

# The Impact of Medication Noncompliance in Pain Management & What Clinicians Can Do About It

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## INTRODUCTION

Nonadherence to a prescribed medication regimen for patients with chronic pain is associated with overall lower health outcomes, including increased hospital admissions, costs, and morbidity (quantitative review [here](#)). Deviations in timing, dosage, frequency, or duration of medication—all components of noncompliance—can cause medical reactions, increased pain, and medication use disorders, and can ultimately lead to emergency care (article [here](#)). These negative health outcomes can increase, rather than decrease, chronic pain, hampering the ability of practitioners to effectively treat their patients and costing the healthcare industry as much as 10 percent of its total healthcare costs (article [here](#)). This lack of progress (and regression, in some cases) can be discouraging both to the patient, who wants pain relief, and also to providers themselves, who fail to see their pain management treatment make an impact.

In addition to potentially exacerbating patients' chronic pain, medication noncompliance will likely be accompanied by unnecessary medical costs (article [here](#)) and an individual's drop in productivity (article [here](#)). In fact, the full societal impact of noncompliance is estimated to be at least 2.3 times more than direct healthcare costs, just when estimating health-related productivity loss.

As care providers put in place a holistic care plan to support patients with chronic pain, a key component of their treatment should be a practice-wide strategy for medication adherence. Medication adherence is difficult for many patients and will continue to be with current practices. Providers should help address this issue by developing new solutions to track and improve adherence.

In this white paper, we outline themes that can help inform a provider's strategy for increasing medication adherence and propose potential tools to consider.

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## KEY THEMES TO CONSIDER WHILE DEVELOPING A MEDICATION COMPLIANCE PLAN

In this section, we discuss themes that can help shape a provider's strategy to addressing medication management.

### **Medication nonadherence has many contributing factors.**

When creating a strategy to increase medication adherence, providers should consider the wide range of factors driven by the patient, the provider, and the system that impact compliance.

#### **Patient-driven:**

Medication management should not exist in a vacuum, but rather should consider patient-driven factors that impact compliance, including unintentional (e.g., forgetting) and intentional factors (e.g., ability to pay) (See Figure 1 for some contributing factors).

Many patients struggle with medication adherence simply because they forget—especially when dealing with the complexity involved in multimodal treatment approaches. Next to forgetfulness, perceived side effects, high drug costs, and the perceived ineffectiveness of treatment are large influences of medication nonadherence (article [here](#), study [here](#)).

In many cases, the struggle to take medications as directed stems from other fundamental issues with a patient's current living circumstances. One analysis found that 68 percent of patients had challenges related to social determinants of health (including financial, housing, transportation, food, health literacy, or emotional insecurity) that could impact their ability to properly adhere to prescribed medications (white paper [here](#)).

#### **Provider-driven:**

Patients, of course, are not the only driver of compliance. Providers also contribute to the issue, with inadequate time with patients or communication skills as notable barriers to patient medication adherence. One meta-analysis (linked [here](#)) found that there was a 19 percent increased risk of medication nonadherence among patients whose physicians were poor communicators. The analysis found that communication skills contributed to the clinician's ability to explain the risks/benefits of treatment; to provide support, empathy, and understanding; to develop collaborative partnerships; and to engage in patient-centered interviewing.

Another provider-driven factor that could impact compliance is the complexity of the medication regimen. Pain management is more than just opioids (discussed in greater detail below), and medications could need to be taken at different times, with or without food, be filled in different quantities, etc. Providers should consider the complexity of the regimen and possible ways to simplify the treatment plan.

#### **System-driven:**

In addition to factors driven by patients and providers, clinicians should consider system-driven factors when developing a medication adherence strategy. System factors could include restrictive formularies, limited access to providers, high drug costs, and other health system structures that limit necessary access to pain management solutions.

### Figure 1. Potential Factors that Increase Medication Noncompliance

A Morbidity and Mortality Weekly Report put out by the Centers for Disease Prevention and Control outlined factors that could be negatively impacting medication adherence. (CDC report [here](#))

#### Patient-related Factors

- forgetting to take medication or obtain refills
- inadequate understanding of dose or schedules
- ability to pay
- beliefs and attitudes about their disease
- medication side effects
- lack of engagement in treatment decisions
- impaired cognition
- substance abuse
- mental health conditions

#### System-related Factors

- limited access to an appropriate provider for prescriptions or refills
- restricted drug coverage
- high costs and copayments
- unclear medication labeling and instructions
- limited availability of culturally appropriate patient education materials
- inadequate provider time to review benefits, risks, and alternatives to prescribed medications

#### Provider-related Factors

- barriers to communicating with patients and their caregivers
- complex dosing regimens
- limited coordination of care among multiple providers

### Medication nonadherence is prevalent and likely underreported.

Medication nonadherence is disturbingly prevalent. Up to 20 percent of prescriptions are never filled; what's more, among those prescriptions that do get filled, almost 50 percent are estimated to be taken incorrectly (articles [here](#) and [here](#)).

This issue is even more prevalent than patients realize and so may be unreported to their care teams. According to a cross-sectional study of 100 patients, 57 percent *believed* that they had some sort of medication nonadherence. In reality, the study showed that over 84 percent of participants had some form of nonadherence. This means that more than a quarter of the participants were either ignorantly nonadherent or knowingly chose to underreport nonadherence (study [here](#)).

Furthermore, medication nonadherence often goes unacknowledged due to a lack of data required to measure it. For instance, while current practice relies on the medication possession ratio (MPR) and proportion of days covered (PDC) to track and measure patient medication adherence, these measurements are built solely on patient refill records and provide no real datapoints regarding when or how patients actually take their medications (informational [here](#)).

Because medication noncompliance is so prevalent, providers should be proactive in their compliance strategy, working with their patients and establishing practices to track actual adherence and overcome identified barriers.

### Pain medication management is more than just about opioids.

Opioids are often a component of a chronic pain treatment plan, but they are only *one* component. In fact, studies show that nonsteroidal anti-inflammatory drugs, not opioids, are the most prescribed medications for pain management (study [here](#)).

In most cases, pain management is treated with a carefully prescribed cadre of drugs designed to treat the whole person, including a mix of acetaminophen (for mild pain relief), nonsteroidal anti-inflammatory drugs (for mild-to-moderate pain relief), antidepressant medications, antiepileptic medications (for their analgesic properties), and local anesthetics (for peripheral neuropathic pain) in addition to opioid agents (resource [here](#)).

Without careful pharmacologic adherence to treat the full range of physical, mental, and psychological indications of pain with medications prescribed by professionals, pain management cannot be fully effective. In order to develop a strategy to increase adherence, providers should consider all medications a patient is prescribed.

### **Medication nonadherence affects pain management practitioners individually.**

Pain management clinicians may also face significant consequences from patient nonadherence to prescribed treatments. Due to rising awareness of opioid abuse, pain management is becoming a highly scrutinized field and creating an uneasy environment for clinicians. These clinicians are becoming wary that medication noncompliance can be misinterpreted as prescribing error, leading to severe legal challenges including practice audits, malpractice lawsuits, loss of license, and even loss of practice.

Provider risk is multiplied by the ambiguity of the current pain management industry, with the American Academy of Pain Medicine calling current debates on pain management best practice a “civil war” in the pain community (report [here](#)). Whereas some practitioners in the field believe that reducing opioid abuse should be the top priority, other practitioners are worried that a single-minded approach to reducing abuse could unnecessarily limit instances in which opioids should be part of a multi-faceted pain treatment plan. Recent guidance from the Centers for Disease Control and Prevention (CDC) (outlined [here](#)) likewise reinforces the expectation that providers manage medication adherence and account for patient outcomes by removing the recommended ceilings on pain dosages and, instead, encouraging a “best judgement” approach for providers. In a sense, this guidance gives providers more leeway to exercise professional judgement; but it also leaves ample room to challenge that professional judgement in instances when treatment plans go awry.

## **POTENTIAL TOOLS TO INCREASE MEDICATION ADHERENCE**

Establishing a strategy for increasing medication compliance can seem daunting, but there are many available tools that providers can consider integrating into their practices. For example, interventions that target patient behaviors or beliefs, provider communication, and tools to help navigate systemic barriers can help increase patients’ adherence to their pain medication treatment plan. Like many interventions, these tools are best used in combination and can often include partnering with a vendor or adopting a technology that can share the burden and bring efficiencies.

The following tools can be considered to help increase compliance as part of a multimodal medication adherence strategy.

*Successful efforts to improve rates of adherence often incorporate multiple strategies across the continuum of care.*

[CDC Grand Rounds: Improving Medication Adherence for Chronic Disease Management – Innovations and Opportunities](#)

### **Pill Packaging**

Studies have found the use of specially-designed pillboxes and blister packs to be effective in reducing unintentional nonadherence (metanalysis [here](#)). This type of packaging can simplify medication regimen and make it easier for patients and care takers to know what medication has—and has not—been taken.

There are limitations in packaging, however, as it doesn’t solve deeply-rooted patient beliefs, routines, and physician relationships. Packaging solutions can also present some challenges with certain medications, such as “take as needed” medication, as it can be unclear to a patient with chronic pain how much of an opioid they should take and when, for example. Furthermore, it can be confusing to patients if other medications are packaged separately from these packs and further exacerbate noncompliance.

## Technology Solutions

Technology offers solutions for medication compliance, including adherence monitoring devices and remote communication. Technology connects patients with providers on a more continual basis and can help providers track when scheduled doses are missed, identify gaps or barriers to patient adherence, and address patient issues with manageable adjustments before issues worsen. Clinicians can review this information during in-office visits, but practices can also reach out proactively in between visits to encourage compliance.

Technology, however, is only useful if it can help get individuals—patients, care takers, clinicians—actionable information, and adding another burden on these groups can hurt more than it helps, especially if patients are not comfortable with new technologies. Any strategy that integrates technology should consider how patients will be onboarded, how to integrate into clinical workflows, and which care team members will take point on communication. A technology vendor that you are partnering with should be able to help and offer recommendations—or even support—as you integrate into your practice.

## Motivational Interviewing

Motivational interviewing—a form of trained communication designed to improve personal commitment to a specific goal—can improve patients' ability to take their medications as prescribed. Clinicians can use widely available models of interviewing that include listening with empathy and centering the patient's motivations. These strategies can help empower the patient and help them overcome barriers to compliance. (Article [here](#))

While effective, motivational interviewing takes time, and this time may not be available in a single appointment, given the complex health needs that many patients can have. Practices should consider what care team members are best positioned to lead this kind of interaction. These individuals should have a holistic understanding of the patient's needs, a rapport with the patient, and above-average communication skills.

## Social Determinants Data

Healthcare organizations can identify and proactively intervene for those most at risk for medication noncompliance using social determinants of health (SDOH) data, including lack of transportation or inability to pay. Tracking key SDOH factors can also help clinicians know how to approach medication compliance and inform a plan on how to overcome barriers. (White paper [here](#))

While SDOH data is a useful tool for proactively identifying patients at risk for medication noncompliance, medical practices are not consistently collecting this data. Incorporating SDOH screening into workflows—and determining how this information should be integrated into care plans—can be an intensive process for practices. However, SDOH data can be used for more than just medication adherence, and increasingly medical practices are realizing that investing in understanding the full context of patients' lives significantly increases their ability to impact health outcomes.

## Lowering Economic Barriers or Adding Financial Incentives

Removing economic barriers has also found success with improving adherence. Studies show that both making prescriptions affordable (study [here](#)) and adding financial incentives for taking drugs correctly (systematic review [here](#)) can increase adherence substantially. While clinicians may have some discomfort in allowing a patient's perceived ability to pay influence medical judgment, ignoring a patient's economic reality may mean that a patient does not pick up a prescription or rations doses to reduce cost. Clinicians can use information about drug costs and self-reported financial barriers from the patients to make a medication plan that can be followed.

## Medication Education

Addressing medication education and health literacy can be a successful strategy to improving medication compliance. This education could include overcoming perceptions related to their illness or medication, clearly

explaining dosage or schedules, and simplifying labeling and instructions. Health literacy interventions should incorporate culturally-appropriate patient education materials so that this information is accessible.

### **Multi-faceted Care Teams**

Many of these tools—and others that clinicians are considering—are best implemented by a full range of care team members. Many practices are finding non-physician staff helpful in providing this kind of support outside the visit. Community health workers, nurse practitioners, behavioral health specialists, pharmacists, and medical assistants can provide valuable support to patients that physicians alone cannot offer.

## **CONCLUSION**

Medication adherence should be a key component of a patient's care plan. Without a proactive strategy to overcome the deeply rooted patient-, provider-, and system-driven causes of medication noncompliance, chronic pain patients can have significantly decreased health outcomes and increased costs. While multiple interventions have proven successful at mitigating the issue of noncompliance, studies show that few practices have been successful at implementing the right combination of these solutions and maintaining meaningful benefits over time (report [here](#)). Provider organizations should begin now to explore the range of existing medication adherence solutions and develop a holistic, patient-centered care plan capable of identifying reasons for nonadherence and aligning a combination of interventions to address identified needs across the continuum of care. As practices invest in a holistic plan to help reduce barriers to compliance, they will likely find they are able to provide better care with fewer acute needs; and clinicians will likely find more satisfaction as they see the health outcomes of their patients improve.

## **ABOUT LEAVITT PARTNERS**

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