



## News release

### **New Study Finds Lack of Medication Compliance Leads to High Medical Costs**

Dramatic Increase in Risk of Hospitalization Seen When Patients Don't Stick with Drug Treatments

Study Among the First to Show Costs of Not Taking Medicine

FRANKLIN LAKES, N.J., June 8 /PRNewswire-FirstCall/ -- Patients with diabetes and high cholesterol can save the health care system millions of dollars by properly taking their medication, according to a new study from Medco Health Solutions, Inc. (NYSE: MHS).

Despite prescription drug costs that have escalated 12 to 16 percent annually, the costs and risks of hospitalization far outweigh the costs of using medications as directed, states the lead study "Impact of Medication Adherence on Hospitalization Risk and Healthcare Cost," published in the June issue of "Medical Care," a prominent peer-reviewed journal published by the American Public Health Association. The study was based on a sample of over 137,000 patients under the age of 65 with either diabetes, high cholesterol, hypertension, or congestive heart failure. It is one of the first studies to demonstrate the savings generated by medication compliance for these prevalent chronic medical conditions.

The study found that the least compliant diabetes patients were more than twice as likely to be hospitalized compared to those who were most compliant, and their total health care costs were nearly double, as well. The authors note that people who use their diabetes medications as directed are less likely to develop the short-term and long-term health problems that can require expensive care.

Published research shows that many people with chronic health conditions do not take their medications as often as prescribed and that noncompliance may cost as much as \$300 billion to the American healthcare system. Adherence to medication therapy averages only 50 to 65 percent for common chronic conditions such as hypertension and diabetes.

"This research hammers home the dangers and the expense of not following a treatment regimen," said Dr. Robert S. Epstein, a co-author of the study and Medco's chief medical officer. "Increased medication compliance for chronic conditions can significantly cut medical costs and keep patients out of the hospital. Clearly it's important to reduce the need for hospitalization, both from a clinical and a cost standpoint."

The study showed that the money spent on medication treatments led to substantial savings when the costs of adherence to prescription drug therapy were compared to the costs of hospitalization and medical treatments. Patients in the study were categorized into groups based on their level of prescription medication compliance, and their drug and medical costs were tracked over the course of the following year. Medical costs included the costs of doctor visits, emergency room visits, and hospitalizations.

The study was able to estimate the savings generated by prescription drug adherence by comparing the costs of a less compliant group of patients to a group with greater

compliance. For diabetes patients, every additional dollar spent on medication saved \$7 in medical costs. The medical cost savings were \$5.10 for each additional dollar spent on medications for high cholesterol, and \$3.98 for every dollar spent on prescription drugs for patients with high blood pressure.

#### Costs and Hospitalization Risks

For patients with diabetes, the analysis found that hospitalization risks and health care costs were lower for patients who were highly compliant with their drug therapy. Diabetes patients who are highly compliant with their treatment programs have a 13 percent hospitalization risk for a diabetes-related problem, but patients with low compliance have more than twice the risk at 30 percent. The combined drug and medical costs for the most compliant patients average \$4,570, which is almost 50 percent below the \$8,867 cost for the least compliant group.

The difference among patients with cholesterol problems is not as pronounced in terms of hospitalization risk, but the difference in costs is significant since a hospital stay for a cardiovascular problem, such as a heart attack or stroke, is expensive. The hospitalization risk of the most compliant patients is 12 percent versus 15 percent in the least compliant group. However, the total health care cost is \$3,924 for the most compliant group, compared with \$6,888 in the least compliant group.

The study also looked at medical expenses that included cases in which patients have more than one ailment. Better compliance with drug therapy helped reduce the risk of being hospitalized for any medical condition, and it reduced the overall costs for a patient's health care. The least compliant group of diabetics had on average \$16,498 in total medical and drug costs compared with \$8,886 for the most compliant group. Among patients with high blood cholesterol, the total medical and drug costs were \$10,916 in the least compliant group versus \$6,752 in the most compliant category.

#### Improving Compliance

Reasons for poor medication compliance include costs, side effects, forgetfulness, or a lack of symptoms that lead patients to prematurely stop taking medications. Patients with chronic conditions that show no visible symptoms, such as high cholesterol or high blood pressure, can think they are fine and don't require medication, even as their health deteriorates.

"Healthcare professionals, including pharmacists and PBMs, can play an important role in encouraging medication compliance," Epstein said. "Drugs have become increasingly complex and people are being prescribed more of them, which places greater demands on healthcare providers to educate patients and take proactive measures to ensure proper medication use."

Epstein also noted that, going forward, generics will continue to play a key role in assisting patients with compliance due to cost concerns. Drugs with total U.S. sales of approximately \$35 billion could lose patent protection over the next three years, making way for much more cost-effective choices in a variety of therapeutic categories including hypertension, diabetes and high cholesterol medications.

#### About Medco

Medco Health Solutions (NYSE: MHS) is a leader in managing prescription drug benefit programs that are designed to drive down the cost of pharmacy healthcare for private and public employers, health plans, labor unions and government agencies of all sizes. Medco

operates the largest mail-order and Internet pharmacies and has been recognized for setting new industry benchmarks for pharmacy dispensing quality. Medco, ranked by Fortune Magazine as one of America's "Most Admired" healthcare companies, is a Fortune 50 company with 2004 revenues of \$35 billion. Medco is traded on the New York Stock Exchange under the symbol MHS. On the Net: <http://www.medco.com>.

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