



# Patient Medication Adherence

Here are some guidelines to improve quality of care.

BY CHRISTIAN DERENTHAL, JAROM JARDINE, CHRISTIAN BOEKWEG, AND JANIS COFFIN, DO

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### Cost Consideration

An estimated \$100 to 300 billion in direct healthcare costs in the United States healthcare system over a period of one year (2012)<sup>1</sup> have been attributed to patient non-adherence. One study reported patient non-adherence for patients with chronic diseases to be around 50%,<sup>2</sup> whereas another study reported non-adherence to be as high as 75%.<sup>3</sup> Regardless, the percentage is high.

The cost of prescription medications is one of the largest barriers that patients face when filling prescriptions, and that barrier is larger today than ever before.<sup>4</sup> A survey conducted in 2004 of Medicare beneficiaries who failed to fill their prescriptions found that of the 664 patients who were noncompliant, 55.5% failed to fill prescriptions due to the cost of medication, and 20.2% were noncompliant because the medicine was not covered by insurance.<sup>5</sup>

### Patient-Specific Risk Factors

Just as medication is specific to the individual, so is the risk of non-compliance. That is to say, not all patients have the same likelihood of medication compliance. Physicians and other members of the care team

would do well to watch for factors that have proven to place certain populations at higher risk.

Patients with low health literacy have been shown to have decreased compliance. A study conducted by the Department of Health and Human Services showed that lower health literacy is associated with less education, increased age, patients with no insurance, and patients on Medicaid or Medicare.<sup>6</sup> Ironically, those with chronic conditions, who

### Treatment Complexity

A 2001 review<sup>8</sup> clearly showed that compliance with medication decreases as the number of doses increase. The results were as follows:

- Once a day: 79% compliance ( $\pm 14\%$ );
- Twice a day: 69% compliance ( $\pm 15\%$ );
- Three times a day: 65% compliance ( $\pm 16\%$ ); and
- Four times a day: 51% compliance ( $\pm 20\%$ ).

**Not all patients have the same likelihood of medication compliance.**

are arguably at great need for compliance, are at risk simply by having a chronic condition. Rates of non-compliance also are significantly higher in those with chronic conditions such as psychotic conditions, arthritis, chronic obstructive pulmonary disease, cardiovascular disease, emphysema, and asthma.<sup>5</sup> A study that examined compliance in patients with high blood pressure who were diagnosed and prescribed a statin showed that for the first three months following diagnosis, patient adherence to statins was near 80%; however, by six months, only 56% of patients were compliant, and after five years, only 25% were considered compliant.<sup>7</sup>

Other factors that could further complicate medication adherence are medication-specific instructions, such as “take with food,” or a simple failure of patients to read and fully comprehend the printed instructions.

### Patient-Provider Relationship

Another obstacle that may get in the way of patient adherence can be the delicate physician-patient relationship. One report, which was looking at physician cancer screening recommendations, found that the provider recommendation was necessary but “not sufficient for optimal adherence to cancer screening guidelines.”<sup>9</sup> It went on to say that

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“provider patient communication is more nuanced than just a simple recommendation and the quality and content of the discussion surrounding the recommendation may have an additional and important bearing on a patient’s decision to get screened.”

This finding suggests that the old disease-focused model is not as effective as a more holistic, team approach. Patients are likely to consider the provider’s advice, but if they do not trust the physician’s opinion, they may be less likely to follow through on plans made in the clinic. The discussion surrounding the physician’s recommendation needs to involve and be centered around the patient’s concerns so he or she feels comfortable with the treatment plan when leaving the clinic. If the physician does not give the patient time to voice concerns, the patient may leave with no intention of filling the initial prescription. About 30% of non-adherence cases involve patients not picking up their initial prescription from the pharmacy.<sup>10</sup>

## **Best Practices**

### **Cost Consideration**

Money is a main driver of adherence for patients, so naturally financial incentives can lead to drops in non-adherence from patients. Research done in 2010 compared two groups of employees where one was enrolled in a disease management program tied to financial incentives. The study found that those without the economic incentives were 7% to 14% more likely to be non-adherent.<sup>11</sup> Using different ways to implement medication therapy management and patient counseling can lead to higher adherence rates for patients. Value-based insurance designs also lead to greater outcomes for patients and doctors. Solutions include switching to lower-cost drugs or enrolling in co-pay assistance programs.

Providers are not always in a position to know what a medication costs or whether there is a less expensive alternative brand

name drug or a generic option. That often leaves it to the patient to find the right drug at the lowest cost.<sup>12</sup> There is a new generation of easy-to-navigate Web tools and mobile apps that have price comparison data and discounts. These are especially useful for people who do not have prescription insurance or who are in the deductible phase of their health plan and want to lower their out-of-pocket expenses.<sup>12</sup> GoodRx (<https://www.goodrx.com/mobile>) is a new app available for

more adherent than a comparative group taking twice-a-day medications.<sup>13</sup> Because many patients tend to forget their treatments and instructions from the doctor, clearer instructions are needed, either in writing or verbally. Providers can do a verbal check to make sure the instructions for care are understood and that no barriers stand in the way of treatment. These simple solutions may require more time up front from providers to counsel patients and find the simplest

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tablets, smartphones, and desktop computers.

The tool provides information such as real-time prices and out-of-pocket costs, based on the patient’s health plan benefits, at any contracted pharmacy in his or her current geographic area, whether the medication is on the member’s health plan formulary, and if a generic or lower cost brand medication is available. Patient assistance programs are run by pharmaceutical companies that provide medications at no charge to people who cannot afford to buy their medicine. One such program is RxAssist (<http://rxassist.org/>), which offers a comprehensive database of these patient assistance programs, as well as practical tools, news, and articles so that healthcare professionals and patients can find the information they need.

### **Simplify**

Medication management can lead to increased adherence, especially with patients who are juggling a host of co-morbid conditions and a large number of prescriptions. One study showed that patients taking high blood pressure medications once a day are 11%

treatment for their patients. However, this could save time ultimately, with fewer visits from sick patients over a longer period.

### **Care Coordination**

Fully informed decision-making is a key to helping patients navigate a complex health system toward better health outcomes and greater adherence. Care coordination is one solution that leads to fully informed decision-making by the patient. However, research shows that patients rarely inform their patients to a level sufficient to classify as “fully informed decision-making.”<sup>14</sup> Coordinated care from doctors, nurses, pharmacists, and other healthcare staff can lead to a better way of tracking adherence. A study done on geriatric patients and compliance found that those in the study who received pharmacist-led discharge counseling before hospital discharge improved medication adherence by 43%.<sup>15</sup> Another study of patients with diabetes noted a 21% increase in medication adherence for those in a group receiving bi-weekly automated calls from case management and self-care training from nurses.<sup>16</sup>

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## Healthcare IT Infrastructure

Electronic health records and e-prescribing allow for greater communication between provider and pharmacist, which allows for greater coordination of care and better education for patients, resulting in better adherence rates. Electronic updates

Policy. 2014;7:35-44.

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<sup>17</sup> Express Scripts' Research Report. Evaluating the impact of ScreenRx on prescription costs. <http://lab.express-scripts.com/lab/insights/behavioral-sciences/to-know-but-not-do-the-state-of-rx-adherence-in-the-us>.

## As clinicians, we can

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given to patients about when to refill their prescriptions allow greater communication between parties with greater ease for the patient. Some technology, such as Express Scripts' ScreenRX, can even predict non-adherence with up to 94% accuracy.<sup>17</sup> New technology allows for increases in adherence in a number of ways, mainly centered around greater communication and coordination.

## Conclusion

When a patient enters the clinic, it is the job of the healthcare team to review the patient's past, engage the patient in the present, and think about the patient's future. More consideration, however, needs to be paid to the patient's near future and his or her medication adherence. The cognitive decision to focus on medication adherence by the healthcare team will help patients save money in the long term, as well as keeping them out of the hospital and in outpatient offices. As a healthcare team working together, we can increase patient adherence to medication by improving our communication and making their treatment plan simple. As clinicians, we can help the patients feel comfortable about costs and resources available to them, and provide them with new systems and technologies that will allow them the resources they need to succeed. **PM**

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<sup>6</sup> U.S. Department of Health and Human Services. America's Health Literacy: Why We Need Accessible Health Information. 2008. <https://health.gov/communication/literacy/issuebrief/>. Accessed February 10, 2018.

<sup>7</sup> Benner JS, Glynn RJ, Mogun H, Neumann PJ, Weinstein MC, Avorn J. Long-term persistence in use of statin therapy in elderly patients. JAMA. 2002;288:455-456.

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**Mr. Derenthal** is a second-year osteopathic medical student, Kansas City University, 2901 St. Johns Blvd., Joplin, MO 64804; e-mail: [cderenthal@kcumb.edu](mailto:cderenthal@kcumb.edu).



**Mr. Jardine** is a second-year osteopathic medical student, Kansas City University, Joplin, Missouri.



**Mr. Boekweg** is a second-year osteopathic medical student, Kansas City University, Joplin, Missouri.



**Dr. Janis Coffin** is Chief Transformation Officer, Medical College of Georgia/Augusta University