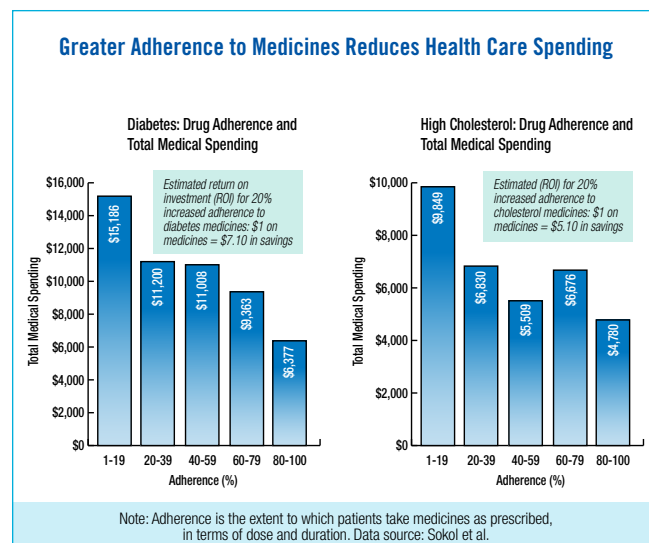


Evidence that Medicines Play a Key Role in Improving Health and Reducing Costs

In the last several years, many researchers have documented the key role that medicines play in maintaining health, lowering mortality, improving worker productivity, and preventing expensive emergency room visits and hospitalizations. Evidence of cost savings from appropriate use of medicines needs to be taken into account as policymakers seek solutions to health care cost increases. Examples of the growing body of research documenting medicines' role in producing better health outcomes and lower overall health costs are provided below.

Promoting Appropriate Treatment Reduces Hospitalizations and Deaths

- ▶ A 2005 study by Medco researchers estimates that in an employed, insured population, increased patient adherence to medicines used to treat diabetes, hypertension and high cholesterol yields between \$4 and \$7 of savings for every additional dollar spent on medicines during the one-year study period.¹



- ▶ A 2007 study in the journal *Health Affairs* reports that medicines that treat high blood pressure prevented 86,000 excess premature deaths in 2001 and 833,000 hospitalizations for stroke and heart attack in 2002. The Harvard and MIT researchers estimate that if all patients with high blood pressure were treated to guideline with antihypertensive medicines, an additional 89,000 premature deaths and 420,000 hospitalizations could be avoided annually.²
- ▶ A 2007 study by Vanderbilt University researchers published in *The Lancet* reports that vaccinating infants with the pneumococcal conjugate vaccine has resulted in a 39 percent drop in the number of U.S. children

hospitalized for pneumonia, which is the leading infectious cause of death among children. This equals a reduction of 41,000 hospital admissions in 2004.³

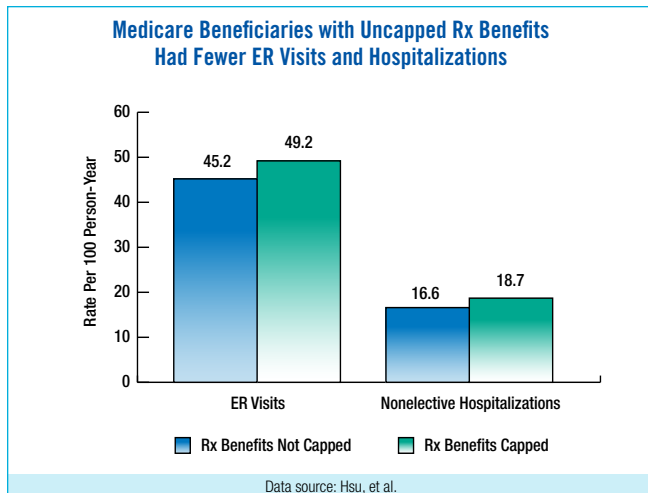
- ▶ A 2004 RAND study published in the *Journal of the American Medical Association* found that as patients' use of medicines declined due to increased copays, emergency room visits increased 17 percent and hospital stays rose 10 percent among patients with diabetes, asthma, and gastric acid diseases. This study covered privately insured persons within 52 health plans.⁴

Savings and Better Outcomes for Medicare Patients

- ▶ A 2007 National Bureau of Economic Research study examined the use of physician care, medicines, and hospital care by retirees in the California public employee system. The study found that hospitalizations increased as use of medicines and physician visits declined in response to copay increases in the retirees' Medicare supplemental insurance. The Harvard, MIT and University of Oregon researchers found "hospital spending increasing by almost \$2 for every \$1 saved on other spending – and Medicare's hospital spending increasing by more than \$6 for every \$1 saved on physician spending." These effects were "much larger for those with any chronic illness."⁵
- ▶ An evaluation of the impact of Medigap prescription drug coverage on the use of Medicare-covered hospital and physician care found that in 2005, a \$1 increase in prescription drug spending was associated with a \$1.63-\$2.05 reduction in Medicare Part A and Part B spending.⁶
- ▶ A 2007 study in *Health Affairs* estimates that providing a combination of medicines for free to patients who had a myocardial infarction would reduce the risk of death from coronary heart disease by 80 percent while saving the Medicare program \$5,600 per patient over a three-year period.⁷
- ▶ A 2006 study in the *New England Journal of Medicine*

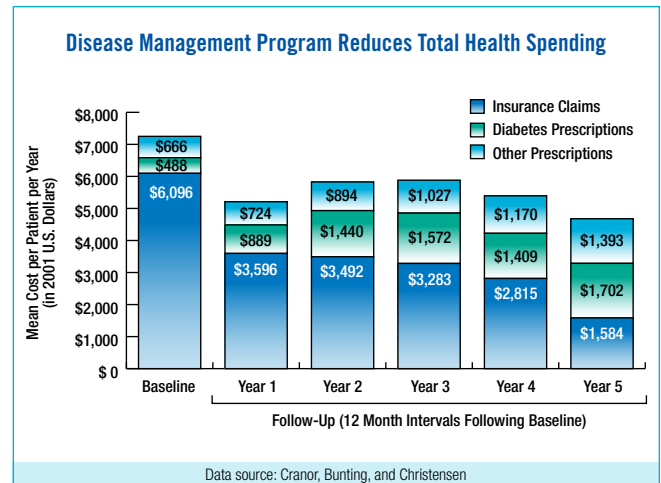
compared the health costs and outcomes of seniors with Medicare+Choice insurance that capped prescription drug benefits at \$1,000 per year to seniors in the same health plan with an uncapped prescription drug benefit.⁸ The prospective cohort study followed over 199,000 patients through 2003 and was authored by researchers from Kaiser Permanente, the University of California, San Francisco, the Harvard Medical School, the Harvard School of Public Health, and the Kennedy School of Government. The study reports that:

- › Patients subject to the cap had pharmacy costs that were 28 percent lower and physician costs that were 4 percent lower than those of patients not subject to the cap, but had hospital costs that were 13 percent higher, emergency department costs that were 9 percent higher and mortality increased by 0.68 percentage points (3.73% vs. 3.05%). There was no significant difference in total health costs between the groups with capped and uncapped pharmaceutical benefits.
- › Consumption of medicines to control high blood pressure, high cholesterol and diabetes ranged from 15 percent to 27 percent lower (depending on the specific condition) in the group subject to the cap than in the uncapped group;
- › Nonadherence to drug treatment for these conditions ranged from 23 percent to 30 percent higher (depending on the specific condition) in the capped group.
- › High blood pressure, high cholesterol and high blood glucose levels were 5 percent to 23 percent more likely (depending on the specific condition) in the capped group.



Disease Management Improves Productivity and Reduces Health Spending

- › A diabetes management program known as the Asheville Project provided free screenings and medicines to all participants and encouraged communication between patients and pharmacists. Under the program, participants brought their blood sugar under control within a year on average and had about 50 percent fewer absences from work. The program resulted in an average net decrease of 34 percent in health care costs for each patient.^{9,10}



- › A 2006 study in the journal *Pediatrics* reports that a program designed to improve asthma care for children led to a 47 percent increase in the use of medicines that prevent asthma attacks, a 56 percent reduction in outpatient visits and a 91 percent decrease in emergency room visits for treatment of asthma.¹¹

Conclusion

Seizing Opportunities for Improvement

The growing evidence that medicines play a key role in improving health and outcomes while containing overall health cost, generated by a wide range of researchers across many settings, is beginning to be reflected in practice. The *New York Times* recently reported on forward-looking employers seeking to contain health care costs by “giving away drugs to help workers manage chronic conditions like diabetes, high blood pressure, asthma and depression.”¹² Earlier strategies sought cost savings by increasing patients’ out of pocket copayments for medicines, but “[n]ow some employers are reversing course, convinced that their pennywise approach does not always reduce long-term costs.”¹³

According to the article, Marriott International, Pitney Bowes, and Mohawk are among the employers offering

workers medicines at no or reduced cost. Likewise, Aetna is offering employers enrolled in their self-funded plans the option of waiving deductibles for some preventive and chronic medicines, to encourage medication compliance.¹⁴ According to the chairman of Pitney Bowes:

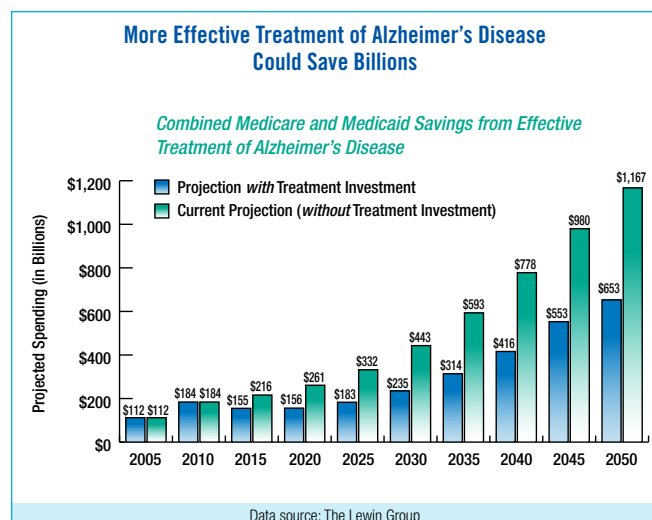
The spiraling cost of health care is a result of an explosive growth in chronic diseases like diabetes, cardiovascular conditions and asthma. The health care debate needs to be focused on the core issue: making Americans healthier.¹⁵

According to the same *New York Times* article, “By providing clinics, exercise and other wellness programs as well as low-cost or free drugs for certain types of patients... annual cost increases for Pitney Bowes employees have fallen into the low single digits over the last 15 years. That is well below the double-digit percentage increases that many companies have experienced.”¹⁶

Developing New Treatments Is Key to Future Affordability of Health Care, Medicare and Medicaid

The development of new medicines also will be critical to achieving savings in the future. For instance, with aging of the Baby Boomers, diseases such as Alzheimer’s will become more prevalent. A study by the Lewin Group for the Alzheimer’s Association¹⁷ projects that developing new treatments that delay the onset or slow the progression of Alzheimer’s could:

- ▶ Reduce the number of Americans with Alzheimer’s in 2025 by nearly 45 percent, from 6.5 million to 3.6 million.
- ▶ Reduce Medicare spending in 2025 on patients with Alzheimer’s by \$126 billion, from \$294 billion to \$168 billion.
- ▶ Reduce Medicaid spending in 2025 on nursing care for patients with Alzheimer’s by over half, from \$38 billion to \$15 billion.



The biopharmaceutical research sector’s drug discovery pipeline includes a broad range of cutting-edge, novel approaches for treating Alzheimer’s and many other diseases.¹⁸ Public policies that support this enterprise of fundamentally changing the course of disease offer an opportunity for dramatically better lives and more affordable health care.

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