

# Medication Adherence: A Comprehensive Guide for Providers



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## Introduction

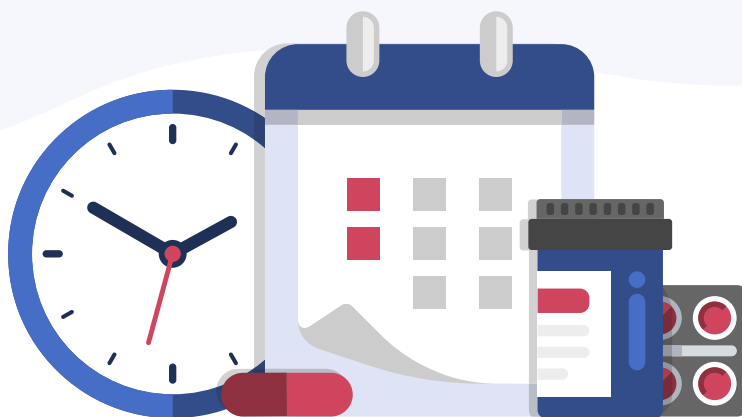
# Medication Adherence: A Comprehensive Guide for Providers

“Drugs don’t work in patients who don’t take them.” This quote from C. Everett Koop, MD, former U.S. surgeon general, encapsulates the importance of medication adherence. When patients fail to adhere to their medication regimen by not taking their medications as prescribed, their health, wellbeing, and possibly even lives are put at risk. Poor medication adherence can also jeopardize outcomes and greatly affect overall healthcare costs. Unfortunately, statistics show that many people struggle with medication adherence. The reasons why are myriad and often complex. With adherence rates of 80% or more typically needed for optimal therapeutic efficacy, patients who are mostly adherent to their medication regimen can still experience significant health dangers.

While improving medication adherence is likely to be an uphill battle, it is one that providers and their organizations must embrace. And there are good reasons to do so. As the World Health Organization [notes](#), “... increasing the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatments.” Even small improvements can positively impact many patients’ lives while reducing expenses and improving provider and staff productivity. As the scale and scope of improvements grow, so will the number of affected patients, and thus the gains achieved by providers and their organizations. Consider this e-book a roadmap you can use to gain a better understanding of medication adherence, why it’s so important and so difficult, and what you can do to make headway on addressing this significant challenge.

## Chapter 1

# What is Medication Adherence?



Medication adherence is often identified by its shortcomings, which include suboptimal outcomes, higher rates of hospital admissions, increased morbidity and mortality, and rising healthcare costs. In fact, out of 4 billion prescriptions written annually, one in five new prescriptions are never filled.

Before we explore the many issues related to [medication adherence](#), let's discuss what it is, a few ways it's traditionally defined, and some of the most significant challenges healthcare providers face when working to achieve medication adherence.

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## Medication Adherence Definitions

While many organizations define medication adherence slightly differently, each of the below definitions expresses a similar meaning.

# The U.S. Food and Drug Administration (FDA)

*“Medication adherence, or taking medications correctly, is generally defined as the extent to which patients take medication as prescribed by their doctors. This involves factors such as getting prescriptions filled, remembering to take medication on time, and understanding the directions.” ([Source](#))*

## The American Medical Association

*“A patient is considered adherent if they take 80% of their prescribed medicine(s). If patients take less than 80% of their prescribed medication(s), they are considered nonadherent.” ([Source](#))*

## Prescriptions for a Healthy America

*“Medication adherence occurs when a patient takes their medications according to the prescribed dosage, time, frequency, and direction.” ([Source](#))*

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## Medication Adherence Challenges

Now that we’ve reviewed the definition for medication adherence, let’s explore some of its top challenges.

- 1 Ability to pay for medications** – This is a major barrier for patients, and one that is often made even more difficult by high-deductible health plans, according to data published from [JAMA](#).
- 2 Low health literacy** – [Defined](#) as “... the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions,” low health literacy can cause medication nonadherence when patients cannot grasp critical concepts. These include how to fill a medication, how to take a medication, when to take a medication, how much of a medication to take, and when and how to refill a medication.

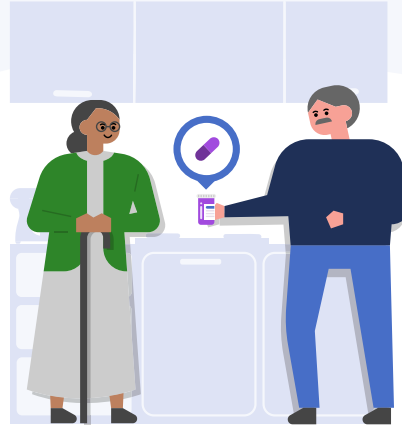
**3 Side effects** – Adverse side effects are another major obstacle to medication adherence. When patients experience undesirable side effects, such as weight gain, nausea/upset stomach, dizziness/fatigue, and skin irritation, they're less likely to continue with their medication as prescribed.

**4 Polypharmacy** – Patients who take at least five medications is often referred to as polypharmacy. This can create challenges for patients, as mistakes due to managing a complex dosing schedule, instruction confusion, multiple side effects, and greater expenses.

It's vital for providers to understand each of these issues related to medication adherence so you can easily recognize them and find solutions for patients dealing with such challenges. Later, we'll share the many opportunities to improve medication adherence, which include ways to prevent medication nonadherence.

## Chapter 2

# Medication Adherence vs. Compliance



We've already been discussing the term medication adherence in this guide, but what does it mean when someone refers to medication compliance? While subtle, let's take a look at [medication adherence vs. compliance](#).

There are four major ways these two terms can differ, including definitions, risks, causes, and improvements.

### 1. Definitions

As defined by the National Stroke Association:

- **Medication adherence** is the “*act of filling new prescriptions or refilling prescriptions on time.*”
- **Medication compliance** is the “*act of taking medication on schedule or taking medication as prescribed.*”

A *Podiatry Today* [article](#) further differentiates between the concepts, stating, “Adherence is an active choice of patients to follow through with the prescribed treatment while taking responsibility for their own well-being. Compliance is a passive behavior in which a patient is following a list of instructions from the doctor. Adherence is a more positive, proactive

behavior, which results in a lifestyle change by the patient, who must follow a daily regimen such as wearing a prescribed brace. In contrast, compliance is a behavior exhibited by a patient who is simply “doing as (he or she is) told” or following a list of instructions given by the treating doctor.”

## 2. Risks

While there is some overlap between the risks involved with medication adherence and compliance, there are also a few distinctions.

When it comes to medication adherence, 20-30% of prescriptions are never filled, according to an *Annals of Internal Medicine* [review](#). Ultimately, poor medication adherence can lead to risks such as:

- unnecessary disease progression and complications;
- reduced functional abilities and quality of life;
- additional medical costs and physician visits; and
- unnecessary medication changes.

As for medication compliance, a [survey](#) sponsored by the National Community Pharmacists Association and conducted among American adults 40 and older who have been prescribed ongoing medication for a chronic condition found that about 28% of patients failed to refill a prescription in time, 57% of patients missed a dose, 22% took a lower dose, and 14% stopped taking their medication. These issues can lead to risks such as:

- hospital stays, with the average length being about four days;
- increased risk of morbidity and death; and
- higher costs for the overall healthcare system (\$100 billion or more per year).

## 3. Causes

The causes of medication nonadherence and noncompliance vary widely. Causes of medication nonadherence include patients not filling prescriptions due to cost, access to a pharmacy, and challenges with tracking refills.



On the other hand, medication noncompliance can be caused by fear of side effects, no proof of improvement, poor tracking of medications, and lack of patient education (i.e., they may not understand why they need to take a prescription).

## 4. Improvements

Finally, beyond definitions and understanding risks and causes, how can providers help patients improve?

### Medication Adherence

- Discuss matters such as a patient's ability to pay for medications and their access to a pharmacy during each appointment.
- Recommend generic medications.
- Provide information about prescription assistance programs (e.g., [NeedyMeds](#)).
- Provide information about online pharmacies that can help with access issues.
- Advise patients to determine whether their pharmacy offers a refill reminder or automatic refill service.

### Medication Compliance

- At each appointment, ask if the patient is taking their medication on schedule and as prescribed.
- Review possible side effects when changing a regimen and discuss what patients should and should not do when they experience side effects.
- Stress the importance of following a regimen and possible risks of deviation.
- Recommend patients use tools such as a pill calendar, pill case, digital dispenser, and mobile app to help with medication tracking.
- Provide patients with information about who they should contact with questions or concerns about their medication regimen.
- Tailor solutions to specific patient needs and challenges.

We also can't ignore that there are different perspectives when it comes to the definitions of medication adherence vs. compliance. For many, the term medication adherence has essentially begun to replace the term and meaning of [medication compliance](#) as the latter has fallen out of favor. On the other hand, medication compliance can also represent how well healthcare providers follow rules and regulations for everything from prescribing and administering medications for patients to storing and documenting medications.

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## Treatment Adherence vs. Compliance

[Treatment adherence and treatment compliance](#) often appear synonymous. It would stand to reason that if a patient adheres to treatment, that they're also compliant, right? Not necessarily. Understanding the differences in the meaning behind these two terms is another important aspect of improving medication adherence.

### Definition of Treatment Adherence vs. Compliance

According to the World Health Organization, treatment adherence is defined as, "... the extent to which a person's behavior — taking medication, following a diet, and/or executing lifestyle changes — corresponds with the agreed recommendations from a healthcare provider."

According to the *European Society of Hypertension Scientific Newsletter*, treatment compliance is defined as, "... the degree to which the patient conforms to medical advice about lifestyle and dietary changes as well as to keeping appointments for follow up and taking treatment as prescribed."

It is important to note that medication adherence/compliance is treatment adherence/compliance specifically focusing on the degree to which a patient conforms to medical advice regarding their medication regimens.

### Challenges of Treatment Adherence and Compliance

There are several shortcomings associated with treatment adherence and treatment compliance. For example, if patients are faced with the choice of continuing or stopping treatment, they may choose the latter due to financial reasons. Or perhaps as treatment

requirements change and patients have to visit new providers, they may not be able to easily travel to new locations and therefore choose not to follow through.

Another challenge is that when patients feel overwhelmed by any number of factors related to treatment, they may choose to not continue. For instance, if patients are unhappy with the treatment's effects, including limited signs of improvement or unexpected side effects, they may discontinue or not follow through as instructed.

On the other hand, if a patient experiences improvements, they may think that they no longer need to continue treatment.

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## Best Practices

To help patients with treatment adherence and compliance, here are a few best practices for providers and organizations.

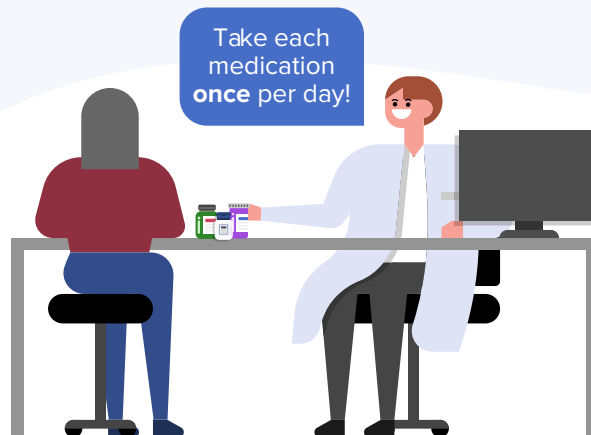
- 1 Focus on communication** – Establish ongoing and effective communication with patients to prevent any misunderstandings or miscommunications.
- 2 Deliver education** – Provide patients with information about a treatment, such as the treatment's purpose, expected timeframe, potential obstacles to success, and ways to improve treatment success.
- 3 Share resources** – Offering resources that patients can reference at home — from brochures to mobile apps — can also be useful.
- 4 Provide easily accessible assistance** – If patients have questions, it's crucial that they know where they can receive support, whether that's by submitting an email, chatting via a portal, or calling your office.
- 5 Address insurance and treatment cost barriers** – For many patients, these may be issues they don't bring up proactively, so it's important that providers are asking and determining if costs will create barriers.

**6 Treat all patients uniquely** – Since every patient is different, set assumptions aside and remember to address each person’s potential obstacles individually..

**7 Don't go it alone** – Involve anyone who might be a part of ensuring successful treatment adherence and compliance. This might include patients, their family, primary care physicians, specialists, nurses, pharmacists, therapists, billers, collectors, and payors.

## Chapter 3

# Importance of Medication Adherence



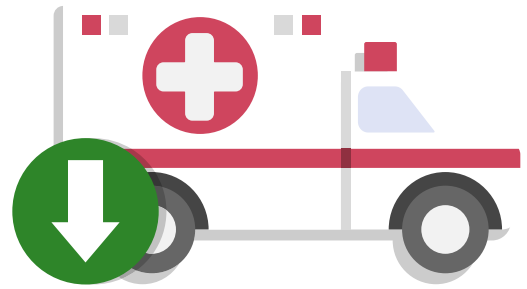
Healthcare providers and organizations generally understand that medication adherence is important, but with 50% of patients reportedly [not taking their medications as prescribed](#), there is room for improvement.

Here are a few key reasons hospitals in particular should place a greater emphasis on the [importance of medication adherence](#).

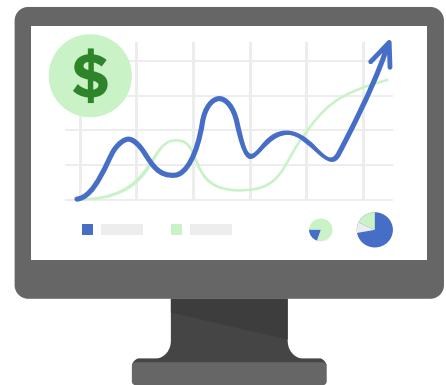
- 1 Responsibility to deliver quality care**
  - With nearly 125,000 deaths and 10% of hospitalizations [caused by medication nonadherence](#), hospitals must maintain their commitment to quality care by working to prevent both. Since hospitals play such a significant role in medication adherence, the first steps are to recognize that issues exist and accept that hospitals have a responsibility to help prevent problems in the future.



**2 Reduction in admissions and readmissions** – According to one [study](#), 20% of readmission rates occurred in patients with low and intermediate adherence compared with slightly over 9% for patients with high adherence. While the quality of care and patient wellness should be the main reason for improving admission and readmission rates, an additional incentive is the potential for value-based care and financial rewards.



**3 Cost savings** – As hospitals spend more while generally being paid less for services, identifying potential cost savings is essential. According to the Annals of Internal Medicine, medication nonadherence costs the healthcare system between \$100–\$289 billion annually, and there are countless statistics that show similar issues throughout healthcare. If hospitals begin to take steps toward improving medication adherence, there’s great potential to help patients and improve the bottom line simultaneously.



**4 Patient satisfaction** – Another important reason hospitals must focus on improving medication adherence is patient satisfaction. As healthcare shifts toward patient-centered models of care, satisfaction is becoming more frequently discussed.



**Sandra Smith, MD**



*“Best care I have ever received!”*

– PATIENT

In particular, hospitals shouldn't ignore the fact that patients have a choice in where they receive medical care. It's in the hands of hospitals to ensure that patients are achieving and maintaining adherence, which can significantly impact satisfaction. If patients leave the hospital with an understanding of why changes were made to their medication and how to follow the revised regimen while also having their questions addressed, patient satisfaction should improve.

## Chapter 4

# Nonadherence Causes & Costs



## Causes of Medication Nonadherence

There are [several major causes of medication nonadherence](#), including forgetfulness, questioning of a medication's effectiveness, mistrust of prescriber, fear of side effects, absence of symptoms, and costs. In addition, other causes might be difficulty managing multiple medications, not understanding the purpose of taking a medication, and poor health literacy. Any given cause can be categorized as intentional or unintentional nonadherence, which is an important distinction because sometimes the cause of nonadherence is beyond a patient's control.

It's essential that providers understand these causes so they can take appropriate steps to help patients. Here are a few steps doctors can take.

### 1. Focus on Education

Both types of nonadherence may be caused by lack of patient education. For example, you can offer patients adequate information by giving them a document listing their current prescriptions, providing them with medication instructions, and identifying changes to their treatment. Make sure that you offer any of this information on paper and through an electronic format, and explain how patients should contact you with any questions.



## 2. Don't Assume Adherence

It might go without saying, but you should never assume that patients are taking all of their medications as prescribed. When patients deviate from a regimen, their health is at risk.

To help prevent making assumptions, ask non-judgmental questions. These include the following:

- These medications you are prescribed are difficult to take every day. How often do you skip one?
- You take quite a few medications. How many of these do you take?
- Most people do not take all their medications every day. How about you?
- Have you stopped taking any of your medications when you feel well?
- Are you worried about any side effects?
- When was the last time you took drug A? Drug B?

## 3. Come Prepared with Solutions

Before speaking with a patient, come prepared with potential solutions to medication nonadherence issues. Consider common issues, suggestions, and support that you can offer to patients. Finally, plan to follow up after appointments to ensure patients are taking advantage of the support you offered.

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## Elderly Medication Adherence

One group at a higher risk for [medication adherence issues](#) is the elderly. Here are a few common challenges and solutions for this group of patients.

### **Challenge 1: Management of Multiple Medications**

Many elderly patients take more than one medication, making adherence even more challenging.

To combat this, doctors can suggest the following to their patients:

- Use a chart or pill calendar to establish a schedule for all medications and track when medications are taken.
- Use a weekly pill case to help ensure all medications are taken daily.
- Take pills at consistent times of day (e.g., with meals, upon waking up, before going to sleep).
- Ask family and/or friends to provide reminders.
- Use a medication adherence application. Here are [five to consider](#).

## Challenge 2: Cost

*Consumer Reports* [surveys](#) noted that many people skipped filling a prescription, skipped a scheduled dose (without approval), and cut pills in half (without approval) because of cost concerns.

Cost is particularly challenging for elderly patients when they are uninsured, marginally insured, or lack savings. Here are some recommendations to help patients stressing about their financial situations:

- Discuss a patient's ability to pay for medications during appointments and when modifying a regimen.
- Determine a medication's cost when issuing a new prescription and ask the patient if the amount is a concern. Most people do not take all their medications every day. How about you?
- Suggest generic medications, which tend to be lower cost, whenever possible.
- Direct patients to prescription assistance programs, such as [NeedyMeds](#), which links to hundreds of programs, and the Centers for Medicare & Medicaid Services' list of [recommended programs](#).
- Direct patients to state [pharmaceutical assistance programs](#) (if available). Many states and the U.S. Virgin Islands offer help.

## Challenge 3: Drug Interactions

Drug interactions with the potential to cause negative or dangerous side effects may discourage patients from continuing taking medications as prescribed. Here are a few ways to address these issues with patients:

- Discuss drug interactions and side effects with patients during appointments, reviewing what side effects are possible and what patients should do if they occur.
- Make sure discussions with patients focus on all medications, not just prescriptions. This means asking about over-the-counter medicines, eye drops, dietary supplements, vitamins, and topical medicines.
- Advise patients to document all side effects and share this information with providers at appointments or sooner if side effects are more severe.
- During appointments, ask patients whether they have made any changes to their lifestyle or diet that could impact medication effectiveness and side effects.

### **Challenge 4: Decline in Faculties**

Both physical and mental decline in elderly patients can affect medication adherence. For example, if a patient has declining vision, they may not be able to read medication labels as well, affecting their ability to take medications correctly or even at all. Declining ability may prevent patients from picking up prescriptions or refills.

The solution? Address any issues related to vision, strength, and mobility in appointments to help prevent these factors from becoming barriers for patients. Some steps you can take include the following:

- If vision is declining, print medication regimen instructions and labels on medicine containers in larger type.
- If patients are becoming physically weaker, arrange for prescriptions to be placed in easy-to-open containers. Note: This is only advisable if children are not in the home or likely to visit.
- If traveling to a pharmacy may prove difficult due to mobility issues, advise patients to consider use of a mail order or online pharmacy. Online pharmacies should be licensed and undergo successful review and inspection by the [National Association of Boards of Pharmacy](#). Ensure patients have a backup plan in the event that there is a problem with mail service. If a patient expresses a desire to go to a physical pharmacy but wants to limit the number of trips, see if a patient's preferred pharmacy offers a medication synchronization program. Such a program will allow the patient pick up all or most prescription refills in a single monthly visit.

## Cost of Medication Nonadherence

Before we dive into the cost of [medication nonadherence](#), there are a few key stats that reveal quite a bit about this issue.

- **20%-30%** of new prescriptions are never filled
- **50%** of medications are not taken as prescribed
- Nonadherence is estimated to cost the U.S. healthcare system at least **\$100 billion** annually
- **125,000** people die annually from not taking their medicines

Most of this data comes from a literature review published in the [Annals of Internal Medicine](#) in 2012.

In contrast, a newer study from [The Annals of Pharmacotherapy](#) states that the annual cost of prescription drug-related morbidity and mortality resulting from non-optimized medication therapy is nearly \$530B in 2016 U.S. dollars, with a plausible range of \$495 billion to \$673 billion.

While the monetary cost is staggering, we can't neglect to mention the even higher cost of human lives. This study estimates that non-optimized drug therapy results in more than 275,000 deaths annually.

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## Drug Adherence

Finally, to round out this chapter, we'll share some of the top challenges with and solutions for [drug adherence](#).

### **Challenge 1: Lack of patient understanding**

Many patients do not take medications as prescribed because they lack understanding about the drug itself or how to take it. They might not understand the instructions, or perhaps they take a medication that doesn't produce an immediate result, which causes them to stop taking it.

**The solution?** For issues like these and others, healthcare professionals must ensure that they're educating patients on critical matters concerning medications not just once, but continuously. This may include talking to patients in person during their appointments, providing them with handouts, or sending follow-up emails or texts with the information they need about their medications.

## **Challenge 2: Cost**

With higher costs in medication becoming all too common, some patients are faced with the difficult choice of paying their bills or paying for medications. This often results in patients choosing not to pick up medications or rationing what they do have, thus not taking the medication as prescribed.

**The solution?** Physicians must be sensitive to the cost of medications and consider the best, most affordable option when prescribing to patients. You can also offer resources such as [NeedyMeds](#), [RX Assistance Programs](#), state assistance programs, and local agencies that can help. Provide information on these resources via handout or through another communication method, such as links on your website or through email.

## **Challenge 3: Fear of side effects**

Whether real or perceived, the fear of side effects is a legitimate concern that can prevent patients from taking their medications. Perhaps patients begin taking a medication but start to experience an undesirable side effect and decide to discontinue taking it. Or for those with

perceived fears, they may believe what they've heard from others or read on the internet about side effects, discouraging them from taking their medication.

**The solution?** Ultimately, this goes back to the solution in Challenge #1 above: Physicians must educate patients about potential side effects and alleviate fears by having open and non-judgmental conversations. Along with this, it's important to check in with patients during each visit to go over medications they're taking or not taking to hopefully uncover potential issues.

#### **Challenge 4: *Complicated medication regimen***

For patients taking multiple medications, following instructions is even more challenging, whether it's an elderly patient struggling to remember all of their medications or a busy, single parent.

**The solution?** Consider each patient individually and prescribe medications according to their lifestyle and routine to the best of your ability.

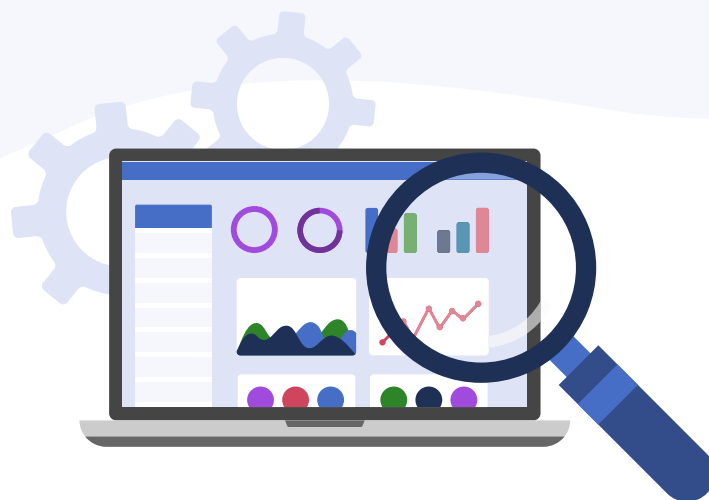
#### **Challenge 5: *Transportation***

Finally, another major challenge for some patients, whether low income, elderly, or disabled, is transportation.

**The solution?** Make patients aware of various options they can take advantage of to help secure their prescriptions. For example, Medicaid beneficiaries can access [non-emergency medical transport](#) which covers a certain number of rides per month. Or [Uber Health](#), a new service from Uber that provides safe, HIPAA-compliant rides as well as tracking and reporting useful for population health management.

## Chapter 5

# What Research Tells Us About Medication Adherence



## Medication Adherence Research

The extensive [research on medication adherence](#) offers valuable insights into why patients fail to adhere to medications as well as potential solutions for organizations, providers, patients, and caregivers. Here are just a few of the insights from such research.providers and organizations.

**“Medication Adherence: WHO Cares?” (Mayo Clinic Proceedings)** — This 2011 [article](#) shares a MEDLINE-based literature search focused on adherence and chronic illness, specifically cardiovascular disease.

1. Patients with chronic illness struggle with adherence.
2. Patients are not solely at fault for medication nonadherence.
3. Patient empowerment can improve adherence.



## **Medication Adherence: Its Importance in Cardiovascular Outcomes (Circulation) —**

This 2009 [article](#), which also has a particular focus on cardiovascular disease and outcomes, takes a deep dive into ways of measuring and improving medication adherence.

**4.** Medication nonadherence by patients isn't always a conscious decision.

**5.** Patients often improve adherence right before and after an appointment..

## **Understanding and Overcoming Barriers to Medication Adherence: A Review of Research Priorities (Journal of Managed Care & Specialty Pharmacy) —**

This 2014 [article](#) supplements existing literature on medication adherence with stakeholder interviews and what the researchers describe as “expert” panel meetings. The researchers’ goal: “... to improve our understanding about how to identify patients at greatest risk of nonadherence and target them with personalized, effective interventions medication adherence.”

**6.** Factors that drive patient nonadherence aren't always obvious.

**7.** Technology can help patients improve adherence but is not a cure-all solution.

**8.** Some improved adherence may not correspond to improved outcomes.

## **CDC Grand Rounds: Improving Medication Adherence for Chronic Disease Management —**

Innovations and Opportunities (Morbidity and Mortality Weekly Report (MMWR)) — This 2017 [article](#) was published in MMWR, described as the Centers for Disease Control and Prevention’s (CDC) “... primary vehicle for scientific publication of timely, reliable, authoritative, accurate, objective, and useful public health information and recommendations.”

**9.** Patients can benefit from multiple adherence strategies.

**10.** Communication with and education for patients is essential.

# Medication Adherence Statistics

Beyond the insights that medication adherence research offers, there are also a number of [statistics](#) that shed light on medication adherence challenges and opportunities for providers and organizations.



**55%** of Americans regularly take a prescribed medication. ([Source](#))



**53%** of Americans who take prescription medications say they get them from more than one healthcare provider. ([Source](#))



**More than 1/3** of Americans say no provider has reviewed their medicines to see if all are necessary. ([Source](#))



**The number of medicines** a patient is taking is the single most important predictor of medicine-related harm. ([Source](#))



**15%** of people took five or more medicines in 2011-12. Only 8.2% of people took five or more medicines in 1999-2000. ([Source](#))



**42,000 deaths** were due to opioid overdoses in 2016, more than any previous year on record, with an estimated 40% of such deaths involving a prescription opioid. ([Source](#))



**People with 4 or more** ER visits were 48 times more likely to die of prescription drug overdose compared to those who visited an ER once or not at all. ([Source](#))



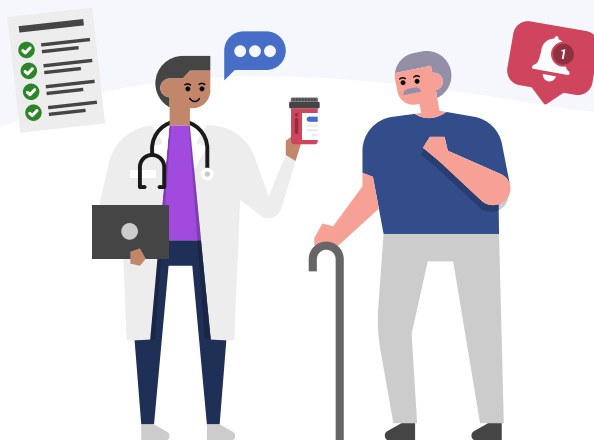
**Telehealth physicians** score higher with patients when they prescribe antibiotics. ([Source](#))



**More than 4 billion** prescriptions were filled at U.S. pharmacies in 2017. ([Source](#))

## Chapter 6

# How Providers Can Improve Medication Adherence



## Medication Adherence Definition & Best Practices

Earlier in this guide, we looked at a few definitions of medication adherence. According to a definition from U.S. Pharmacist, “Medication adherence is the act of taking medication as prescribed by a physician. This includes consistently taking the proper dose, at the correct time, and for the recommended length of time.”

Looking at this definition, there are a few best practices providers can follow to help patients improve medication adherence.

- 1 Understand the reasons for patient nonadherence** – Providers and healthcare professionals cannot truly help patients with nonadherence unless they understand the reason(s) a patient is not taking their medications as prescribed. Through talking with patients and identifying the true cause(s), providers will avoid making any assumptions and begin to help patients find solutions.

- 2 Recognize polypharmacy risks** – When patients are taking five or more medications, it's typically referred to as polypharmacy. The more medications a patient uses, the more difficult adherence becomes. Related challenges may include instruction confusion, complex dosing schedule, reactions, side effects, elevated cost, and frequency of filling and refilling medications.
- 3 Improve communication and collaboration** – Another important best practice to improve medication adherence is a provider's ability to communicate effectively with patients and patients feeling comfortable talking with their provider. One technique that may help communication and collaboration is motivational interviewing: a patient-centered, non-confrontational communications skill set that can effectively drive patient conversations about medication issues and adherence.
- 4 Prioritize education** – A key element in improving medication adherence is educating patients. By empowering patients with the information they need, they can be proactive about their own care. Educate patients in areas such as following prescriptions, risks of taking medications other than those prescribed, and where to go for help and with questions.
- 5 Leverage medication reconciliation** – Finally, don't underestimate how much [medication reconciliation](#) can assist in your conversations about medication adherence. As you discuss which medications your patients are taking, this will present the perfect opportunity to ask why they may not be taking some medications as prescribed.

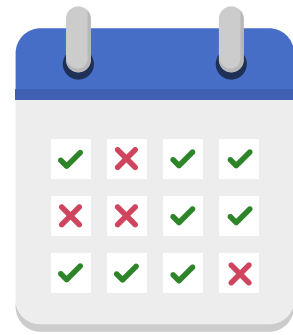
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## How to Improve Medication Adherence

Finally, beyond best practices, let's explore a few practical ways to [improve medication adherence](#).

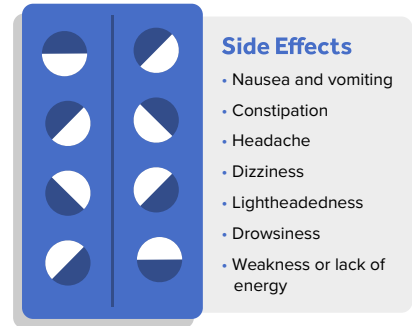
# 1

**Focus on risks** – Emphasizing the risks associated with missing or skipping doses can make all the difference for patients. While the occasional missed dose might not have a negative impact, help your patients understand that their medication is most effective when it’s taken correctly.



# 2

**Review side effects** – When there are unexpected side effects, patients may be more likely to stop taking their medication. In particular, there can be unexpected side effects between over-the-counter drugs and prescriptions, so it’s important to prepare patients in advance.



# 3

**Give patients a response plan** – The conversation about risks and side effects might be stressful for patients, so be sure that you’re ready to discuss a response plan as well. Help them understand what to do if they do miss a dose, how to resolve side effects, and how they can reach someone to ask questions.



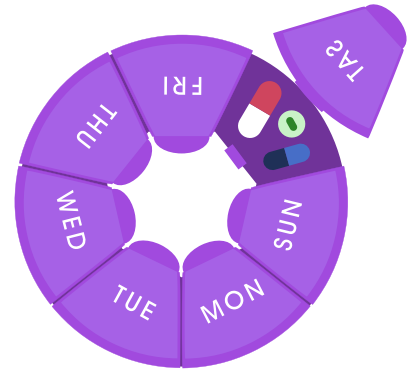
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**Discuss costs** – According to a Truven Health Analytics-NPR health poll, cost is the number one reason why patients do not fill prescriptions. Not only may patients stop taking medications due to cost, but they may also ration medications, which means they are not taking them as prescribed. For this reason, be sure to prescribe generic medications when



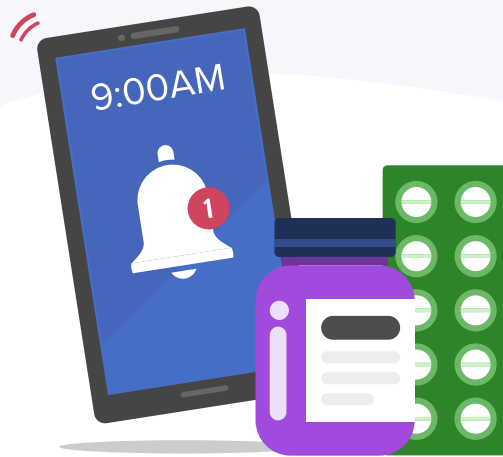
# 5

**Recommend support tools –** Finally, offer patients [tools](#) that can support medication adherence. This can range from medication calendars to pill organizers to mobile apps. Our next chapter goes into more detail about potential options for tools and apps.



## Chapter 7

# Medication Tools & Apps



## Medication Adherence Tools

There are number of [tools](#) available to help your patients with medication adherence. Here we'll share just a few highlights of tools worth considering.

### 1 Reminder Chart

A chart can provide patients with all the details about their medications, but in a simplified way. Information worth including on a reminder chart: when to take medications, what quantity to take, how to properly take medications (with food, with water, etc.), medication start and end dates, what medications look like, and any potential side effects.

### 2 Pill Card

A portable form of the reminder chart, you can offer patients a pill card to carry with them.

### 3 Educational Videos

Video can be an effective way to communicate medication information to patients and may also help them remember information better than if it's delivered verbally or in writing.

## 4 Pill Organizer

Simple, but effective, a pill organizer can help patients to organize their medications on a weekly basis by splitting them up by day of the week. Some detailed versions also have the time of day included.

## 5 Digital Dispenser

Another important best practice to improve medication adherence is a provider's ability to communicate effectively with patients and patients feeling comfortable talking with their provider. One technique that may help communication and collaboration is motivational interviewing: a patient-centered, non-confrontational communications skill set that can effectively drive patient conversations about medication issues and adherence.

## 6 Timer

There are many forms of medication timers available, including those that sit on a table, attach to or replace the pill bottle cap, and are in watch form.

## 7 Mobile App

Finally, mobile apps can serve a number of patients with options such as adherence education, scheduled reminders, quantity tracking, refill alerts, drug interaction warnings, adherence logging, gamification that rewards compliance, and finally, notifications to caregivers if any noncompliance occurs.

---

# Medication Adherence Apps

There are literally thousands of [apps](#) available for patients to help them manage their medications. However, there are very few supported by evidence of effectiveness, which is why we are featuring a few here that go above and beyond.

## 1 Medisafe

With nearly 4.5 million users, [Medisafe](#) offers medication reminders and drug interaction warnings. Other features include the ability to enter pills-on-hand; health measures, such as blood pressure; appointments; daily diary entries; and doctors.



## 2 Mango Health

[Mango](#) sends patients reminders to take their medications in addition to other actions like hydrating, eating better, or checking blood glucose levels. Users are reminded to record any actions as well as their mood. Finally, the app turns taking pills and actions into a game of sorts in which users can earn points towards weekly rewards.

## 3 Round Health

A simple app, [Round Health](#) only sends reminders and tracks remaining pills, so it's a perfect fit for older patients that need a simple tool to help them.

## 4 Wellth App

[Wellth](#) is unique in that it uses behavioral economics and loss aversion principles to engage patients in managing their own care. The company behind Wellth works with health systems and hospitals to offer the app, which uses financial reward tools to encourage patients to take medications and follow doctor's recommendations.

## 5 Dosecast

[Dosecast](#) offers a range of reminder sounds and has the additional bonus of updating medication reminder times according to the time zone — which is particularly handy for those who travel often. Also unique to this app: Patients can take a photo of the pill and upload it, rather than choosing from a generic set of images.

## 6 MyMeds

Finally, [MyMeds](#) allows patients to set up reminders and a medication tracking report, and take advantage of a feature that enables patients to invite family members, doctors, and other caregivers to review their progress. Users can also add a reason for taking a medication and set a reminder to “snooze” if the medication isn't being taken but may be again in the future.

# Conclusion

Now that you have reached the end of this e-book, it's time to put what you've learned to work. You should have a much better understanding of the many contributing factors to medication nonadherence. You also have a wealth of best practices, tools, and tips to leverage as you work to reverse the trend of nonadherence that is likely affecting a majority — or close to it — of your patient population.

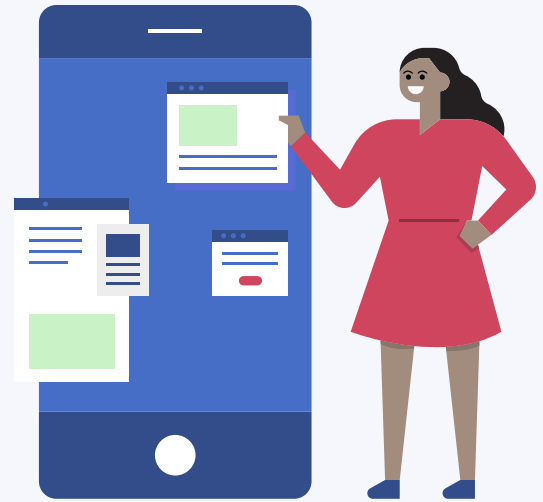
Improving adherence in some patients may be as simple as recommending a pill case. Others will require you to address multiple, complex factors, such as affordability, fear, and health literacy. What matters is that you approach each patient and every situation without any preconceived notions. You should also come to appointments with resources in hand that you can leverage to address whatever factors you identify as creating potential barriers to adherence.

As you work with patients, stay optimistic. There is good reason to believe that you can bring about positive changes in your patients' lives, and patients will often respond positively to your enthusiastic outlook. But remain realistic. For as long as medications have been prescribed, adherence has been a challenge. Do not assume interventions will prove successful or remain such. Even when there are fails or setbacks, do not become discouraged. Learn from these experiences so future patients can benefit from your knowledge. It is through such perseverance that we can hopefully eventually say that medication adherence is no longer a [significant public health challenge](#) but rather a significant public health success.

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