



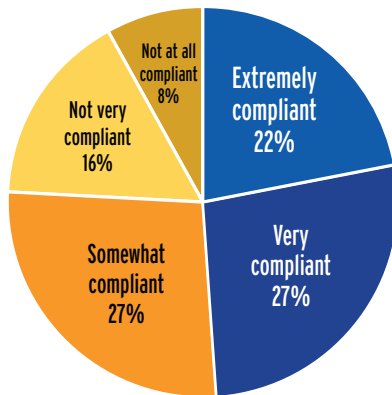
**“Drugs don’t work
in patients who
don’t take them.”**

Former Surgeon General C. Everett Koop, MD

Poor adherence – increasing the risk of serious consequences

The World Health Organization reports that an average of 50% of medications are not taken as prescribed in the US.² This alarming rate of nonadherence includes patients taking drugs for serious conditions such as high blood pressure, high cholesterol, and diabetes. The consequences of poor adherence to physician-prescribed therapies are a critical issue impacting the health and productivity of many Americans. According to primary care physicians, the health of 1 in 5 patients is compromised by nonadherence.³

Only 22% of patients are considered extremely compliant by their physicians³

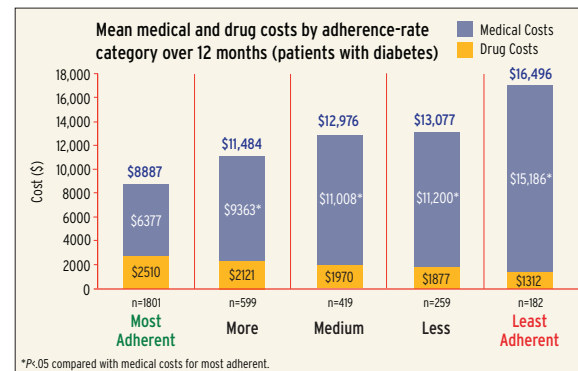


Based on a 2007 market research survey of physicians by Guideline Inc. Adapted from MedAdNews.³

Poor adherence has been identified as the primary cause of poor blood pressure control, while good adherence has been shown to reduce the development of complications in patients with diabetes, as well as to improve life expectancy.²

Nonadherence is associated with 125,000 deaths annually and 10% of all hospitalizations with an estimated cost of more than \$100 billion per year.^{1,3-5} In addition to health care costs, the value of lost productivity, wages, and other economic losses has been estimated at \$50 to \$77 billion per year.^{4,5}

Poor adherence can lead to higher medical costs, including costs for hospitalizations and ER visits⁶



Retrospective cohort study of sample of 137,277 patients aged <65 years. Adapted from Sokol MC et al.⁶

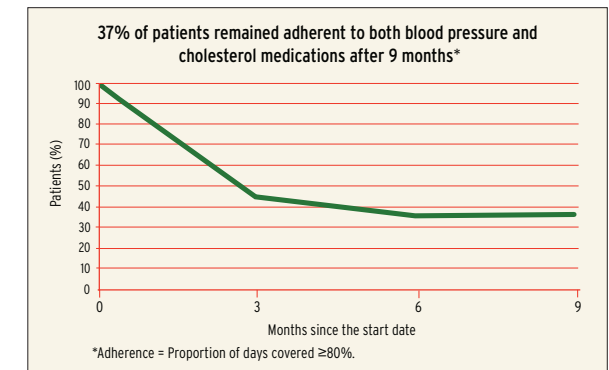
In a nationwide survey, 35% of patients were nonadherent because they wanted to save money.⁷ To economize, patients often pick and choose between medications or take less than the dosage prescribed. Cost is not the only barrier to adherence. Other drivers include poor health literacy, fear of side effects, poor understanding of the role of medicine in fighting disease, and forgetfulness. Typical methods of dispensing drugs may also contribute to the problem.^{1,8}

The magnitude of the problem is significant. Almost half of the US population have at least 1 chronic

condition, and about half of these, or about 60 million, have more than 1 condition; about one quarter of Medicare beneficiaries have 5 or more chronic conditions.⁹ Many of these conditions can be effectively controlled with medications. Yet poor adherence among these patients can result in higher rates of heart disease and other serious and costly conditions.⁶

One major employer found that the combination of chronic conditions and poor adherence was a key predictor of higher costs.¹⁰ As the burden of chronic disease grows, a key challenge is to keep patients with chronic conditions from progressing to more complex and costly stages of disease.

In a study of patients taking medications for 2 chronic conditions, most patients were nonadherent after 6 months¹¹

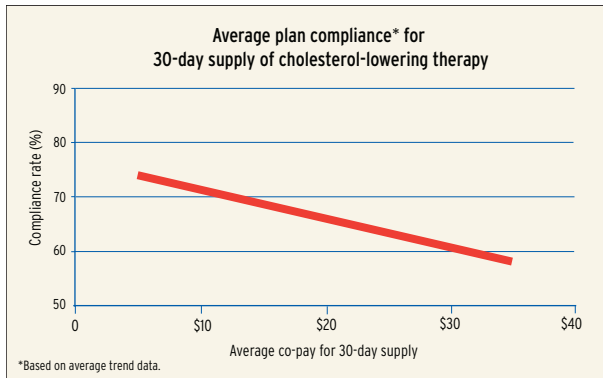


Retrospective cohort study of 8406 patients from a managed care population. Adapted from Chapman RH et al.¹¹

In a key 2004 study, Goldman et al established the link between higher co-pays and poor adherence. A doubling of co-pays reduced medication use for important conditions and increased hospital visits.¹²

Benefit design can promote adherence and better health outcomes

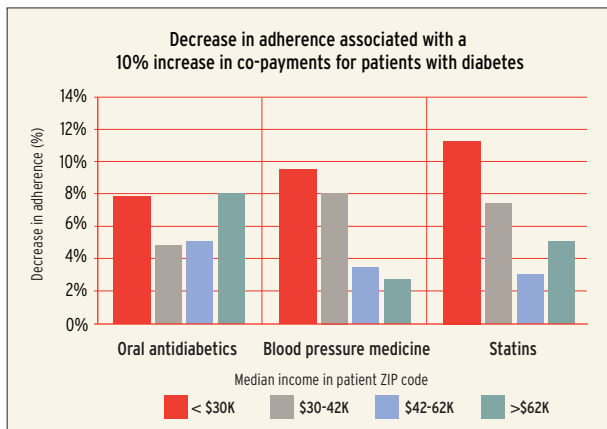
As co-pays go up, compliance goes down¹³



Adapted from Goldman DP et al.¹³

Increases in co-pays have the greatest effect on the elderly and lower-income patients. Poor adherence may lead to increased risk of adverse clinical outcomes, particularly in more vulnerable patient populations.¹⁴

Low-income patients are particularly sensitive to higher cost sharing¹⁴



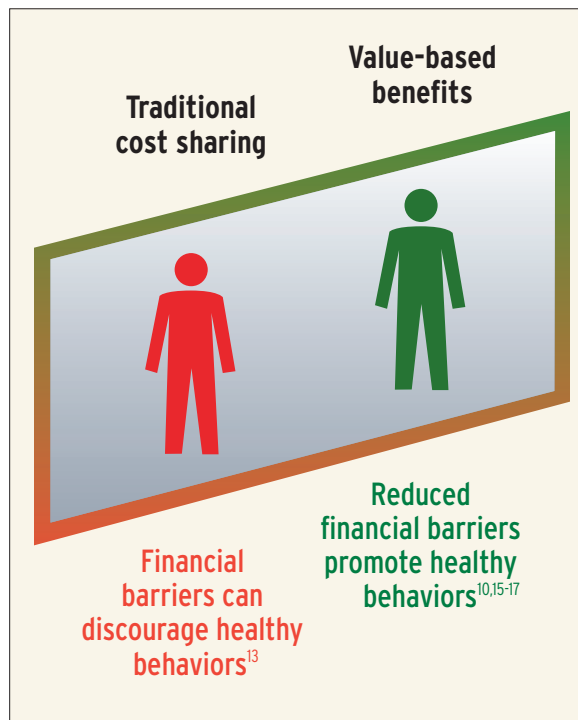
Adapted from Cherner M et al.¹⁴

For chronically ill patients, traditional cost sharing can discourage adherence to medications¹⁵

In traditional cost sharing, the amount that patients pay has no relationship to the treatment.¹⁵ Chronically ill patients at high risk of repeated heart attacks and hospitalizations pay the same co-payments as healthy patients who are at low risk.

Value-based strategies seek to improve adherence and health by reducing financial barriers to the use of medicines by patients who are at higher risk¹⁵

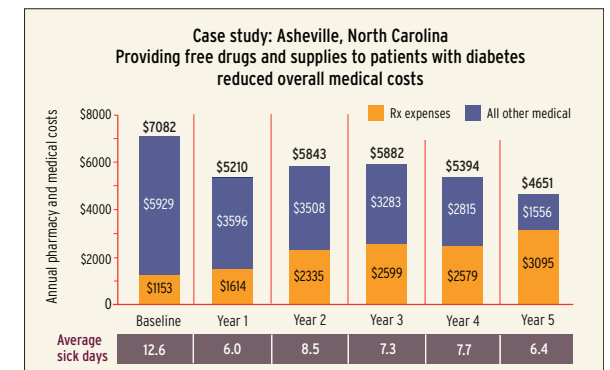
Value-based benefit strategies can improve adherence by lowering or eliminating co-pays for



medicines that have been scientifically demonstrated to prevent or delay progression of disease.¹⁵

Preliminary evidence supports the positive impact this approach can have on promoting adherence to high-value medications for higher-risk patients, such as those with hypertension, diabetes, asthma, and high cholesterol.^{10,16,17}

Evidence is also building that value-based benefit strategies can improve health and productivity and reduce costs. For example, the city of Asheville, North Carolina, started providing free medicines and related supplies to all patients with diabetes in 1997. While drug spending increased, overall medical costs for



Adapted from Cranor C et al.¹⁷

patients with diabetes decreased after 5 years. In addition, the number of sick days among those with diabetes was reduced by 50%.¹⁷

As the burden of chronic disease grows, it's more important than ever for governments, employers, and other health plan sponsors to consider how this approach may help improve health and restrain costs.



Key ideas that should underpin meaningful health reform

- Nonadherence is a complex and difficult issue to resolve. A comprehensive solution will require coordinated efforts involving all stakeholders including patients, physicians, employers, pharmaceutical companies, and health coverage providers
- Effective health care reform proposals should include initiatives to improve adherence
- High co-payments and lack of adequate prescription coverage increase nonadherence, particularly among lower-income patients and patients with multiple medications
- Proper adherence can help at-risk patients and payers avoid higher medical costs in the future by improving health outcomes
- Health benefits should offer financial incentives that encourage adherence and disease prevention and that also empower patients to take more active roles in their health care
- Health plans should consider value-based benefit designs, which reduce financial barriers to medicines and promote adherence, better health, and wellness
- Physicians should have all of the educational and technological tools necessary to educate patients about the benefits, risks, and proper use of prescribed medicines

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