

Policy Options in Support of High-Value Preventive Care

A Prevention Policy Paper Commissioned by
Partnership for Prevention

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Executive Summary

A rapidly increasing prevalence of chronic disease has profound implications for the health and productivity of the American people. The rising burden of preventable illness threatens the nation's economy, major employers, federal and state governments, and the public.

This unsustainable situation is not inevitable. About 70% of chronic disease is potentially preventable. Key elements of personal and population prevention are supported by strong evidence of effectiveness. Opportunities to offer preventive care more efficiently are available through advances in information technology and a new understanding of the potential of care integration. However, misaligned incentives and fragmented systems thwart the use of disease prevention and health promotion strategies.

Therefore, we propose a model for integrated, effective preventive service delivery that could bring greater control over the costs and burden of disease and engage clinicians and the community as partners. The model highlights the opportunities to promote health and prevent disease through the shared efforts of individuals and families, medical practices, health care systems, and communities.

Promising policy opportunities exist within each of the domains in the model, particularly in cultivating integration at the interfaces among the efforts of people, practices, systems, and communities. Examples include policies to foster environments conducive to behavior change, offer financial incentives, reorganize the delivery system, supporting primary care, exploit information technology, and strengthen accountability for both evidence-based and relationship-centered care. Integrated efforts have great potential to enable our currently fragmented, depersonalized, and disease-oriented health care and public health systems to enhance motivation, build infrastructure, and improve communication and coordination to promote health.

These opportunities come at the cost of investing in an integrated infrastructure and cultivating key relationships among the clinical and public health sectors. But not acting to prioritize prevention poses a more ominous threat to the economy and the populace. The nation faces an impending perfect storm of an aging population, a rising prevalence of chronic diseases, and higher costs for drugs and other measures to treat those diseases. The downstream effects of the obesity epidemic and other modifiable risk factors heighten this threat. Prioritizing and supporting prevention can improve the health and productivity of Americans and the competitive engine of the American economy.

Note: The views expressed in this paper are those of the authors. They do not necessarily represent the views of Partnership for Prevention.

Introduction: Stating the Problem and the Potential

The Issue and the Opportunity for Change

Despite the fact that the United States spends 16% of its gross domestic product (GDP) on health care—more than any other industrialized nation—the U.S. ranks 37th in the world, between Costa Rica and Slovenia in the World Health Organization's (WHO) ranking of the effectiveness of health systems.¹ Disease and disability are doing more than harming the health of Americans. The costs of medical care and an unhealthy workforce are crippling the U.S. economy and its ability to compete in the world market.² Fortune 500 companies were projected to spend as much on health care benefit costs as they make in profits this year,³ and this forecast preceded the economic downturn. The government also is facing the effects of a low value system. Health care costs threaten the solvency of the Medicare program,⁴ and Medicaid is outpacing education as the largest state budget item.⁵ Business leaders, economic experts, elected officials, and others across society have come to recognize the serious societal consequences impending from growing disease rates and medical spending.

Preventing illness—a major attribute of a functional health care system—is not valued in the United States, but a focus on prevention could markedly alter the effectiveness of the U.S. health care system. In the current system, resources are heavily concentrated on treatment services for more advanced stages of disease, often for tests and procedures of uncertain effectiveness, while only 2-3% of health care dollars are expended on preventing the diseases that drive this spending.⁶ This characteristic of the U.S. health care system is dysfunctional and inefficient. Further, a lack of commitment to providing universal access to basic medical and preventive services delays the detection of diseases at more easily treated stages and is part of the reason for large disparities in health care and health.^{7,8}

This unsustainable situation is not inevitable. Some 70% of health care costs are from chronic diseases, many of which are potentially preventable.⁹ Fully 38% of all deaths can be prevented by modifying four health behaviors—tobacco use, physical inactivity, diet, and alcohol use.¹⁰ Early detection of diseases, immunization, and preventive medications also can be effective in reducing the frequency and severity of heart disease, cancer, and the other main causes of disease, death, and spending in the U.S. Prevention's aim is to help people live longer in good health and to forestall illness until late in life. This “compression of morbidity”^{11,12} has the potential to improve productivity and quality of life and reduce premature death rates.

Aside from its health benefits, spending on effective forms of preventive care makes *economic sense*. Although some forms of prevention do not provide a reliable return on investment, studies of highly effective preventive services conducted by academic institutions and business groups have documented their cost-effectiveness—and in some cases net cost savings.^{13,14,15,16,17,18} The ratio of dollars to health benefits (cost effectiveness ratio) for effective preventive services is much lower than for much of conventional medical care, producing greater health benefit per dollar spent.^{19,20}

Some preventive interventions involve work by individuals, such as personal efforts to eat a healthy diet, engage in physical activity, and practice safety measures to prevent injury. Other interventions involve groups, such as when programs enacted at the population level reduce the public's exposure to the causes of disease and injury or make it easier for people to make healthier

personal choices. Some preventive interventions (e.g., colonoscopy screening for colorectal cancer) occur in a clinical setting, where they are delivered by a health care professional; these are known as *clinical preventive services*.²¹ *Community preventive services*²² are implemented where people live, work, and go to school and include policies, programs, and services that aim to improve the health of the entire population or specific sub-populations. Investing in prevention means improving the quality and quantity of both clinical preventive services and community preventive services. Clinical and community preventive services are complementary.^{23,24} A doctor's advice to make a lifestyle change is of little good if the resources for change do not exist in the community. Patients can be advised to exercise regularly and eat well but may not succeed if there are no safe places to walk outside and no convenient supermarkets that offer healthy food choices.

Not all preventive services are effective,²⁵ and not all effective services offer good value on the dollar.^{16,19} Childhood immunizations and smoking cessation counseling save money, but this is not true for most preventive services. Nonetheless, a cadre of important, highly effective preventive services offers good *value* on the dollar: They cost less per unit health benefit than most forms of medical care. Beyond cost, the logic that it is better to prevent illness than to wait until people are sick and then try to catch up is compelling. Further, the scientific evidence for beneficial and cost-effective clinical and community preventive services has been documented for many years by several prestigious groups.

- The Task Force on Community Preventive Services provides authoritative evidence-based recommendations on programs and policies to promote population health outside the clinical setting.²⁶ Its publication, the *Community Guide*, summarizes what is known about the effectiveness, economic efficiency, and feasibility of interventions to promote community health.²²
- The U.S. Preventive Services Task Force (USPSTF) is highly regarded for providing regularly updated, unbiased, and scientifically valid recommendations on effective clinical preventive services.^{21,27}
- The National Commission on Prevention Priorities ranks the relative importance of recommended clinical preventive services on the basis of their cost-effectiveness and potential burden of disease prevented.^{15,28}

Together, these respected, trustworthy sources of scientific information provide reliable data on the savings—in lives, health, efficiency, and workforce productivity—of delivering effective preventive services. The body of evidence synthesized in these reports points to a direction we should be heading in.

But knowing what to do and marshalling the commitment and resources to do it are two different things. Many effective preventive services are delivered at low rates.²⁹ Americans receive only 55% of recommended preventive services,³⁰ and the rates of delivery for vulnerable populations are even lower.³¹ Ultimately, the gap in the provision of effective preventive services in the U.S. is costing lives. Table 1 shows the percent of eligible Americans currently receiving 11 clinical preventive services and how many additional quality-adjusted years of life would be saved by offering these services to 90% of eligible Americans. (Quality-adjusted life years discount years of life saved by the degree to which those years involve impairment from perfect health.)

Clinical Preventive Service	Current % Receiving Services Nationally	Quality-Adjusted Life Years Gained
Identification of smokers and brief counseling	35%	1,300,000
Aspirin chemoprophylaxis	~50%	590,000
Screening for colorectal cancer	35%	310,000
Influenza vaccination of adults	35% (age 50-64) 65% (age over 64)	110,000
Screening for breast cancer	68%	91,000
Screening & counseling for problem drinking	~50%	71,000
Vision screening among adults	~50%	31,000
Screening for cervical cancer	79%	29,000
Screening for Chlamydia infection	40%	19,000
Pneumococcal vaccination of adults	56%	16,000
Cholesterol screening	87%	12,000

Adapted from: Maciosek et al. Priorities Among Effective Clinical Preventive Services: Results of a Systematic Review and Analysis. Am J Prev Med 2006; 31:52-61.

Why Are Preventive Service Delivery Rates Low When Prevention Makes so Much Sense?

Hardly anyone is opposed to preventing disease and promoting health. But prevention is inadvertently devalued by the following issues:

- The natural tendency to focus on present crises over future potential;
- A lack of enabling infrastructure;
- Fragmented efforts by individuals and groups working on parts of the problem; and
- Unrealistic expectations about the future ability of new technology to obviate the need for rational decisions about the appropriate use of current resources.

Individuals and families who want to stay healthy face the challenge of making choices today about behaviors, screening tests, and immunizations that may prevent disease and disability in the future. They must make these choices despite cultural and commercial influences that sell fast food over healthy alternatives, harmful substances over healthful coping mechanisms, driving over walking and biking, quick money over education, and the latest pill over healthy behaviors.³²

The public is increasingly informed about matters that relate to health, health care, and disease prevention. At the same time, the information age provides nearly unbridled opportunities for manipulation of public and personal desires. Information and motivation can be used for good, as is done during public health campaigns for seat belt use or Web programs that help people monitor and maintain healthy eating habits and activity levels. But the ready availability and push of information can be harmful when it manipulates young people's perceptions of the acceptability

of tobacco, promotes drugs (licit and illicit) over healthy behaviors, or glamorizes driving and screen time over physical activity.

The idea of prevention meets with enthusiasm in health care but has difficulty fitting in, especially amidst a system designed and resourced for the task of reacting to acute complaints. Primary care clinicians^{33,34} and public health workers³⁵ view preventive services as an essential part of their vocation, but the cure of illness feels more urgent and compelling, a sentiment shared by the public and policymakers.³⁶ The result is a system that (often unintentionally) favors treatment over prevention, technology over relationships, and individual choice over the greater good. This environment sets up barriers to prevention throughout health care, but they are felt most intensely in the primary care setting, where most patients receive clinical preventive services and clinicians operate on the front lines³⁷ of a dysfunctional health care system.³⁸ The barriers include the following:

- Fragmented systems that focus on one service or disease at a time rather than integrating prevention around the larger health needs of people and communities;³⁹
- Lack of time amid competing demands^{40,41,42} in busy clinical practices and public health agencies (Time constraints are profound in primary care settings, where office visits average 10-15 minutes in length and patients present with a broad spectrum of acute and chronic care needs.)^{43,44}
- Lack of staff with whom to share the work;
- Misaligned financial incentives and reimbursement that favor illness care over prevention;
- Outmoded practice designs that work best for acute care but are not conducive to the more proactive approach needed for prevention and chronic disease management;^{38,45} and
- Isolation from resources outside the practice—in the local community and online—with which clinicians could partner to help patients obtain preventive care.^{23,46} (Physicians are often unaware of these programs and lack referral systems that would make it easy and fast to link patients to them, especially at “teachable moments”⁴⁷ of heightened interest in seeking prevention strategies.)⁴⁸

Unlike other Western countries, the U.S. has not supported primary care,⁴⁹ the setting where most people interact with the health care system and medicine has its greatest opportunity to intervene to prevent disease.³⁷ In addition, the U.S. lacks the infrastructure for patient-centered medical homes,⁵⁰ in which prevention is integrated with illness care and both prevention and medical care are provided within the context of a trusting relationship.

Further, the erosion of the public health infrastructure,⁵¹ which has received renewed attention amid concerns about bioterrorism and pandemic influenza, has also compromised the delivery of community preventive services. Public health departments and a variety of public and private community resources that help people pursue and maintain healthier lives operate in silos, isolated from the health care delivery sector. This fragmentation hampers the ability of either the public health or the medical sectors to accomplish as much to prevent illness, or to develop partnerships with others.⁴⁶ Programs operated by public health agencies, such as tobacco quit lines or health promotion campaigns, operate on sparse budgets that “go on the chopping block” in annual budget cycles and must increasingly give way to other budget priorities of state and local governments^{5,35}

Private insurers, employers, and federal and state governments, all of which pay for most health care, face their own set of barriers to pursuing prevention. Managers of health care organizations are constrained in prioritizing prevention because revenue centers and reimbursement are focused on disease care (treatments and procedures); they have a limited infrastructure and relationships do not permit leveraging with potential public health and community partners.^{46,52}

The Federal government—faced with an onerous budget deficit, political pressures to limit entitlement spending, and forecasts of an aging population that could deplete Social Security or Medicare programs of their resources—is under pressure to limit spending, not expand coverage. Yet expanded coverage is necessary to make prevention coverage adequate. Until recently, Medicare was not authorized to reimburse preventive care.⁵³ Recent legislation authorizes the Centers for Medicare & Medicaid Services (CMS) to cover (with the concurrence of the Medicare Evidence Development & Coverage Advisory Committee) preventive services for which the USPSTF has found strong evidence of efficacy, although some vaccines are excluded.

State governments face additional challenges, including the requirement to maintain balanced budgets, decreased revenue as a result of the current downturn in the economy, and a growing list of priorities—improving highways and schools, economic development, maintaining a social safety net, controlling tax rates, etc.—that compete with dollars for health care and the needs of the uninsured.⁵ Employers and other purchasers of health care, whose profits are jeopardized by rising health care costs, are shifting costs to workers and unions, limiting coverage benefits, and questioning the viability of employer-based health insurance. The long-term benefits of investing in prevention occur largely in the “out years,” when employees and health plan members are likely to have moved on to other markets.¹⁶

A less apparent, but potent, barrier to effective preventive service delivery is the fragmentation of efforts by agency, disease, age group, or body part. Smoking cessation is not an issue for one organ; it affects heart disease, cancer, lung disease, pregnancy, and children’s health, each of which has its own isolated program at the National Institutes of Health (NIH). Despite the potential symbiosis offered by addressing multiple health behaviors,⁵⁴ many programs focus on preventing one disease at a time. And despite the potential of integrative public health, worksite initiatives, and prevention in primary and secondary medical care, programs typically operate in isolation. No NIH center exists to deal holistically with the needs people face in adopting new behaviors, making more informed choices, or strengthening their relationship with their health care providers—all topics that cut across the categorical body system partitions by which NIH funding opportunities (and some CDC programs) are organized. The “silo” phenomenon is common, with each group working in a relatively uncoordinated manner on its part of the problem. These silos create a cacophony of well-intentioned programs that are difficult to access and operate inefficiently. As a result, they have as much potential to hamper each other as they do for synergy. The recent efforts by the American Cancer Society, the American Heart Association, and the American Diabetes association to harmonize their prevention efforts are a welcome exception.⁵⁵

Perhaps the most potent obstacle of all to making prevention central to health care reform is the strong counterincentives to maintaining the status quo. Critics of preventive services raise questions about whether they are effective or save money but—in what many describe as a double standard—no such expectations apply when lavish coverage is extended to expensive new diagnostic technologies or expensive treatments that have not proven their value over current approaches. A cynical explanation for this inconsistency is that disease treatment fuels lucrative industries in the United States, such as pharmaceutical companies and medical device

manufacturers, hospitals and professional organizations, all of which represent major employers, profit centers, and powerful political constituents. Preventing disease, by contrast, makes few fortunes. Society channels enormous resources into the development of new drugs and technologies for incremental gains that rarely compete with the sweeping health benefits from improved preventive care outlined in Table 1. But lives are lost as a result of this imbalance in priorities.^{56,57} Unfortunately, arguments about the public good face steep challenges in overcoming the dominant political dynamics that concentrate resources on spending for high-technology biomedical advances and product development.^{20,58,59,60}

Policy Options for Consideration

In other Partnership for Prevention policy papers in this series, Michael Maciosek and Ashley Coffield document the good value of preventive services compared to other public goods.⁶¹ In two related analyses, Douglas Kamerow identifies how redesigned benefits packages⁶² and modernized Medicare policies⁶³ can support prevention. The potential benefits from worksite programs,⁶⁴ public health agencies,⁶⁵ children's health reform,^{66,67} health impact assessments,⁶⁸ and federal agency reorganization⁶⁹ are discussed in other papers. These detailed analyses supplement Partnership's more general *Principles for Prevention-Centered Health Reform*⁷⁰ (see Appendix 1).

For this paper, we base policy recommendations on an analytic model shown in Figure 1. The model identifies five spheres of influence on the delivery of high-value preventive care:

- (1) The individual and family;
- (2) The health care delivery system;
- (3) The primary care practice as part of that system;
- (4) The community at large, and
- (5) Financing.

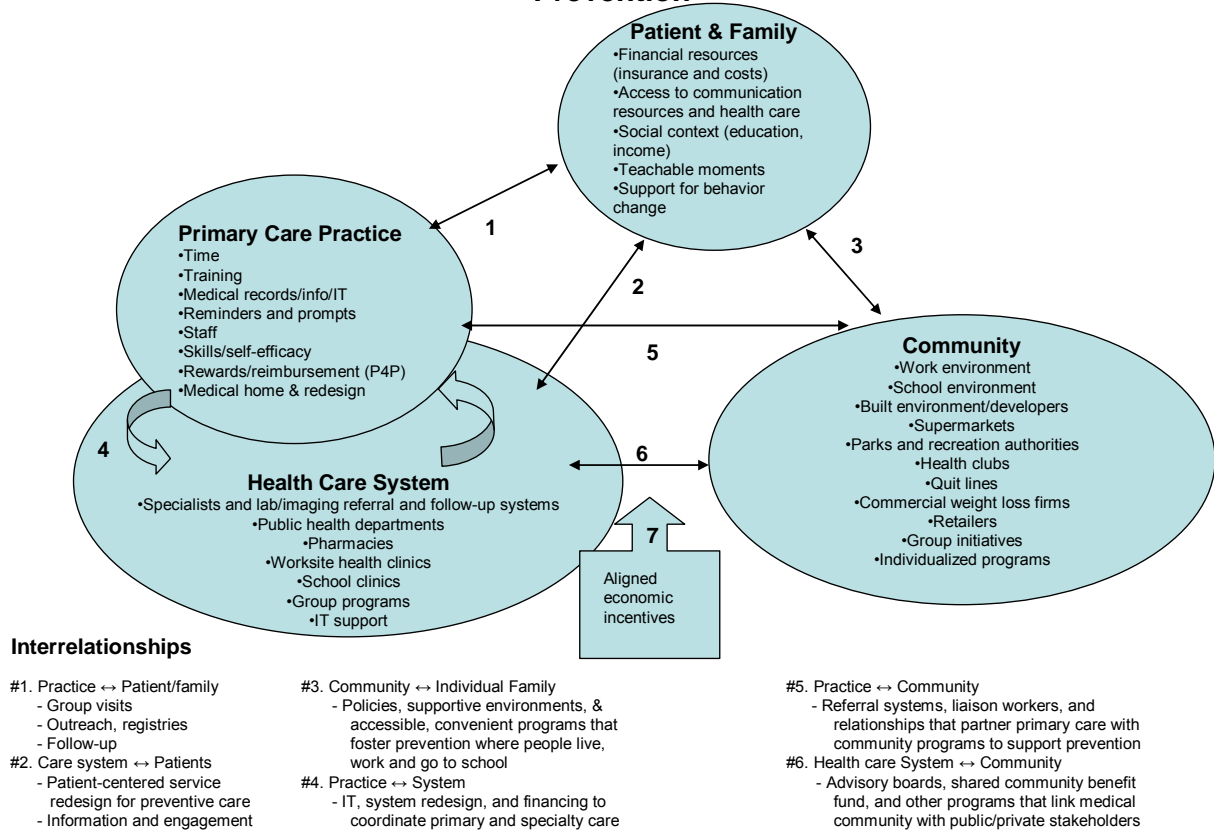
Figure 1 depicts examples of resource needs and issues within each domain that are known to affect health behavior change and receipt of preventive services. The model is designed to guide inclusive and integrative thinking about multiple, related lever points for increasing the impact of preventive service delivery.

Importantly, many of the most promising policy opportunities are at the *interface* between these domains; therefore, we emphasize these interactions as a vital sixth area in addition to the five domains listed above. The model emphasizes the highly interrelated nature of factors affecting preventive service delivery, making it crucial to have policies that enable interface, relationship, and coordination. The bidirectional arrows in Figure 1 show these necessary relationships, rapport, referral systems, and infrastructure upon which this interaction depends. Some of these relationships are essential and have become commonplace, as when a primary care physician refers a patient to a gastroenterologist for colonoscopy screening. Other interfaces are often rudimentary and undeveloped, as when clinicians seek assistance in helping patients adopt regular exercise routines.

Finally, it is important to note that none of these changes can occur without financial support. Payment reform is needed for prevention, primary care, and the integration of public

health and medical care. This final element completes the model of how to deliver preventive services, and it is explored in more detail later in this paper.

Figure 1: Model of Important Agents and Relationships for Disease Prevention



Below we outline policy options in each of the five domains, organized according to the key domains in the model. In general, these opportunities have the common themes of building motivation, enabling infrastructure, and fostering linkages across silos. None is a magic bullet by itself. Although some interventions are effective in isolation,^{71,72} the greatest^{71,73} and most sustainable⁷⁴ gains will generally come from integrated, multifaceted efforts —often involving multiple sectors of society outside the clinical setting. Interventions also must be tailored to the unique circumstances of individuals and communities.^{75,76}

The Individual and Family

The consumer movement, which empowers individuals to make more informed choices that suit their preferences, pervades most aspects of American life. It also is evident in health and health care. The public and patients want to be engaged. Americans want to be more informed and in more control over health options. This trend has special significance for health promotion and disease prevention. Unlike conventional medical care, where major aspects of decision-making and

action are controlled by health care professionals, most opportunities for disease prevention occur in the places where people live, work, and go to school. Individuals and families control their diets, activity levels, substance abuse, sexual practices, and so forth. Time spent interacting with health professionals represents a tiny proportion of their lives, and policies to help people adopt healthier lifestyles must reach them in convenient and accessible venues, in language they can understand, and with options that are feasible and affordable.

- **Promote policies that foster environments conducive to adopting and maintaining healthy behaviors and obtaining recommended preventive services.**

In today's society, messages about wellness compete with the more powerful influences of advertisers and media marketing of unhealthful products, fast foods, and convenience technologies, as well as local advertising for tobacco and alcohol products that is often targeted to minority and disadvantaged populations. At work, rarely do employers provide time off for exercise, offer membership to fitness centers as an employee benefit, or support worksite health promotion programs and wellness clinics. At school, children have unhealthy food choices on lunch menus and easy access to vending machines that sell calorie-dense food. In the community, neighborhoods often lack pedestrian routes or safe areas for engaging in outdoor activity.

Residents of disadvantaged communities face even more obstacles. They are often surrounded by fast foods outlets, have limited access to supermarkets with healthy food choices, and cannot afford the cost of such foods. Access to primary care clinicians and specialists who can provide preventive care is often limited. More intensive assistance—commercial weight loss classes, dietitians, trainers, smoking cessation services, for example—is rarely covered by insurance and is too costly for those with limited budgets. Clerics and programs at churches and lay health workers in the community can be more effective than clinicians in disseminating and reinforcing messages about preventive care, but support for their efforts is limited.⁷⁷

Policies that work to mitigate these conditions are essential to help individuals and families act on the recommendations they receive from physicians and public health. These policies include the following:

- Laws that restrict tobacco access to minors and raise tobacco prices;
- Community-wide support for physical activity, as well as school- and worksite-based physical activity programs;
- Vaccine requirements;
- Strategies for reducing out-of-pocket costs; and
- Using the principles of urban redesign to enhance the built environment of buildings, transportation, and public space for physical activity.^{22,78}

In addition, creating environments that support education, particularly in early childhood, may have especially profound, if indirect, effects in promoting health and preventing disease across the lifespan.⁷⁹ Because potential partners are diverse and include retailers, school systems, business groups, advertisers, media outlets, urban designers, developers, park authorities, voluntary associations, and faith-based organizations, policies that promote coalitions are more likely to be productive.⁶ Attention to the preventive health effects is needed at all levels of

government, and an examination of policies that may not on the surface appear to affect health needs to be undertaken.

- **Promote widespread dissemination of free personal health record technology that provides guidance in alignment with evidence-based recommendations for preventive care and healthy behaviors and interfaces with an interoperable electronic health record platform.**

A growing proportion of Americans use online resources to make choices across the domains of daily life. As a result, demand has grown for tools that provide the same control over choices in health care. Personal health records (PHRs)⁸⁰ are electronic tools used by the public to assess, monitor, and learn more about health issues. PHRs frequently include a database for tracking test results, body weight, and other health characteristics. Microsoft, Google, and other Internet service providers have recognized the growing demand for PHRs and have recently launched products for this purpose. PHRs can become a tool for facilitating evidence-based preventive care; for example, by helping users recognize when they are due for screening tests or immunizations, providing reminders and tracking functions to monitor progress in achieving benchmarks, and offering links to educational resources to learn more about preventive care. But adding these features will require that vendors be encouraged to build them into the products. In addition, they should be evidence-based; that is, the actions users are encouraged to take and the explanations they are given should be supported by evidence and reputable guideline panels. Corporate and individual tax incentives and interoperability standards are needed from the government, along with corporate emphasis to compete on features other than interoperability. Private health plans, as well as Medicare and Medicaid, can provide incentives for individuals to use technology as a way to encourage people to take control of healthy behaviors, screening, and immunization services recommended by the U.S. Preventive Services Task Force and the Advisory Committee on Immunization Practices (ACIP). Recommendations from the USPSTF and ACIP need to be translated into algorithms that can be incorporated into PHRs.

- **Offer financial incentives for people to adopt healthier behaviors and to obtain recommended clinical preventive services.**

Individuals and families may be more motivated to give up unhealthy behaviors and to obtain recommended tests and immunizations if there are financial incentives.^{81,82,83,84} These can include lower premiums for health insurance and other insurance products and cash rewards when appropriate. For example, the Opportunity NYC program in New York City offers families between \$100 and \$200 per member for obtaining preventive health screenings.⁸⁵ A growing number of employers and health plans offer members lower premiums or other financial incentives if they are non-smokers or maintain healthy body weights.^{86,87}

Health Care Delivery System

- **Expand access to fundamental care and coverage for the uninsured and under-insured**

(See the sections on Primary Care and Financing that follow.)

- **Reorganize the delivery system to support disease prevention.**

In a fragmented health care system, patients often have difficulties obtaining preventive care and acting on the advice they receive from clinicians. Paper-based records and non-interoperable electronic records create miscommunication about which tests patients have already received, leading to the inconvenience, cost, and potential danger associated with overtesting. Worksite and school clinics, public health departments, nursing homes, and emergency departments that could easily administer an overdue vaccination often have no way of knowing which immunizations a patient has already received because information from within the health care system is inaccessible. Health care systems often lack proactive procedures, such as registries, that can identify patients in need of services or that issue reminders when services are due; families are more likely to receive reminders from their veterinarian or car dealership. Patients who are referred for mammograms, appointments with specialists, procedures (e.g., colonoscopy), or behavioral counseling often encounter obstacles, such as confusion about which providers and services are covered, why they are needed, where to go, how to prepare, what to expect, and what the results mean. Few systems arrange to bring services to patients in places of convenience, such as the home, work, school, or the local pharmacy, and instead mandate delivery by appointment in a physician's office. Physicians are often unaware of community-based programs that can help their patients and lack easy means of referral.

Recent moves to modernize delivery systems for the care of chronic diseases have led to more progressive attitudes and new models of disease management that could be applied to preventive care; the proactive systems needed to foster preventive service delivery are similar to those needed for chronic illness care.⁸⁸ As articulated in the Chronic Care Model,⁸⁹ these systems attempt to bring together the community and health care system resources, policies, and organization in a coordinated manner to support self-management, delivery system redesign, patients' decision support, and clinical information systems. The goal is to support interactions between an informed, activated patient and a prepared, proactive practice team. Recently, this model has been extended beyond the medical context to encompass informed practice communities and community partners.⁹⁰ A health system organized to cater to the needs of patients would coordinate the work of primary care providers, specialists, hospitals, emergency departments, and pharmacies to help patients obtain the preventive services they need. Such a system also would coordinate with community partners, including public health agencies, quit lines, commercial weight loss companies, retailers, and others that can help facilitate patients' efforts to act on the advice physicians give. Health care payer incentives from both government and private insurance are needed to support the costs during the transition period as well as ongoing costs of an infrastructure that enables patients to receive both chronic disease management and preventive service delivery.

- **Disseminate and promote the work of the National Commission on Prevention Priorities to target high-yield preventive services for individuals, medical practices, health care systems, and payers. Expand this work to show the real and opportunity costs of medical and preventive services.**

The National Commission on Prevention Priorities¹⁵ ranks the relative health impact and cost effectiveness of the services recommended by the U.S. Preventive Services Task Force²¹ and other

groups. It has documented that preventive services with great potential to save lives and money are delivered at low rates in the U.S. Realigning priorities and reimbursement to emphasize the preventive services that offer the greatest health and economic benefits, while de-emphasizing unproven preventive and medical services, is an important step for both population health and the economy.

- **Require the Secretary of HHS to file annual reports on the state of primary care in the U.S., the integrity of the public health infrastructure, and the delivery of evidence-based clinical and community preventive services.**

Knowledge is power, and the first step in coordinating delivery of preventive services is for current delivery rates to be monitored at the national level. Information about rates of delivery of scientifically supported preventive services should be widely disseminated. The work of the Task Force on Community Prevention Services, the USPSTF, and the National Commission on Prevention Priorities provides an evidence-based template. The conditions that the primary care and public health infrastructure need to deliver services also must be monitored. These regular reports will help policymakers keep track of our ongoing investment in preventive services and the systems and research needed for improving their delivery.

- **Invest in the National Center for Health Statistics to provide serial data on preventive service delivery rates and the prevalence of modifiable risk factors among all Americans and priority populations.**

A key obstacle to annual reporting on service delivery rates is the lack of source data. The National Center for Health Statistics and the Department of Health and Human Services administer surveys, including the National Ambulatory Medical Care Survey and the Behavioral Risk Factor Surveillance System, to measure the delivery of some preventive services and the prevalence of behavioral risk factors, but these instruments address only a partial list of services recommended by the U.S. Preventive Services Task Force and other groups. The delivery of some preventive services is measured only for isolated years and not on an ongoing basis, which is needed to monitor temporal trends. Increased systematic reporting of health behaviors and preventive service delivery could motivate attention and focus efforts to promote health and prevent disease.

- **Develop a national authority to oversee improvements in coordinating health-related data and information technology.**

The free market ideal of allowing competition to drive innovation has produced great achievements in IT; unfortunately, many of these products lack interoperability and the ability to share comparable data. Better coordination in the collection and sharing of information can reduce costs, improve effectiveness, and enhance accountability in measuring performance.⁹¹ This can be accomplished by addressing the following priorities:

- Develop standards for classification and terminology that enable end users to share, merge, and compare data.
- Create interoperable interfaces between different IT products and systems.
- Remove the schism between data and IT systems for preventive services, those used for ordinary medical care, and those used by public health agencies. An informatics

infrastructure that enables knowing both persons and populations is critical. CMS should support health care systems and primary care practices, which have little capital, to invest in interoperable informatics infrastructure that can integrate primary care and population-based delivery of preventive services and chronic illness care. Subsidizing the transitional costs is needed to enable implementation of systems that support prevention and chronic disease management.⁹²

- Develop national standards for an online, accessible, and interactive prevention and health care record for every patient. The Continuity of Care Record^{93,94} is an example of such a document that provides easily exported critical information, such as a list of medical problems, medications, and allergies. The ability to open these records at the point of care should be a requirement for participation in Medicare. Work toward developing these standards is well underway through the Office of the National Coordinator for Health Information Technology and the American Health Information Community. These standards need to be implemented.
- **Engage medical software developers in a coordinated effort to standardize features.**

Currently, IT vendors find little incentive to incorporate prevention-oriented functions in medical software. Market demands do exist for electronic medical record systems that can track HEDIS indicators, and some products enable users to create templates for reminders and prompts about preventive services. Nonetheless, the functionality varies widely across products. The national authority described in the previous recommendation should engage vendors to include templates and models for addressing evidence-based clinical preventive services and key health behaviors. In addition, prompts and reminders, based on recommendations of the U.S. Preventive Services Task Force or similar groups, should be incorporated as an easy-to-use feature accessed routinely.⁹¹

Primary Care Practice

No sector within the health care system is better positioned to promote disease prevention than the primary care setting, where most clinical encounters occur. Primary care clinicians are trained to address the scope of health promotion issues and can blend these efforts with the care of other medical conditions that affect patients. International^{95,96} and U.S.⁹⁷ studies show that systems based on primary care produce better population health and help control spending. This added value may come in part from integrating, prioritizing, and personalizing the delivery of health care, along with the emphasis on health maintenance and prevention that is central to primary care.^{39,98} The infrastructure needed to support integrated and personalized preventive service delivery and chronic disease management in the primary care environment is articulated in the consensus document on the patient-centered medical home.^{99,100} Policies that can help primary care achieve its greatest impact in promoting preventive services include those that expand access to primary care among the underserved, a population with distinctly low rates of preventive care, and those that support system changes for all primary care settings, with the goal of improving the delivery, quality, and intensity of preventive services.

Access to Primary Care for the Underserved

- **Expand support for community health centers.**

Community health centers, in part because of their mandate to integrate care with community resources, have a remarkable track record of success in delivering preventive services and overcoming disparities.¹⁰¹ Expanded support can ensure continued success. The study and translation of the lessons from the community health center experience can serve as a model for other systems of care.^{102,103}

- **Expand funding for Title VII to reprise its success in the 1970s in training health professionals to provide primary and preventive care and a patient-centered medical home for the U.S. population.**

The Title VII program has a well-established history of promoting training of health care workers to care for the underserved.^{104,105} There is a tremendous opportunity to reenergize the primary care infrastructure by refocusing Title VII on training health care teams to lead the transition to advanced patient-centered medical homes,¹⁰⁶ as well as training physicians who specialize in preventive medicine and public health. A new program designed to support information technology, practice reorganization, and community linkage transitions needed to develop patient-centered medical homes also could reenergize primary care, which would help solve the impending primary care workforce crisis.

- **Triple the size of the National Health Services Corps and include health informatics experts as qualifying assignees**

The National Health Services Corps has been successful in providing basic medical care to underserved rural and urban communities.^{107,108} However, the immense needs and limited investment have trapped workers in a largely reactive approach to meeting the needs of those who already have advanced disease. Expansion of the Corps, incentives to enhance recruiting,¹⁰⁹ and the inclusion of informatics experts who can provide support for an enhanced infrastructure have great potential to improve prevention for those most in need.

- **Universal health care coverage**

Access to basic medical services, particularly primary care, for everyone is of vital importance if we are to increase access to preventive services and integrate prevention with care of acute and chronic illnesses at early stages, when treatment is more effective.

System Redesign to Improve the Delivery, Quality, and Intensity of Preventive Services

- **Implement the patient-centered medical home as a way to promote policies that support evidence-based approaches and to make it easier for providers to offer the right services to the right people at the right time.**

The patient-centered medical home is gaining tremendous momentum⁵⁰ as the platform for delivering and integrating preventive and illness care.¹¹⁰ It is an important component of President-elect Obama's plans for health care reform and has gained support from major professional organizations. In addition, it is the subject of pilot programs supported by CMS, professional societies, and major employers. The results of the first pilots are beginning to emerge, and others will be forthcoming beginning in 2009. The biggest advantage of the patient-centered medical home is that it provides a platform for prioritizing, personalizing, delivering, and selectively referring patients for needed preventive services. Studies have

documented a variety of methods that practices can use to improve the use of preventive services.^{71,76,111,112} These include reminder systems, prompts, and standing orders to help clinicians and patients recognize when preventive services are due; practice redesign (and coordination with community partners)^{113,114} to offer intensive behavioral counseling and coordinated screening and immunization; the use of group visits, team approaches, and other system changes to free up time for preventive care in ways that are financially viable; and skill building to enhance the competence of clinicians in their ability to offer preventive care.^{115,116,117,118,119,120} Table 2 summarizes the changes in clinical practices that should be implemented to reinforce prevention.

Table 2. Effective Strategies to Improve Delivery of Clinical Preventive Services
<ul style="list-style-type: none"> • Culture change among practice leadership and staff • Reminder systems for clinicians (e.g., prompts, flow sheets) • Reminders for patients (e.g., letters, e-mails) • Standing orders for practice staff • Feedback and audits • Organizational change (use of a planned care visit for prevention, opportunistic prevention, teamwork and collaboration, designation of non-physician staff to do specific prevention activities) • Patient financial incentives

- **Align financial incentives to reward the primary care clinician for delivering effective preventive services**
(See section on Financing for more information.)

Community

- **Invest in the public health infrastructure to support evidence-based community preventive services.**

The prevailing emphasis on biomedicine and the recent preoccupation of public health on bioterrorism have allowed the basic infrastructure for public health to decline.⁵¹ Moreover, the public health infrastructure, developed largely for a time when infections were the major killers, has not kept pace with the largely behavioral focus of current scientifically based preventive efforts. Investment is needed in the public health infrastructure so that the services identified as effective by the Community Task Force can be delivered. The payoff is likely to be substantial if these investments foster building an infrastructure that can work across multiple behaviors and diseases and be integrated with the medical care system. This can be accomplished by investment in the CDC and support of state and local health departments with block grants for basic infrastructure development.

- **Support coordination of community and clinical preventive service delivery.**

While clinicians struggle to offer preventive services in busy clinical encounters, a variety of resources in the community and online are available to help patients acquire more information—and the motivation—to change their behavior and obtain recommended screening tests and immunizations. Table 3 describes places in the community where such services are

available. However, these entities often operate without coordination. Systems for cross communication, as well as ways for the public to navigate their options, are not in place. Among medical practices, awareness of these resources is often incomplete or outdated, and procedures for referring patients may be too cumbersome to accomplish in the pressured clinical setting. To correct these problems, clearinghouse systems are needed so that all members of the community can obtain current information about available programs. In addition, streamlined referral systems are needed to make it easy and fast for clinicians to refer patients. Finally, employers and payers must be engaged to support use of such programs.¹²¹

Table 3. Community Sectors to Promote Healthy Behaviors and Use of Clinical Preventive Services

- **Employers:** Worksite health promotion programs, clinics, and occupational medicine specialists
- **Schools:** Initiatives with local school boards and individual schools to promote healthy menus, physical activity programs, and tobacco-free campuses
- **Faith-based organizations:** Outreach via church programs and community lay educators
- **Public health departments:** Immunization clinics, public education initiatives
- **Community centers:** Senior centers
- **Retailers:** Supermarkets, malls, restaurants, bars, theaters, hair salons
- **Sports facilities:** YMCA, private fitness centers, sports centers
- **Park authorities**
- **Volunteer organizations:** American Heart Association, American Cancer Society, American Lung Association
- **Services sponsored by government agencies or voluntary associations:** Tobacco cessation quit lines
- **Commercial and public weight loss and diet services:** Weight Watchers
- **Hospital systems and health plans:** Smoking cessation classes, screening and immunization services, telephone counseling
- **Specialty colleagues:** Screening strategies coordinated with gastroenterologists and imaging centers
- **News media:** Local broadcasters and newspapers
- **Advertisers:** Ad campaigns to promote healthy habits or early detection

- **Explore applying and expanding the Agricultural Extension Agent and Forestry Service models to help communities build collaborative linkages to foster prevention.**

Both clinicians and community programs are consumed with their work and rarely have the time or resources to methodically seek out each other and build the infrastructure for working collaboratively in an integrated fashion. An entity in each community that could serve as a catalyst for organizing these partners would likely achieve greater success, and the efficiencies that would result from more streamlined collaboration would probably offset the costs incurred by the organizing entity. Just as agricultural extension agencies¹²² were established throughout the country to help local farming communities address their challenges and have received longstanding federal funding to maintain this role, a similar network could be established (and financed by the government or a collective fund maintained by private purchasers and payers) to help communities organize and build the infrastructure needed to coordinate the delivery of health care. For example, such an entity might identify the weight-loss or smoking cessation resources and programs in the community; create a Web site for accessing details about the programs; hold meetings with practice groups, health systems, and local payers to streamline procedures and coverage policy for easy, fast referrals; and create procedures to sustain and update the arrangements over time as resources and coverage policies change.²⁴

Financing

Infrastructure support is vital but is likely to be insufficient without payment reform that supports prevention, primary care, and the integration of public health and medical care. These reforms should include blended payment comprising fee-for-service, rewards for serving as a patient-centered medical home, case mix-adjusted care management fees, and performance bonuses.¹²³ In addition, it should include short term-investment or incentives for IT and other infrastructure development.^{92,124}

- **Provide universal health insurance for the U.S. population.**

The challenge of covering the uninsured is beyond the scope of this report and is receiving extensive attention from policymakers and recently elected officials, including the president-elect. Among the onerous consequences of the rising number of Americans without adequate health insurance are growing shortfalls in the receipt of recommended preventive services. Studies show that families facing deductibles, especially those enrolled in consumer-driven health plans or those whose medical bills have become unaffordable, are more likely to forego needed screening tests and other recommended preventive services.^{81,82,125,126} The prevalence of smoking, obesity, and other behavioral risk factors is higher among populations that lack health insurance.³¹ Covering the uninsured is a major public health priority, and increased access to preventive care and its personal and societal benefits is an important aspect of this priority.

- **Define a core set of evidence-based preventive services for uniform coverage under all health plans, and update them annually based on the work of the U.S. Preventive Services Task Force, the Advisory Committee on Immunization Practices, the Task Force on Community Preventive Services, and the National Commission on Prevention Priorities.**

These unbiased, scientifically grounded task forces^{15,21,22} identify services of proven health benefit and cost effectiveness and the priority areas where prevention can yield the greatest benefit. These recommendations provide a template for defining coverage policy, setting performance objectives, measuring the quality of preventive care, and setting priorities. The National Commission on Prevention Priorities should be supported to expand its mission to identify a core set of both community *and* clinical preventive services.

- **Expand coverage under federal and state programs (e.g., Medicare, Medicaid, Federal Employees Health Benefits Program) and private insurance to include coverage of the core set of evidence-based preventive services.**

As advocated by the Institute of Medicine,¹²⁷ Partnership for Prevention,¹²⁸ and other groups, CMS should be authorized by Congress to set coverage policy for preventive services using its existing procedures in place for other aspects of medical care. More systematic coverage for prevention is not a total solution, but coupled with other enabling infrastructure and motivators, it is an important piece of the puzzle. Medicare, and more variably Medicaid, already provide coverage for some evidence-based preventive services and have played an important role in increasing preventive service uptake.^{129, 130, 131, 132} But this expansion has been fragmented and not always evidence-based. Recent fixes to the 1964 authorizing legislation for Medicare,⁵³ which prohibited coverage of preventive services without specific legislation by Congress, need to be revised to authorize immunizations. While current legislation now makes payment for USPSTF-recommended services possible, it does not include recent immunizations

recommended by the ACIP, to which the USPSTF now defers on vaccine-related matters. New vaccines are covered under Medicare part D rather than part B, which makes obtaining them from a medical practice more difficult. A fix in the legislation is needed to ensure vaccine access in part B.

- **Explore progressive approaches to reimbursement of preventive services for asymptomatic populations and for services delivered outside clinical settings.**

Many health plans eschew coverage of preventive services for patients who are healthy and without symptoms of disease. For example, some payers will not cover counseling by dietitians for patients at risk of diabetes, only for those who have developed documented disease. Some plans are reluctant to cover services not provided by physicians. Questions about effectiveness and costs underlie such restrictive policies but are sometimes inconsistent with scientific evidence. For example, controlled trials demonstrate that intensive behavioral interventions among patients at risk for diabetes can reduce the incidence of the disease by 50%,¹³³ while efforts among patients in whom disease has already developed (what payers often cover) are less likely to be effective. Similarly, studies document that counseling by physicians, which payers are more likely to reimburse, is often less effective than intensive counseling offered by counselors with expertise in the subject, training in motivational interviewing and other behavioral techniques, and the ability to conduct lengthy counseling sessions on multiple occasions over time. Physician advice also is less likely to help patients lose weight; referring patients to a commercial weight loss program (e.g., Weight Watchers)¹³⁴ has been shown to be more effective. Policymakers should encourage studies to document whether the costs to health plans and purchasers of expanding coverage to these venues is offset by the economic benefits that flow from heightened effectiveness. With spending on health care now in excess of \$2 trillion per year, a proportionately miniscule user fee could subsidize the infrastructure for public health programs, research, and training to help prevent the diseases responsible for these costs. Both the effectiveness and efficiency of preventive services are likely to be increased by attention to integration across systems.

- **Offer first-dollar coverage (e.g., no copayments) for the core set of evidence-based preventive services.**

Studies demonstrate that uptake of preventive services is compromised if patients are faced with financial barriers, such as copayments, deductibles, or other out-of-pocket expenses.^{125,135,136} Safe harbor provisions have been adopted by many health plans to remove this barrier and ensure first-dollar coverage for important preventive services. This policy should be uniformly adopted by private health plans and public programs, including Medicare, Medicaid, and the Federal Employees Health Benefits Plan. The latter is especially relevant given proposals by the president-elect to use the Federal Employees Health Benefits Program as a model for a benefit design package for universal health insurance. The Child Health and Disability Prevention program, which delivers periodic health assessments and services to low-income children, is an example of how this kind of coverage can be implemented on a wide scale. First-dollar coverage should also be considered for both programs. Subsidizing the cost of commercial weight loss classes, dietitians, or counseling smokers by telephone would increase utilization and, over time, could pay for itself through reduced costs of the diseases they would prevent.

- **Reform health care payment to support the elements of the patient-centered medical home.**

The patient-centered medical home offers a vital infrastructure for the delivery of preventive care. ^{Error! Bookmark not defined.} Unfortunately, its success is stymied by the current payment structure, which focuses on specific diseases rather than emphasizing the personalization, prioritization, and integration that coordinated care requires. Current reimbursement models do not support a variety of elements needed for the patient-centered medical home, including IT infrastructure (which is explained in more detail in the next bullet point) and human systems and training that enable coordination of care for preventive services. For example, systems are needed to ensure smooth handoffs to/from primary and specialty care in administering screening tests (e.g., colonoscopy, mammography) and coordinating among primary care, community resources, and allied health professionals in helping patients change behaviors or obtain immunizations. Primary care practices, currently operating at or below the margin, require support to transition into this new model of care. Apart from payment for specific preventive services, innovative funding models are needed, such as blended payment that supports care management and incentives for the use of IT. Blended payment involves capitation to support a population focus and an integration of personalized care, along with fee-for-service and pay-for-performance, as incentives for offering specific evidence-based chronic disease care and evidence-based health behavior change, early detection, immunization, and chemoprevention. Among the policy options is to require CMS to develop blended payment models for reimbursing primary care.

- **Support the transitional costs for health care systems and public health and medical care providers to invest in IT, and reward those who already have made this investment and can document its benefits.**

IT is not a magic bullet, but it is a powerful tool for delivering evidence-based preventive services, as well as chronic illness case management.¹³⁷ IT provides important infrastructure for supporting a proactive approach to integrating preventive care within medical care and bringing together individual and population approaches to health care. However, an emerging “digital divide” is separating large health systems, which have strong IT capabilities, from the small number of independent practices that have been able to afford the investment in an integrated electronic medical record. Nationally, only 4% of physicians report having an extensive, fully functional electronic-records system, and 13% report having a basic system.¹³⁸ With the small revenue margins that plague primary care practice and the meager investment in public health infrastructure, the transitional costs to invest in integrated IT that supports prevention is prohibitive.^{92,124} A time-limited (probably 10-year) federal program is needed to support all practices in making the transition to electronic medical records. A similar program is needed for public health departments. Such programs would motivate and enable practices and health departments to develop the needed IT infrastructure. Countries that have made this investment have reaped the benefits. For example, the recent success of the United Kingdom’s National Health Service in engaging primary care practices in pay-for-performance that emphasizes prevention and chronic disease management^{139,140} was preceded by a decade-long program of supportive IT development. An expanded Title VII program and/or time-limited transitional cost incentives from CMS could be used to accomplish this goal.

- **Provide tax credits/deductions for participation in effective worksite and community behavior change programs.**

The health benefits and cost-effectiveness of programs based in the community and the worksite have been documented in various studies,^{141,142} but incentives to launch and utilize such programs have been limited. Corporate tax benefits for offering such programs and individual tax incentives for enrollment are potential strategies for improving utilization. The costs associated with these tax policies could be substantially offset by the revenue associated with a healthier, more productive workforce, reduced absenteeism, and lower medical costs for averted diseases.

- **Shape pay-for-performance policies to provide incentives for evidence-based preventive services and for *not* delivering services that lack evidence.**

Pay-for-performance (value-based purchasing) initiatives should be based on rigorous standards that offer incentives for those services supported by strong scientific evidence of efficacy to reduce waste, increase effectiveness, and minimize harm.¹⁴³ The goal should be to eliminate the current incentives that encourage unnecessary procedures of uncertain effectiveness and often tie reimbursement almost exclusively to the number of patients seen, thereby discouraging clinicians from spending time on prevention. Services recommended by the U.S. Preventive Services Task Force and the National Commission on Prevention Priorities should be encouraged as part of value-based purchasing. Responsibility for this lies with CMS and private insurers.

Infrastructure for Interface, Relationships, and Coordination Across Silos

The efforts of individuals and families, the health care system, primary care, and the community to foster prevention are constrained when each sector operates in silos rather than working collaboratively as an integrated public health/health care system. A properly integrated system can support the different sectors to do what they do well.¹⁴⁴ Primary care is skilled at relationship-centered care, prioritizing and personalizing prevention based on familiarity with the patient, family, and community; integrating preventive care with medical care; and identifying teachable moments for preventive change. Specialty care is organized to offer specialized preventive interventions (e.g., mammography) and to address high-risk diseases, for which tertiary prevention is possible, or provide teachable moments for related primary prevention.²² Health care systems have the potential to share information and coordinate programs at the level of the individual and the group.^{145,146,147} Public health addresses the needs of communities and populations and develops programs to meet those needs.⁵¹

We believe that policies targeted toward communication, coordination, and infrastructure to enhance these interfaces have the potential to offer a high yield. Expending resources on these interrelationships is a sound investment to leverage existing (but often unused) resources within the domains and to enable each domain to accomplish far more than it would on its own. Such coordination will improve the efficiency of existing resources, enabling them to do more to improve health. For example, improving the linkage between primary care practices and state quit lines can achieve greater success in promoting smoking cessation than either entity currently achieves on its own.⁴⁶ The Robert Wood Johnson Foundation's Prescription for Health initiative^{24,48,148,149,150} documented the potential that can be unleashed by supporting integrative interfaces among individuals, medical practices, communities, and public health. Other examples of these leveraging opportunities are listed at the bottom of Figure 1.

Both public health and medical systems require greater infrastructure to leverage efficiencies from IT, integrate health care and prevention, fully apply scientific evidence to practice, generate relevant new knowledge, and maximize participation by communities, patients, and health care workers. To some extent, the required infrastructure involves technology, such as medical informatics, but it also involves the fostering of productive human and organizational relationships. Relationships and interdisciplinary collaboration are vital for making IT and other technological tools useful and to minimize potential harms.⁸⁹ Many projects around the country, including the Institute for Health Care Improvement Collaboratives,¹⁵¹ Robert Wood Johnson Foundation initiatives, and examples from HHS such as the STEPS program,¹⁵² have identified such collaboration as essential to quality improvement. Other countries have begun to reap the benefits of integrated health care and public health infrastructures, which continue to remain isolated in silos in the U.S.⁴⁹ Policies to address this problem aim to improve communication and coordination across sectors.

- **Promote human systems and public and professional education programs that enable coordination of preventive services and the sharing of responsibility among individuals, families, primary and secondary care, health care systems, public health, and communities.**

There is great potential for systems development that integrates both chronic disease management and prevention, since the systems needed to promote prevention are very similar to those needed to promote chronic disease management.⁴⁵ Both require proactive approaches and attention to the organization of care, the organization of clinical information systems, the design of delivery systems, decision support, patient and public self-management support, and the availability of community resources. State and local public health departments could be helped in these integrative efforts through block grants from the CDC.

- **Support the collection of new knowledge and research to better integrate health care and public health by expanding funding for the Agency for Healthcare Research and Quality or establishing a new NIH Institute for Integrated Health Care.**

Fragmented knowledge generation is resulting in fragmented health care and prevention. The budget of the Agency for Health Care Research and Quality is only \$325 million per year, and the portion devoted to developing knowledge of how to improve care is meager.¹⁵³ The agency's budget should be increased to \$1 billion per year, or an integrative institute within NIH should be established with a starting budget of \$500 million per year. These efforts could begin to generate the knowledge needed to integrate health care and prevention for people and communities. Similarly, the CDC's efforts at generating relevant new knowledge should be supported.

- **Establish within the CDC a communication vehicle for supporting a culture of priority setting and shared responsibility**

Efforts within the CDC are needed for coordinating the interface between population and individual health care. The important interfaces include those between patients and primary care, public health and the public, and primary care and specialty care and public health. A task force could examine both logic models and scientific evidence to recommend which prevention programs are best accomplished at each level, and how participatory health care and public

health networks can integrate services so that evidence-based prevention tasks are accomplished in a coordinated fashion, with each level doing what it does best.

- **Establish within the CDC a new service equivalent to the Epidemiological Intelligence Service officer. This service should be based on the U.S. Department of Agriculture’s extension agent model, or could expand the scope of the extension agent model to include promoting healthy behaviors. Charge this officer to serve as a “boundary spanner” between public health agencies, medical practice networks, and community groups and agencies.**

The Prescription for Health Program has shown the feasibility of bringing primary care and public workers together to foster the adoption of healthy behaviors.¹⁵⁰ The CDC has experience training health professionals to work across the country on public health projects of high local benefit and great national importance.¹⁵⁴ Prevention professionals trained to work at the interface between medical care and public health could serve as the change agents needed to foster the efficiencies of having each sector do what it does well and to integrate their efforts for individuals and communities. This sort of whole systems development has shown promise in other countries.^{155,156}

Conclusion

Focusing attention and resources on prevention is a high-yield policy endeavor. A growing body of evidence supports increasing emphasis on prevention. In particular, new opportunities emphasize infrastructure support and fostering relationships between the key constituencies who can carry out and benefit from preventive activity. The policy options outlined in this paper represent a sound investment to improve the health of Americans and to foster our competitiveness in the global marketplace.

Appendix 1.

Partnership for Prevention's Principles for Prevention-Centered Health Reform

(<http://www.prevent.org/principles/>)

Partnership for Prevention encourages policymakers to make prevention the cornerstone of America's health system. Ensuring that a reformed health system incorporates the following prevention policy principles would have an enormous impact on the health of the American people.

Clinical preventive services should be a basic benefit of proposed health financing reform.

Financing mechanisms should:

- Make high-value clinical preventive services accessible to all.
- Encourage patients to use preventive services.
- Offer incentives to health care providers to deliver clinical preventive services.
- Reward employers for their active engagement in employee health promotion.

Community preventive services should be an integral part of health financing reform. Policies and financing mechanisms should:

- Create healthy environments and promote healthy lifestyles.
- Offer incentives to organizations that influence the health of populations to deliver community preventive services.
- Encourage Americans to give greater attention to prevention in their own lives.

Health reforms should aim to increase the impact of prevention. Financing mechanisms should:

- Increase support for research on community-based and clinical prevention.
- Support development and tracking of system performance standards related to prevention.

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