



*For years, U-M researchers have studied the impact of health costs on health behavior, and the potential benefits and cost implications of various efforts to improve patients' health through preventive treatment and lifestyle changes. Here are some examples of their studies and other efforts, with links to further information on the Web.*

## **The “Benefit-Based Co-pay” Concept**

In September 2001, a U-M team published the first framework for basing medical insurance co-payments on the potential health benefit of a drug, test or procedure – instead of the traditional approach based solely on their cost.

This framework included formulas for calculating potential co-pays based on the medical evidence that a drug, test or procedure would prevent or reduce the risk of medical complications or health emergencies. It also used cholesterol-reduction as an example of a specific situation where the evidence is strong enough to allow benefit-based co-pays to be implemented for drugs that lower cholesterol levels and the risk of heart attack. Mark Fendrick, M.D., of the U-M Medical School and School of Public Health was the lead author of the paper, in the *American Journal of Managed Care*, along with Mike Chernew, Ph.D., and Dean Smith, Ph.D., both of the U-M School of Public Health.

Read more here: [www.med.umich.edu/opm/newspage/2001/tailorcopayment.htm](http://www.med.umich.edu/opm/newspage/2001/tailorcopayment.htm) . The paper is available at: [www.ajmc.com/files/articlefiles/AJMC2001sepFendrick861\\_867.pdf](http://www.ajmc.com/files/articlefiles/AJMC2001sepFendrick861_867.pdf)

In the fall of 2005, Chernew and Fendrick launched the U-M Center for Value-Based Insurance Design, or VBID, to focus research and outreach on this issue. See [www.vbidcenter.org](http://www.vbidcenter.org) for more information on the center's activities. In January of 2006, Fendrick and Chernew wrote an editorial in the *American Journal of Managed Care* calling for value-based benefit design: [www.ajmc.com/article.cfm?ID=3071](http://www.ajmc.com/article.cfm?ID=3071)

In March of 2006, Chernew and VBID center clinical director Allison Rosen, M.D., MPH, Sc.D., led a team that published a study of co-pays for patients who take part in disease management programs. Many health-insurance plans now offer such programs to their members who have chronic diseases such as diabetes, in an effort to encourage healthy behavior and timely use of medications, tests and treatment that can prevent complications and emergencies. Despite this, the study found that patients in such programs were charged just as much as patients with the same illnesses who did not take part in disease management programs. Read the study online at [www.ajmc.com/article.cfm?ID=3088](http://www.ajmc.com/article.cfm?ID=3088).

## **U-M/VA research: Preventive drugs, chronic illnesses & the impact of cost**

Many recent studies by University of Michigan and VA Ann Arbor Healthcare System researchers have examined the relationship between medication costs, patients' tendency to take their medicines, and their long-term health.

### ***April 2006 - Only half of older diabetics lack medicines that protect kidneys and heart***

In this paper, published in the *Journal of General Internal Medicine*, Allison Rosen used national data to show that more than half of people over age 55 who have diabetes do not take drugs called ACE inhibitors and ARBs, which are known to protect the heart and kidneys from diabetes-related damage. Even among those with multiple signs of heart and kidney problems, who stand to benefit the most from these drugs, only 53 percent use them. Read more at [www.med.umich.edu/opm/newspage/2006/medication.htm](http://www.med.umich.edu/opm/newspage/2006/medication.htm).

***July 2005 - Are some medicines so good they should be free?***

***In diabetes, U-M study finds, the answer can be yes***

In this research led by Rosen, a sophisticated computer model showed that both lives and money could be saved if ACE inhibitors were made available at no cost to the 8 million Americans over age 65 who have diabetes. These blood pressure-lowering drugs are so beneficial for these patients that even giving them away ultimately would save the Medicare system and society large amounts of money by preventing heart attacks, strokes and kidney failure, the study showed. Read more at [www.med.umich.edu/opm/newspage/2005/freemed.htm](http://www.med.umich.edu/opm/newspage/2005/freemed.htm).

***August 2005 - Why don't some patients take their medicines?***

***Cost matters, but lack of trust in doctors, and depression, play a big role too***

Patients who trust their doctors are more likely to stick to their prescription medicines, even if they face high out-of-pocket costs, according to the results of this U-M and VA study. But patients who have lower levels of trust in their physicians, or who have depression-like symptoms, are much more likely to skip doses or refills when costs become a problem for them.

Read more at [www.med.umich.edu/opm/newspage/2005/medicine.htm](http://www.med.umich.edu/opm/newspage/2005/medicine.htm)

***February 2005 – For those at risk of diabetes, prevention efforts are worth every penny***

This study, led by William Herman, M.D., MPH, director of U-M's Michigan Diabetes Research and Training Center, focused on the 40 million Americans who have a high risk of diabetes because of their weight, blood sugar and family history, but have not developed the disease yet. The study used computer modeling and clinical-trial data to estimate the costs and benefits of providing such people with free diet and exercise assistance, and blood sugar-controlling medication. It showed that it would be cost-effective for society to try to prevent diabetes in such people, and that the costs of diabetes prevention are well within the range that American society has previously accepted for other preventive health efforts and treatments. Read more at [www.med.umich.edu/opm/newspage/2005/diabetes.htm](http://www.med.umich.edu/opm/newspage/2005/diabetes.htm)

***October 2004 - One in six older adults with chronic illness skips Rx drugs because of cost — especially those who pay the most, earn the least, or have no drug coverage***

This study, based on a national survey of older adults, found that 18 percent of seniors with chronic conditions skip some of their prescription medicines because of out-of-pocket cost pressures, and 14 percent do so at least every month. Based on the study's findings, lead author John D. Piette, Ph.D., a VA Career Scientist and associate professor of internal medicine, estimates that every month, cost-related medication skimping leads more than a million Americans with diabetes to use less medication for that illness than was prescribed to them, and causes more than 1.6 million people with asthma to miss some of their doses of medication. Read more at [www.med.umich.edu/opm/newspage/2004/skipdrugs.htm](http://www.med.umich.edu/opm/newspage/2004/skipdrugs.htm)

***September 2004 - Many patients don't tell their doctors they're cutting back on prescription medicines to reduce costs***

This study, led by Piette and his U-M/VA colleague Michele Heisler, M.D., MPA, showed that many patients with serious chronic illnesses don't tell their doctors that they have cut back on taking their prescription drugs because of cost — even though skimping on certain drugs could harm their health. The researchers also found that most patients who did speak up got help through free samples, generic drugs or information about assistance programs. Read more at <http://www.med.umich.edu/opm/newspage/2004/medcost.htm> .

***June 2004 – Study finds that the higher the co-pay, the lower the chance that heart patients stay on cholesterol-lowering drugs — even those who need them most***

This research found that nearly half of patients who have a prescription for cholesterol-lowering drugs called statins fail to fill their prescription often enough — or stop filling it altogether, even though statins give the most benefit if used long-term. Patients' out-of-pocket costs for these drugs were found to be a major contributing factor, with patients whose co-pays were \$20 or more three times more likely to fall behind on their prescription, and four times more likely to stop taking the drug altogether, than those whose co-pays were under \$10. The low rate of adherence, and the impact of co-pays, was seen even among patients who had survived a heart attack, been diagnosed with diabetes, or had surgery or angioplasty to open blocked arteries. The study was led by Jeffrey Ellis, Pharm.D., M.S., a Cleveland Clinic researcher and former fellow in the U-M Health System Department of Pharmacy Services, along with Fendrick and James Stevenson, Pharm.D., director of Pharmacy Services and an associate dean of the U-M College of Pharmacy. Read more at [www.med.umich.edu/opm/newspage/2004/drugs.htm](http://www.med.umich.edu/opm/newspage/2004/drugs.htm)

***June 2004 - Your money or your health: Study yields first proof that cutting back on prescriptions due to cost is linked to worse health later***

This prospective study led by Heisler showed for the first time what many senior citizens who struggle to pay for their prescription drugs might suspect: Cutting back on medications now because of cost could lead to worse health down the line. The findings were based on an in-depth three-year study of nearly 8,000 older adults who were regularly taking prescription medicines at the beginning of the study and were participating in a project led by the U-M Institute for Social Research. By the end of the study, those who said they had had to cut back on their prescriptions because of cost were 76 percent more likely to have suffered a significant decline in their overall health, and 50 percent more likely to have had a heart attack, stroke or chest pain episode, than those who had not cut back. Even the younger participants, who were in their 50s or early 60s when the study began, were more likely to suffer a health decline or a heart event if they had under-used their medications because of cost. Read more at [www.med.umich.edu/opm/newspage/2004/moneyorhealth.htm](http://www.med.umich.edu/opm/newspage/2004/moneyorhealth.htm)

***February 2004: Diabetes patients skip medications to save money, study finds***

Data from a nationwide survey revealed that diabetes patients' prescription drugs costs — which frequently were above \$100 a month — created a financial burden that led to increasing credit card debt, borrowing money and even cutting back on basic needs such as food or heat. In this study led by Piette, nearly one in five older adults with diabetes reported cutting back on prescription medication in the prior year because of costs, and 15 percent used less of their medication at least once per month because of the cost. By not taking their medications as prescribed, patients had poorer diabetes control, more symptoms and worse physical and mental functioning. Read more at [www.med.umich.edu/opm/newspage/2004/diabetes.htm](http://www.med.umich.edu/opm/newspage/2004/diabetes.htm)