74% of doctors believe their patients are taking their medicine.¹

83% of patients would never tell their doctor if they did not plan to fill the prescription just written for them.²
Adherence is the key driver enabling patients to achieve their treatment goals³

– WORLD HEALTH ORGANIZATION
Understanding Adherence
Defining the problem and its impact on practice

Research Findings
Insights into patient beliefs and behaviors

Approach for Individual Patients
Identify at-risk patients and understand how to communicate with them

Prescription for Action
Practical tools to help improve patients’ treatment outcomes
Understanding Adherence
The cost of nonadherence in the United States could be up to $300 billion each year. 

- Medication adherence may lead to lower health care use and costs despite increased drug spending.
Adherence is now the preferred term over compliance.\textsuperscript{6}

- Compliance implies passive participation by the patient\textsuperscript{6,7} and a hierarchical relationship between the physician and the patient.\textsuperscript{6}

- Adherence implies collaboration between the physician and patient with active participation by the patient.\textsuperscript{6–8}

- Adherence is more aligned with patient-centered care.\textsuperscript{7,8}
Poor adherence means patients with chronic illnesses often fail to reach their treatment goals despite the availability of effective therapies.¹⁰

It is estimated that...

- After 6 months, 50% of patients suffering from chronic diseases do not take their medications as prescribed.³

- On average, 15% of patients will not fill their first prescription.¹⁰
Nonadherence is a major inefficiency in our health care system.\textsuperscript{3}

Nonadherence is associated with a higher risk of mortality, hospitalizations, and emergency department admissions.\textsuperscript{11,12}
Merck analysis of prescription claims data indicates:

Even when prescriptions are filled, adherence decreases significantly over the first year of therapy.$^{13}$
A **critical window of opportunity** exists between the point of prescribing a medication and 3 to 6 months after patients start therapy.

- During this time frame, activities designed to improve patient adherence to treatment should be initiated early and become a part of routine conversations with patients.

- Adherence might be thought of as a sixth vital sign.
The impact of optimal adherence.

## Treatment Goals and NCQA HEDIS® Measures

<table>
<thead>
<tr>
<th>CHRONIC DISEASE</th>
<th>GOALS</th>
<th>NCQA HEDIS® 2011 MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Asthma</strong></td>
<td>• Improvement in asthma symptoms(^{15,16})</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Reduced use of β-agonists(^{15,16})</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Reduced asthma exacerbation (improved control)(^{15,16})</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Percentage of patients with persistent asthma during the measurement year who were prescribed an inhaled corticosteroid or comparable medication</td>
<td></td>
</tr>
<tr>
<td><strong>Diabetes</strong></td>
<td>• Significant reduction in A1C(^{17})</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• A1C &lt;7%(^{18})</td>
<td></td>
</tr>
<tr>
<td><strong>Dyslipidemia and Mixed Dyslipidemia</strong></td>
<td>• Significant decrease in total cholesterol (TC) triglyceride (TG) level, and LDL cholesterol (LDL-C)(^{20})</td>
<td>• Percentage of patients with cardiovascular conditions who had LDL-C &lt;100 mg/dL</td>
</tr>
<tr>
<td></td>
<td>• TC &lt;200 mg/dL(^{20,21})</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• TG &lt;150 mg/dL(^{20,22})</td>
<td></td>
</tr>
<tr>
<td><strong>Hypertension</strong></td>
<td>• Improvement or increase in likelihood of reaching target blood pressure goals(^{23,24,26})</td>
<td>• Percentage of patients with hypertension with blood pressure (BP) &lt;140/90 mmHg</td>
</tr>
<tr>
<td></td>
<td>• Systolic blood pressure (SBP) &lt;120 mmHg(^{27})</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Diastolic blood pressure (DBP) &lt;80 mmHg(^{28})</td>
<td></td>
</tr>
<tr>
<td><strong>Osteoporosis</strong></td>
<td>• Significant increase in bone mass density (BMD)(^{24-26})</td>
<td>• Percentage of patients aged 67 years and older who suffered a fracture and had either a BMD test or prescription to treat or prevent osteoporosis within 6 months postfracture</td>
</tr>
<tr>
<td></td>
<td>• Significant reduction in vertebral and hip fractures(^{27})</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Bone density ± 1SD of young adult mean(^{27})</td>
<td></td>
</tr>
</tbody>
</table>

\(^{a}\) NCQA = National Committee for Quality Assurance; HEDIS = Healthcare Effectiveness Data and Information Set.
\(^{b}\) NCEP does not define a treatment goal for TC but identifies TC <200 mg/dL as desirable.
\(^{c}\) The American Diabetes Association defines TG <150 mg/dL as desirable.

Optimal adherence improves the likelihood that patients will achieve desired treatment goals.\(^{3}\)

Such as:
- Improvement in asthma symptoms
- Reduction in A1C in diabetes patients
- Decrease in total cholesterol levels in cardiovascular patients
- Lowered blood pressure
- Increased bone mass in patients with osteoporosis
Research studies show that patients who adhere to their medication regimen may:

- Experience better treatment outcomes
- Make less use of emergency department and inpatient hospital services
- Incur fewer overall health care costs

The benefits of adherence.
Research Findings
If we are to improve adherence, we must first be able to recognize those who are failing to adhere.28

To better understand the drivers of and barriers to adherence, Merck has conducted extensive research, including:

• Input from nationally recognized adherence experts

• Comprehensive evaluations of adherence publications

• Focus groups with health care consumers regarding their medication adherence

• Quantitative survey research to identify predictors of patients’ propensity to adhere to prescription medications
Merck has compiled a profile of medication nonadherence tenets:

**10 Tenets** of Medication Adherence in Adults

The 10 Tenets can:
- Expose common misperceptions regarding medication adherence
- Provide useful insights about patient medication decision-making
- Capture the importance of patient beliefs in determining adherence behaviors
- Clarify the need to screen for nonadherence
There is no such thing as a “nonadherent personality.”

- Medication adherence has not been consistently linked to personality, temperament, or other character dimensions.30
Patients do not communicate their adherence intentions to their health care professional.

- Among 1,100 adult patients in 6 states:
  - 68% said they would never tell their health care provider that they did not want to take a medication.²
  - 83% of patients would never tell their doctor if they did not plan to fill the prescription just written for them.²
• 74% of physicians believed their patients to be highly adherent.¹

Health care professionals assume that their patients are adherent.

Doctors cannot predict adherence with any more efficiency than tossing a coin.
Adherence to prescription medications is largely unrelated to adherence to self-care and lifestyle recommendations.

- Self-care behaviors are not reliably or consistently associated with a patient’s propensity to adhere to prescription medications.²⁹
There is no consistent relationship between demographic characteristics and adherence.

- Research shows that the effects of demographic characteristics such as age, gender, education, and income on adherence were small.\textsuperscript{31}
Most patients want information on:

- Why their medication has been prescribed $^{32}$
- Duration of therapy $^{29}$
- Possible side effects $^{32,33}$
- What could happen if they don’t take their medication $^{29}$
• On average, physicians spend only 49 seconds discussing all aspects of newly prescribed medications.\textsuperscript{34}

• In a research study, 42\% of physicians said they discussed the potential risks of the prescribed medication, but only 3\% actually did so.\textsuperscript{35}

Conclusion: giving \textbf{too little} information along with a new prescription can contribute to nonadherence.\textsuperscript{36}
It is very important to ensure that information about medication and treatment is clearly conveyed to, and understood by, the patient.\textsuperscript{37}
Nonadherence is rational behavior. It is driven by patients’ beliefs about their treatment, disease, and prognosis as well as their objective experiences with their treatment and disease.

- Perceived affordability and other personal considerations also factor into the patients’ value proposition.\(^3^1\)

Multiple factors influence patient medication decisions, and many patients make their medication decisions outside the physician’s office. For these reasons, a patient’s personal considerations should be determined and addressed at each prescribing visit.
Medication adherence involves “shades of gray.”

- Patients can faithfully adhere to one medication, nonfulfill another, and nonpersist to another.\(^{29}\)

- Patients also may make decisions about each medication based on the information they possess about that medication and the conditions it treats.

Understanding the tenets can help health care professionals understand the breadth of patient medication adherence behaviors that are seen in everyday medical practice and also can help dispel common myths about medication adherence.
Research has identified a large number of barriers to adherence.³

Patient barriers to adherence²⁹

These factors — largely out of the scope of provider influence — are only somewhat associated with adherence:

• Age
• Gender
• Race
• Education
• Income
• Personality

These factors are strongly associated with adherence and should be addressed with every patient:

• Concerns about prescription medications
• Perceived need for prescription medications
• Perceived efficacy of prescription medications
• Experience or fear of side effects
• Perceived affordability
• Dosing frequency
Merck’s extensive research has led to the identification of 3 key predictors of adherence behavior:

- **Concern** about medication – concerns about experiencing side effects, and about short- and long-term safety

- **Commitment** toward medication – intellectual, psychological, and emotional commitment to the perceived need for treatment and the importance of adherence

- **Cost** of medication – affordability (perceived financial burden) and the value of treatment

Applying these factors is an innovative method of predicting medication adherence.
Approach for Individual Patients
Early selection of patients with higher risk for nonadherence could be important to support these patients individually. By understanding patients’ beliefs, you can take actions to help encourage medication adherence.
Merck has developed the Adherence Estimator® — a simple, innovative way to help identify at-risk patients and address patients’ barriers.

Continent of increasing evidence:

**THEORY**
- Peer-reviewed theoretic/empiric literature
- Mutable patient drivers
- Potential drivers of and barriers to adherence

**QUALITATIVE RESEARCH**
- Qualitative research with adults with chronic disease

**CROSS-SECTIONAL VALIDATION**
- Quantitative testing of items and scales (~2,000 adults)
- Psychometric analysis using Harris Interactive Chronic Disease Panel
- Multiple diseases studied

**PREDICTIVE VALIDATION**
- Predictive validation study

**IMPLEMENTATION**
The Adherence Estimator® asks questions about the 3 key areas known to impact nonadherence:

1. Patients’ concern about prescription medication
2. Patients’ commitment to the need for prescription medication
3. Patients’ perceived financial burden due to the cost of prescription medication

The Adherence Estimator yields an immediately interpretable score.²⁹
Use the Adherence Estimator® for patients with a chronic condition who have just received a new prescription medication.

1. ADMINISTER the Adherence Estimator New Prescription Survey.

The Adherence Estimator® New Prescription Survey

Your name: ____________________________
Name of medication: __________________

Your doctor would like to know your thoughts and opinions about your new medication. Please answer the following questions. There are no right or wrong answers. For each question, please check the box that best describes how you feel.

1. I worry that my prescription medication will do me more harm than good.

   - Agree completely
   - Agree mostly
   - Agree somewhat
   - Disagree somewhat
   - Disagree mostly
   - Disagree completely

2. I am convinced of the importance of my prescription medication.

   - Agree completely
   - Agree mostly
   - Agree somewhat
   - Disagree somewhat
   - Disagree mostly
   - Disagree completely

3. I feel financially burdened by my out-of-pocket expenses for my prescription medication.

   - Agree completely
   - Agree mostly
   - Agree somewhat
   - Disagree somewhat
   - Disagree mostly
   - Disagree completely

Hand this survey to your doctor or other health care professional and discuss your answers.

Short and concise features help make it easy:
- 1 minute to complete
- Self-scoring
Use the Adherence Estimator® for patients with a chronic condition who have just received a new prescription medication.

1. ADMINISTER the Adherence Estimator New Prescription Survey.

The Adherence Estimator:
- Should be used as soon as possible after the initiation of therapy
- Is designed to be completed separately for each new medication prescribed
- Should be administered in the physician’s office
- Should be completed by the patient, not by the health care provider in an interview format

Take time to reassure patients that:
- The physician’s office is a place they can feel comfortable answering the survey openly and honestly
- Results are confidential
- There are no correct answers to the survey — only opinions and concerns matter
Use the Adherence Estimator® for patients with a chronic condition who have just received a new prescription medication.

2. ASSESS results with the Adherence Estimator Interpretation Guide.

- Slide the survey into the Interpretation Guide
- Identify patients who fall into adherence risk zones (red or yellow areas)
- Tally survey score to estimate the risk of a patient not adhering to the new medication
3. ADDRESS the patient’s barriers to adherence with targeted communications and helpful resources.

If a patient falls into the red or yellow zones:

• Speak with the patient about his or her specific issues around Concern, Commitment, and Cost

• Provide patient with educational resources that address their specific adherence issues

• Provide the *Medication Matters* brochure and check the section(s) that address the patient’s adherence issues

Merck also offers a variety of other resources to help you as you help patients understand their condition, treatment plan, and prescribed medications.
Merck, in partnership with George Mason University, conducted qualitative and quantitative research to develop, evaluate, and test effectiveness of adherence messaging:

Phase 1:
• Examined uncertainties and concerns that influence medication adherence
• Identified messages for addressing these concerns
• Developed motivational messages for promoting adherence around Concern, Commitment and Cost

Phase 2:
• Assessed chronic disease patients’ evaluations of the refined motivational messages

Research showed that motivational messages increased patients’ intention toward future adherence.\(^{40}\)
It would be beneficial to develop tools to identify patient beliefs and concerns.\textsuperscript{41}

Up-front conversation and follow-up is essential to adherence.

Patients want and need more:
- Many doctors may not know what to say to deal with patients’ beliefs about their medications and disease
- Doctors may (frequently) skip discussing medication altogether

Merck offers resources and tools to help address medication adherence.

In addition to using these tools, it’s important to:
- Work with patients to discuss their barriers to adherence
- Explore beliefs, concerns, and perceptions about medication and summarize and clarify details
- Explain benefits and risks in plain language
Prescription for Action
Developing **strong adherence communication** strategies for delivering motivational messages to patients can:

- Capture their attention
- Increase their understanding about the medication issues of concern to them
- Reinforce the importance of their decisions to adhere to medication recommendations
Any patients who have not yet reached their treatment goals can benefit from adherence intervention. For example:

- Diabetes patients not achieving an acceptable A1C level
- Cardiovascular patients not at their blood pressure goal
- Asthma patients using their rescue inhalers or going to the emergency department too often
- High-cholesterol patients not at their LDL goal

Other factors also may indicate a need or an opportunity for adherence intervention. For example:

- Pharmacy records show that some patients are not filling their prescriptions
- You have already identified patients who are at risk for nonadherence based on screening tools such as the Adherence Estimator®
- Practice has placed an emphasis on quality improvement efforts directed towards chronic care management, a specific therapeutic area, or treatment adherence
Who should focus on these patients and promote adherence?

The preferred sources for information about prescribed medications as ranked by patients are:
• Doctor
• Registered Nurse
• Pharmacist (may be an outside resource or a member of your integrated health team)
• Nurse Practitioner
• Physician Assistant

Sources to leverage if they are part of a patient’s health care team:
• Medical Assistant
• Office Manager
• Licensed Practical Nurse

Other sources to consider adding:
• Health Champion or Care Managers
• Certified Diabetes Educator
• Certified Asthma Educator
• Case Managers in health plans
Who should focus on these patients and promote adherence?

- NURSE PRACTITIONER
- REGISTERED NURSE
- PHYSICIAN ASSISTANT
- DOCTOR
- PHARMACIST
- MEDICAL ASSISTANT
- OFFICE MANAGER
- LICENSED PRACTICAL NURSE
- HEALTH CHAMPION
- CERTIFIED DIABETES EDUCATOR
- CERTIFIED ASTHMA EDUCATOR
- CASE MANAGER
Work with your Merck representative to identify Merck resources that can help achieve a proactive, adherence-focused environment.

Improve communication techniques with:

• The *Teach Back* Technique
  Interactive workbook for health care providers to help them discover if patients truly understand and are willing to follow their treatment instructions.

• Patient Education Brochures
  A full range of brochures covering a number of issues patients may need to understand better.

• *Medication Matters*
  Help patients feel more comfortable about taking their medication by handing out this brochure at each prescribing visit. Suggestions are offered to help overcome each belief revealed by the Adherence Estimator®.

• *MerckEngage*®
  MerckEngage is a free, personalized support program to help health care consumers achieve their health goals in partnership with their health care providers.
Improve communication techniques with:

- Evaluated Commitment Messages

For example:

<table>
<thead>
<tr>
<th>IF YOUR PATIENT SAYS THIS:</th>
<th>YOU CAN SAY THIS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I am having a hard time seeing any value in taking my medicine. I feel fine. I don’t really think I need this medicine.”</td>
<td>“Remember, you have a chronic condition. You need to take your medicine as directed even when you aren’t having symptoms. In fact, your medicine may be why you feel good. We’re in this together, okay? So keep up the good work and let’s hope to see some positive results.”</td>
</tr>
<tr>
<td>“I have friends who have taken this medicine and it did not work for them.”</td>
<td>“It’s great you’ve brought this up. Remember, everyone is different. There could be many reasons why this medicine worked differently for your friends — for example, they may have taken a different dosage. I’ve had great success with this medicine in the past and I think it may work for you too. We are a team in this, so let’s give it our best try. Sound good?”</td>
</tr>
</tbody>
</table>
Improve communication techniques with:

- Evaluated Concern Messages
  For example:

<table>
<thead>
<tr>
<th>IF YOUR PATIENT SAYS THIS</th>
<th>YOU CAN SAY THIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>“My medicine seems to be giving me a headache every time I take it.”</td>
<td>“I’m sorry to hear that, but I’m glad you told me. There could be other reasons why you are having headaches. Let’s take a few minutes to talk about the common side effects of this medicine. We’ll work together to find the best medicine for you. Please always feel free to tell me when you are worried about side effects or feel you are having them.”</td>
</tr>
<tr>
<td>“The possibility of side effects really worries me.”</td>
<td>“I understand, and thank you for sharing your concerns with me. Let’s agree together that you will let me know if you ever think you are having a side effect. We will work together to make sure you get the most out of your treatment.”</td>
</tr>
</tbody>
</table>

- Commitment

  For example:

  “It’s great you’ve brought this up. Remember, everyone is different. There could be many reasons why this medicine worked differently for your friends — for example, they may have taken a different dosage. I’ve had great success with this medicine in the past and I think it may work for you too. We are a team in this, so let’s give it our best try. Sound good?”

  “Remember, you have a chronic condition. You need to take your medicine as directed even when you aren’t having symptoms. In fact, your medicine may be why you feel good. We’re in this together, okay? So keep up the good work and let’s hope to see some positive results.”
**Improve communication techniques with:**

- Evaluated Cost Messages
  For example:

<table>
<thead>
<tr>
<th>IF YOUR PATIENT SAYS THIS:</th>
<th>YOU CAN SAY THIS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I don’t think I can afford this medicine.”</td>
<td>“Let’s talk about this together. There may be other more affordable options that I can offer. I’m glad you shared this with me. If you don’t take your medicine, it may cost you more in the long run.”</td>
</tr>
<tr>
<td>“I’m not sure this medicine is worth spending my money on.”</td>
<td>“What if getting the full benefit of your medicine by taking it exactly as prescribed helped you to achieve your treatment goals? Would you value your medicine more? You need to think about your medicine as an investment in your health.”</td>
</tr>
</tbody>
</table>
How do you know if adherence efforts are making a difference?

Depending on practice environment, here are some ideas for evaluating adherence-related activities.

If you use an electronic medical record (EMR), consider:
• Reviewing patients’ medical history to determine if they are meeting their treatment goals

If you use e-Prescribing, consider:
• Assessing the fill and pick-up status for a newly prescribed medication to determine if patients are not picking up their medication

If you rely on paper records, consider:
• Reviewing patients’ charts to determine if they are meeting their treatment goals

If you have access to pharmacy claims data, consider using data to:
• Identify potential gaps in treatment, underdosing, intervals between refills, or likely discontinuation of treatment

If you have access to patient lab results, consider:
• Assessing the patients’ lab results to determine if they are meeting their treatment goals
Patients who are not meeting their treatment goals even after being prescribed a medication may require a closer clinical evaluation.

• Are they adhering to their medication?
• Are they adhering to their overall treatment plan, including diet and exercise?
• Is additional support or a change in plan required?
How to pull it all together in practice.

Incorporating appropriate communication touchpoints along a patient’s treatment journey is an important way to help patients adhere to prescribed medications and support improved treatment outcomes.

**Basic patient journey:**

- PATIENT-INITIATED APPOINTMENT
- APPOINTMENT CHECK-IN
- CHECKUP
- APPOINTMENT CHECKOUT

**Proactive steps to consider adding:**

- CHECK PATIENT STATUS BEFORE INITIAL VISIT
- PRACTICE-INITIATED FOLLOW-UP APPOINTMENT TO ADDRESS PROGRESS
- PROVIDE ADDITIONAL PATIENT EDUCATIONAL MATERIAL
- CONTACT PATIENT BETWEEN VISITS

**More steps to consider if possible:**

- CHECK PATIENTS’ RECORDS FOR EVIDENCE OF ADHERENCE PROBLEMS
- REFER ADDITIONAL SUPPORT SERVICES
- CONSIDER ADHERENCE REMINDERS
- ADMINISTER ADHERENCE ESTIMATOR®
- TRAIN HEALTH CARE TEAM ON PATIENT COMMUNICATION SKILLS
References


13. Data available on request from Merck, Professional Services-DAP, WP1-27, PO Box 4, West Point, PA 19486-0004, 20805636(2)-SGR.


References (continued)


Adherence is a marathon, and not a sprint.