete a reasonable primary care service obligation. New pathways to eliminate debt should be created for internists, family physicians, and pediatricians who meet a service obligation in a critical shortage area or facility.

ACP recommendations regarding a national workforce policy are also provided in greater detail in the position paper, *Creating a New National Workforce for Internal Medicine* (104).

Cost Driver: Administrative Costs

International data for 2005 indicate that the U.S. spends 7.5% of total national health expenditures on health administration and insurance costs; Germany spent 5.6% and Canada spent 4.2% (105). In 2002, private insurance companies spent more on administration (12.8%) than Medicare (3%) and Medicaid (6.7%) (106). Medicare's low administrative costs are due to the relative lack of advertising and marketing expenses and fewer employees per beneficiary. For private payers, 64% of administrative expenses are for product design, underwriting and marketing (9). The large variety of insurers (both public and private) place large administrative burdens on hospitals and physicians, especially for billing.

A recent study in *Health Affairs* based on a national survey found that physicians reported spending 3 hours a week interacting with plans, and nursing and clerical staffs spent even more time. The study estimated that the value of the time practices spend interacting with health plans is \$23 billion to \$31 billion each year. For primary care practices, this translates to an average cost of \$64,859 annually per physician, or nearly one third of the income plus benefits of the average primary care physician, regardless of the size of the practice. For practices primarily comprising other medical specialists or surgeons, the costs were even higher; for all U.S. office-based practices, the average cost of dealing with health plans is \$68,274 per physician per year (107).

The United States spends nearly six times the OECD average on administrative costs. The unique and complex multipayer system in the U.S. involves health care claims administered by Medicare, 50 distinct and independently administered state Medicaid programs, and private commercial payers. Most OECD countries have public single-payer systems, which do not incur all the costs of advertising and marketing, actuarial costs, premium collection, claims processing, and profits associated with numerous competing commercial plans. Administrative and regulatory costs are said to account for over \$300 billion per year, or 24% of all health care expenditures, in the United States (108). However, these estimates are also very controversial. They include estimates of costs of insurance advertising and profits. There are also disputes about the extent of the costs shifted to physicians and other providers of health care in completing administrative paperwork and otherwise complying with insurance and regulatory requirements. Nevertheless, intrusive and often irrational administrative, regulatory review, and paperwork burdens increase the operating expenses of physician's offices and add to rising health care costs (109).

Options for Controlling Administrative Costs

Reducing paperwork, claims processing, and regulatory requirements could yield tremendous savings in the costs of health care. In a 1998 policy paper on the topic of hassles created by insurers, ACP found that physicians are spending more time on insurance paperwork and less time seeing patients; physicians believe that insurers question their professional judgment too often; and physicians have been forced to hire additional personnel to keep up with the abundant paperwork created by insurance hassles (110).

These problems persist today, and physicians frequently complain that administrative burdens have gotten much worse. Micromanagement of evaluation and management services and documentation requirements are a particular problem.

Recommendations

32. **Congress should request that the Institute of Medicine or another appropriate entity conduct a comprehensive assessment of administrative, paperwork documentation, and medical review requirements imposed on physicians by federal regulatory agencies, public and private health plans and state governments. This study should determine the amount of time typically required by physicians to meet such requirements and identify specific strategies to reduce the time required. Particular attention should be given to the administrative burdens imposed on primary care physicians, such as micromanagement of E&M documentation.**
33. **Congress should enact legislation to:**
 - a. **Require that any new regulatory requirements that would create added costs to physician practices be accompanied with funding to offset such costs and establish a moratorium on any new regulations that would create additional unfunded costs to physician practices.**
 - b. **Simplify and shorten the physician enrollment process under Medicare by allowing physicians to use external databases to submit demographic and credentialing information required to establish and maintain Medicare participating physician status.**

- c. Study "real-time" adjudication of claims for physician services.
 - d. Study opportunities to collaborate with private sector relief and simplification efforts.
 - e. Test models that eliminate documentation requirements for E/M services, pre-authorizations, retrospective medical utilization review, and other regulatory and paperwork requirements for physician practices that qualify as PCMHs or that participate in other designed programs where the performance of such practices are measured based on quality, efficiency, and patient satisfaction metrics.
34. Health insurance forms should be uniform across insurers, (e.g., a single durable medical equipment approval form, a single referral form).
 35. An online platform should be established in which all benefit information, forms, formularies, and prior approval information could be accessed and completed online with as little disruption to medical practices as possible.
 36. A standard physician credentialing and re-credentialing form should be used, with the input of practicing physicians in the development of the form. The universal credentialing form should be linked to an electronic database so the re-credentialing form can be prepopulated with previously submitted data from the physician.
 37. Health insurance companies should be required to disclose fully and uniformly the portion of health care premiums that is spent on administration, including the percentage of premium dollars allocated to marketing, claims processing, other administrative expenses, profits, and reserves as well as the payment for covered benefits.

Cost Driver: Professional Liability And Defensive Medicine

Allegations of medical errors often are the basis for malpractice lawsuits. To protect themselves from such lawsuits, physicians purchase professional liability insurance. U.S. doctors currently pay an average of \$27,500 per year for medical malpractice insurance coverage (111).

Defensive medicine is a term given to the provision of medical tests and procedures that are ordered or performed more to protect physicians from lawsuits than as value-added services for patients. To reduce the risk of being sued, with consequent damage to their professional reputation, and the aggravation and costs of resolving malpractice disputes, some physicians perform tests and procedures in an effort to demonstrate that they have taken all actions that might be considered appropriate. This response to fear of malpractice litigation is believed to account for many excessive tests and procedures that are unnecessary or have minimal medical benefit.

Average malpractice jury awards escalated from about \$347,000 in 1997 to \$637,000 in 2006 (112). Accordingly, professional liability insurance premiums also rose dramatically, although average premiums have stabilized or declined modestly since 2006 (113). The health insurance industry estimates that medical liability costs and defensive medicine account for 10% of health insurance premium charges (114).

Higher malpractice awards and premiums have been associated with higher Medicare spending, especially for imaging services that are often believed to be driven by physicians' fears of malpractice litigation. A 60% increase in average malpractice premiums between 2000 and 2003 was found to be associated with an increase in total Medicare spending of \$16.5 billion, \$7.1 billion of which was for physician services (115).

In a position paper issued by ACP in 2003, the College stated:

The existing professional liability insurance system is in desperate need of repair. While the U.S. medical malpractice system is designed to compensate and deter medically induced injury, the current system does not deter physician negligence, provide timely compensation to injured patients, or resolve disputes fairly in favor of the injured party. Additionally, there is growing concern that physicians are defensively altering their professional practices by refusing to take certain high-risk patients and ordering medically unnecessary tests for their patients in order to protect themselves in the case of a lawsuit (116).

Options for Controlling Costs from Professional Liability and Defensive Medicine

Tort Reform

Tort reform could reduce the amount of defensive medicine, malpractice litigation costs, and subsequently the cost of medical professional liability insurance. Reductions in malpractice insurance costs could, in turn, lead to lower charges for health care services and procedures, prompting further savings from lower rates for health insurance premiums.

Estimates of the costs of defensive medicine vary. A leading study estimated that limiting unreasonable awards for noneconomic damages could reduce health care costs by 5% to 9% without adversely affecting quality of care (117). Based on this study, the Department of Health and Human Services estimated that tort reform could save \$60 to 108 billion in health care costs each year (118).

In 1975, California enacted legislation known as MICRA (Medical Injury Compensation Reform Act) in response to insurance companies either discontinuing medical liability insurance coverage within the state or drastically increasing premiums. MICRA reforms included a \$250,000 cap on noneconomic damages (i.e., pain, suffering, loss of consortium), eliminating the collateral source rule that prohibited consideration of other payments plaintiffs receive for the same injury, limits on attorney fees, and allowing periodic payments for future damages. Consequently, the availability of liability insurance in California was assured, and subsequent liability premium in California increased at slower rates than in other states.

In 2003, voters in Texas passed a constitutional amendment limiting malpractice awards for noneconomic damages to \$250,000. As a result, malpractice insurance rates for physicians in Texas have fallen each year since 2003. The largest professional liability insurer, the Texas Medical Liability Trust, has also paid policy holders annual dividends (22.5% in 2009) (119).

Federal legislation reflecting both the California and the Texas reforms has been introduced in Congress since 2005, but has yet to be enacted. ACP has supported the following provisions:

- \$250,000 limit on noneconomic awards
- Unlimited recovery for future medical expenses and loss of future earnings (economic) damages
- Limitations on punitive damages
- Periodic payment of future damages
- Elimination of double payment of awards (collateral sources)
- A reasonable statute of limitation on claims
- A sliding scale for attorney's contingency fees
- Proportionate liability among all parties

The College strongly believes that a cap on noneconomic damages is the most effective way to stabilize malpractice insurance premiums and should be the centerpiece of any legislative proposal to reform the medical professional liability insurance system. ACP is opposed to limits on economic damages and only favors reforms that will not deny injured patients appropriate redress for physician negligence. ACP contends that defendants should remain jointly liable for all economic losses, such as medical bills and lost wages, but should be held liable only for their own portion of the noneconomic and punitive damages (116). ACP also favors use of alternative means of dispute resolution for professional liability cases. Accordingly, ACP supports the use of demonstration projects to determine the effectiveness of health courts. Also known as "medical courts," these courts offer a specialized administrative process where judges, experienced in medicine and guided by independent experts, determine contested cases of medical negligence without juries (120).

Most recently, the nonpartisan Congressional Budget Office (CBO) found that enacting professional liability reform would reduce federal direct spending for Medicare, Medicaid, the Federal Employees Health Benefits Program (FEHBP), and other federal health benefits programs. CBO identified medical liability reforms that also included limiting medical malpractice awards to \$250,000 for noneconomic damages; capping awards for punitive damages at \$500,000; replacing the joint-and-several liability rule so that liability awards reflect only the defendant's share of responsibility; and allowing evidence on income from collateral sources. CBO estimates that these tort reforms would reduce overall health care spending and save the federal government approximately \$1.6 billion over 5 years and about \$4.3 billion over 10 years (36).

Recommendations

38. Further studies should be done on the value of professional liability insurance reforms, including no-fault systems, enterprise liability, the bifurcation of jury trials, raising the burden of proof, shorter statutes of limitation on claims, and elimination of joint and several liability claims.
39. Professional liability reforms should be considered at both the state and federal levels including allowing periodic payments of future damages over \$50,000, establishing sliding scales for attorneys' fees, and giving states flexibility to develop Alternative Dispute Resolution programs, including health courts.
40. Legislation should be enacted to establish \$250,000 caps on noneconomic damages for professional liability cases.
41. Offsets for collateral source payments should be allowed in professional liability cases.
42. Physicians should be immune from patient malpractice claims of "failure-to-inform" for appropriately administered treatments provided by physicians in conjunction with documented patient-shared decision-making.

Cost Driver: Declining Health Status and Demographics

As the baby boomer generation ages, the U.S. will have a larger proportion of adults ages 65 and older. Recent data from the Centers for Disease Control and Prevention (CDC) show that the number of visits to physician offices and hospital outpatient and emergency departments increased by 26% from 1996 to 2006, faster than the growth of the U.S. population, which rose by 11%. According to the CDC, "The rise in visits can be linked to both the aging of the population, as older people have higher visit rates than younger people in general, and an increase in utilization by older persons." It further observed, "Over the past 36 years, the percent of hospital inpatients who were 65 years of age and older grew from 20% in 1970 to 38% in 2006. Over the same time period, the percent of inpatients who were 75 years of age and older grew from 9 percent to over 24 percent"(87).

The implications of an aging population are especially profound for the Medicare program. The highest percentage of Medicare expenditures is for the very elderly, reflecting their increasing share of the Medicare population. In 2005, Medicare per capita expenditures were \$5,390 for beneficiaries ages 65 to 74, \$8,561 for those 75 to 84, and \$11,026 for those 85 and older. Medicare spending also is strongly associated with self-reported health status. Medicare beneficiaries who report being in poor health account for a disproportionate share of Medicare spending. Most beneficiaries report relatively good health. Only 9% report poor health, but they account for 19% of Medicare spending (121). Although the aging of the U.S. population is often cited as a major driver of rising health care costs, a recent review of the literature compiled for the Synthesis Project indicates that demographics, such as aging, account for a very small percentage of the growth in health care spending. The review found, "Despite differences in methodologies, studies consistently conclude that aging has not been a major factor in driving health care spending and will not become one, despite aging baby boomers." Aging was found to contribute less than 0.7 percentage points per year of the 9.9% average annual rate of growth in health care spending between 1960 and 2006 (12). Studies that accounted for high

spending during the last year of life and projected a continuing trend of increasing life expectancy concluded that the impact of aging was even lower. Instead, advancing medical technology and the application of new technologies without restrictions linked to effectiveness was seen as the primary health care cost driver. Other more powerful cost drivers were found to be increasing rates of obesity, changing patterns of obesity treatments, and inefficiencies of the health care system.

CBO also acknowledges that aging is not the key driver of health care spending. It estimates that less than one fifth of the projected growth in Medicare and Medicaid spending is due to aging of the population. CBO attributes most of the growth to increased utilization (122).

Approximately 35% of U.S. health care costs (\$737 billion in 2006) are related to modifiable health risks (123). Use of tobacco products costs the U.S. more than \$180 billion annually in health care bills and lost productivity (124). Lifetime health care costs for individuals who smoke are \$17,500 higher than for those who do not smoke (125). Obesity is responsible for at least \$90 billion per year in direct health care costs (126). Smoking causes 462,000 deaths each year, and obesity causes 216,000 deaths annually (127). Poor nutrition, lack of exercise, smoking, other behavioral choices, and lack of preventive care contribute to or exacerbate many chronic diseases.

Nearly half (45%) of all Americans (133 million people) have a chronic medical condition, such as cancer, hypertension, heart disease, pulmonary disease, and diabetes, and about half of these, 60 million people, have multiple chronic conditions (128). By 2015, an estimated 150 million Americans are predicted to have one or more chronic conditions (87). Twenty four million Americans have type 2 diabetes and another 54 million are prediabetic (at high risk for diabetes) (129, 130). Between 1996 and 2006, the percentage of visits to hospital outpatient departments made by adults 18 years and older with chronic diabetes increased by 43% and visits involving chronic high blood pressure increased by 51% (87). Chronic diseases account for 7 in 10 deaths, more than 75 cents of every dollar spent on health care, and nearly two thirds of the growth in health care spending over the past 20 years (131).

The costs of chronic disease are staggering, especially for the public programs of Medicare and Medicaid. Chronic diseases account for 96% of Medicare expenditures and 83% of Medicaid spending (132). The highest-cost patients have 3 or more comorbid conditions and high rates of hospitalization. Five percent of Medicare beneficiaries account for 43% of the program's overall spending, and the costliest 25% of beneficiaries account for about 85% of outlays (36). In addition to these direct costs, the U.S. economy loses \$1 trillion a year in indirect costs from lost productivity as workers suffer from chronic diseases themselves, or care for a loved one who is ill (133).

A recent study found that the U.S. is moderately sicker, on average, than populations in Japan, Germany, France, Italy, Spain, and the UK. It concludes that the U.S. has a slightly greater prevalence of cardiovascular disease, infections, cancer, and CNS and inflammatory and pain-related diseases, which results in approximately \$12 to \$14 billion in additional health care costs (9).

Health behavior is estimated to affect 40% to 50% of morbidity and mortality in the United States. A study of national health expenditures found that approximately 56% of the increase in health care spending between 1987 and 2000 was attributable to the 15 most costly conditions. Of these, heart disease, pulmonary conditions, mental disorders, cancer, and trauma accounted for approximately 31% of the increase in spending. Much of the increase was due to rising numbers of treated cases (e.g., treatment for mental disorders doubled,

and the number of cases of pulmonary disorders increased 50%). Cost per treated case, rather than increased prevalence, accounted for most of the growth in spending for 8 of the 15 conditions with the largest increase in spending. Population growth also was found to account for 19% to 35% of the growth in spending for the top 15 conditions. The authors concluded that these conditions accounted for much of the increase in health spending and emphasized the importance of developing interventions designed to reverse the increase in disease prevalence (134). It should be noted, however, that some expenses attributed to health care costs, such as those associated with treatment of mental disorders, may result in increased worker productivity and fewer workdays lost due to illness, thus yielding net savings to the overall economy.

Although the diagnosis of chronic disease has been rising, many chronic diseases remain undiagnosed (e.g., 33% of the 18 million Americans estimated to have diabetes are undiagnosed). Even when diagnosed, chronic illnesses are often not well-controlled. Only about one third (31%) of Americans with hypertension have it under control, another third (34%) are treated but their disease is not controlled, 11% are aware that they have hypertension but are not under treatment, and 24% are undiagnosed (135).

Risk factors like obesity are also on the rise. Since 1980, obesity rates have increased 250%, now affecting 71 million Americans. Obesity in the U.S. is 2 to 3 times as common as in some other industrialized countries and underlies a wide range of serious chronic medical conditions. Obesity has reached rampant proportions in the U.S., with only one third of the U.S. population now being of normal weight. BMI data for the U.S. show over 64% of U.S. adults are classified as obese (BMI \geq 30) or overweight (BMI between 25 and 29.9) (136). The prevalence of obesity has increased by 61% in the past decade and has shown no sign of slowing down. Much of this increase has been among younger individuals, including children, with grave implications for the future. It is predicted that 1 in 3 children born in 2000 will develop diabetes over the course of their lives, given current trends in overweight and obesity.

Health care costs of obese workers are up to 21% higher than those of nonobese workers. Obese and physically inactive workers also suffer from lower productivity, increased absenteeism, and higher worker's compensation claims. Health care costs from obesity are estimated to be \$92.6 billion per year, accounting for 9.1% of total U.S. health expenditures (137) and 12% of the growth in health care spending (12). As the prevalence of obesity has increased in the U.S., it is expected that obesity will likely overtake tobacco as the leading preventable cause of mortality (138).

The Partnership to Fight Chronic Disease warns,

If current U.S. health trends continue, the results could be catastrophic for future generations, the health care system and the economy. Without immediate focus on prevention, the direct and indirect costs of chronic diseases are predicted to grow substantially. Research has shown that, if left unchecked, chronic conditions will cost the U.S. economy over \$4.1 trillion annually in treatment expenditures and lost economic output by the year 2023. Certain diseases, like heart disease and cancers, will be the most costly (133).

*Options for Controlling Costs from Declining Health Status and Demographics
Wellness, Prevention, and Chronic Disease Management*

The U.S. health care system focuses on treating disease rather than on prevention. According to the World Health Organization (WHO), prevention is the most cost-effective method of reducing chronic disease among at-risk persons. WHO notes that worldwide "up to 80% of heart disease, stroke, and type 2 diabetes and over a third of cancers could be prevented by eliminating shared risk factors, mainly tobacco use, unhealthy diet, physical inactivity and the harmful use of alcohol." (139) Many can be avoided or caught at an early stage through preventive health care, such as diagnostic screenings.

Michael D. Parkinson, MD, MPH, FACPM, former President of the American College of Preventive Medicine, referred to these data and suggested, "That's just to start. We would also generate savings equivalent to 3-4 times the medical care costs of chronic illness through improved worker performance and productivity" (133).

Many of the most costly conditions could be avoided through the adoption of healthier life styles. Behavioral changes, such as smoking cessation, adopting a healthy diet, avoiding overeating, exercising, reducing stress, and obtaining appropriate mental health care can have a tremendous effect on health and the utilization health care services. Asthma and other pulmonary diseases could be reduced by reductions in smoking and improvements in both indoor and outdoor air quality; diabetes and heart diseases also could be reduced by diet and exercise.

Programs to promote personal responsibility for health, such as promoting healthy living (better diet, more physical activity, and tobacco cessation) are being adopted by some employers to improve employee productivity and to restrain health care costs. Currently, 77% of major U.S. employers offer formal health and wellness programs, and 71% of them offer incentives to promote healthy behaviors (140).

Nevertheless, far too little is being invested in improving Americans' health and effectively preventing and managing common and costly chronic health problems. Many past and existing policies may have inadvertently contributed to poor health habits. Agricultural subsidy policies designed to aid farmers result in the cheap availability of fructose from corn, but since fructose is converted to fat more easily and faster than glucose, it contributes to rising obesity rates. Zoning laws that discourage pedestrian transportation and the loss of regular gym classes at many of our schools may also play a role in rising obesity rates. Employers give 15 minute "smoking breaks" to smokers twice a day, but do not support "walking breaks" for those who want to remain fit.

A recent study found that investment of \$10 per person per year in evidence-based community programs to increase physical activity, improve nutrition, and prevent tobacco use could save \$16 billion a year within 5 years—a return of \$5.60 for every \$1 invested (141). These disease prevention programs include providing increased access to affordable nutritious foods; increasing sidewalks, parks, and recreational facilities in communities; and raising tobacco tax rates. The Commonwealth Fund estimates that increasing the current cigarette tax from \$.39 to \$2.39 could generate savings of \$190.5 billion over 10 years (27). The aggregate potential savings from living healthier lifestyles could amount to at least three quarters of a trillion dollars per year (123).

Recommendations

43. Encourage individuals to take responsibility for their own health through exercise, preventive care, healthy diets and nutrition, and other health-promotion activities. ACP supports efforts to evaluate the effectiveness of wellness programs and to encourage employers to purchase benefit packages that include cost-effective wellness care. ACP also advocates that Medicare should provide coverage for preventive care, including appropriate screening services.
44. Federal and state funding for health promotion, public health activities, and support of the public health infrastructure should increase.
45. Public policy should support steps to increase the health and wellness of the population, promote changes in unhealthy behaviors, and reduce the burden of chronic disease, such as obesity, diabetes, and smoking-related illnesses. Steps should include ending agricultural subsidies for products harmful to health, such as tobacco, increasing taxes on tobacco products, and strengthening regulation of the marketing and labeling of tobacco products. Revenue from such measures should be used to promote healthy nutrition, smoking cessation, and obesity prevention as well as to promote healthy nutrition and physical education in our schools and communities. Policies should promote community planning that supports walking, bicycling, and other physical activities for healthy lifestyles.
46. Public and private health insurers should encourage preventive health care by providing full coverage, with no cost-sharing, for preventive services recommended by an expert advisory group, such as the U.S. Preventive Services Task Force.
47. Employers and health plans should fund programs proven to be effective in reducing obesity, stopping smoking, deterring alcohol abuse, and promoting wellness and providing coverage or subsidies for individuals to participate in such programs.

Conclusion

This paper identifies and analyzes the key drivers of health care costs. For each key cost driver, the College has offered recommendations to achieve reductions. We submit that savings can be achieved by reducing inappropriate utilization of services and encouraging clinically effective care based on comparative effectiveness research. A national workforce policy is needed to ensure an appropriate physician workforce specialty mix, but to achieve this we must pay appropriately for health care services and encourage adoption of innovative models of health care delivery, such as the Patient-Centered Medical Home. Administrative costs and costs from medical malpractice resulting in defensive medicine practices must be reduced. Perhaps most important, cost savings can be achieved by encouraging patients to take active responsibility for their health by promoting wellness, prevention, participation in chronic disease management, changing unhealthy behaviors, and increasing cost-consciousness.

None of our recommendations in isolation will solve all of the problems besetting our health care system. However, meaningful cost reductions can be achieved without sacrificing quality or decreasing access to health care. In fact, cost controls must be accomplished in order to expand access and to achieve health care reform. The experience in Massachusetts has shown that increasing coverage alone does not solve the problem of access or costs. Ensuring a sufficient supply of primary care physicians offers great promise toward improving access, cutting costs, and improving quality, but to accomplish this, payment reforms are necessary, as are other measures, such as expansion of student loan and debt-forgiveness programs, to attract and retain physicians to careers in primary care.

1. **Orszag PR.** Increasing the Value of Federal Spending on Health Care. Testimony to Committee on the Budget U.S. House of Representatives, July 16, 2008. Accessed at www.cbo.gov/ftpdocs/95xx/doc9563/07-16-HealthReform.1.2.shtml on 4 December 2008.
2. **Reinhardt UE, Hussey PS, Anderson GF.** U.S. health care spending in an international context. *Health Aff (Millwood)*. 2004;23:10-25.
3. **Hartman M, Martin A, McDonnell P, Catlin A, National Health Expenditure Accounts Team.** National health spending in 2007: slower drug spending contributes to lowest rate of overall growth since 1998. *Health Aff (Millwood)*. 2009;28:246-61.
4. **Centers for Medicare & Medicaid Services.** Office of the Actuary, National Health Statistics Group. National Health Expenditure Projections 2007-2017. Accessed at www.cms.hhs.gov/NationalHealthExpendData/Downloads/proj2007.pdf on 7 August 2008.
5. **Centers for Medicare & Medicaid Services.** Office of the Actuary, National Health Statistics Group. National Health Expenditure Data, Historical. The Nation's Health Dollar, Calendar Year 2007: Where It Went. Accessed at www.cms.hhs.gov/NationalHealthExpendData/downloads/PieChartSourcesExpenditures2007.pdf
6. **Congressional Budget Office.** The Long-Term Outlook for Health Care Spending. November 2007. Accessed at www.cbo.gov/ftpdocs/87xx/doc8758/11-13-LT-Health.pdf on 28 August 2008.
7. **State Health Access Data Assistance Center (SHADAC), University of Minnesota School of Public Health.** At the Brink: Trends in America's Uninsured. A State-by-State Analysis. Robert Wood Johnson Foundation, March 2009. Accessed at www.rwjf.org/files/research/20090324ctu.pdf on 24 March 2009.
8. **Organisation for Economic Co-operation and Development.** OECD Health Data 2008: Frequently Requested Data. Accessed at www.oecd.org/document/16/0,2340,en_2649_37407_2085200_1_1_1_37407,00.html on 21 August 2009
9. **Angrisano C, Farrell D, Kocher B, et al.** Accounting for the Cost of Health Care in the United States. San Francisco: McKinsey Global Institute; January 2007.
10. **Davis K, Schoen C, Schoenbaum SC, et al.** Mirror, Mirror on the Wall: An Update on the Quality of American Health Care Through the Patient's Lens. The Commonwealth Fund. April 2006. Accessed at www.cmwf.org/publications/publications_show.htm?doc_id=364436 on 9 August 2009.
11. **American College of Physicians.** Achieving a High Performance Health Care System with Universal Access: What the United States Can Learn From Other Countries. Philadelphia: American College of Physicians; 2007. Accessed at www.acponline.org/advocacy/where_we_stand/policy/highperf_hc.pdf on 7 August 2009.
12. **Goodell MA, Ginsburg PB.** High and rising health care costs: demystifying U.S. health care spending. Robert Wood Johnson Foundation. Research Synthesis Report No. 16. October 2008. Accessed at www.rwjf.org/files/research/101508.policysynthesis.costdrivers.brief.pdf on 3 August 2009.
13. **The International Network of Agencies for Health Technology Assessment.** Accessed at www.inahta.org on 17 August 2006.
14. **Kaiser Family Foundation.** How Changes in Medical Technology Affect Health Care Costs. March 2007. Accessed at www.kff.org/insurance/snapshot/chcm030807oth.cfm on 3 August 2009.
15. **Cutler DM, McClellan M.** Is technological change in medicine worth it? *Health Aff (Millwood)*. 2001;20:11-29.
16. **Orszag PR.** The Long-Term Budget Outlook and Options for Slowing the Growth of Health Care Costs. Statement before the Committee on Finance United States Senate, 17 June 2008. Accessed at www.cbo.gov/ftpdocs/93xx/doc9385/06-17-LTBO_Testimony.pdf on 4 December 2008.
17. **Nexon D.** Health Care Costs: A View from the Medical Technology Industry. Advanced Medical Technology Association. Presentation at The Synthesis Project Briefing on High and Rising Costs: Demystifying U.S. Health Care Spending. Washington, DC, 15 October 2008. Accessed at www.rwjf.org/files/research/101508.davidnixonpresentation.pdf on 3 August 2009.

18. **Learning What Works Best: The Nation's Need for Evidence on Comparative Effectiveness in Health Care.** Institute of Medicine. Accessed at [www.iom.edu/Object.File/Master/43/376/Comparative%20Effectiveness%20White%20Paper%20-%20ES%20\(F\).pdf](http://www.iom.edu/Object.File/Master/43/376/Comparative%20Effectiveness%20White%20Paper%20-%20ES%20(F).pdf).
19. **Bodenheimer T.** High and rising health care costs. Part 2: technologic innovation. *Ann Intern Med.* 2005;142:932-7.
20. **Docteur E, Suppanz H, Woo J.** The US Health System: An Assessment and Prospective Directions for Reform. Economics Department Working Papers No. 350. Organisation for Economic Co-operation and Development. February 2003. Accessed at [www.oecd.org/olis/2003doc.nsf/LinkTo/NT00000EAE/\\$FILE/JT00140050.PDF](http://www.oecd.org/olis/2003doc.nsf/LinkTo/NT00000EAE/$FILE/JT00140050.PDF) on 3 August 2009.
21. **Perry S.** Special report. The brief life of the National Center for Health Care Technology. *N Engl J Med.* 1982;307:1095-100.
22. **Institute of Medicine.** Assessing Medical Technologies. Washington, DC: National Academy Press; 1985:2.
23. **Mendelson DN, Abramson RG, Rubin RJ.** State involvement in medical technology assessment. *Health Aff (Millwood).* 1995;14:83-98.
24. **Davis K.** Slowing the growth of health care costs—learning from international experience. *N Engl J Med.* 2008;359:1751-5.
25. **Congressional Budget Office.** Research on the Comparative Effectiveness of Medical Treatments. Washington, DC: Congressional Budget Office; December 2007. Accessed at www.cbo.gov/ftpdocs/88xx/doc8891/MainText.3.1.shtml on 8 December 2008
26. **American College of Physicians.** Strategies to Increase Research and Information on Comparative Clinical Effectiveness. Statement for the Record of the Hearing of the House Ways and Means Committee Subcommittee on Health. 12 June 2007. Accessed at www.acponline.org/advocacy/where_we_stand/medicare/cetestimony.pdf on 3 August 2009.
27. **Schoen C, Guterman S, Shih A, Lau J, Kasimow S, Gauthier A, et al.** Bending the Curve: Options for Achieving Savings and Improving Value in U.S. Health Spending. The Commonwealth Fund. December 2007. Accessed at www.commonwealthfund.org/Content/Publications/Fund-Reports/2007/Dec/Bending-the-Curve--Options-for-Achieving-Savings-and-Improving-Value-in-U-S--Health-Spending.aspx on 3 August 2009.
28. **Wolf V.** Value-based benefits: the silver bullet for health care costs? *Pittsburgh Post Gazette.* 5 February 2008. Accessed at www.post-gazette.com/pg/08036/854716-28.stm on 27 January 2009.
29. **Hirth RA, Greer SL, Albert JM, Young EW, Piette JD.** Out-of-pocket spending and medication adherence among dialysis patients in twelve countries. *Health Aff (Millwood).* 2008;27:89-102.
30. **Pharmaceutical Research and Manufacturers of America.** R&D Spending by U.S. Biopharmaceutical Companies Reaches Record \$58.8 Billion in 2007 [Press release] 24 March 2008. Accessed at www.phrma.org/news_room/press_releases/us_biopharmaceutical_companies_r%26d_spending_reaches_record_%2458.8_billion_in_2007/ on 4 December 2008.
31. **Placement, Coordination, and Funding of Health Services Research Within the Federal Government.** Washington, DC: Academy Health; 2005. Accessed at www.academyhealth.org/publications/placementreport.pdf on 4 December 2008.
32. **Institute of Medicine.** HHS in the 21st Century: Charting a New Course for a Healthier America. December 2008. Accessed at www.iom.edu/Object.File/Master/60/744/HHS%20report%20brief.pdf on 15 December 2008
33. **American College of Physicians.** Information on cost-effectiveness: an essential product of a national comparative effectiveness program. *Ann Intern Med.* 2008;148:956-61.
34. **American College of Physicians.** Improved Availability of Comparative Effectiveness Information: An Essential Feature for a High-Quality and Efficient United States Health Care System. Philadelphia: American College of Physicians; 2008. Accessed at www.acponline.org/advocacy/where_we_stand/policy/healthcare_system.pdf on 3 December 2008

35. **Orszag PR.** Increasing the Value of Federal Spending on Health Care, testimony, Congressional Budget Office, July 16, 2008: Accessed at www.cbo.gov/ftpdocs/95xx/doc9563/07-16-HealthReform.1.2.shtml on 4 August 2009
36. **Congressional Budget Office.** Budget Options Volume 1: Health Care. December 2008. Accessed at www.cbo.gov/doc.cfm?index=9925 on 18 December 2008.
37. **American Recovery and Reinvestment Act of 2009 (H.R. 1).** Accessed at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:h1enr.pdf on 27 May 2009.
38. **Institute of Medicine.** Initial National Priorities for Comparative Effectiveness Research, 2009. Accessed at www.iom.edu/CMS/3809/63608/71025.aspx on 7 August 2009.
39. **Institute of Medicine.** To Err is Human: Building A Safer Health System. Washington, DC: Institute of Medicine; November 1999.
40. **DerGurahian J.** Patient-safety events common: HealthGrades study. ModernHealthcare.com. Accessed at www.modernhealthcare.com/apps/pbcs.dll/article?AID=/20090407/REG/304079969/0 on 8 April 2009.
41. **Institute of Medicine.** Crossing the Quality Chasm: A New Health System for the 21st Century. Washington, DC: Institute of Medicine; March 2001. U.S. Department of Health and Human Services.
42. **Information for Health: A Strategy for Building the National Health Information Infrastructure.** Report and Recommendations from the National Committee on Vital and Health Statistics. 15 November 2001.
43. **Hillestad R, Bigelow J, Bower A, et al.** Can electronic medical record systems transform health care? Potential health benefits, savings, and costs. *Health Aff (Milwood)*. 2005;24:1103-1117>>.
44. **Mongan JJ, Ferris TG, Lee TH.** Options for slowing the growth of health care costs. *N Engl J Med*. 2008;358:1509-14.
45. **The Robert Wood Johnson Foundation.** Current levels of EHR adoption: what do we know? In: *Health Information Technology in the United States: The Information Base of Progress*. Princeton, NJ: Robert Wood Johnson Foundation; 2006:26.
46. **Institute of Medicine.** Key Capabilities of an Electronic Health Record System: Letter Report. Washington, DC: National Academies Press; July 2003.
47. **Jha AK, Ferris TG, et al, How common are electronic health records in the United States? A summary of the evidence.** *Health Aff (Milwood)*. 2006;25:w496-w507.
48. **Brailer D.** Complete the Work on Health Information Technology. *Health Affairs Blog*. 14 January 2009. Accessed at <http://healthaffairs.org/blog/2009/01/14/complete-the-work-on-health-information-technology/> on 27 January 2009.
49. **American College of Physicians.** E-Health and Its Impact on Medical Practice. Philadelphia: American College of Physicians; 2008. Accessed at www.acponline.org/advocacy/where_we_stand/policy/ehealth.pdf on 3 August 2009
50. **American College of Physicians.** The Changing Face of Ambulatory Medicine—Reimbursing Physicians for Computer-Based Care. Philadelphia: American College of Physicians; 2003. Accessed at www.acponline.org/ppvl/policies/e000920.pdf on 3 August 2009.
51. **The Dartmouth Institute for Health Policy and Clinical Practice.** An Agenda for Change: Improving Quality and Curbing Health Care Spending: Opportunities for the Congress and the Obama Administration. December 2008.
52. **Center for Medicare & Medicaid Services.** National Health Expenditures Fact Sheet. Personal Health Care Expenditures Aggregate, Per Capita Amounts, and Percent Distribution, by Source of Funds: Selected Calendar Years 1970-2007. Accessed at www.cms.hhs.gov/NationalHealthExpendData/25_NHE_Fact_Sheet.asp#TopOfPage on 19 March 2009.

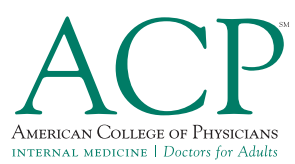
53. **Tu HT, Ginsburg PB.** Benefit Design Innovations: Implications for Consumer-Directed Health Care. Center for Studying Health System Change. Issue Brief No. 109, February 2007. Accessed at www.hschange.org/CONTENT/913/#top on 19 March 2009.
54. **Cunningham PJ, Miller C, Cassil A.** HSC 2007 Health Tracking Household Survey. In: : Living on the Edge: Health Care Expenses Strain Family Budgets. Research Brief 10, December 2008. Center for Health System Change. Accessed at www.hschange.com/CONTENT/1034/ on 19 March 2009.
55. **Stanton MW.** The High Concentration of U.S. Health Care Expenditures. Research in Action. Issue 19, June 2006. Accessed at www.meps.ahrq.gov/mepsweb/data_files/publications/ra19/ra19.pdf on 3 August 2009.
56. **Crimmel BL, Taylor AK, Zawacki AM.** Changes in Co-pays for Employer-Sponsored Health Insurance Plans, 1999-2003. Statistical Brief No. 127. Agency for Healthcare Research and Quality. Accessed at www.meps.ahrq.gov/mepsweb/data_files/publications/st127/stat127.pdf on 5 September 2006.<
57. **Neuman T, Cubanski J, Damico A.** Revisiting "Skin in the Game" Among Medicare Beneficiaries: An Updated Analysis of the Increasing Financial Burden of Health Care Spending from 1997 to 2005. Kaiser Family Foundation. February 2009. Accessed at www.kff.org/medicare/upload/7860.pdf on 3 August 2009/.
58. **Newhouse JP.** Free For All? Lessons from the RAND Health Insurance Experiment. Cambridge, Massachusetts: Harvard Univ Pr; 1993.
59. **Trude S.** Patient Cost Sharing: How Much Is Too Much? Issues Brief No. 72. Center for Health System Change. December 2003.
60. **O'Connor AM, Stacey D, Entwistle V, Llewellyn-Thomas H, Rovner D, Holmes-Rovner M, et al.** Decision aids for people facing health treatment or screening decisions. Cochrane Database Syst Rev. 2003;CD001431. [PMID:<\!s>12804407]
61. **Washington Becomes First State to Endorse Shared Medical Decision Making [Press release].** Red Orbit News. 2 May 2007. Accessed at www.redorbit.com/news/display/?id=922404 on 30 December 2008.
62. **Lubitz JD, Riley GF.** Trends in Medicare payments in the last year of life. N Engl J Med. 1993;328:1092-6.
63. **Fisher ES.** Variations in the Costs and Quality of Medical Care: Is More Always Better? Table 38: Clinical Care Cost, Utilization, and Quality in America's Health Rankings 2006. United Health Foundation. Accessed at www.unitedhealthfoundation.org/download/ahrcomments/Fisher-2006.pdf on 12 December 2006.
64. **O'Reilly KB.** Defective directives? Struggling with end-of-life care. American Medical News. 5 January 2009. Accessed at www.ama-assn.org/amednews/2009/01/05/prsa0105.htm on 6 January 2009.
65. **American College of Physicians.** Making Decisions Near the End of Life. ACP Policy Compendium. Philadelphia: American College of Physicians; July 2008. Accessed at www.acponline.org/ppvl/policies/e000880.html on 4 August 2009
66. **American College of Physicians.** Opposition to Physician Participation in Assisted Suicide. ACP Policy Compendium. Philadelphia: American College of Physicians; July 2008. Accessed at www.acponline.org/ppvl/policies/e000127.doc on 3 August 2009.
67. **Institute of Medicine.** Health Planning in the United States: Issues in Guideline Development, Report of a Study. Washington, DC: National Academy of Sciences; 1980.
68. **Nichols LM, Ginsburg PB, Berenson RA, Christianson J, Hurley RE.** Are market forces strong enough to deliver efficient health care systems? Confidence is waning. Health Aff (Millwood). 2004;23:8-21.
69. **Sorrel AL.** Massachusetts now applying CON rules to surgery centers. American Medical News. 12 January 2009. Accessed at www.ama-assn.org/amednews/2009/01/12/gvsb0112.htm on 12 January 2009.

70. **Ginsburg P, Pham HH, McKenzie K, Milstein A.** Distorted Payment System Undermines Business Case for Health Quality and Efficiency Gains. Center for Studying Health System Change. Issue Brief No. 112; July 2007. Accessed at www.hschange.org/CONTENT/937/ on 3 August 2009.
71. **Medical Group Management Association.** Cost Survey for Single-Specialty Practices: 2008 Report Based on 2007 Data. Englewood, Colorado; Medical Group Management Association; 2008.
72. **Merritt Hawkins and Associates.** 2008 Review of Physician and CRNA Recruiting Incentives. Accessed at www.merrithawkins.com/compensation_surveys.cfm on 15 January 2009.
73. **AAMC Medical School Graduation Questionnaires: All Schools Summary Report 2000-2006, Choice of Specialty/Subspecialty.** 2007. Accessed at www.aamc.org/data/gq/allschoolsreports/2007.pdf on 10 October 2008.
74. **Colwill JM, Cultice JM, Kruse RL.** Will Generalist Physician Supply Meet Demands of an Increasing and Aging Population? *Health Aff (Millwood)*. 2008;27: w232-w241.
75. **Association of American Medical Colleges.** The Complexities of Physician Supply and Demand: Projections Through 2025. Washington, DC: Association of American Medical Colleges; 2008. Accessed at https://services.aamc.org/Publications/showfile.cfm?file=version122.pdf&prd_id=244&prv_id=299&pdf_id=122 on 11 November 2008.
76. **Starfield B, Shi L, Macinko J.** Contribution of primary care to health systems and health. *Milbank Q*. 2005;83:457-502.
77. **American College of Physicians.** How Is a Shortage of Primary Care Physicians Affecting the Quality and Cost of Medical Care? Philadelphia: American College of Physicians; 2008. Accessed at www.acponline.org/advocacy/where_we_stand/policy/primary_shortage.pdf on 3 August 2009.
78. **American College of Physicians.** The Advanced Medical Home: A Patient-Centered, Physician-Guided Model of Health Care. Philadelphia: American College of Physicians; 2006. Accessed at www.acponline.org/advocacy/where_we_stand/policy/adv_med.pdf on 6 January 2009.
79. **American College of Physicians.** A System in Need of Change: Restructuring Payment Policies to Support Patient-Centered Care. Philadelphia: American College of Physicians; 2006. Accessed at www.acponline.org/advocacy/where_we_stand/policy/change.pdf on 6 January 2009.
80. **Pham HH, Schrag D, O'Malley AS, Wu B, Bach PB.** Care patterns in Medicare and their implications for pay for performance. *N Engl J Med*. 2007;356:1130-9.
81. **Pham HH, O'Malley AS, Bach PB, Saiontz-Martinez C, Schrag D.** Primary care physicians' links to other physicians through Medicare patients: the scope of care coordination. *Ann Intern Med*. 2009;150:236-42.
82. **Bodenheimer T.** Coordinating care—a perilous journey through the health care system. *N Engl J Med*. 2008;358:1064-71.
83. **Davis K.** Paying for care episodes and care coordination [Editorial]. *N Engl J Med*. 2007;356:1166-8.
84. **American College of Physicians.** Reforming Physician Payments to Achieve Greater Value in Health Care Spending. Philadelphia: American College of Physicians; 2009. Accessed at www.acponline.org/advocacy/where_we_stand/policy/pay_reform.pdf on 1 June 2009.
85. **Medicare Payment Advisory Commission.** Reforming the Health Care Delivery System. Report to Congress, 2008. Accessed at www.medpac.gov/documents/Jun08_EntireReport.pdf on 7 August 2009.
86. **Fujisawa R, Lafortune G.** The Remuneration of General Practitioners and Specialists in 14 OECD Countries: What Are the Factors Influencing Variations Across Countries? Organisation for Economic Cooperation and Development. OECD Health Working Papers No. 41. 2008. Accessed at www.oecd.org/dataoecd/51/48/41925333.pdf on 29 June 2009.
87. **Centers for Disease Control and Prevention.** Americans Made Over 1 Billion Hospital and Doctor Visits in 2006 [Press release]. 6 August 2008. Accessed at www.cdc.gov/media/pressrel/2008/r080806.htm on 7 August 2008.

88. **Organisation for Economic Cooperation and Development.** Pharmaceutical Pricing Policies in a Global Market. Accessed at www.oecd.org/document/44/0,3343,en_2649_37407_41382764_1_1_1_1,00.html on 6 July 2009.
89. **Peterson CL, Burton R.** U.S. Health Care Spending: Comparison with Other OECD Countries. Congressional Research Service. 17 September 2007. Accessed at http://assets.opencrs.com/rpts/RL34175_20070917.pdf on 3 August 2009.
90. **Danzon PM, Furukawa MF.** Prices and Availability of Pharmaceuticals: Evidence from Nine Countries. *Health Aff (Millwood)*. 29 October 2003; 10.1377/hlthaff.w3.521114. Schoen C, Guterman S, Shih A, Lau J, Kasimow S, Gauthier A, et al. Bending the Curve: Options for Achieving Savings and Improving Value in U.S. Health Spending. The Commonwealth Fund. December 2007. Accessed at www.commonwealthfund.org/Content/Publications/Fund-Reports/2007/Dec/Bending-the-Curve--Options-for-Achieving-Savings-and-Improving-Value-in-U-S--Health-Spending.aspx on 3 August 2009.
91. **American College of Physicians.** Prescription Drug Importation as a Policy Option to Lower the Cost of Medications in the U.S. Philadelphia: American College of Physicians; 2005. Accessed at www.acponline.org/ppvl/policies/e001083.pdf on 3 August 2009
92. **American College of Physicians.** ACP Policy Compendium. Drugs: Medicare Prescription Drug Coverage (reaffirmed by Board of Regents, 1999). Philadelphia: American College of Physicians.
93. **Council on Graduate Medical Education.** Physician Workforce Policy Guidelines for the United States, 2000-2020. Sixteenth Report, January 2005. Accessed at <http://cogme.gov/report16.htm#sumrec> on 8 January 2009.
94. **Hauer KE, Durning SJ, Kernan WN, Fagan MJ, Mintz M, O'Sullivan PS, et al.** Factors associated with medical students' career choices regarding internal medicine. *JAMA*. 2008;300:1154-64.
95. **Baron RJ.** The chasm between intention and achievement in primary care. *JAMA*. 2009; 301:1922-4.
96. **American College of Physicians.** ACP Supports the "U.S. Physician Shortage Elimination Act." Letter to The Honorable John Conyers Jr, U.S. House of Representatives. 16 October 2006. Accessed at www.acponline.org/advocacy/where_we_stand/workforce/psea_house.pdf on 7 July 2009.
97. **Starfield B, Shi L.** Policy relevant determinants of health: an international perspective. *Health Policy*. 2002;60:201-18.
98. **Parchman ML, Culler S.** Primary care physicians and avoidable hospitalizations. *J Fam Pract*. 1994;39:123-8. Rosenblatt RA, Wright GE, Baldwin LM, Chan L, Clitherow P, Chen FM, et al. The effect of the doctor-patient relationship on emergency department use among the elderly. *Am J Public Health*. 2000;90:97-102. [PMID:<!\s>10630144]
99. **Menec VH, Sirski M, Attawar D.** Does continuity of care matter in a universally insured population? *Health Serv Res*. 2005;40:389-400.
100. **Kruzikas DT, Jiang HJ, Remus D, Barrett ML, Coffey RM, Andrews R.** Preventable Hospitalizations: A Window into Primary and Preventive Care, 2000. Rockville, Maryland: Agency for Healthcare Research and Quality; 2004. AHRQ Publication No. 04-0056.
101. **Starfield B.** Personal communication. 2 July 2009.
102. **Kravet SJ, Shore AD, Miller R, Green GB, Kolodner K, Wright SM.** Health care utilization and the proportion of primary care physicians. *Am J Med*. 2008;121:142-8.
103. **Baicker K, Chandra A.** Medicare spending, the physician workforce, and beneficiaries' quality of care. *Health Aff (Millwood)*. 2004;Suppl Web Exclusives:W184-97.
104. **American College of Physicians.** Creating a New National Workforce for Internal Medicine. Philadelphia: American College of Physicians; 2006. Accessed at www.acponline.org/advocacy/where_we_stand/policy/im_workforce.pdf on 3 August 2009

105. **Commonwealth Fund.** Percentage of National Health Expenditures Spent on Insurance Administration, 2005. National Scorecard on U.S. Health System Performance, 2008 (using Organisation for Economic Co-operation and Development Health Data 2007). Accessed at www.commonwealthfund.org/Content/Charts/Report/Why-Not-the-Best--Results-from-the-National-Scorecard-on-U-S--Health-System-Performance--2008/P/Percentage-of-National-Health-Expenditures-Spent-on-Insurance-Administration--2005.aspx on 3 August 2009.
106. **Levit K, Smith C, Cowan C, Sensenig A, Catlin A; Health Accounts Team.** Health spending rebound continues in 2002. *Health Aff (Millwood)*. 2004;23:147-59.
107. **Casalino LP, Nicholson S, Gans DN, Hammons T, Morra D, Karrison T, et al.** What does it cost physician practices to interact with health insurance plans? *Health Aff (Millwood)*. 2009;28:w533-43.
108. **Woolhandler S, Campbell T, Himmelstein DU.** Costs of health care administration in the United States and Canada. *N Engl J Med*. 2003;349:768-75.
109. **American College of Physicians.** Revitalizing Internal Medicine: Recommendations for Resolving Payment and Practice Hassle Issues. Philadelphia: American College of Physicians; 2003. Accessed at www.acponline.org/ppvl/policies/e000919.pdf on 3 August 2009.
110. **American Society of Internal Medicine.** America's Reducing the Managed Care Hassle Factor. Washington, DC: American Society of Internal Medicine; 1998.
111. **Fuchs VR, Sox HC Jr.** Physicians' views of the relative importance of thirty medical innovations. *Health Aff (Millwood)*. 2001;20:30-42.
112. **Physician Insurers Association of America.** PIAA Claim Trend Analysis: 2006 edition. Rockville, Maryland: Physician Insurers Association of America; 2007.
113. **Sorrel AL.** Liability premium outlook improves as many physicians see lower rates. *American Medical News*. 29 December 2008. Accessed at www.ama-assn.org/amednews/2008/12/29/prl11229.htm on 29 December 2009.
114. **America's Health Insurance Plans.** PricewaterhouseCoopers Report: The Factors Fueling Rising Healthcare Costs. PricewaterhouseCoopers; 2006.
115. **Baicker K, Fisher ES, Chandra A.** Malpractice liability costs and the practice of medicine in the Medicare program. *Health Aff (Millwood)*. 2007;26:841-52.
116. **American College of Physicians.** Reforming the Medical Professional Liability Insurance System. Philadelphia: American College of Physicians; 2003. Accessed at www.acponline.org/ppvl/policies/prof_lib.pdf on 3 August 2009. Position Paper.
117. **Kessler D, McClellan M.** Do doctors practice defensive medicine? *Q J Econ*. 1996;353-390.
118. **U.S. Department of Health and Human Services.** Confronting the new health care crisis: improving health care quality and lowering costs by fixing our medical liability system. 24 July 2002. Accessed at <http://aspe.hhs.gov/daltcp/reports/litrefm.htm> on 3 August 2009.
119. **Rizo C.** Damage cap credited for drop in Texas malpractice premiums. *Legal Newsline.com*. 5 September 2008. Accessed at www.legalnewsline.com/news/215496-damage-cap-credited-for-drop-in-texas-malpractice-premiums on 24 March 2009.
120. **American College of Physicians.** Exploring the Use of Health Courts: Addendum to "Reforming the Medical Professional Liability Insurance System." Philadelphia: American College of Physicians; April 2006. Accessed at www.acponline.org/ppvl/policies/health_courts.pdf on 3 August 2009.
121. **Medicare Payment Advisory Commission.** Health Care Spending and the Medicare Program: A Data Book, 2008. Washington, DC: Medicare Payment Advisory Commission; 2008.
122. **Orszag PR, Ellis P.** The challenge of rising health care costs---a view from the Congressional Budget Office. *N Engl J Med*. 2007;357:1793-5.

123. **Anderson DR, Whitmer RW, Goetzel RZ, Ozminkowski RJ, Dunn RL, Wasserman J, et al; Health Enhancement Research Organization (HERO) Research Committee.** The relationship between modifiable health risks and group-level health care expenditures. Health Enhancement Research Organization (HERO) Research Committee. *Am J Health Promot.* 2000; 15:45-52.
124. **Campaign for Tobacco-Free Kids.** About the Campaign. Accessed at www.tobaccofreekids.org/organization on 1 August 2008.
125. **Campaign for Tobacco-Free Kids.** Fact Sheet: Lifetime Health Costs of Smokers vs. Former Smokers vs. Nonsmokers. Accessed at [www.tobaccofreekids.org/research/fact sheets/pdf/0277.pdf](http://www.tobaccofreekids.org/research/fact%20sheets/pdf/0277.pdf) on 1 August 2008. www.tobaccofreekids.org/research/factsheets/pdf/0328.pdf
126. **Daviglus ML.** Health care costs in old age are related to overweight and obesity earlier in life. *Health Aff (Millwood).* 2005;24 Suppl 2:W5R97-100.
127. **Danaei G, Ding EL, Mozaffarian D, Taylor B, Rehm J, Murray CJ, et al.** The preventable causes of death in the United States: comparative risk assessment of dietary, lifestyle, and metabolic risk factors. *PLoS Med.* 2009;6:e1000058.
128. **Wu S, Green A.** Projection of Chronic Illness Prevalence and Cost Inflation. Santa Monica, California; RAND Corporation; October 2000.
129. **Centers for Disease Control and Prevention.** National Diabetes Fact Sheet: General Information and National Estimates on Diabetes in the United States, 2007. Atlanta: Department of Health and Human Services; 2008. Accessed at www.cdc.gov/diabetes/pubs/factsheet07.htm on 3 August 2009.
130. **American Diabetes Association.** Total Prevalence of Diabetes & Pre-diabetes. Accessed at <http://diabetes.org/diabetes-statistics/prevalence.jsp> on 1 August 2008.
131. **Thorpe KE.** The rise in health care spending and what to do about it. *Health Aff (Millwood).* 2005;24:1436-45.
132. **Partnership for Solutions.** Chronic Conditions: Making the Case for Ongoing Care. September 2004 Update. Robert Wood Johnson Foundation. Accessed at www.rwjf.org/files/research/Chronic%20Conditions%20Chartbook%209-2004.ppt on 15 December 2008.
133. **Partnership to Fight Chronic Disease.** Almanac of Chronic Disease 2008. Accessed at www.fightchronicdisease.org/pdfs/PFCD_FINAL_PRINT.pdf on 3 August 2009.
134. **Thorpe K, Florence CS, Joski P.** Which medical conditions account for the rise in health care spending? *Health Aff.* 25 August 2004: 10.1377/hlthaff.w4.437.
135. **Cutler D.** Alliance for Health Reform Novartis/NIHCM Briefing. 28 March 2008. Original source: National Health and Nutrition Examination Survey. Cited in Almanac of Chronic Disease 2008, Partnership to Fight Chronic Disease.
136. **National Centers for Health Statistics, Centers for Disease Control and Prevention.** Prevalence of overweight and obesity among adults: US,2008 Accessed at www.cdc.gov/nchs/products/pubs/pubd/hestats/obese/obse99.htm on 3 August 2009.
137. **Finkelstein EA, Fiebelkorn IC, Wang G.** National medical spending attributable to overweight and obesity: how much, and who's paying? *Health Aff (Millwood).* 2003;Suppl Web Exclusives:W3-219-26.
138. **Mokdad AH, Marks JS, Stroup DE, Gerberding JL.** Actual causes of death in the United States, 2000. *JAMA.* 2004;291:1238-45.
139. **World Health Organization.** 2008-2013 Action Plan for the Global Strategy for the Prevention and Control of Noncommunicable Diseases. Geneva: World Health Organization; 2008. Accessed at www.who.int/nmh/Actionplan-PC-NCD-2008.pdf on 12 December 2008.
140. **Capps K, Harey JB.** Employee Health & Productivity Management Programs: The Use of Incentives , A Survey of Major U.S. Employers. Lyndhurst, New Jersey: IncentOne; June 2007.
141. **Trust for America's Health.** Prevention for a Healthier America. July 2008. Accessed at <http://healthyamericans.org/reports/prevention08/Prevention08.pdf> on 3 August 2009.



Product #510291020