

Medication Adherence: Rx for Success



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Introduction

Universal concern about rising health care costs combined with historic health care legislation has created an unprecedented window of opportunity to improve the way care is delivered in the United States. All interested parties—including health care providers, patients, insurers, employers, policy makers, and drug manufacturers—are bracing for change. The challenge is to find areas of health care in which the largest impact can be made on a humanistic, economic, and clinical scale. One such area is medication adherence.

A national public health issue

The problem is easy to state: Patients don't always take their medication as directed. Sometimes they miss doses or don't follow the instructions. Other times, they stop taking it altogether. The ramifications of these behaviors are far-reaching, both in terms of health care quality and cost.

In 2003, the World Health Organization (WHO) identified medication non-adherence as the leading cause of preventable morbidity, mortality, and health care costs¹. Meanwhile, research has set the price tag for the direct costs of medication non-adherence in the United States at a minimum of \$100 billion.² The New England Healthcare Institute estimates that non-adherence along with suboptimal prescribing, drug administration, and diagnosis costs the health care system as much as \$290 billion per year—or 13 percent of total health care expenditures.³

The good news? As the WHO points out, the problem of medication non-adherence is "preventable." In addition, research has found that higher levels of medication adherence are associated with improved health outcomes and lower health care costs. This is where the opportunity lies for health care professionals and organizations that want to improve quality and avoid costs.

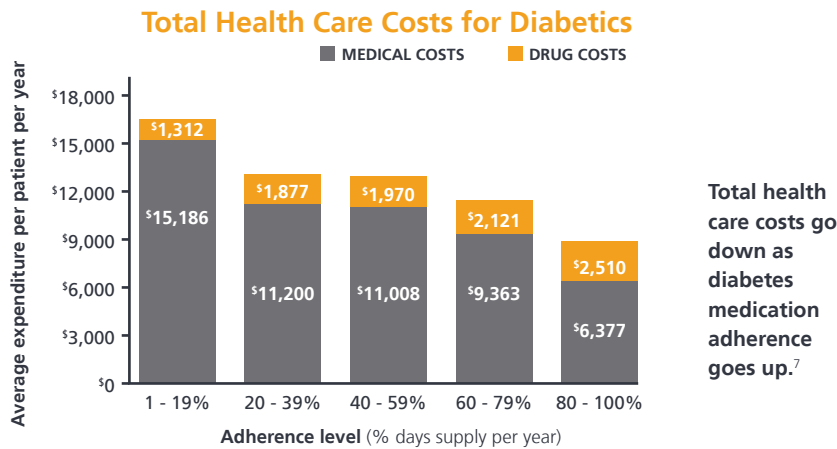
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The value of medication adherence

It's not hard to find research that underscores the importance of medication adherence. For example, evidence has linked better medication adherence in diabetes patients with lower total health care costs. (See chart on next page.) The study that produced these results also found that hospitalization rates were significantly lower for diabetes patients with high medication adherence. Similar hospitalization results were found for patients with high blood pressure, high cholesterol levels, and congestive heart failure.

Other recent studies have generated comparable findings, including:

- Statin medication adherence is associated with reductions in subsequent total health care costs and cardiovascular disease-related hospitalizations.⁴
- Adherence to blood pressure medications is linked to significantly lower total health care costs and significantly lower odds of cardiovascular-related hospitalizations and emergency department visits.⁵
- Medication adherence by patients with at least one of four chronic vascular diseases (congestive heart failure, hypertension, diabetes, and/or dyslipidemia) leads to substantial medical savings due to reductions in hospitalization and emergency department use.⁶



The value of medication adherence can also be seen in the way it’s embraced by organizations that focus on health care quality and measurement. As the following timeline shows, medication adherence is viewed as a key health care metric by such organizations as the National Quality Forum, the Pharmacy Quality Alliance, and the Centers for Medicare & Medicaid Services (CMS).

A TIMELINE: Medication Adherence as a Measure of Quality

2007	2009	2010	2012
<p>The National Council on Patient Information and Education issues a “National Action Plan” calling upon stakeholders to improve medication adherence.</p>	<p>The National Quality Forum endorses medication adherence as an indicator of quality in drug therapy management.</p> <p>URAC adds new performance measures (seven domains) to its accreditation programs for Pharmacy Benefit Management and Drug Therapy Management. One of the key domains: Medication Possession Ratios (MPRs) as a proxy for adherence.</p>	<p>Pharmacy Quality Alliance (PQA), using measures developed in partnership with the National Committee for Quality Assurance (NCQA), launches demonstration projects to assess the impact of pharmacists’ interventions on medication adherence.</p>	<p>CMS Star Rating measures on medication adherence added.</p>

Understanding why

At first glance, you might think that medication non-adherence shouldn't be a problem at all. Why wouldn't patients want to take their medications properly? There are, however, a number of barriers that make it difficult for many patients to take their medications as directed. Here are some of the most prevalent:

PATIENT BARRIERS	PROVIDER BARRIERS	HEALTH CARE SYSTEM BARRIERS
<ul style="list-style-type: none"> • Poor health care literacy (i.e., patients don't properly understand their illness and the importance of their medication) • Inability to pay • Lack of drug coverage • Lack of understanding of how to use their medication • Low motivation/self efficacy (e.g., patients are not confident their medication will help) • Forgetfulness • Concern about side effects • Poor communication with provider 	<ul style="list-style-type: none"> • Lack of knowledge and poor communication with patients about drug costs • Lack of knowledge about insurance coverage for different formularies • Lack of knowledge about patient adherence • Complex regimens make it difficult to provide patients with proper information about safe and appropriate medication use 	<ul style="list-style-type: none"> • High drug costs • Administrative issues (e.g., formulary complexity, prior authorization requirements) • Insufficient access to, and coverage for, medications • Inadequate health information technology solutions

The Optum solution

Breaking down these barriers is critical to improving the way patients use their medications. The Optum™ approach is a comprehensive one that uses a combination of cutting-edge technology, expert analysis, patient and provider education, and scientifically valid health measurement tools to promote medication adherence and gauge its impact on health care quality and costs.

The multi-step program is designed to use available health care resources most effectively and efficiently, and to encourage a culture of collaboration between all involved. A primary goal is to ensure timely intervention (e.g., prior to a patient's first scheduled refill) so that medication adherence is maintained and gaps in care that may lead to adverse health outcomes are avoided.

Patient identification

Before you remove any barriers, you must first identify those patients who are at greatest risk for non-adherence and poor health outcomes. As you might guess, gathering and reviewing pharmacy and medical claims information is important to targeting these patients. Optum, however, goes further, and has developed a **predictive model** called the Drug Adherence Index™⁸. In addition, Optum utilizes unique **patient self-report surveys** to fine-tune its search.

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Proactively targeting members at risk for non-adherence

The Drug Adherence Index can help health plans identify patients who are likely to stop taking their medications by using proprietary predictive modeling that considers past medical data, prescription behaviors, and socio-demographic data to generate a risk score. Armed with this data, a health plan can efficiently direct its intervention efforts toward at-risk members who need additional support. By intervening with the right members, a health plan can:

- Increase adherence levels
- Improve CMS Star adherence metrics
- Contain costs
- Improve health outcomes

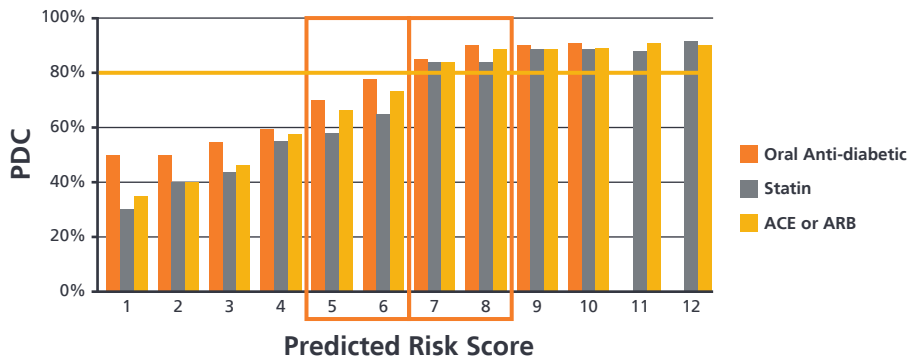
How it works

For most medication adherence programs, gathering and reviewing pharmacy claims is part of a retrospective screening process. The Drug Adherence Index takes screening to another level by generating a risk score for each patient based on past drug use and socio-demographic characteristics.

Each patient is given a risk score between 1 and 12. Patients who score a 7 or above are predicted to be at least 80 percent adherent, while patients who score less than 7 are predicted to be below the 80 percent, i.e. non-adherent. Some health plans may want to focus on patients with a risk score of 5 or 6 as perfect candidates for intervention because they are just below 80 percent of the proportion of days covered (PDC), while others may also include members with risk scores of 7 or 8 since they are marginally above 80 percent and at risk to backslide below the threshold.

The Drug Adherence Index is completely scalable and can be used with pharmacy-only data or pharmacy and medical claims data. The model can be applied across any population and has a sensitivity rate of more than 70 percent, meaning that it will accurately identify seven out of every 10 non-adherent patients.

Comparison of Actual PDC vs. Risk Score



Barrier assessment

Once at-risk patients are identified, the next step in the process is to determine why they are not adherent by performing barrier assessments. Optum achieves this by reaching out to patients via personal phone interviews.

Patient and provider engagement

After the patients and their barriers are identified, Optum uses multi-modal engagement mechanisms to provide the patients with customized information and guidance. When appropriate, patients are offered the option to speak with a nurse through the Optum NurseLine® program, which is available 24 hours a day, seven days a week. NurseLine is staffed with experienced registered nurses who can provide information, support, and education for health-related issues, including appropriate use of medications.

In addition, patients are sent follow-up letters and provided with helpful literature and barrier-busting tips. They are also allowed to opt-in for routine refill reminders and “off therapy” calls, which not only help patients consistently take their medications properly, but also improve persistency by addressing the forgetfulness barrier.

To maintain continuity of care, physicians are also included in Optum’s program. They are kept up-to-date with information about the program, potential gaps in patient care related to non-adherence, and patient barriers.

Tracking results

Throughout the program, Optum gathers and analyzes key data so that the effectiveness of the program can be easily quantified. For example, Optum tracks and provides reports on patient engagement (e.g., the number of individuals who completed a barrier survey), barrier survey results (e.g., the percentage of patients dealing with health literacy barriers), and intervention activity (e.g., the number of patients enrolled in the reminder program).

The key to evaluating any adherence program is measuring whether a mal-adherent patient has improved their medication-taking behavior. To do this, Optum collects and analyzes proportion of days covered (PDC) data for program participants and provides aggregate performance metrics at routine time intervals throughout the program. PDC is a quality adherence measure used to assess the degree to which a patient follows the direction of a physician when prescribed a chronic medication. Outcomes assessments can also be performed to evaluate the impact of the program in three key areas:

- **Humanistic**—Physical and mental functioning.
- **Economic**—Disease-related costs and total health care costs.
- **Clinical**—Emergency room, hospital, and lab usage.

This information is useful to prove the value of the program and enhance it going forward.

Opportunity for change

The steady rise in health care costs—and the reform it has helped spark—continue to dominate the collective consciousness of the health care community and consumers. Patients want relief without losing quality, and health care professionals and organizations know they need to meet that challenge. To do so, they must channel their resources toward those areas in which the largest strides can be made most efficiently and cost-effectively. Optum’s medication adherence solution provides them with a unique opportunity to do just that.

Addressing Medication Barriers: A Quick Case Study

The background: In a study presented at the Academy of Managed Care Pharmacy’s 2010 Educational Conference, researchers examined the impact of using an interactive voice response (IVR)-administered survey and “helpful hints” to identify and address barriers to medication adherence. The plan participants had at least one of 12 common chronic conditions and were non-adherent to one or more medications.

The results: Participants who received the IVR-based survey demonstrated an adherence success rate *31% higher* than those who did not. These results indicate that an IVR-based barrier identification and helpful hints program can significantly improve medication adherence.

Zabinski RA, Skinner EP, Buysman E, et al. Addressing gaps in care: Impact of barrier-specific medication adherence intervention. *Am J Pharm Benefits.* 2012;4(4):e109-e117

About the company

Optum is an information and technology-enabled health services business platform serving the broad health marketplace, including care providers, plan sponsors, life sciences companies, and consumers.

To learn more about Optum's dedication to making the health system work better for everyone, contact **Craig Schilling at 763.478.3273 or craig.schilling@optum.com**.

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13625 Technology Drive, Eden Prairie, MN 55344

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