

**Final Written Testimony**

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**U.S. Senate Committee on Health, Education, Labor, and Pensions Hearing**

**Prevention and Public Health: The Key to Transforming our Sickcare System**

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Good morning, Senators, and thank you for the opportunity to speak today about the importance of science-based prevention in assuring health security for all Americans, reducing the burden of ill health, and stemming rising health spending. I would like to thank Senator Kennedy, Senator Enzi, and Senator Harkin for your leadership in this area. Thanks also to the members of the committee for holding this important hearing today. My name is Ken Thorpe; I am a professor of health policy and chair of the department of health policy and management at Emory University in Atlanta, Georgia. I am also executive director of the Partnership to Fight Chronic Disease, a nonpartisan, nationwide group focused on reducing health care costs through disease prevention and more effective care.

My testimony today will focus on three issues fundamental to health reform:

- 1) What are the key drivers of rising health care spending overall and in the Medicare program?
- 2) What role can primary prevention and more effective care management assume in slowing the rise in spending? Specifically, is there evidence we could build on from successful programs?
- 3) How could we adopt these lessons into a broad health reform initiative, as well as reforms in Medicare and Medicaid?

## **Key Drivers of Increased Health Spending**

Increases in health expenditures, and how to rein them in, are among the critical policy challenges the United States faces. National health spending is estimated to have grown almost 7 percent in 2007, reaching over \$2 trillion, or roughly \$7,800 per person. Medicare and Medicaid together now account for 23 percent of federal spending and nearly 6 percent of gross domestic product (GDP), including the states' share of Medicaid.<sup>1</sup> Absent policy redirection, the growth rate is expected to hold steady at nearly 7 percent through 2017, reaching more than \$4 trillion. Health spending is expected to be in excess of 16 percent of GDP in 2007 and nearly 20 percent in 2017.<sup>2</sup>

Crafting effective solutions to the high and rising costs of health care requires a clear understanding of where we spend our health care dollar and the factors accounting for rising spending. First, patients with chronic diseases such as diabetes, hypertension, and pulmonary disease account for 75 percent of national health spending, and an even higher proportion in public programs: 96 cents of every dollar in Medicare is spent on patients with chronic disease and 83 cents of every dollar in Medicaid.<sup>3</sup>

Chronic diseases have played a major role in the rise in health care spending:

- The increase in treated disease prevalence accounts for about two-thirds of the rise in spending over the last twenty years.<sup>4,5</sup>
- The rising rate of obesity—which has doubled for adults and tripled for children since 1980—accounts for about 20-25 percent of the overall rise in spending.<sup>6</sup>
- Within the Medicare program, just three obesity-associated chronic conditions—diabetes, hypertension, and high cholesterol—accounted for more than 16 percent of the rise in spending between 1987 and 2002.<sup>7</sup>

- The residual is due to improved technology, enhanced disease screening and detection, and changed clinical guidelines.<sup>8</sup> It is not clear what percentage of the rise is traced to innovations *per se*. The unexplained component of rising health care costs—asccribed by some observers to technology—includes a broad range of effects, encompassing, for example, more intensive treatment of asymptomatic patients with one of more cardiovascular risk factors (increased treatment intensity of adults with metabolic syndrome is a case in point),<sup>9</sup> as well as changes in the definition of treatable disease and targeted patient populations for medication therapy for asthma, diabetes, hypertension, and abnormal cholesterol.<sup>10</sup> Studies have demonstrated the health and economic value of many of these advances, particularly in controlling hypertension.<sup>11</sup> For many other innovations, however, evidence of clinical efficacy and cost-effectiveness remains largely unknown. Options for creating an independent comparative effectiveness institute designed to provide more timely data on the efficacy and costs of new technologies have been examined in detail elsewhere.<sup>12</sup> Most attention has focused on the need for more timely information on the costs and benefits of new drugs, devices, and surgical and medical interventions. Far less attention has been paid to determining the efficacy of broader changes in delivering primary prevention and care management. Including both the macro structural and population health interventions and the micro patient-level treatment issues would make comparative effectiveness research more powerful.

Until very recently, most proposals for reducing federal health care spending have focused on redirecting national government spending onto other payors. These proposals include reducing provider reimbursement, increasing beneficiary cost sharing, increasing the age of Medicare eligibility, tightening eligibility or means testing, and reducing optional services in Medicaid, among others. But none of these proposals addresses the underlying factors driving the rise in health spending. Their adoption would merely shift federal spending to others, and likely would result in higher costs in the long run, as chronically ill beneficiaries with limited financial resources forgo needed preventive and restorative care.<sup>13</sup> The following sections present strategies to address key health spending drivers and effectively reduce expenditure growth.

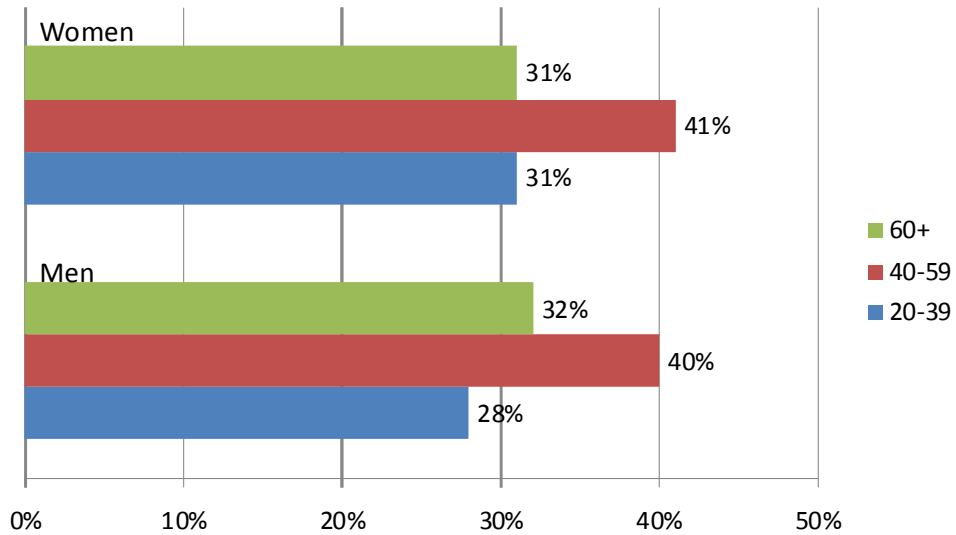
### **Role of Obesity and Smoking**

Over the past quarter century, obesity has increased dramatically in the United States. The most recent data from the Centers for Disease Control and Prevention (CDC) report that 32 percent of adults aged 20 and older are overweight and 34 percent are obese.<sup>14,15</sup> In 2007 more than a third of U.S. adults—*over 72 million people*—were obese. Obesity rates differ by only slightly by gender but vary significantly by both age and race/ethnicity, resulting in significant health disparities. (See Figures 1 and 2, next page.) Forty percent of adults ages 40-59 are obese, compared with about 30% of both older and younger adults. African American women are more likely than other adults to be obese.

As obesity prevalence has increased among Americans, so have rates of associated chronic conditions. In 1958, 1.6 million Americans were living with diagnosed diabetes.<sup>16</sup> By 2008, that had increased to 17.9 million,—a rise in diagnosed prevalence of more than

Figure 1

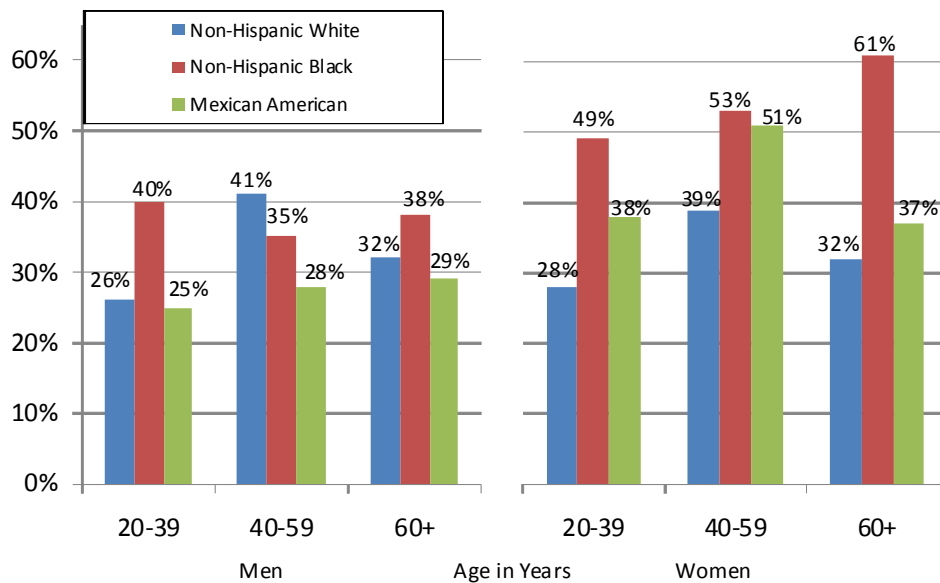
### Adult Obesity Differs Across Age Groups



Source: CDC/NCHS. 2007.

Figure 2

### Adult Obesity Differs By Race/Ethnicity



Source: CDC/NCHS. 2007.

1,000 percent. Another 5.7 million people are undiagnosed, bringing the total diabetes burden to nearly 24 million people—almost 8 percent of the entire American population.<sup>17</sup> Virtually all the increase in diabetes prevalence during this period is associated with rising rates of overweight and obesity. Overall, more than a quarter of the increase in U.S. health spending is attributable to the rise in obesity over the past two decades. If the prevalence of obesity were the same today as in 1987, health care spending in the U.S. would be 10 percent lower per person, or about \$200 billion less each and every year. Health care costs would have risen 0.7 percentage points less per year, every year—a hefty amount over time.<sup>18</sup>

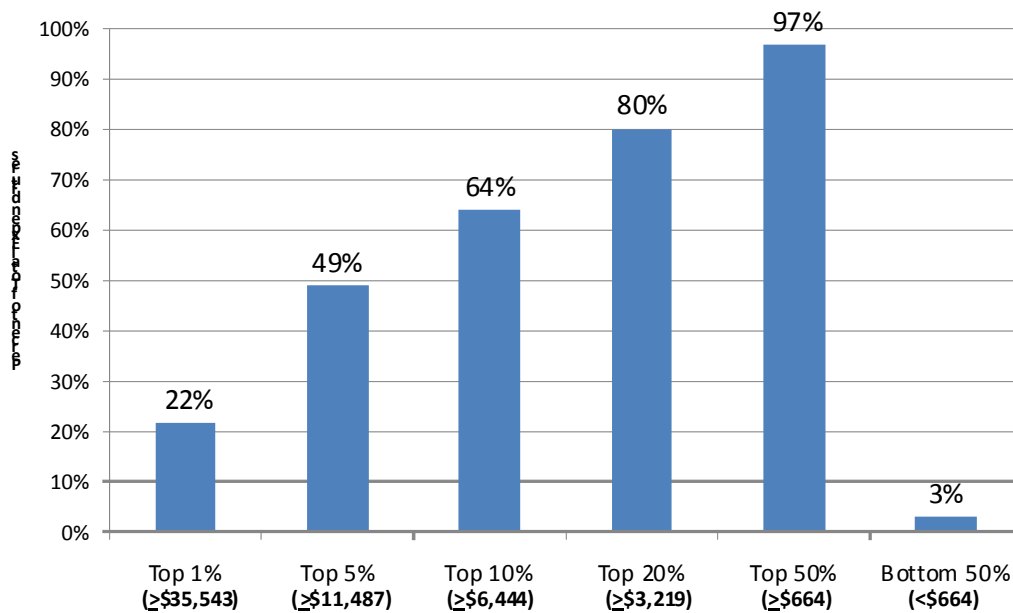
Although tobacco use has sharply declined over the last forty-plus years, more than one in five U.S. adults still smoke, about 46 million people. The majority—70 percent—say they would like to quit. Smoking-related chronic diseases include cancers, cardiovascular disease, and respiratory diseases.<sup>19</sup> Prenatal exposure to tobacco smoke is a major risk factor associated with Sudden Infant Death Syndrome (SIDS),<sup>20</sup> infant prematurity, and low birthweight.<sup>21</sup> Parental smoking is associated with higher rates of childhood asthma, an increased likelihood of using asthma medications, and an earlier onset of the disease.<sup>22</sup> Tobacco use causes 440,000 deaths in the United States every year. Deaths associated with smoking account for more deaths than AIDS, alcohol use, cocaine use, heroin use, homicides, suicides, motor vehicle crashes, and fires combined.<sup>23</sup> Additionally, about 8.6 million people are disabled by a disease caused by smoking, such as lung cancer or chronic obstructive pulmonary disease.<sup>24,25</sup> For every person who dies of a smoking-related disease, 20 more are living with at least one serious illness. Smoking cost the United States over \$193 billion

in 2004, including \$97 billion in lost productivity and \$96 billion in direct health care expenditures, or an average of \$4,260 per adult smoker.<sup>26</sup>

To slow the rise in health spending, our nation must significantly reduce obesity and smoking in order to reduce the incidence and prevalence of chronic diseases. Figures 3 and 4, below and on page 8, respectively, show how spending is concentrated among patients and conditions.

Figure 3

## A Relative Few Account For Most Spending

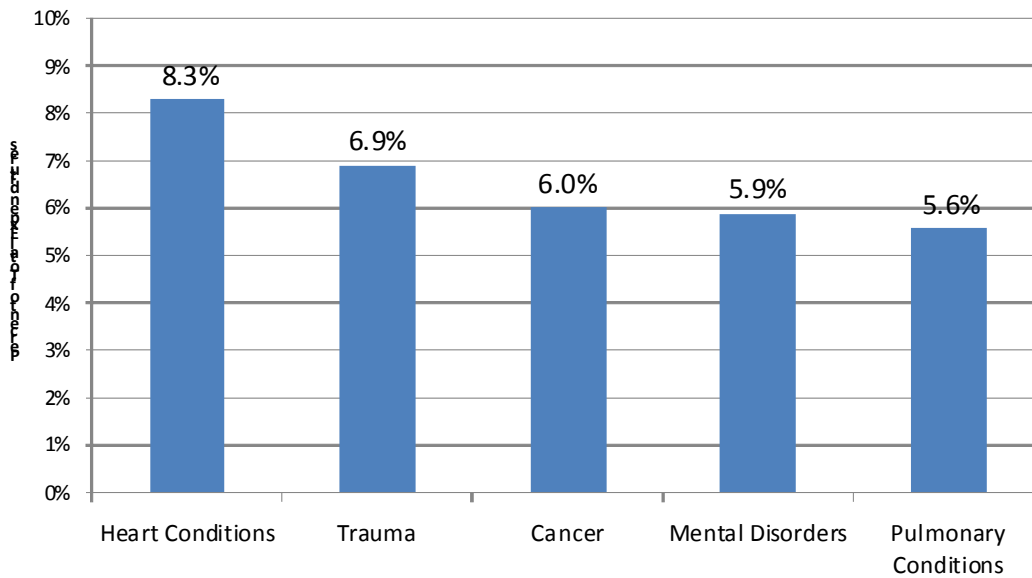


Source: Conwell LJ, Cohen JW. Characteristics of people with high medical expenses in the U.S. civilian noninstitutionalized population, 2002. *Statistical Brief #73*. March 2005. Agency for Healthcare Research and Quality, Rockville, MD.  
Note: Figures in parentheses are expenses per person.

Investing in effective primary prevention is essential. The long-term financial incentives are substantial, particularly for Medicare to fight obesity and improve the health status of both newly enrolled and current beneficiaries. At least 80 percent of older

Figure 4

## 5 Costly Conditions Account For 35% of Spending



Source: Olin GL, Rhoades JA. The five most costly medical conditions, 1997 and 2002: estimates for the U.S. civilian noninstitutionalized population. *Statistical Brief #80*. Agency for Healthcare Research and Quality, Rockville, MD.

Americans are living with at least one chronic condition, and 50 percent have at least two. More than half of Medicare beneficiaries are currently treated for five or more medical conditions annually, accounting for over three-quarters of total program spending.<sup>27</sup> More than a third report having a disabling condition that limits their daily activities; these adults are less likely to be physically active and more likely to be obese.<sup>28</sup>

Two recent studies have demonstrated that seniors aged 65-70 who are normal weight, with no chronic diseases, spend 15-40 percent less over their lifetime than do obese adults with chronic diseases.<sup>29</sup> If we applied those potential savings to Medicare for *just this year*, that would represent between \$66 billion and \$177 billion.<sup>30</sup> The cost of providing health care for a patient aged 65 or older is three to five times greater than the cost for someone

younger than 65,<sup>31</sup> and thus sizeable potential downstream savings accrue to Medicare if beneficiaries are in better health prior to enrolling in the program. A large study of both men and women found that those with favorable cardiovascular risk profiles before age 65 had substantially lower average Medicare charges: overall, two thirds lower for men and half as low for women. Charges related to both cardiovascular disease and cancer, specifically, were less for those who entered Medicare heart-healthy.<sup>32</sup> Another large study found that spending even in the last year of life, when charges are generally highest, was lower for those who entered Medicare at low risk for heart disease.<sup>33</sup> Unfortunately, that is not true for many soon-to-be-eligible beneficiaries: In 2005, CDC documented that half of Americans aged 55-64 years had high blood pressure and 40 percent were obese.<sup>34</sup> Reducing the number of Americans who enter Medicare chronically unhealthy is a cornerstone to reducing costs over the long term, and so is keeping them as healthy as possible once they are enrolled. Effective lifestyle interventions that reduce the share of adults 65 and older who are obese and overweight by 10 percentage points could lower the average growth in Medicare spending over the next decade or two by approximately 0.3 percentage points annually.<sup>35</sup>

### **Effective Primary Prevention**

Addressing the high and rising rates of chronic disease will require effective disease prevention programs (primary prevention), disease detection (secondary prevention), and disease treatment (tertiary prevention). Most of the academic literature has historically focused on the role that secondary prevention—disease detection—has assumed in reducing health care spending. Most clinical preventive services—by design—add modestly

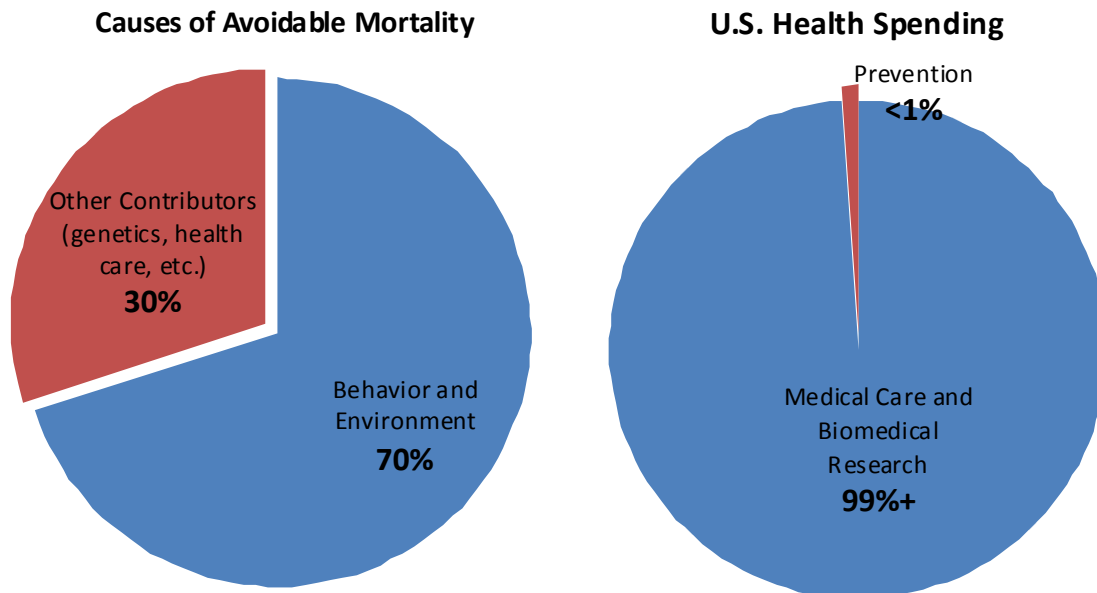
to overall health costs. However, several clinical screens, such as diabetes screening targeted to patients with hypertension, especially those 55 to 75;<sup>36</sup> one-time colonoscopy screening for colorectal cancer among men ages 60 to 64;<sup>37</sup> and influenza vaccination appear to reduce total health care spending. Determining the most cost-effective applications for clinical preventive services requires answering the basic questions of who, what, when, where, and how. A leading source of information and data is the U.S. Preventive Services Task Force, an independent panel of experts in primary care and prevention that systematically reviews the evidence of effectiveness and develops recommendations for clinical preventive services.

Far less attention has been paid to the role that *primary* prevention—a key policy tool highlighted in both Senator Obama’s and McCain’s health care proposals—could assume in reducing health care spending and improving overall health outcomes. Figure 5, next page, shows our nation’s relative investment in prevention—less than 1 percent of our nation’s health spending is directed to avoiding health problems rather than fixing them. To put this into context, consider that, in 2007, the medical costs of diabetes were \$116 billion. That includes \$27 billion in care directly for diabetes, \$58 billion to treat diabetes-related chronic health complications, and \$31 billion in excess general medical costs.<sup>38</sup> The enacted FY08 budget for CDC’s National Center for Chronic Disease Prevention and Health Promotion was \$833 million.<sup>39</sup>

The Preventive Services Task Force has a public health analog, the Task Force on Community Preventive Services, which examines the evidence for population-based prevention services. A growing body of research supports the effectiveness of individual and population-based primary prevention for obesity and smoking, as well as other needed

Figure 5

## How We Spend Our Health Dollar



Source: Institute of Medicine. 2003. *The Future of the Public's Health in the 21<sup>st</sup> Century*. Washington, D.C.: The National Academies Press.  
Citing: McGinnis JM, Williams-Russo P, Knickman JR. 2002. "The Case for More Active Policy Attention to Health Promotion." *Health Affairs* 21:78-93 and McGinnis GM, Foegen WH. 1993. "Actual Causes of Death in the United States." *JAMA* 270(18): 2207-2212.

interventions. Considerable and growing evidence shows that well-designed, targeted interventions designed to prevent disease (primary prevention) save money. Relatively little attention has been given to identifying the key design features of these effective interventions and to making them more widely used and available.

Research points to multiple examples of effective primary prevention interventions that, if more widely adopted, could reduce health care spending and improve patient outcomes. These include school-based programs, community-based interventions, and worksite health promotion (WHP) combining primary prevention to forestall disease as well as secondary prevention to improve health.

Several scientific reviews report that WHP programs reduce medical costs and absenteeism and produce a positive return on investment. For example: At Citibank, a comprehensive health management program showed an ROI of \$4.70 for every \$1 in cost. A similar comprehensive program at Johnson & Johnson reduced health risks including high cholesterol levels, cigarette smoking, and high blood pressure, and saved the company up to \$8.8 million annually.<sup>40</sup> Other companies such as Hannaford Brothers (\$6 million in savings) and Safeway grocers have reported similarly positive results. These empirical studies have demonstrated two significant results: First, lifestyle interventions can be effective in reducing the prevalence of chronic disease and overall health care spending, and, second, program design is critically important to program success. The key to successful programs is evidence-based design and delivery. Based on these rigorous assessments of best practices, key design features of successful programs include:

- financial incentives to participate in health risk appraisals,
- reducing or eliminating cost sharing for preventive services,
- carefully crafted individualized care plans with incentives to meet key objectives,
- the availability of health care personnel at the workplace,
- and leadership from the top.

There is also substantial evidence of the cost reductions that accrue from well-designed smoking cessation programs. One recent study examining Florida results found that each \$1 spent on a cessation program produced savings of \$1.90 to \$5.75.<sup>41</sup> Identifying the key design features of these programs and providing both information and financial incentives to smaller firms to adopt them would be a wise investment.

Evidence-based community and school-based programs show similar returns on investment. A recent analysis from the Trust for America's Health and others found significant reductions in total health care spending linked to well-designed and implemented community-based lifestyle interventions. Savings ranged from a short-term return on investment of \$1 for every dollar invested, rising to more than \$6 over the longer term.<sup>42</sup>

Our website, [www.fightchronicdisease.org](http://www.fightchronicdisease.org), contains a comprehensive catalog of school, community, and workplace based programs that have been effective in reducing disease prevalence and or costs. A multifaceted approach—reaching people where they live, play, work and go to school—will be critical.<sup>43</sup> In addition, health coverage policy tools are available, including a universal wellness benefit for adults and eliminating (or sharply reducing) copays on prevention services. The benefits of these policy strategies are proven, and they should be widely implemented.

#### **Four Policy Options for Integrating Best Practice Approaches to Prevention and Care Management Into Health Care Reform**

The key spending facts presented above provide a clear framework for interventions that reduce disease prevalence through reductions in obesity and smoking and more effective management of chronically ill patients. These initiatives are important for Medicare and Medicaid as well as for private health plans and employers, employees, and retirees. I will very briefly outline four policies that could improve health and reduce health spending:

1. Implementing a **universal wellness, prevention, and treatment benefit**

encompassing chronic disease risk reduction, screening, and treatment for uninsured adults modeled on existing CDC programs for low-income, uninsured adults. This benefit would not substitute for universal coverage, but would provide immediate population health and treatment options for the uninsured. This benefit could incorporate some of the key design elements of successful workplace health promotion programs outlined above. As a result, the benefit could significantly improve the health of working age adults as well as their health profile as they enter Medicare, offering significant long-term cost savings. The comprehensive program should include population health management, disease screening, and treatment designed to prevent disease, detect and diagnose early and, where appropriate, provide care in the most appropriate health care settings.

Over time, this wellness benefit could be extended via federal grants to states and to small employers, allowing them to offer similar benefits to younger uninsured adults (and children) in community settings, schools, and small businesses. Within two years, the wellness benefit should be available to all uninsured adults and children on a temporary basis as the discussion over expanded insurance unfolds.

The new wellness benefit should adopt the key design features of workplace and community-based primary prevention interventions demonstrated in the research literature to improve health outcomes and reduce costs. To fully realize the benefit's gains, those without insurance who are diagnosed with any of the six most common serious chronic medical conditions (cancers, diabetes, heart disease, hypertension, stroke, and pulmonary conditions) should receive clinically appropriate medical treatment. An existing model for this approach is CDC's Breast and Cervical Cancer Treatment Program.<sup>44</sup>

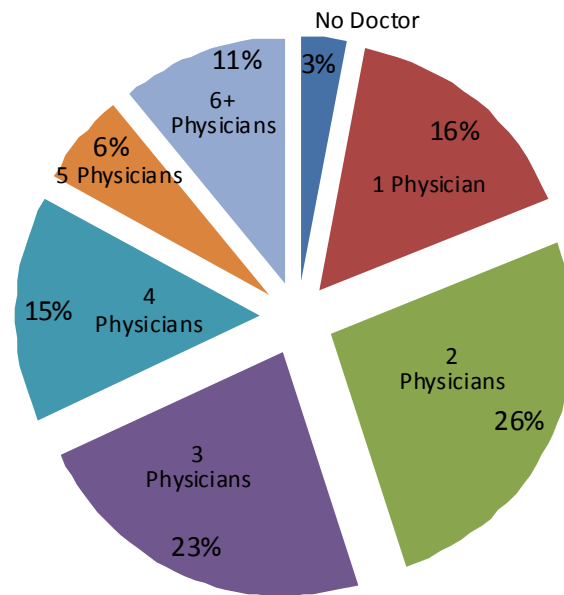
Uninsured and underinsured women at or below 250 percent of federal poverty level are eligible for cervical screening (ages 18 to 64) and breast screening (ages 40 to 64). Services include clinical breast examinations, mammograms, Pap tests, diagnostic testing for women whose screening outcome is abnormal, surgical consultation, and referrals to treatment. Another CDC program, WISEWOMAN, provides screening and lifestyle interventions for many low-income, uninsured, or under-insured women aged 40–64 (also women eligible for Medicare, but unable to pay the Part B premium), including blood pressure, cholesterol, and diabetes screening/testing; dietary, physical activity, and smoking cessation interventions/classes; and medical referral and follow-up as appropriate.<sup>45</sup> Using these successful programs as a model, though applied to a broader range of conditions, the wellness benefit should cover all clinically indicated preventive maintenance care (e.g., annual eye and foot exams, hypertension screening and treatment, HbA1c testing, nutritional counseling), all with no cost sharing.

Prevention services such as physical exams in Medicare should also be at no cost to beneficiaries. Although Medicare has several preventive benefits, they chiefly cover screenings, not lifestyle modification, and are designed to detect disease earlier—but, with few exceptions, detection may not reduce spending and likely actually increases it, as more people are diagnosed and treated. Deductibles and cost sharing that apply to these benefits discourage their use and limit potential effectiveness. For example, new beneficiaries bear the full cost of the “Welcome to Medicare” physical exam if they have not yet met their annual deductible; if they have, they have a 20 percent co-pay. This is penny wise and pound foolish—Medicare has a substantial incentive to make sure beneficiaries entering the program are healthy, normal weight, non-disabled, and without chronic illness.

2. Sustaining science-based community-level interventions with **community challenge grants**. The Steps to a Healthier US Cooperative Agreement Program is a national, multi-level program that funds communities to implement chronic disease prevention and health promotion programs that target three major chronic diseases—diabetes, obesity, and asthma and their underlying risk factors of physical inactivity, poor nutrition, and tobacco use. This program should be expanded with the stipulation that grantees must use evidence-based approaches from data collected by the CDC and others.
  
3. Supporting evidence-based **worksite health promotion**. As Senator Harkin noted in submitting Senate Resolution 673—which was agreed to by unanimous consent—the *Healthy People 2010* national objectives for the United States include the workplace health-related goal that at least 75 percent of employers, regardless of size, will voluntarily offer a comprehensive employee health promotion program. Workplace health interventions have a proven track record, and should be incentivized.
  
4. Finally, creating **more effective care management** in the traditional Medicare program is a key priority. Today’s chronically ill patients receive just 56 percent of the clinically recommended preventive and maintenance care they need.<sup>46</sup> Changing this will require creating more integrated health care delivery models, bundling payments to health care providers, and accelerating the diffusion of health information technology. Moving in this direction is particularly challenging given fragmentation of benefit design (Parts A, B, D), and of clinical information, and thus, of treatment. (Figure 6, next page, shows the fragmentation of care for patients with chronic conditions.)

Figure 6

## Fragmented Care—More Than Half of People with Serious Chronic Conditions Have 3 or More Physicians



Source: Jane Horvath, "Reining in the Cost of Chronic Illness," AHRQ, 2003 <http://www.ahrq.gov/news/ulp/hicosttele/se/s2/horvathtxt.htm>.

Most physician practices (83 percent) consist of just one or two doctors<sup>47</sup>—they account for nearly 45 percent of all physicians nationally. While larger groups may move toward a medical home concept, an alternative approach will be required for most smaller-group practices. This could occur by strengthening primary care by linking smaller physician practices with community health teams (CHT) comprising care coordinators, nurse practitioners, social and mental health workers, community health and outreach workers. This model can help ensure that evidence-based clinical preventive services reach those who need them. In combination, CHT and physician practices would meet the criteria for a medical home. Recent evaluations of care management interventions have found the potential for substantial savings in high per capita cost Medicare areas, including one in

Florida that resulted in a 9.6 percent reduction in spending for congestive heart failure patients in high cost areas near Miami.<sup>48</sup>

In addition to Medicare, other payors, such as Medicaid, private health plans, and self-insured firms could voluntarily contract with the CHTs to provide prevention and care management, particularly in areas with underdeveloped care management capacity. These teams have proven effective in North Carolina, demonstrating cost savings, improved health outcomes, and increased access to needed services.<sup>49</sup> Another is under development for patients in Vermont, following state legislation passed in 2007.<sup>50</sup> Pennsylvania has established a similar initiative.<sup>51</sup> The CHT model capitalizes on missed opportunities for prevention and better case management that can trim overall health costs, particularly by reducing poor medical management outside physicians' offices, thereby reducing preventable hospital admissions.

Incentives for improving health outcomes and reducing unnecessary care are an essential element of integrated care. Integrated care teams, both the primary care practices and the CHT staff, should be eligible for additional payments if key performance measures are met. The National Quality Forum is working to develop consensus measures focused on preventable hospital readmissions.<sup>52</sup> Lower readmissions for key chronic conditions should be a major focus of these new and expanded primary care practices. MedPAC has estimated that 18 percent of all hospital stays resulted in a readmission within 30 days.<sup>53</sup> Medicare paid \$15 billion for those readmissions, of which approximately \$12 billion were potentially avoidable. Other measures could include improvement in clinically recommended services, such as blood sugar and blood pressure exams, which are often not provided, resulting in unnecessary hospital, clinic, and emergency room visits when more acute stages of chronic

illnesses occur. Improvements in other measures with clinical consensus in the management of diabetes, hypertension, and pulmonary disease, among other conditions, could also be used to incent better care quality and health outcomes.

## **Conclusions**

Reforming the way in which the U.S. health system provides care to chronically ill patients is an essential first step in rationalizing our nation's health investment. Reforming the traditional fee-for-service Medicare program would go a long way in spurring this transformation. The United States leads industrialized nations in per capita and total health spending.<sup>54</sup> But we are last in preventable mortality.<sup>55</sup> Good preventive benefits alone are not sufficient to achieve high rates of preventive care. The major reasons for low uptake are beneficiary cost-sharing, lack of comprehensive coverage for all recommended services, patients' health literacy and knowledge of preventive services, language barriers, physicians' time/payment for preventive services, and the lack of a regular source of care or provider.<sup>56</sup> Care itself—along with how we finance and pay for that care—must change.

The broader use of primary prevention efforts in schools, workplaces, and communities can reduce the growth in chronic disease and with it health care spending. Coupled with enhanced primary, secondary, and tertiary prevention in clinical settings, the opportunities for cost savings are substantial. These elements should be carefully coordinated in the design of health insurance benefits (e.g., no cost sharing for services clearly needed to manage and treat chronic disease) and in the redesign of our health care delivery system. Placing more emphasis on prevention and redesigning the care management process in the traditional Medicare program presents a clear and immediate opportunity and challenge. I look forward to working with all of you on this issue.

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<sup>19</sup> V.J. Rock, A. Malarchar, J.W. Kahende, et al., “Cigarette Smoking Among Adults—United States, 2006,” *Morbidity and Mortality Weekly Report* 56, no. 44 (2007): 1157-1161.

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Smoking-related cardiovascular diseases include: coronary heart disease (CHD), angina pectoris, heart attack, and stroke.

Smoking-related respiratory diseases include: emphysema and chronic bronchitis.

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<sup>21</sup> R.S. Hopkins, L.E. Tyler, B.K. Mortensen, “Effects of Maternal Cigarette Smoking on Birth Weight and Preterm Birth—Ohio, 1989,” *Morbidity and Mortality Weekly Report* 39, no. 38 (1990): 662-665.

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<sup>23</sup> American Lung Association. *Smoking 101 Factsheet*. August 2008.

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<sup>24</sup> Centers for Disease Control and Prevention. “Cigarette Smoking Attributable Morbidity—U.S., 2000.” *Morbidity and Mortality Weekly Report* 52, no. 35 (2003): 842-844.

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<sup>27</sup> K.E. Thorpe and D.H. Howard, “The Rise in Spending Among Medicare Beneficiaries: The Role of Chronic Disease Prevalence and Changes in Treatment Intensity,” *Health Affairs* 25, no. 5 (2006): 378-388.

<sup>28</sup> Centers for Disease Control and Prevention and The Merck Company Foundation. *The State of Aging and Health in America 2007* (Whitehouse Station, NJ: The Merck Company Foundation, 2007), [http://www.cdc.gov/aging/pdf/saha\\_2007.pdf](http://www.cdc.gov/aging/pdf/saha_2007.pdf) (accessed July 22, 2008).

<sup>29</sup> D.N. Lakdawalla, D.P. Goldman, and B. Shang, “The Health and Cost Consequences of Obesity among the Future Elderly,” *Health Affairs* W5 (2005):R30-R41.

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<sup>42</sup> Trust for America's Health. *Prevention for a Healthier America: Investments in Disease Prevention Yield Significant Savings, Stronger Communities* (Washington, D.C.: TFAH, 2008).

<sup>43</sup> K.E. Thorpe, "The Rise in Health Care Spending And What To Do About It," *Health Affairs* 2005; 24(6): 1436-1445.

<sup>44</sup> Centers for Disease Control and Prevention, "National Breast and Cervical Cancer Early Detection Program," <http://www.cdc.gov/cancer/NBCCEDP/> (accessed November 7, 2008).

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