

# The Big Answer: Rediscovering Prevention at a Time of Crisis in Health Care

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Ours is a time of small answers to the health care crisis. Our leaders propose changes on the margins. The reforms that they advocate are certainly worthwhile—expanding insurance coverage for children, malpractice reform, electronic medical records and improving access to generic drugs—but these measures by themselves, or even in combination, are probably inadequate to bring stability to a health care system that is spinning out of control.

## The Current Health Care Crisis

The signs of a failing health care system are ubiquitous. Health care costs are rising at an unsustainable rate. Expenditures on prescription drugs rose by 56% between 2000 and 2004. The US now spends \$1.9 trillion per year—16% of its Gross Domestic Product—on health care, more than any other country.<sup>1,2</sup> Federal spending for Medicare and Medicaid exceeds

\$590 billion per year, more than the US spends on defense and more than many European countries spend on their entire governments.<sup>3</sup>

Rising health care costs also plague the private sector. General Motors now spends more on health care than on sheet metal<sup>4,5</sup> and, along with other large employers, is laying off workers to offset health care costs.<sup>6</sup> Governors committed to balanced budgets are trimming Medicaid benefits and cutting spending on education and other priorities to keep pace with rising health care expenditures.<sup>7,8</sup>

Employers are shifting the rising costs of health insurance to employees and increasingly are eliminating health insurance as a job benefit.<sup>9,10</sup> Between 2000 and 2005, the average worker's payroll contribution for family coverage increased by 67%, from \$135 to \$226 per month.<sup>11</sup> Many consumers are foregoing health insurance altogether, adding to the growing number of uninsured Americans, now estimated at 46 million.<sup>12</sup> With out-of-pocket spending also climbing,<sup>13</sup> 16% to 20% of adults

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*with insurance* are experiencing substantial problems paying their medical bills.<sup>14,15</sup> Health care spending is now the leading cause of personal bankruptcy.<sup>16</sup>

The health care crisis threatens the economy. Top executives are warning that health care costs are eroding their firms' ability to compete globally.<sup>17</sup> The unraveling health care system frays the fabric of society: people become sicker, workers become less productive, businesses and job opportunities disappear, government budget deficits deepen and economic deprivation worsens.

### The Perfect Storm

The current crisis is sufficient cause for alarm, but the convergence of three trends on the horizon make it likely that the coming years will amplify problems.

The first factor is the aging population. The baby boom generation began to reach age sixty in 2006 and will dramatically swell the ranks of older adults. The number of seniors in the US is expected to double from 36 million in 2003 to 72 million in 2030.<sup>18</sup> Second, as advances in medical care improve life expectancies, the prevalence of chronic diseases will increase. Already, almost half of Americans have one or more chronic illnesses, and the number is expected to grow by 29% from 133 million in 2005 to 171 million in 2030.<sup>19</sup> Third, the costs of medical care for those chronic diseases are climbing rapidly. Caring for three diseases—cardiovascular disease, cancer, and stroke—already costs \$600 billion per year.<sup>20</sup>

It is a safe prediction that the convergence of these three trends will increase

both the prevalence of chronic diseases and the costs of treating their complications. The chairman of the Federal Reserve Board and other thoughtful leaders see the storm on the horizon.<sup>21</sup> The Medicare Trustees predict that Medicare will be insolvent by 2020.<sup>22</sup> Employers, who see health care for seniors as a cost burden that they cannot sustain, are rescinding commitments to retirees and pension programs.<sup>6,23</sup>

The obesity epidemic<sup>24</sup> will complicate matters further. The chronic diseases that threaten the viability of the health care system are causally linked to obesity and are therefore likely to grow even more prevalent as obesity rates climb. As rates of pediatric obesity climb upward, it seems likely that the next generation will experience a surge in chronic diseases for which the current health care system is unprepared.

### The Time for a Big Answer

Like a motorist who presses calmly on the brake while his car races toward the cliff, America's leaders are approaching the health care crisis with an eerie complacency. According to the conventional political wisdom, the public will tolerate nothing more than "incremental change." Sensible people choose an incremental approach over definitive action only when the threat is distant. A homeowner whose house is aflame would be aghast if the fire department took an incremental approach by dousing a small portion of the blaze and offering to return another day to continue the work.

Today's leader cannot claim that health care is an ambiguous threat. Much like the

experts who warned that a major hurricane would devastate New Orleans and the forecasters who sounded alerts that such a storm was on its way, the warnings about the future of health care are equally clear.<sup>25</sup> Just as the catastrophe from Hurricane Katrina was followed by outrage when the public learned that leaders received advance warnings and failed to act, today's leaders may be called to task for reacting so sluggishly to predictions that the faltering health care system endangered the health and economic future of Americans. The people, families and businesses in the storm path of health care may be incensed that officials offered little more than incremental solutions, even after learning how much was at stake.

## The Logic of Prevention

At a time when the need for a big answer is urgent, the inherent logic behind prevention deserves a closer look. Benjamin Franklin's adage that an ounce of prevention is worth a pound of cure is centuries old,<sup>26</sup> but the notion deserves re-examination at a time when disease rates and health care costs are too much for the system to handle.

These costs stem from a relatively short list of chronic diseases (e.g. heart disease, cancer, diabetes). According to analysis by the Congressional Budget Office, 25% of beneficiaries—the “high-cost group”—account for 85% of Medicare spending, and 78% of these beneficiaries have one or more chronic conditions.<sup>27</sup>

While we struggle for strategies to cope with the downstream consequences of caring for these diseases, it is worth re-

membering the smarter upstream strategy: preventing (or delaying) them. Fully 38% of US deaths are attributable to a handful of health habits—tobacco use, poor diet, physical inactivity, and problem drinking.<sup>28</sup> Tobacco use alone accounts for more than 400,000 U.S. deaths each year.<sup>28</sup>

For many years, experts in chronic disease have emphasized that both the occurrence of these diseases and the severity of their complications can be minimized by behavior modification and early detection. McGinnis and Foege<sup>29</sup> were the first to caution that modifiable risk factors were the leading causes of death in the US. Much the same message came from the World Health Organization Comparative Risk Assessment Project, which found that seven modifiable risk factors—tobacco, alcohol, overweight, high blood pressure, elevated serum lipids, low fruit and vegetable intake, and physical inactivity—accounted for 30% of disability-adjusted life years lost in North America.<sup>30</sup>

Prevention encompasses primary, secondary, and tertiary prevention. *Primary prevention* includes strategies by asymptomatic persons (individuals without signs or symptoms of the target condition) to prevent disease (e.g. smoking cessation, immunizations). *Secondary prevention* refers to screening asymptomatic persons for the early detection of pre-clinical disease or risk factors (e.g. mammography). *Tertiary prevention* refers to efforts in patients with known disease to avert complications (e.g. screening for retinopathy among persons with diabetes). *Clinical preventive services* are measures taken in health care settings for primary and secondary prevention.

Logic dictates that primary, and to some extent secondary, prevention would

be more effective in controlling disease rates and costs than would marginal treatment advances that do not take effect until diseases reach more advanced stages. The prevention thesis drew attention in the early twentieth century, when the victory of public health over infectious diseases, the major killer of its time, showcased the value of epidemiology in understanding the root causes of diseases. Mid-century epidemiologic research linking cigarette smoking to lung cancer, culminating in the 1964 report by Surgeon General Luther Terry,<sup>31</sup> launched an era that paid closer attention to health behaviors as agents of disease. Smoking rates began to decline, and by the late 1970s awareness had grown about the health significance of hypertension, serum cholesterol, fatty foods, and exercise. Evidence of the benefits of breast and cervical cancer screening began to accumulate. In 1979, the government released *Healthy People*,<sup>32</sup> which set specific goals for health promotion and disease prevention for the nation to achieve by 1990. From the 1980s onward, the importance of healthy behaviors and screening became conspicuous not only in clinical practice but also in cultural norms. Joggers became common sights. The food industry, advertisers, and restaurants reacted to a growing consumer interest in low-fat and “heart healthy” foods. Public places became smoke-free, and patient demand for cancer and cholesterol screening increased.

### The Prevention Gap

Despite this cultural shift toward health promotion and disease prevention, the nation entered the twenty-first century with

a conspicuous “prevention gap,” a failure of primary and secondary prevention to reach their full potential.

*Primary Prevention.* Although tobacco use is now less common than in the past, 20% of American adults continue to smoke, and rates are higher among subgroups, such as people with less than twelve years of education (32%) and Native Americans (42%).<sup>33,34</sup> The national decline in youth smoking that occurred from 1997 to 2003 appears to have stalled, with 23% of high school students now smoking.<sup>35</sup> Only 30% of adults engage in regular leisure-time physical activity, and 16% are physically inactive.<sup>36,37</sup> Fully 17% of children and adolescents are overweight, and an alarming 66% of adults are overweight or obese.<sup>38</sup>

Although coverage for childhood immunizations is generally good—83% of children aged 19-35 months have received the combined series of recommended vaccines<sup>39</sup>—coverage rates are lower for older individuals. Only 56% of adults aged 65 and older have ever received a pneumococcal vaccination, and the rates are lower for Hispanics (29%) and African Americans (41%).<sup>37</sup>

*Secondary Prevention (Early Detection).* Americans receive only half of recommended clinical preventive services.<sup>40</sup> A 2002 report by the Government Accountability Office informed Congress that only 10% of Medicare beneficiaries had received a combination of services—screening for cervical, breast, and colorectal cancer and immunization against influenza and pneumonia—which are covered under Medicare.<sup>41</sup> Certain minorities (e.g. African and Hispanic Americans) and the poor are even less likely to be up-to-date on

preventive services, and many have never received recommended preventive care.<sup>42</sup> For example, although 70% of US women age 40 and older report having undergone screening mammography in the past 2 years, rates are lower for the poor (55%) and for Asian women (58%).<sup>39</sup>

## The Effectiveness of Prevention Relative to Treatment

Despite this prevention gap, data suggest that the reduction in risk factors that did occur in recent decades still accomplished more than medical care in reducing

disease-specific death rates and perhaps in increasing overall life expectancy. A decade ago, Bunker estimated that 3 of the 7.5 years of life expectancy that were gained after 1950 were due to medical care.<sup>43,44,45</sup> Other studies, however, report a larger effect from primary prevention, such as a recent comparison of the benefits of cardiovascular risk factor changes and cardiology treatments in England and Wales between 1981 and 2000.<sup>46</sup> The analysis concluded that risk factor reduction accounted for 79% of the life-years gained (Figure 1).

A large body of literature documents how prevention contributed to falling mortality rates from coronary artery disease between 1970 and 2000 (Table 1). Across

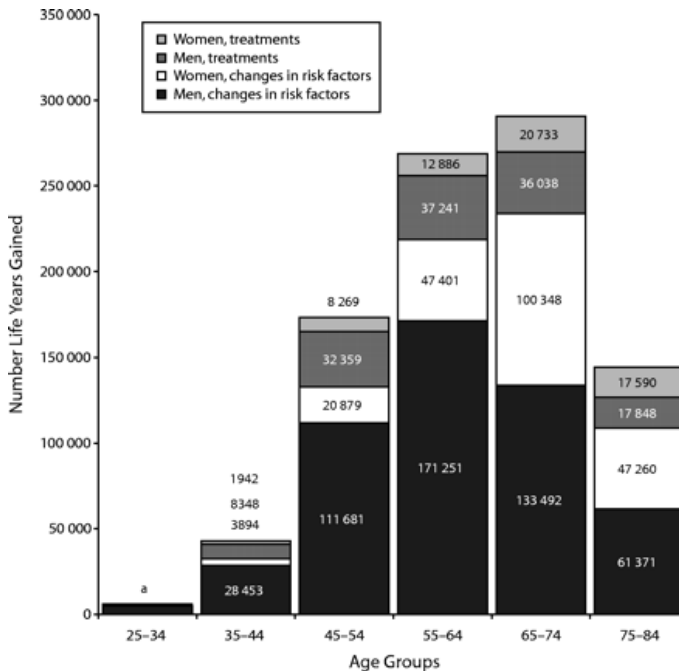


Figure 1. Life-Years Gained from Coronary Heart Disease Treatments and Changes in Population Risk Factors, By Age and Sex in England and Wales, 1981-2000.

Legend: Changes in risk factors gained 4 665 life-years in men, 574 in women; treatments gained 672 life-years in men, 219 in women. From Unal B, Critchley JA, Fidan D, Capewell S. Life-years gained from modern cardiological treatments and population risk factor changes in England and Wales, 1981-2000. *Am J Public Health* 2005;95:103-8

## FEATURES

Authors	Years of Analysis	Location	Risk Factor Reduction		Medical Care	
			Estimated contribution to mortality reduction	Components Analyzed	Estimated contribution to mortality reduction	Components Analyzed
Goldman and Cook (1984)	1968-76	US	54%	Serum cholesterol, smoking	40%	Coronary care units, pre-hospital resuscitation and care, coronary artery bypass grafting, medical treatments for ischemic heart disease, treatment of hypertension
Bots and Grobbee (1996)	1978-85	Netherlands	44%	Smoking, cholesterol, blood pressure	46%	Coronary care units, postinfarction treatment, coronary bypass grafting
Hunink et al (1997)	1980-90	US	50%	Blood pressure, serum cholesterol, HDL, LDL, smoking	43%	Coronary artery bypass grafting, angioplasty, "and other improvements in treatment"
Capewell et al (1999)	1975-94	Scotland	51%	Smoking, cholesterol, blood pressure	40%	Treatments for acute myocardial infarction, hypertension, secondary prevention, heart failure, aspirin for angina, coronary artery bypass grafting, angioplasty
Capewell et al (2000)	1982-93	Auckland, New Zealand	54%	Smoking, cholesterol, blood pressure	46%	Treatments for acute myocardial infarction, secondary prevention, hypertension, heart failure, angina
Unal et al. (2005)	1981-2000	England and Wales	58%	Smoking, cholesterol, and blood pressure	42%	Medical care and surgical treatments
Laatikainen et al (2005)	1982 and 1997	Finland	53-72%	Cholesterol, smoking, blood pressure	23%	Coronary artery bypass grafting, in-hospital cardiopulmonary resuscitation, cardiac medications, thrombolysis, angioplasty, rehabilitation as secondary prevention

**Table 1. Studies Examining Role of Risk Factor Reduction and Treatment in Decline in Coronary Heart Disease Mortality.**

various studies, which relied on indirect inferences and mathematical modeling of amenable mortality,<sup>47</sup> researchers concluded that 44% to 72% of the fall in mortality resulted from a reduction in cardiovascular risk factors (smoking, lipids, and blood pressure), whereas only 23% to 46% of the decline was attributable to treatments.<sup>48-54</sup> Primary prevention achieved an estimated fourfold reduction compared to secondary prevention.<sup>53</sup>

## The Power of Prevention

That prevention accomplished this much under past conditions of mediocre implementation suggests that far more substantial gains could be achieved in the future if society adopted prevention as a real priority. An analysis in 1999 put the relative gains in perspective, showing that the potential deaths averted by delivering

the most evidence-based treatments for heart disease would be eclipsed by the potential number of lives saved by success in primary prevention (Figure 2). Complications and costs from today's major diseases, such as heart disease and diabetes, could be slashed on a scale that few other health care reforms could contemplate. For example, if regular physical activity became the norm in America, the incidence of diabetes could be reduced by as much as 50%.<sup>55</sup> Unal et al. predicted that better control over cardiovascular risk factors in the United Kingdom could cut in half that country's mortality rate from coronary artery disease.<sup>56</sup>

Due to this potential influence on the incidence and severity of diseases, prevention could leverage a major shift in health care costs. According to the National Business Group on Health, tobacco use alone costs \$157 billion per year, an average of \$3,856 per smoker, because of direct medical ex-

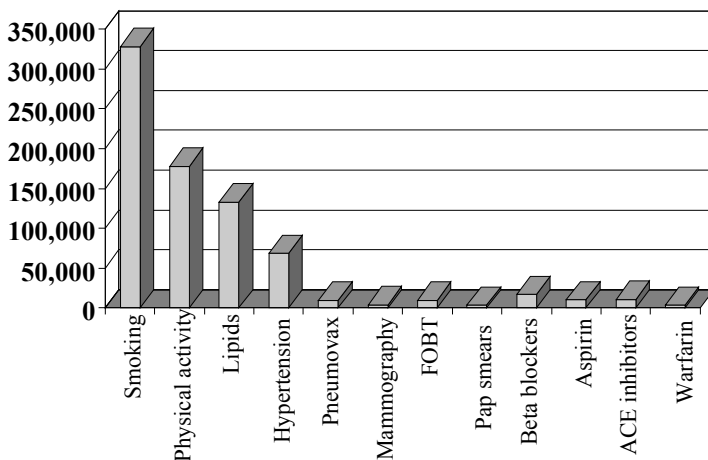


Figure 2. Potential Number of Lives Saved by Success in Primary Prevention

Legend: Number of deaths in the US that could be averted annually by addressing primary prevention (smoking, physical activity, lipids, hypertension, and pneumococcal vaccination), secondary prevention (mammography, fecal occult blood testing [FOBT], Pap smears) or tertiary prevention of cardiovascular disease (beta blockers, aspirin, angiotensin converting enzyme [ACE] inhibitors, warfarin). Adapted from: Woolf SH. The need for perspective in evidence-based medicine. *JAMA* 1999;282:2358-65.

penses and lost productivity from tobacco-related diseases.<sup>57</sup> Obesity, according to Thorpe and Howard, accounted for 27% of the rise in per capita health care spending between 1987 and 2001.<sup>58</sup> If current obesity trends continue, Lakdawalla et al. estimate that obesity will increase future Medicare beneficiary spending by 34%.<sup>59</sup> Thoughtful leaders can do the math and project how much the economy would benefit from the control of modifiable risk factors.

Preventive services come at some cost, whether it is the lost time for daily exercise or the gastroenterologist's fees for colonoscopy. But money spent on prevention tends to yield greater health gains—and better value for the dollar—than does most treatment spending. For example, the implantation of a left ventricular assist device, which Medicare began covering in 2003, costs an estimated \$500,000 to \$1.4 million per quality-adjusted life year (QALY) gained.<sup>60</sup> In contrast, of the twenty-five clinical preventive services reviewed by the National Commission on Prevention Priorities, fifteen cost less than \$35,000 per QALY, and ten of these cost less than \$14,000 per QALY.<sup>61</sup> Some preventive services are cost *saving*, a distinction that few medical treatments achieve. Counseling of smokers by clinicians would save 2.47 million QALYs at a cost savings of \$500 per smoker and billions of dollars for the nation.<sup>62</sup>

### Barriers to Change

If the health and economic arguments for prevention are so compelling, what accounts for the inertia—the persistence of

the prevention gap? One obvious answer is the great difficulty that individuals face in attempting to change behaviors. Much of primary prevention relies on individuals and families to modify their lifestyles—to exercise, give up preferred foods, lose weight, and break addictions to tobacco and alcohol. Each of these steps is very difficult. Research has yet to clarify how best to help people change behaviors. Knowledge of the health risks associated with behaviors is a starting point for marshalling the personal will to change, but knowledge and motivation are rarely enough.

Unhealthy behaviors are the product of both personal preferences and our environment, which includes a culture and surroundings that foster unhealthy behaviors and create impediments to change. Today's children encounter less opportunity and encouragement to be active. Advertisers and retailers promote fast foods, heavy fat content, and large portion sizes. Schools offer unhealthy food choices and vending machines with calorie-dense products. The built environment discourages regular physical activity, as when a safe pedestrian route from home to the store is lacking.<sup>63</sup>

Residents of disadvantaged communities face even greater challenges. Neighborhood conditions, such as few parks and high crime rates, limit physical activity. Low-income communities have fewer grocery stores that offer healthy food choices and are also targeted for the advertisement of cigarettes, alcohol, and fast foods.<sup>64-67</sup>

Gaps in the uptake of clinical preventive services stem partly from larger problems with the health care system: the 46 million uninsured Americans,<sup>12</sup> inadequate access to primary care, and growing out-of-pocket expenditures and copayments. The

50% shortfall in the delivery of preventive care is also observed in chronic and acute illness care,<sup>40</sup> and many of the same system defects are to blame. Experts recommend the same solutions for both preventive and chronic illness care: system redesign, reminder tools, streamlined communication, information technologies to help patients make more informed choices, and integrated systems to overcome fragmentation, reduce errors, and coordinate follow-up.<sup>25,68</sup>

Uptake of preventive measures is also affected by problems more specific to prevention itself, such as skepticism about the effectiveness of such measures. The US Preventive Services Task Force and other prestigious review bodies have done much to dispel this uncertainty, documenting the scientific evidence that effective preventive services do improve outcomes,<sup>69</sup> but there is a lingering concern that the benefits may not materialize for many years. This delayed effect is a psychological impediment; clinicians do not experience the reinforcement of seeing direct results from their actions, and the results are often a “non-event,” such as a stroke or cancer that does not occur. The delayed effect is also a financial disincentive for payers and employers, who are reluctant to pay up-front expenses for preventive services that will not accrue benefits until years later, when members and workers are likely to have moved on to other markets.

Despite these disincentives, coverage for clinical preventive services under Medicare and most health plans has improved. Still, problems remain. The procedure for Congressional authorization of preventive

services under Medicare is outdated.<sup>70,71</sup> Coverage for physician advice regarding smoking cessation or obesity is more common,<sup>72</sup> but the typically modest reimbursements are a financial disincentive for physicians. The competing demands in primary care make it difficult for practices to offer patients the intensive assistance that difficult lifestyle changes often require. A solution lies in partnerships, in which clinical practices work collaboratively with services in the community (e.g. dietitians, tobacco quit lines, commercial weight loss programs) that offer the time and counseling skills that many physicians lack.<sup>73</sup> Health plans tend not to cover such services, however, and such programs are not universally available or adequately funded. Even when the services do exist, clinicians may not refer patients if they are unaware of the programs or if the procedures for referring patients are too onerous in the busy environment of patient care.

## **Solutions and Competing Demands**

A real effort to close the prevention gap, therefore, requires not only insurance coverage but also infrastructure. In communities, it requires the public and private sectors to work together as local coalitions to help citizens pursue healthy behaviors at home, work, and school. The government, which in recent years has imposed on the private sector and the public for other national security interests, could do as much to lessen advertising of unhealthy products and could employ social marketing techniques to mobilize consumer

**Table 2. Policy Recommendations to Create Infrastructure for the Advancement of Prevention.**

**Modify the Citizens' Environment to Facilitate Adoption of Healthy Behaviors and to Improve Access to Clinical Preventive Services**

- Establish coalitions between developers and urban planners to modify the built environment, especially in disadvantaged neighborhoods, to provide safe pedestrian and bicycle routes to shopping and other venues
- Encourage employers to adopt worksite health promotion policies that facilitate physical activity and healthy eating during the workday, discourage tobacco use, and provide incentives for employees to obtain effective clinical preventive services
- Encourage school boards to promote physical activity and healthy menus at schools and to remove calorie-dense products from vending machines
- Encourage supermarket chains to ensure reasonable access for all residents to shop at outlets with healthy food choices
- Encourage food industry to curtail the promotion of unhealthy products
- Discourage fast-food chains, tobacco and alcohol manufacturers, and marketing firms from engaging in predatory advertising in low-income neighborhoods
- Encourage restaurants to reduce portion sizes and offer heart-healthy menu options
- Encourage government and insurers to establish universal access to intensive weight loss counseling—local classes (e.g. Weight Watchers), online, and by telephone—and to subsidize the cost to eliminate financial barriers.
- Establish community environmental policies for health promotion such as tobacco exposure bans and excise taxes, reduced air and water pollutants, etc.
- Create community coalitions to coordinate initiatives across sectors and adopt community-wide campaigns around a common theme (e.g., “eat healthy,” “let’s move,” “clear the air,” “get screened”). Potential partners: local health systems, school boards, park authorities, workplaces, churches, bars, restaurants, theaters, sports centers, grocers and other retail outlets, volunteer organizations, senior centers, news media, advertisers, urban planners, and the leaders who set direction for these sectors.
- Expand programs for the uninsured and bolster community health centers so that access to providers of clinical preventive services is widely available
- Establish legal protections for first-dollar coverage of clinical preventive services by insurers and Medicare/Medicaid to eliminate out-of-pocket expenditures

**Promote organizational redesign in primary care practices to improve delivery of clinical preventive services**

- Encourage development of best practice models (e.g., TransformMED)
- Create incentives for practices to undertake practice redesign
- Encourage specialty societies (e.g., American Academy of Family Physicians) to launch a “standing order” campaign to encourage clinicians to establish routine systems to enable non-physicians to automatically administer certain preventive services based on pre-established criteria
- Expand use of preventive services reminders in electronic health record (EHR) products
- Build prevention into extant efforts to promote uptake of EHRs: e.g., financial support for practices, initiatives of the U.S. Department of Health and Human Services and the American Academy of Family Physicians
- Work with vendors to increase availability of effective reminder tools for preventive services
- Research and development on the types of prompts that are accepted and useful to clinicians
- Pressure on vendors/financial incentives to make such prompts standard features on EHR products

**Establish Clinician-Community Partnerships to Improve the Intensity and Efficiency of Preventive Services**

- Secure stable funding commitments for quit lines, public health department services, etc
- Create analogous services (e.g., telephone counseling centers) for obesity, physical inactivity, unhealthy diet, alcohol misuse
- Create a knowledge network website to enable clinicians to identify local resources with ease and not worry about maintaining current contact details
- Remove insurance barriers to use of such services: first-dollar coverage for preventive services, elimination of co-payments, exclusion of services of proven effectiveness, provider incentives for referring patients
- Create a system akin to USDA Cooperative Extension System Offices to act as “change agent consultants” and help local practices and communities establish infrastructure for collaboration (e.g., referral systems, communication)

**Invest in Prevention Research**

- Increase national spending on prevention research beyond the current estimate of 3%
- Increase funding for the Agency for Healthcare Quality and Research, with substantial Congressional earmarks to support (a) the U.S. Preventive Services Task Force and (b) research on system solutions to improve the delivery of preventive care
- Increase funding for practice-based research networks and for studies conducted in such settings, including a larger proportion of collaborative solicitations by NIH and AHRQ, to test practical strategies to improve the quality of preventive and chronic illness care.
- Establish Congressional mandate on NIH to devote a substantial component of cross-institute efforts, including the Roadmap Initiative, to research on the adoption of healthy behaviors and the improved delivery of clinical preventive services
- Foster information technology innovations to facilitate consumer adoption of healthy behaviors, uptake of clinical preventive services, and clinician-community partnerships to improve care
- Methods to move delivery of preventive care outside of the clinical setting

**Other**

- Discount insurance premiums to increase consumer demand for preventive services
- Attach user fee to Medicare and other reimbursements to finance costs of practice/community redesign
- Adopt “Wellness Trust” advocated by Center for American Progress

demand for healthier alternatives. Supermarket chains could agree to place outlets with healthy food choices in all neighborhoods, and developers could expand walking and cycling routes. Employers and school boards could enact policies to promote exercise and healthy meals. Government and health plans could establish universal access to intensive weight loss counseling—local classes (e.g. Weight Watchers), online, and by telephone—and subsidize the cost to eliminate financial barriers. A network of local agencies modeled after agricultural extension offices<sup>74,75</sup> could help localities work out the details for clinician-community partnerships that make it easy for patients to obtain clinical preventive services. Other policy options are listed in Table 2.

The commitment and resources required for change of this magnitude are worth the effort—the public’s health and the economy are at stake—but the investment is unlikely unless society makes prevention more of a priority. The amount needed to close the prevention gap could be funded by spending slightly less on treatment, which dominates the \$1.9 trillion US health care budget, and more on interventions at the early stages of disease. We do the opposite now. Indeed, most spending goes to the care of only 5% of patients,<sup>76</sup> many of whom are very ill. Medicare spends 25% of its budget on care delivered in the last year of life.<sup>77</sup> In contrast, only 3% of health care expenditures go toward disease prevention.<sup>78</sup> Former Surgeon General David Satcher estimates the proportion to be less than 2%.<sup>79</sup> Prevention research also garners relatively little support. Although the National Institutes of Health reports that it spends \$7.1 billion

per year—25% of its budget—on prevention research,<sup>80</sup> much of what is classified as “prevention” is basic scientific research. For example, a “prevention” study cited by the National Cancer Institute examined how benzene exposure affects white blood cells and platelets.<sup>81</sup>

Competing priorities keep the private sector and government from spending more on prevention. Businesses exist to make money, and the market for unhealthy behaviors is large. Fast food chains, cigarette companies, and brewers pitch their products because so many customers want them (or have been persuaded by advertising that they do). The enterprise of disease treatment fuels thriving industries, such as drug and device makers, health professions, hospitals, and insurance companies. Comparatively few fortunes are made on prevention. Most private support for biomedical research comes from industry, whose products and research interests emphasize treatment. Government officials face political pressures. Budget deficits discourage greater spending on prevention. Lawmakers feel obligated to fund research on diseases from which voters suffer, not on opaque preventive strategies, such as altering the built environment, which lack organized political constituencies.

## Conclusion

Little of this is new. Much of what appears above—the compelling arguments for prevention and the explanation for inertia—could have been said, with little modification, twenty years ago. What is different now is that the consequences of overlooking prevention are no longer re-

stricted to public health. Now, the threat involves big business, the solvency of Medicare, federal and state budgets, and the nation's economy. Policymakers and leaders of health systems can no longer afford to ignore the need for a big answer. Those who dismiss prevention as too costly or unrealistic must acknowledge both the empirical data and the hard reality that staying the course would be even more unrealistic and costly. Politicians who shrink from the task, fearing tepid public support, should examine the polls, which show society's loudening call for decisive action.<sup>15</sup>

Other big answers deserve consideration. For example, eliminating geographic variation in the utilization of services could lower Medicare spending by 30%,<sup>82</sup> but the willingness of clinicians to standardize care is unclear. Administrative expenses consume 30% of health care costs.<sup>83</sup> A single-payer system that lowered overhead to 5% to 15% could markedly lower costs and improve access,<sup>84</sup> but it faces intense political opposition. Another big answer would be to address social determinants of health, such as poverty and gaps in education, which affect health outcomes on a much larger scale than would incremental changes in prevention or medical care.<sup>85</sup> For every life saved by medical advances, eight could be saved if all adults had the mortality rate of those with a college education.<sup>86</sup> Such big answers struggle for their political footing, however, whereas prevention stands solidly on both compelling data and strong public support.<sup>87</sup>

Some thoughtful leaders have gotten this message and are taking action. Arkansas governor Mike Huckabee launched the statewide initiative, Healthy Arkansas, in

which government, private organizations, schools, and employers work together to promote physical activity and reduce obesity and smoking.<sup>88</sup> As chair of the National Governors Association, Huckabee encouraged other governors to take similar action and formed the Healthy America task force. At least six states now have similar initiatives.<sup>89,90</sup> On Capitol Hill, Senator Tom Harkin proposed legislation<sup>91</sup> to "reorient our health care system away from one focused on disease treatment and management to one that is based upon the promotion of healthy lifestyles and the prevention of chronic disease."<sup>92</sup> The Senate has held a hearing on the role of prevention in "curing Medicare."<sup>93</sup> Under the leadership of Mark McClellan and spurred by Congressional legislation,<sup>94</sup> the Medicare program is now promoting preventive services.

Top executives at major corporations have begun touting the business case for health promotion.<sup>95</sup> Former President Bill Clinton launched the Alliance for a Healthier Generation, a collaboration of schools, industry, and television networks to address childhood obesity.<sup>96</sup> Philanthropic organizations, such as the Gates Foundation and the Robert Wood Johnson Foundation, are investing in prevention. In 2004, the executives of the American Heart Association, American Cancer Society, and American Diabetes Association—representing the leading chronic diseases afflicting the country—joined forces to launch a national prevention campaign.<sup>20</sup>

These encouraging signs are grounds for optimism, but the nation's leaders must agree on a direction in which to set out on a new path. Sadly, there is little indication that those in power are embracing preven-

tion—or any other big answer—to respond to the impending health crisis. The Bush administration budget for fiscal year 2007 actually reduced funding for health promotion and chronic disease prevention and eliminated the preventive services block grant.<sup>97</sup> Gridlock in Congress has brought decisive action—in any area—to a halt;<sup>98</sup> the Senate referred Harkin's bill to the Finance Committee in 2005, and it is unlikely to emerge.<sup>99</sup> Stump speeches by candidates for the mid-term and 2008 presidential elections are careful to avoid big ideas on health care. There are no brake marks as the health care system speeds toward the cliff.

The lethargy in leadership has its political explanations, but they do not change the reality of the approaching storm. The mounting threat to public health and the economy calls on leaders to find the courage to face facts, take political risks, and deal resolutely with root causes, a style of leadership that is lacking in health policy and in other domestic and international areas. Failure to address the heart of the issue could cost lives and dollars in many arenas—from global warming to terrorism—for years to come. But for health care in particular the regret over neglecting prevention may be the most haunting.

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