

Testimony As Prepared For Delivery

Kenneth E. Thorpe, Ph.D.

**Executive Director, Institute for Advanced Policy Solutions, and
Chair, Department of Health Policy and Management,
Rollins School of Public Health, Emory University
and**

Executive Director, The Partnership to Fight Chronic Disease

**House Appropriations Subcommittee on Labor, Health and
Human Services, Education and Related Agencies**

Thursday, February 14, 2008

Mr. Chairman, Mr. Walsh, and members of the Subcommittee, thank you for the opportunity to testify today on the economic and social consequences of inadequate investment in public health programs, particularly those targeting chronic diseases.

Among the many serious challenges our nation faces, few have more grave long-term consequences than under-investment in population-based prevention and clinical management, including research and evaluation into effectiveness, because that under-investment is directly traceable to increased morbidity and mortality, decreased productivity, and higher health care expenditures, in both the public and private sectors.

Chronic diseases are the number one cause of death and disability in the United States.¹ More than 133 million Americans – 45 percent of the total population – have at least one chronic disease.² Chronic diseases kill more than 1.7 million Americans yearly, and account for 7 of every 10 deaths and one-third of years of potential life lost before age 65.³

The toll on health and wellbeing is concerning enough. But the financial costs are also troubling. Chronic diseases account for fully 75 percent of the nation's overall health care spending.⁴ In public programs, the proportion is even higher. Virtually all Medicare spending – 96 cents of every dollar – is spent on chronic disease care and treatment. For Medicaid, the cost is 83 cents on the dollar.⁵ Of the roughly \$1.75 trillion dollars expended on direct health costs in 2006, an estimated \$1.3 trillion was spent on chronic disease.⁶

Those figures represent just the direct costs. By some measures, indirect costs actually dwarf the money spent on treatment. A groundbreaking study by the Milken

Institute reported late last year that treatment costs for the seven most common chronic illnesses – cancers, diabetes, heart disease, hypertension, stroke, mental disorders, and pulmonary conditions – ran to \$277 billion in 2003. That figure does not include treatment costs for secondary conditions and complications. But indirect costs were nearly four times as high: totaling more than \$1 trillion.⁷

The average annual growth rate in national health expenditures for 2000 through 2007 was 7.5 percent. Much of the increase in spending – by some measures as much as 20 percent – is attributable to the rise in obesity in the U.S. over the past two decades.⁸ According to the Centers for Disease Control and Prevention, more than a third of U.S. adults are now obese, and two-thirds are either obese or overweight – double the proportion 20 years ago.⁹ CDC reports that 1998 aggregate adult medical expenditures attributable to overweight and obesity were estimated to be \$78.5 billion using 1998 National Health Accounts data. Approximately half these costs were paid for by Medicaid and Medicare. For obesity alone, the estimated costs were still \$47.5 billion.¹⁰ Spending increases are attributable not only to rising incidence and prevalence of obesity and its associated sequelae, such as diabetes and heart disease, but also to more intensive treatment of overweight and obese patients. 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.¹¹

Despite these significant and growing expenditures, however, research shows that chronically ill patients receive only 56 percent of clinically recommended health care.¹² In other words, while America is spending a staggering amount on chronic disease care, objective measures indicate we may not be spending wisely or well to treat chronically ill patients. This discrepancy results chiefly from systemic inadequacies: The American health care system was built to deliver health care services to acutely ill patients requiring episodic care, not to patients who are chronically, persistently in need of medical care.

In short, America spends more on health care than any other industrialized nation, but by many measures, our spending is not achieving the results we want and need.¹³ Aside from the question of whether our spending is sustainable at 16 percent of GDP and rising, we face the very real question of whether our spending is sensible, given the results it garners.

A study in this month's *Health Affairs*, for example, by Ellen Nolte and Martin McKee, compares trends in deaths considered amenable to health care before age 75 between 1997–98 and 2002–03 in the United States and in eighteen other industrialized countries.¹⁴ These preventable deaths account, on average, for 23 percent of total mortality among males and 32 percent among females under age 75. As you might expect, the majority of the conditions responsible for preventable deaths are

chronic conditions: cancers, diabetes, ischemic heart disease, and other circulatory disorders. In the OECD countries in the study, the decline in amenable mortality in all countries averaged 16 percent. But the United States was an outlier, with a decline of only 4 percent. If the United States could have reduced amenable mortality to the average rate achieved in the three top-performing countries – France, Japan, and Australia – there would have been 101,000 fewer deaths per year. Mr. Chairman, that's more than the populations of Superior, Wausau, and Stevens Point (Wisconsin) combined.

The rate of amenable mortality is an indicator of overall health system performance. America's significant performance gap is a worrisome signal our system isn't performing well against a set of relative health measures. What this study doesn't explain is why the system isn't performing up to par, or in what components of health care, or for what patients. Those are critical questions health services research can answer, if America chooses to invest in it. We also need to better understand what population-based prevention strategies work best.

On our current trajectory, cases of chronic disease will significantly increase, along with their associated direct and indirect costs. The truth is, though, the vast majority of chronic disease could be prevented or better managed. We know from estimates from the CDC, for example, that 80 percent of heart disease, stroke, and type 2 diabetes and 40 percent of cancer could be prevented if Americans would do three things: stop smoking, start eating better, and start exercising.¹⁵

Of particular prevention focus should be our most vulnerable populations, including children and adolescents and racial and ethnic minorities. As with adults, the prevalence of overweight among children aged 6 to 11 more than doubled in the past 20 years, going from 7 percent in 1980 to nearly 19 percent in 2004. The rate among adolescents 12 to 19 years old more than tripled, increasing from 5 percent to 17 percent.¹⁶ Clinically-based reports and regional studies suggest that type 2 diabetes, although still rare, is being diagnosed more frequently in children and adolescents, particularly in American Indians, African Americans, and Hispanic/Latino Americans.¹⁷ Alarming, an estimated 61 percent of overweight young people have at least one additional risk factor for heart disease, such as high cholesterol or high blood pressure.¹⁸ In addition, children who are overweight are at greater risk for bone and joint problems, sleep apnea, and social and psychological problems. Overweight young people are more likely than children of normal weight to become overweight or obese adults, and therefore more at risk for associated adult health problems, including heart disease, type 2 diabetes, stroke, several types of cancer, and osteoarthritis¹⁹ – all conditions that can in most instances be prevented.

Preventable morbidity and mortality continue to take an unconscionable disparate toll on America's racial and ethnic minority groups. For example, CDC reports that heart disease death rates are more than 40 percent higher for African Americans than for whites. The death rate for all cancers is 30 percent higher for African Americans than for whites; for prostate cancer, it is more than double that for whites. African American women have a higher death rate from breast cancer despite having a mammography screening rate that is nearly the same as the rate for white women. The death rate from HIV/AIDS for African Americans is more than seven times that for whites. Hispanics living in the United States, as well as American Indians and Alaska Natives, are almost twice as likely to die from diabetes as are non-Hispanic whites. Hispanics also have higher rates of high blood pressure and obesity than non-Hispanic whites.²⁰ These conditions can largely be prevented and their individual and collective impact reduced.

But America's investment in prevention is woefully inadequate – including our investment in understanding what works, for whom, under what conditions, and why. The evidence base for population-based prevention programs as well as for clinical care and treatment is insufficient to make truly sound investments in prevention, even if we chose to do so. We must increase R&D in prevention to ensure we see a better return on both our prevention and health care investments.

Policymakers in both the public and private sector have little information concerning cost-effective prevention programs and approaches for managing chronic disease. Despite the fact America spends more than \$2 trillion annually on health care, we do not have even the most basic, up-to-date data at the state level on health care spending. Our health care information system is simply deficient for sound decision making. The private sector similarly has insufficient data for robust human capital planning and programming.

Increasingly, however, corporate America recognizes the inextricable link between health and productivity, and that a healthier workforce translates to a healthier bottom line. And changes in the type and structure of work are facilitating change, according to the Institute of Medicine. A shift from manufacturing to services, knowledge-centered, and mobile work has changed the focus of occupational health from physical injury and exposure-related illness prevention and management to enhancing performance, productivity, and resilience of workers. The impact of non-occupational illness, chiefly chronic disease, on performance, productivity, and health care costs now outweighs that of occupational illnesses and injuries for many employers. There is, however, an opportunity to lessen the impact of these illnesses through an integrated, total health approach.²¹ Before American businesses can leverage integrated programs, however, we need to understand what works.

For example, case studies from Citibank, Johnson & Johnson, Procter & Gamble, and Highmark all demonstrate returns on investment, but those returns varied significantly. At Citibank, a comprehensive health management program showed an ROI of \$4.70 for every \$1 in cost.^{22,23} 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.^{24,25} Procter & Gamble saw reductions in hospital admissions and in-patient days as well as overall health care costs, but posted an ROI of just \$1.49 for every dollar invested.²⁶ Highmark's ROI was \$1.65 for every dollar invested.²⁷ To sum up, estimates of ROI are highly variable and research to date cannot account for that variability adequately, or explain why successful programs work.²⁸ There is a gap between science and practice that must be closed.

Critically needed are intervention evaluations and identification of effective programs – those that prevent the rise in obesity and chronic health conditions, such as diabetes and HIV. We also need far more information on how best to manage patients with multiple chronic health conditions – the patients who account for three-quarters of our health care spending. Once effective management plans are identified, we need targeted strategies for providing incentives for employers, schools, and communities to adopt these demonstrated “best practice” programs.

Yet of the \$2.1 trillion spent on health in 2006, just 3 percent, or slightly over \$63 billion, was allocated to all government public health activities, local, state, and federal. That same year, CDC spent \$834 million on chronic disease prevention, health promotion, and genomics, including \$63 million on diabetes and prevention and control.²⁹ In contrast, the total annual economic cost of diabetes last year was estimated to be \$174 billion, according to the American Diabetes Association. Indirect costs resulting from increased absenteeism, reduced productivity, disease-related unemployment disability, and loss of productive capacity due to early mortality totaled \$58 billion. We spent \$27 billion for diabetes care, \$58 billion for chronic diabetes-related complications, and \$31 billion for excess general medical costs, for a total direct cost of \$116 billion.³⁰ Perverse incentives in our health care system are key drivers of this spending: Private insurers often will not cover a \$150 preventive office visit for a diabetic patient to visit a podiatrist, but they will cover a foot amputation at \$30,000.³¹

We have to take a hard look at relative investment: In 2006, CDC's spending on chronic disease prevention and control was \$6.27 for each one of the 133 million Americans with one or more chronic conditions. The same group accounted for an average of \$13,143 in health care spending that year.³²

To look at it another way, our nation's estimated investment in health services research last year was just an estimated \$1.5 billion.³³ Booz Allen Hamilton's annual

report of investment by the top 1000 firms globally shows that private sector health care R&D was \$97.8 billion in 2006, or roughly sixty-five times as much.³⁴

The best health and health policy decisions are based on data and scientific evidence. Health services research provides the data and evidence needed to make decisions and develop policies that optimize health care financing, delivery, access, and outcomes. It provides policymakers, practitioners, and other decision makers the necessary tools to make America's health care:

- *Affordable*, by decreasing cost growth to levels sustainable by individuals and the country.
- *Efficient*, by decreasing waste and overpayment and monitoring cost-effectiveness of care.
- *Safe*, by decreasing preventable medical errors and adverse drug events, monitoring public health, and improving health system preparedness.
- *Effective*, by monitoring and evaluating health programs and outcomes and improving implementation of evidence-based innovations as part of routine health care.
- *Equitable*, by eliminating disparities in health and health care according to ethnicity, gender, and geographic location, as well as socio-economic and insurance status.
- *Accessible*, by connecting people with the appropriate health care they need when they need it.
- *Patient-centered*, by increasing patient engagement in their care, as well as their satisfaction with the care they receive.

Similarly, public health research and evaluation can help guide population-based prevention services, by ensuring that promising programs are fine-tuned, that successful interventions are scaled up, and that nonperforming programs are redirected.

The director of the Centers for Disease Control and Prevention, Dr. Julie Gerberding, has noted with concern what she aptly terms the disequilibrium in our nation's health spending and health research. "New science will lead to new solutions that will improve people's health and safety and the nation's economic viability for years to come," she has written.³⁵ But only if we invest the resources to realize those returns on investment. An overall investment of 3 percent is simply inadequate to provide the information we need.

With that, I'll close, and I look forward to answering any questions you may have. I'd like to again offer my thanks for your invitation, and for this Subcommittee's long-standing commitment to health and public health.

Endnotes

- ¹ Centers for Disease Control and Prevention. "Chronic Disease Overview." <http://www.cdc.gov/nccdphp/overview.htm>. Accessed February 12, 2008.
- ² Wu S, Green A. 2000. "Projection of Chronic Illness Prevalence and Cost Inflation." RAND Corporation.
- ³ Centers for Disease Control and Prevention. "Chronic Disease Overview." <http://www.cdc.gov/nccdphp/overview.htm>. Accessed February 12, 2008.
- ⁴ Ibid.
- ⁵ Partnership to Fight Chronic Disease. "The Chronic Disease Crisis." <http://www.fightchronicdisease.com/crisis/index.cfm>. Accessed February 12, 2008.
- ⁶ Centers for Medicaid and Medicare Services, Office of the Actuary, National Health Statistics Group. January 2008. *2006 National Health Care Expenditures Data*.
- ⁷ DeVol R, Bedroussian A. 2007. *An Unhealthy America: The Economic Burden of Chronic Disease*. Santa Monica, California: The Milken Institute. Report available at: http://www.milkeninstitute.org/pdf/chronic_disease_report.pdf.
- ⁸ Partnership to Fight Chronic Disease. "An Unhealthy Truth: Rising Rates of Chronic Disease and the Future of Health in America." Online at: http://www.fightchronicdisease.com/pdfs/PFCDLaunch_FINAL5.14.ppt.
- ⁹ Ogden CL, Carroll MD, McDowell MA, Flegal KM. 2007. "Obesity among adults in the United States— no change since 2003–2004." *NCHS Data Brief No 1*. Hyattsville, MD: National Center for Health Statistics.
- ¹⁰ Centers for Disease Control and Prevention. "Overweight and Obesity: Economic Consequences." http://www.cdc.gov/nccdphp/dnpa/obesity/economic_consequences.htm. Accessed February 12, 2008.
- ¹¹ Partnership to Fight Chronic Disease. "An Unhealthy Truth: Rising Rates of Chronic Disease and the Future of Health in America." Online at: http://www.fightchronicdisease.com/pdfs/PFCDLaunch_FINAL5.14.ppt.
- ¹² McGlynn E., et al. 2003. "The Quality of Health Care Delivered to Adults in the United States." *New England Journal of Medicine* 348:2634-2645.
- ¹³ Organization for Economic Cooperation and Development (OECD). 2007. *Health at a Glance 2007: OECD Indicators*. http://www.oecd.org/document/14/0,3343,en_2649_34631_16502667_1_1_1_1,00.html. Accessed February 12, 2008.
- ¹⁴ Nolte E, McKee CM. 2008. "Measuring The Health of Nations: Updating An Earlier Analysis." *Health Affairs* 27(1): 58-71.
- ¹⁵ Mensah G. May 23, 2006. "Global and Domestic Health Priorities: Spotlight on Chronic Disease." National Business Group on Health. http://www.businessgrouphealth.org/pdfs/preventing_chronic_disease_issue_brief.pdf. Accessed February 12, 2008.
- ¹⁶ Ogden CL, Carroll MD, Curtin LR, McDowell MA, Tabak CJ, Flegal KM. 2006. "Prevalence of Overweight and Obesity in the United States, 1999-2004." *JAMA* 295: 1549-1555.
- ¹⁷ Centers for Disease Control and Prevention. "National Diabetes Fact Sheet, United States, 2005." http://www.cdc.gov/Diabetes/pubs/pdf/ndfs_2005.pdf. Accessed February 11, 2008.
- ¹⁸ Freedman DS, Dietz WH, Srinivasan SR, Bereson GS. 1999. "The Relation of Overweight to Cardiovascular Risk Factors Among Children and Adolescents: the Bogalusa Heart Study." *Journal of Pediatrics* 103(6): 1175-1182.

-
- ¹⁹ U.S. Surgeon General. "Overweight and Obesity: Health Consequences." http://www.surgeongeneral.gov/topics/obesity/calltoaction/fact_consequences.htm. Accessed February 11, 2008.
- ²⁰ Centers for Disease Control and Prevention. "About Minority Health." <http://www.cdc.gov/omhd/AMH/AMH.htm>. Accessed February 11, 2008.
- ²¹ Institute of Medicine, Committee to Assess Worksite Preventive Health Program Needs for NASA Employees. 2005. *Integrating Employee Health: A Model Program for NASA*. Washington, D.C.: National Academies Press.
- ²² Ozminkowski RJ, Goetzel RZ, et al. 2000. "The Impact of the Citibank, N.A., Health Management Program on Changes in Employee Health Risks Over Time." *Journal of Occupational and Environmental Medicine* 42(5): 502-511.
- ²³ Ozminkowski RJ, Dunn RL, et al. 1999. "A Return on Investment Evaluation of the Citibank, N.A., Health Management Program." *American Journal of Health Promotion* 44(1): 31-43.
- ²⁴ Goetzel RZ, Ozminkowski RL, et al. 2002. "The Long-Term Impact of Johnson & Johnson's Health & Wellness Program on Employee Health Risks." *Journal of Occupational and Environmental Medicine* 44(5): 417-424.
- ²⁵ Ozminkowski RJ, Ling D, et al. 2002. "Long-Term Impact of Johnson & Johnson's Health & Wellness Program on Health Care Utilization and Expenditures." *Journal of Occupational and Environmental Medicine* 44(1): 21-29.
- ²⁶ Goetzel, RZ, Jacobson BH, et al. 1998. "Health Care Costs of Worksite Health Promotion Participants and Non-Participants." *Journal of Occupational and Environmental Medicine* 40(4): 341-346.
- ²⁷ Goetzel RZ, Juday TR, Ozminkowski RJ. 1999. "What's the ROI? A Systematic Review of the Return on Investment Studies of Corporate Health and Productivity Management Initiatives." *AWHP's Worksite Health*, Summer: 12-21.
- ²⁸ Goetzel RZ, Schechter D, et al. 2007. 2007. "Promising Practices in Employer Health and Productivity Management Efforts : Findings from a Benchmarking Study." *Journal of Occupational and Environmental Medicine* 49(2): 111-130.
- ²⁹ Centers for Disease Control and Prevention. "At a Glance: Fiscal Year 2006 Budget." *State of CDC: 2006*, p. 34. <http://www.cdc.gov/about/stateofcdc/cdrom/SOCD/CDC/SOCD2006.pdf>. Accessed February 12, 2008.
- ³⁰ American Diabetes Association. "Economic Costs of Diabetes in the U.S. in 2007." *Diabetes Care* 31(3): 1-20.
- ³¹ Urbina I. 2006. "In the Treatment of Diabetes, Success Often Does Not Pay." *New York Times*, January 11.
- ³² Author's calculation using previously cited data.
- ³³ Coalition for Health Services Research. January 2008. *Federal Funding for Health Services Research* (In Draft).
- ³⁴ Jaruzelski B and DeHoff K. 2007. *The Customer Connection: The Global Innovation 1000*. <http://www.strategy-business.com/media/file/resilience-12-10-07.pdf>. Accessed February 12, 2008.
- ³⁵ Gerberding JL. 2005. "Protecting Health: The New Research Imperative." *Journal of the American Medical Association* 294(11): 1403-1406.