

# The Costs of Nonadherence

When patients fail to take their medicine as directed, the consequences can include wasted medications, poor health and added medical expenses. Yet more than half of the patients in many disease states are nonadherent to their medication therapies.<sup>1</sup> For example, 54.9% of adults with asthma – and 78.3% of children with asthma – take too little medication or none at all.<sup>2</sup>

Up to 30% of prescriptions are never filled.<sup>3</sup> Even when prescriptions are filled, patients may miss doses, take the wrong dose, stop treatment early or never start. Any of these scenarios can lead to otherwise-preventable hospital admissions, emergency room visits, physician visits and medical tests.

From a financial standpoint, the price of nonadherence is considerable. In the United States, estimated direct and indirect costs totaled \$337 billion in 2013,<sup>4</sup> the most recent year for which figures are available. With total healthcare spending in the United States averaging \$9,255 per person in 2013,<sup>5</sup> about one dollar of every nine spent was wasted due to nonadherence.<sup>6</sup>

## The Causes of Nonadherence

The reasons for nonadherence are varied and complex, and no one solution works for everyone. However, the most impactful solutions rely on early detection and individualized interventions.

Express Scripts has found that 69% of nonadherence is due to behavioral issues, such as forgetfulness or procrastination<sup>7</sup>. Patients who take more than a few medications may be nonadherent because they are confused by complicated dosing schedules. Remedies include offering renewal reminders or automatic renewals, encouraging 90-day fills (the norm with home delivery), providing patients with adherence aids such as timers or specialized pillboxes that provide reminders, and encouraging patients to consult with pharmacists to establish simplified dosing regimens.

Plan design can encourage or discourage adherence. People with high-deductible health plans are more likely to be nonadherent because they shoulder more of the cost of their medications. In contrast, value-based insurance design (VBID) may encourage adherence by reducing or eliminating copayments and deductibles for drugs with proven benefits.<sup>8</sup> A new study from Kaiser Permanente<sup>9</sup> found that diabetics over age 65 had an average adherence rate of 90% when they were prescribed a 90-day supply of medication, used a mail-order pharmacy for at least half of their refills in a given year, had copays of \$10 or less and had out-of-pocket maximums of \$2,000 or less.

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<sup>1</sup> Osterberg L., Blaschke T. '[Adherence to medication.](#)' *New England Journal of Medicine*. 2005; 353(5); 487-497

<sup>2</sup> The Express Scripts 2014 Drug Trend Report

<sup>3</sup> Centers for Disease Control presentation, [Medication Adherence](#)

<sup>4</sup> The Express Scripts 2013 Drug Trend Report

<sup>5</sup> Centers for Medicare and Medicaid Services (CMS). '[National Health Expenditure Data](#)'

<sup>6</sup> Based upon the U.S. Census Bureau's estimated 2013 U.S. population of 316 million

<sup>7</sup> Data compiled by ScreenRx, Express Scripts' advanced adherence solution

<sup>8</sup> Kirkner, R. '[Three Benefit Models Improve Specialty Drug Adherence.](#)' *Managed Care*. October 2014

<sup>9</sup> Schmittiel, J., Nichols, G., Dyer, W., Steiner, J., Karter, A., Raebel, M. '[Health Care System-level Factors Associated With Performance on Medicare STAR Adherence Metrics in a Large, Integrated Delivery System.](#)' *Medical Care*. April 2015

Overall, 16% of nonadherence is due to cost (16%).<sup>7</sup> However, up to 32 percent of people who signed up for Medicare Advantage plans (also known as Medicare Part C) are so concerned with the price of their medications that they take less than prescribed.<sup>10</sup> Possible solutions include switching to less expensive brand-name drugs or generics or signing up for copay assistance programs. Additionally, 15% of patients say clinical issues such as side effects contribute to their nonadherence<sup>7</sup>. They may need to switch to a different medication or may require help finding effective coping mechanisms.

Whatever the reasons for nonadherence, pharmacists are a resource to help patients get on track. In addition to discussing issues and possible solutions, pharmacists can help patients understand why they need their medications or how discontinuing medications harms their health in the short and long term.

## Predicting and Preventing Nonadherence

Early identification paves the way for successful interventions before nonadherence becomes a significant issue. However, most health plans are reactive rather than proactive in addressing nonadherence, according to a recent study of 30 plans.<sup>11</sup> Most of these interventions come after a patient is late to fill a prescription.

Just 7% of the plans surveyed in that study use predictive analytics to identify the need for interventions, although more than half said they intended to begin using that method in the future.

Clinical solutions that employ predictive analytics can monitor hundreds of factors. For example, the predictive modeling employed by Express Scripts' ScreenRx<sup>®</sup> program looks for triggers such as having a partner who is nonadherent, being the parent of young children or using a retail pharmacy rather than home delivery. ScreenRx's predictive models are up to 94% accurate in predicting nonadherence up to a year in advance. When patients are identified, Express Scripts provides personalized interventions to help them stay on their therapy.

Express Scripts also screens reactively for nonadherence. A daily analysis checks for members with gaps in care, whether they use a retail pharmacy or the Express Scripts Pharmacy<sup>SM</sup>.

## Regulatory Impact

Medication adherence is so important to medical outcomes that the Centers for Medicare & Medicaid Services (CMS) considers compliance rates for oral diabetes, hypertension and cholesterol medicines when assigning star ratings, which measure and award quality care, to Medicare plans. Patients are considered adherent when they have sufficient medication on hand at least 80 percent of the time (on an annual basis, 290 days or more a year). Qualified health plans offered under the Affordable Care Act will be assigned similar quality-based ratings beginning in 2016.

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<sup>10</sup> Stefanacci, R., Guerin, S. '[Why Medication Adherence Matters to Patients, Payers, Providers.](#)' *Managed Care*. January 2013

<sup>11</sup> Jones, C. '[Medication Adherence Study Looks at Types of Interventions.](#)' *Managed Care*. September 2014

## Adherence Helps Keep Healthcare Spend in Check

As healthcare costs continue to rise, plan sponsors seek strategies to save money while protecting members' health. The stakes are high: Total healthcare costs in the United States reached \$2.9 trillion in 2013, an increase of 3.6 percent over the preceding year.<sup>4</sup> Drug costs are on the rise as well, soaring by 13.1% in 2014.<sup>2</sup>

Retail customers are more likely to have gaps in care and are less likely to close their gaps in care. Using home delivery increases the likelihood of being adherent by as much as 19%.<sup>12</sup> When home delivery is paired with Express Scripts' advanced adherence solution, members close 28.5% more gaps in care than those who fill their prescriptions at retail.<sup>13</sup>

Express Scripts has analyzed the correlation between home delivery and adherence in a number of disease states:

- Pulmonary arterial hypertension: 17% higher adherence when filling prescriptions through home delivery, resulting in 32% fewer hospitalizations, 35% fewer emergency room visits and \$13,000 less in medical expenses per patient per year
- Multiple sclerosis: 32% higher adherence, with 39% fewer hospitalizations, 39% fewer ER visits and savings of 31% annually on medical expenses
- Rheumatoid arthritis: 16% higher adherence, with 9% fewer hospitalizations, 13% fewer ER visits and savings of 16% annually on medical expenses

By implementing strategies to increase adherence, plan sponsors can moderate their costs, reduce waste and encourage their members to make good choices for good health.

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<sup>12</sup> Iyengar RN, Henderson RR, Visaria J, Frazee SG. '[Dispensing Channel and Medication Adherence: Evidence Across Three Therapy Classes.](#)' *American Journal of Managed Care*. August 2014

<sup>13</sup> Express Scripts' Research Report. 'Evaluating the Impact of ScreenRx® on Prescription Costs.'