



Amy Davidoff and Bruce Stuart

"A n ounce of prevention is worth a pound of cure," Benjamin Franklin once said. This adage may seem like simple common sense. But, if they could, two health economists from the University of Maryland School of Pharmacy might ask Mr. Franklin to be a little more specific on the details, especially as they apply to prescription drugs, Medicare spending, and the health of some of the most vulnerable people in America.

They might ask, for example: "Which diseases can be prevented in the elderly? What available treatments work to prevent disease and who is most likely to benefit from policies that promote disease prevention? If drugs are made more affordable will patients be more likely to use them?"

Bruce Stuart, PhD, professor and vice chair of research in the Department of Pharmaceutical Health Services Research (PHSR), and Amy Davidoff, PhD, assistant professor in PHSR, are trying to answer some of these questions themselves. They are partway through an 18-month study funded by the Changes in Health Care Financing and Organization (HCFO) initiative, a program of the Robert Wood Johnson Foundation.

HCFO "strives to bridge the health policy and health services research communities," it says, by funding investigations that can offer relevant information to public and private health

care policy decision-makers. Indeed, if the results of Stuart's and Davidoff's current study are any reflection of their past research, as the team expects, it could have wide-ranging policy implications regarding the way public health care is structured.

The bottom line, Stuart says, is cost savings for medical entities such as Medicare, a federal program that pays for certain health care expenses for people aged 65 and over. Dire consequences are forecast if rising costs for programs like Medicare continue unchecked. "That was the solicitation under which this HCFO grant was awarded: Find ways to reduce health care costs," he says.

#### SAVE MONEY, SAVE LIVES

For two decades now, Stuart has been looking at measures that have either improved or impeded access to prescriptions. He also directs the Peter Lamy Center on Drug Therapy and Aging, which focuses on research, education, and service in geriatric pharmacotherapy at the School of Pharmacy.

Davidoff's previous research has focused on access to insurance coverage and its effects. She has looked at how federal and state policies impact the availability and cost of private insurance, the eligibility for and participation in public

# School of Pharmacy Researchers Seek Savings for Medicare

BY MARY SPIRO

insurance, and how that all affects access to and use of prescription drugs and other medical care services.

For instance, if Joe Smith needs diabetes medication but can't afford it, he might go without the prescription. Then his condition worsens, costing the health care system more than if it had offset the price of the initial prescription.

In 2007, Stuart and Davidoff completed a study supported by the Commonwealth Fund, a private foundation that analyzed annual patterns in prescription coverage and Medicare spending for the elderly between 1997 and 2004. They discovered some startling facts.

First, very high Medicare spenders (people who used the program to a large degree) were on average just four years older than very low spenders, raising the possibility that important predictors of spending growth could be identified if low spenders are tracked over relatively short periods of time. Second, demographically the very low spenders and very high spenders tended to be similar—they were members of minorities with low socioeconomic status.

But the conclusions of the Commonwealth Fund study left many unanswered questions, particularly regarding how elderly people who suffer from certain chronic illnesses fit into this scenario. This led to the current study for the Robert Wood Johnson Foundation.

This time, the team is looking at longitudinal trends in spending as well as changes in beneficiary behaviors and attitudes toward medical care, using Medicare Current Beneficiary Survey data from 1997 through 2006. Beneficiary use of Medicare and spending is being tracked over four-year periods.

The project researchers have three main goals. First, they hope to estimate cost savings in traditional Medicare spending that are linked to “good health behavior and primary and secondary preventive measures.” Next, they want to characterize the population that should be targeted for preventive interventions.

Finally, the researchers want to determine whether selectively reducing the costs of preventive measures through what is known in the private insurance industry as “value-based insurance design” can reduce spending on Medicare services. For this portion of the study they will use modeling simulations.

Primary preventive measures include tests such as mammograms to diagnose breast cancer or prostate-specific antigen blood tests to detect prostate cancer. Secondary preventive measures include taking medications to control the symptoms or recurrence of a condition already diagnosed, such as high blood pressure or diabetes.

The key components of this work include finding out which disease states and which segments of the beneficiary population “show the greatest promise for improved compliance and persistence in the use of preventive therapies,” Stuart explains.

Common diseases among the elderly include diabetes, hypertension, coronary heart disease, and chronic obstructive pulmonary disease. The HCFO-funded research will track the Medicare spending of beneficiaries suffering from these specific medical conditions.

The research will also re-examine demographics. “We also will explore possible links between low-spending consumers and behavior, prevention, race, and socioeconomic status,” Stuart says. “Findings from this study will help inform policymakers and practitioners to develop optimally targeted interventions.”

In short, altering the benefit structure relating to certain diseases and certain types of people may yield the greatest impact and shave millions—even billions—of dollars in Medicare spending.

“Based on previous work,” Stuart says, “we expect to find that selective targeting to low-spending minorities and beneficiaries with low socioeconomic status will provide the greatest returns in program savings over time. It will also serve to significantly reduce disparities in health and well-being within the beneficiary population.”



### REDUCING MEDICARE SPENDING

Since the inception of Medicare in 1965, vast amounts of data have been collected on its beneficiaries, primarily for the purpose of processing claims. Proof that Medicare

spending is wildly out of control abounds. The Congressional Budget Office reported in 2003 that if changes were not made to the way the benefits are structured, Medicare spending would outpace the economy over the next 75 years and would consume 21.3 percent of the gross domestic product.

In October 2007, the authors of a monograph by the Milken Institute, an independent economic think tank, claimed that a reorientation of the U.S. health system toward prevention could prevent 40 million cases of seven common chronic diseases and save \$1.1 trillion in the year 2023. Chronic diseases targeted in the Milken study include several types of cancer, diabetes, hypertension, stroke, heart disease, pulmonary conditions, and mental disorders.

Even with the help of prescription subsidies from Medicare Part D, there are gaps and deductibles that can make the cost of many medications out of reach for some individuals. Many people, particularly the elderly, skip medications that prevent their chronic conditions from becoming acute, Stuart and Davidoff note. But they express some hope in applying the principles of private insurance to a public setting.

“Using a benefit structure with tiers of spending is a common way that insurers use to set up benefits and keep their costs down,” Davidoff says. “This was our thread of thinking for this present study.”

### TARGETING PREVENTION AND PEOPLE

Current insurance design is based on sharing the cost of services among participants in a plan. Davidoff suggests that decisions on how these plans are devised should not be tied to cost alone. Instead, it should be considered that some

interventions are more valuable to some patients than others. This is the thinking behind value-based insurance design.

“If you treat everyone’s disease the same, so everyone is paying the same co-pay out of pocket, then you still have issues related to equity and access related to income,” Davidoff says. She adds that while Medicare Part D is designed to level the playing field for low-income people, it does not perform as well as it could.

“We are trying to get away from income-based rationing to something that will have the net benefit of saving society money by targeting coverage to people for whom there are greater savings.”

One scenario that Stuart and Davidoff might model is to predict potential behaviors and Medicare spending if the co-pays for critical prescription drugs were lowered to zero. Davidoff says they expect to see a cost savings to overall Medicare spending if co-pays for prescriptions used in primary and secondary therapies are adjusted downward. If the co-pay is little or nothing, people with chronic diseases are less likely to skip preventive therapies, she says. People who take their medicine now are less likely to get sicker later on.

“We think that by changing a patient’s adherence to a medication therapy through a benefit design change, we can expect that there would be a savings to the Medicare system,” says Davidoff.

Hypertension is one disease for which this sort of pay structure could reap huge savings, Stuart says. “If the co-pay on any of the drugs used to control hypertension was lowered to zero, it would impact half the population of Medicare recipients,” he says.

The research team recognizes, however, that extreme care would have to be used when valuing the potential benefit of one type of intervention over another.

“We don’t deny there are technical, ethical, and legal issues with implementing benefit design, but we think they are secondary to developing the evidence that this could work,” Stuart says.

Stuart and Davidoff plan to conduct their research through August 2009. With government experts predicting Medicare spending will soar to more than \$13,000 per beneficiary per year by 2017, the study results cannot come soon enough.