



# Medication Adherence:

Understanding the  
Challenges to Improve  
Health Outcomes



## WHAT IS MEDICATION ADHERENCE?

Medication adherence is the extent to which patients take medication as prescribed by their doctors. Simply put, medication adherence means taking medications correctly, starting with the first step: getting the prescriptions filled. The next step is understanding the medication's directions concerning the correct dosage and frequency, a critical aspect of managing any chronic condition. Lastly, being persistent and consistent with taking the medication — even when it's difficult — is the key to a healthier life for people living with chronic conditions.

## POSITIVE CLINICAL OUTCOMES

The most important outcome of increased medication adherence is improved quality of health and life for people living with chronic conditions. But the benefits of medication adherence echo across the health system, from medical professionals to member health plan providers to the pharmaceutical and device industries. Adherence is linked to positive clinical outcomes and lower per-patient costs as positive health outcomes increase.

## NONADHERENCE

Nonadherence is not as simple as patients choosing not to take their medications. There is a difference between unintentional and intentional nonadherence. Many factors, including socioeconomic factors, health care system factors, and medical comorbidities, can all impact adherence. Nonadherence can appear at different times during the process of care. During the initiation of the treatment plan, the person living with chronic conditions may fail to fill their prescription or begin their treatment. During the implementation of the treatment plan, they don't take the medication as prescribed; the delayed or incorrect dosages make the medication appear ineffective. Or the individual simply lacks persistence; they start out taking their medication but eventually discontinue their treatment.



## DIABETES MEDICATION ADHERENCE STATISTICS

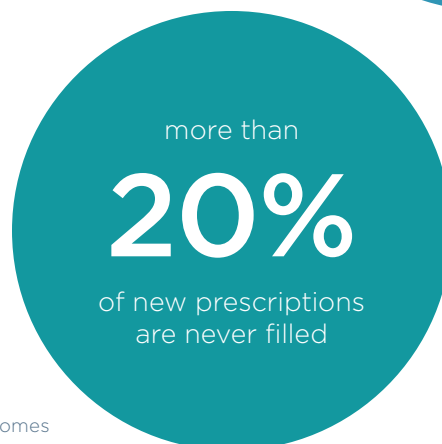


**Pharmaceutical companies lost an estimated \$637 billion in annual global revenue in 2015 due to medication non-adherence.**

Take diabetes as an example. Data from various studies about diabetes medication adherence in the U.S. show the impact of noncompliance on healthcare. According to the Association of Diabetes Care and Education Specialists (ADCES), the total national cost related to poor medication adherence is estimated at \$317 billion. Poor medication adherence results in up to 69% of medication-related hospital admissions in the U.S. and at least 125,000 deaths per year.

Low adherence and nonadherence are associated with a greater risk of major adverse cardiac events and increased morbidity and mortality. Research by the American Diabetes Association reveals that only 13.2% of people with diabetes achieved target levels for blood pressure, cholesterol levels, and glucose control. More specifically, for patients with type 2 diabetes, at least 45% fail to achieve adequate glycemic control (HbA1c <7%) according to another study.

ADCES reports that more than 20% of new prescriptions are never filled. And even when the medication is on hand, up to half of medications for chronic diseases are not taken as prescribed, according to the National Institute of Health. ADCES also revealed that around 30% of people with diabetes self-report missing at least one dose of oral antihyperglycemic medication per month.





## BARRIERS TO ADHERENCE

Each individual faces unique barriers regarding medication adherence. Understanding those barriers enables the entire health system — medical professionals, insurance providers, and the pharmaceutical industry — to help individuals overcome those barriers. Here are some of the most common barriers to medication adherence faced by people living with diabetes.

### LACK OF ACCEPTANCE OF THE DIAGNOSIS

People struggling to accept their diagnosis are much less likely to initiate and adhere to their medication. There are some common reasons for a lack of acceptance:

- They are asymptomatic or rarely experiences symptoms.
- They lack information about their chronic condition.
- They feel a loss of independence and ability to live life on their terms, so they simply decide to live as if they do not have a chronic condition.

### FEELINGS OF FEAR

Fear is another common emotion people experience after receiving a chronic condition diagnosis, and it often becomes an adherence barrier. The fear can take many shapes, including:

- Fear of the unknown—what is going to happen to me?
- Fear of failure in managing their condition
- Fear of administering their medication or adhering to their overall care management plan
- Fear of increased doctors' visits
- Fear of side effects







General practitioners who don't specialize in a specific chronic condition often don't have the time or training to properly educate patients on their condition. This often leads to the person not fully understanding either the prescription instructions or the purpose of the medication they are taking.

## INCORRECT PERCEPTIONS OF THE CONDITION OR MEDICATION

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One common misconception for individuals living with diabetes for example, is that insulin only needs to be taken when the person is experiencing symptoms or when their blood tests raise a red flag. People with diabetes may gauge the necessity of treatment based on their perception of their current state, rather than following the recommendations of a health professional.

## STRUGGLING WITH FINANCIAL RESOURCES

Among common chronic conditions, diabetes is a disease that disproportionately affects low-income individuals. At the same time, diabetes self-management presents some of the biggest challenges for people who struggle with their finances. Low income can affect nearly every aspect of diabetes self-management, starting with securing the funds to purchase the medications. Other potential barriers that can affect adherence include food insecurity and lack of access to safe and affordable exercise options.

## LITERACY OR LANGUAGE BARRIER

High-risk populations may face barriers to comprehension of their chronic condition education related to medication adherence. Low health literacy or a language barrier with a care provider can lead to a lack of understanding of the purpose and importance of the medication and how it affects the management of a particular chronic condition.



# 20 million

people (1 in 15) in the United States speak and understand little or no English.

Topics such as prescribed dosage amounts and timing, medication identification (differentiating between different medications and their functions), and the importance of attending doctor or pharmacy visits must be communicated appropriately to a person to promote medication adherence.

## CHALLENGES WITH LIFESTYLE CHANGES

When faced with a life-altering diagnosis, it can often be difficult to accept that certain lifestyle changes need to be made to properly manage the condition. Many people living with diabetes or hypertension struggle with changing their diets and exercise habits after receiving their diagnosis. This challenge also extends to taking their medication. People with newly diagnosed chronic conditions may have difficulty incorporating the daily medication regimen into their routine or find it hard to remember to keep necessary supplies with them at all times.

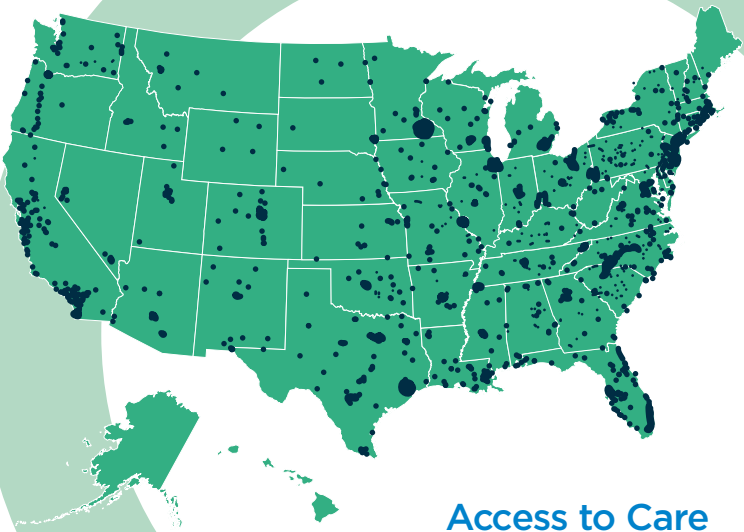
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Lack of access to care goes beyond the availability of services or the cost of services and prescriptions



## ACCESS TO CARE

For a variety of reasons, many people living with chronic conditions struggle to get access to the health care they need to properly manage their condition. Lack of access to care goes beyond the availability of services or the cost of services and prescriptions. Other barriers — such as difficulties getting to a doctor or pharmacy or a person's lack of mobility — can also prevent access to care.



### Access to Care

The limited number of practicing endocrinologists in the United States impedes the ability of people with diabetes to obtain the care they need.

**3-6  
month**

Wait time for  
each person

Fewer than  
**6,500**  
Endocrinologists  
in the  
United States

Average  
**46,000**  
Patients per  
Endocrinologist

## CHARACTERISTICS AND PREDICTORS OF POOR MEDICATION ADHERENCE AMONG PEOPLE LIVING WITH DIABETES

There are often indications that suggest a person with diabetes is noncompliant with their medications. The ADCES has identified some common characteristics, predictors, and statements of people who may need help to understand the role of medication in managing their condition:



### Characteristics:

- Missed prescription refills
- Multiple comorbidities
- Forgetfulness
- Poor eyesight
- Depression
- Language barrier
- Cultural gap
- Poor coping skills
- Missed appointments
- Lack of trust in the provider
- Lack of prescription drug coverage
- Poor understanding of their medical condition
- No symptoms accompanying their medical condition



### Predictors:

- Low literacy indicators:
  - Refuses to read labels or brochures in front of you ("I'll read this when I get home")
  - Uses excuses ("I forgot my glasses")
  - Forms are poorly or incompletely filled out
  - Unable to name or identify medications
- Believes that medications either won't improve their condition or can make it worse
- Believes that they can manage their diabetes without the help of medications
- Emphasizes side effects they have heard or read about
- Has concerns about the high cost of medications



## HOW TO INCREASE MEDICATION ADHERENCE



**About half of patients do not take their medications as prescribed.**

Medication adherence isn't just a metric or statistic to be tracked and monitored. Achieving positive health outcomes requires more than patient education. They require deep behavioral and mindset changes. Medication adherence for people living with chronic conditions is multifaceted, so making these changes is challenging.

Medication adherence is most challenging for those who face the most barriers, the at-risk and underserved populations. Only through the experience of caring human connection can underserved populations begin to self-manage their conditions.

## CECELIA HEALTH'S APPROACH

At Cecelia Health, our personalized, technology-enabled, scalable approach has been proven to increase medication adherence in individuals living with diabetes and other chronic conditions. Cecelia Health partners with health plans, medical device companies, and pharmaceutical companies to improve the health outcomes of populations at scale.

We combine the coaching of an expert clinician with proprietary technology to deliver a personalized program to improve self-management and drive behavior changes. We strengthen the condition knowledge base for all participants and meet them where they are to make significant positive changes. Cecelia Health's programs complement and enhance existing digital and brick-and-mortar disease management programs. Together with improved health outcomes and a 95%+ patient satisfaction rate, our customers have also reported an average 3X annual return on their investment in Cecelia Health's Virtual Chronic Condition Management Solution.



## CERTIFIED DIABETES CARE AND EDUCATION SPECIALISTS

A Certified Diabetes Care and Education Specialist (CDCES) is a health professional who works one-on-one with patients to help identify their barriers and teach strategies for overcoming them. A CDCES educates, supports, and advocates for people affected by diabetes. They promote self-management to achieve individualized behavior and treatment goals.

Successful self-management involves a broad range of topics, and it is the goal of the CDCES to identify the key areas for improvement facing each individual. The CDCES develops a personalized program to help the person with diabetes focus as needed on medication, nutrition, exercise, and coping skills.

With this personalized approach, people living with diabetes can become empowered to increase their quality of life and achieve measurably improved health outcomes.



## Proven Clinical Outcomes



**40%+**

enrollment rate  
of identified patients



**53%**

of participants' HbA1c  
drops below 8



**88%**

Participants show  
88% medication adherence  
at 6-month follow-up



**1.5pt**

Participants report a  
1-2 point drop in A1C after  
3 months in the program



To this day I have a hard  
time telling people

## CASE STUDY EXAMPLE

### **Background:**

An individual living with type 1 diabetes participated in an 11-week diabetes education program with a CDCES. The participant is struggling with her diabetes management and forgets to take her rapid-acting insulin with each meal as prescribed.

### **Action:**

The participant confided in her CDCES about the daily problems of dealing with diabetes and how overwhelmed and burdened she felt about diabetes management. The Cecelia Health CDCES spoke with the participant about her struggle to remember to take insulin with each meal. While affirming for the participant that establishing a routine can be hard to do, the CDCES discussed strategies with the participant to help her remember to do injections with each meal, along with dosing recommendations.

The participant shared with her CDCES the experience and hardship of working through denial about her condition and the fear of being judged about her diabetes. The CDCES empathized with her, praised her for how far she had come in her journey, and encouraged her by reminding her of the hard work and successes she had already achieved.

### **Value and Impact:**

The participant expressed her fear related to sharing her diabetes stating, “To this day I have a hard time telling people.” Through the compassion and active listening showed by the CDCES, this participant felt safe to share her emotional struggle to deal with diabetes.





Let the experts of  
Cecelia Health help.  
Contact us today  
for more information.

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