Speaking to Patients about Medication Adherence

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Target Audience
This continuing education activity was designed specifically for pharmacists.

Disclosure Statement
The author does not have any conflicts of interest, or financial relationships with a commercial interest, related to the activity.

Learning Objectives
At the end of this activity, participants should be able to:

- define medication adherence and adherence rates.
- explain how community pharmacies measure medication adherence.
- identify barriers to nonadherence for the patient and for pharmacists.
- discuss communication strategies that pharmacists can use to increase adherence among the nonadherent patient population.

Defining Medication Adherence
Adherence is a health care-oriented term that has various definitions across the medical community. The World Health Organization originally defined medication adherence as “the extent as to which a patient follows medical instructions.”1 This definition has recently been broadened to include “the extent that a person’s behavior, such as taking medications, following a diet, and/or executing lifestyle changes, corresponds with agreed recommendations from a health care provider.”1 This definition of adherence assumes that the patient has been an active member of the health care team and is in full agreement with the recommendations presented to them, which differentiates it from compliance, where the patient is simply doing as is told by their provider.1

Adherence consists of three essential factors:

- patient (individual health literacy and involvement in the treatment decision process);
- provider (the decided prescription drug regimens and corresponding communication barriers); and
- health care system (access to care, time allotted for visits and technology).2

These factors are different for many individuals and can lead to nonadherence for a variety of reasons. For example, adherence to a teenager’s acne medications may be influenced by different factors than to an elderly patient’s chemotherapy regimen. Similarly, a diabetic patient using government insurance may be nonadherent for different reasons than a diabetic patient on similar medications with commercial insurance.

Medication adherence not only varies in terms of reasons, but also in terms of rates. Adherence rates are defined as the percentage of prescribed dosages that the patient is actually taking over a specified time frame.2 The mathematical equation for adherence is the number of pills taken in a given time period divided by the number of pills presented by the provider in the same time period, and a patient is generally considered adherent if this number is greater than 80 percent.2 Although this percentage has been associated with optimal cardiovascular outcomes, it is still too low for many patients, especially patients undergoing chemotherapy or taking HIV medications.3

Measuring adherence rates generally cannot be calculated directly at the pharmacy, as pharmacists do not always know how many pills a patient actually takes at home. Because of this,
many pharmacists must gain information either subjectively (i.e., asking the patient, caregivers or physicians about their medication use) or objectively (i.e., examining pharmacy refill records).²

**Measuring Medication Adherence**

Some health care professional offices may use biochemical markers to measure medication adherence, where the presence of the drug is detected in the patient's blood or urine.² Most community pharmacies, however, do not have the capabilities to measure serum drug levels and, therefore, must rely on electronic pharmacy data to examine the patient's frequency of obtaining refills, looking specifically at the number of doses dispensed in relation to the dispensing period.³ If the ratio between the number of days that the patient picks up refills and the days' supply on the prescription is one, then the patient has full adherence.³ If the ratio is less than one, then the patient is not using all of their medication as prescribed, and if the ratio is greater than one, then the patient is over-using the medication.³ Although this system can assist community pharmacies in objectifying adherence rates, it is not an accurate measurement if patients get their prescriptions filled at many different pharmacies.³ Therefore, identifying medication nonadherence and developing methods to increase adherence depends on the health care provider’s relationship with the patient, involving trust on both ends of the spectrum. When a relationship between the health care provider and patient is present, then a mutual conclusion about a successful and plausible medication regimen can be reached.

**Medication Nonadherence**

Medication adherence, unfortunately, is difficult to achieve in the United States (U.S.), as 30-60 percent of the U.S. population suffers from nonadherence.⁴ Nonadherence is a clinical and financial burden to the U.S., accounting for approximately 125,000 deaths, at least 10 percent of hospitalizations, and a cost between $100 billion and $289 billion per year.⁵

Although medication adherence is typically more prevalent in chronic asymptomatic diseases such as hypertension and high cholesterol, it can persist in therapy for any disease state, and even be present after severe incidents such as a heart attack or stroke. In a report published by the American Heart Association in 2014, approximately 24 percent of patients who are hospitalized for a heart attack did not fill their medications within seven days of discharge, and 34 percent of post-myocardial infarction patients stopped taking at least one of their medications within one month post-discharge.⁶

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**STOP AND REFLECT**

How does your pharmacy measure patients who are nonadherent to their medications? What are the benefits of this measuring system, and what are the weaknesses?

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**Barriers to Medication Adherence**

The American Heart Association lists six common barriers to medication adherence, including fragmentation within the health care system, increasing complex drug therapies, poor communication between a provider and patient about their medications, unintentional patient behaviors, patient physical or cognitive impairments, and socioeconomic factors.⁶ The following list will further explore each of these issues.
1. **Fragmentation within the health care system.** A study examining medication adherence in patients with heart failure found that adherence was significantly lower in patients who saw three or more health care providers within the same time period. It also discovered that patients who felt a personal relationship with their physician not only had higher adherence, but also had greater confidence in their health care provider, higher satisfaction with their care and a better quality of life. Unfortunately, many patients do not have a relationship with their health care providers, as a majority of patients in the study reported having little to no contact with their general practitioner in one year, referring to specialists instead to manage their various conditions.

In addition to multiple providers, health care fragmentation exits within insurance companies as well, especially for managing complicated and chronic disease states. For example, in the case of human immunodeficiency virus (HIV), testing and prevention activities are monitored by the Centers for Disease Control and Prevention (CDC) and local state health departments, while treatment and supportive services are funded by the Health Services and Resources Administration (HRSA); the Centers for Medicare and Medicaid Services; private insurers; and public, private and nonprofit organizations. Much of the communication between these agents remains uncoordinated, leaving HIV patients with limited funds and resources. When patients have trouble coordinating care for their disease state, their adherence to treatment decreases.

2. **Increasing complex drug therapies:** A study measuring medication adherence among elderly patients found that the more medications a patient was prescribed after a hospital discharge, the less adherent they were to those medications three months later. Many of the patients in this study stopped using their medications because they thought the medications were unnecessary, they wanted to reduce the potential side effects and/or they wanted to test the lowest possible dose that would be effective for them.

3. **Poor communication between provider and patient:** A meta-analysis study found that patients are 2.16 times more likely to stay adherent to their medications if their physician effectively communicates with them. The study defined effective communication as the combination of verbal and nonverbal communication, the use of task-oriented behavior and the creation of opportunities for patient involvement. Patients who saw physicians with effective communication techniques were more able to talk openly and honestly with their physician, therefore, feeling more supported and encouraged to continue their medication regimen.

4. **Unintentional patient behaviors:** These behaviors include forgetting to take the medication, running out of medication and being careless about taking their medication (for example, taking a dose of the medication at the wrong time). Out of the three, the most commonly reported means of nonadherence was forgetfulness. Patients who are most likely to exhibit unintentional nonadherence included those with a lower perceived need for medications, those with lower medication affordability and those of a younger age. Specifically, patients who were most likely to forget to take medications were of the male gender and had a higher number of medication concerns. Patients who admitted to being careless with their medications were those with high medication concerns, those of a non-Caucasian race and those who hold an education higher than a college degree. Although these characteristics are not absolute, they can help pharmacists identify the reasons behind unintentional nonadherence and develop personal strategies to correct it.
5. **Patient physical or cognitive impacts:** Health literacy is defined as the ability to read and understand health information, including a manufacturer’s package insert or medication instructions. One study examining health literacy in the U.S. found that up to 35 percent of English-speaking Medicare managed care enrollees demonstrated “inadequate” understanding of their health care and other health-related factors. The study also found that older individuals, especially those over 70 years of age, have significantly lower health literacy, even after adjusting for gender, race, ethnicity, cognition, visual acuity and years of schooling. This is likely due to the increasing complexity of their disease states and medication regimens. Similarly, certain physical disabilities will negatively impact medication adherence, including the inability to travel to and from the pharmacy, swallow pills, inject medications or open pill bottles. Those individuals with lower health literacy and higher physical impacts are less likely to understand the purpose of their medications and are also less likely to stay adherent to them.

6. **Socioeconomic factors:** Socioeconomics, or the financial and/or societal status assigned to a population of individuals, can affect treatment regimens, patient understanding of those regimens and adherence to treatment. One study examining inner-city patients with low socioeconomic status and medication nonadherence indicated high medication costs, lack of transportation to and from the pharmacy, long wait times at the pharmacy, and poor understanding of medication instructions as their primary barriers. Additionally, lack of family or social support and poor mental health can also predict nonadherence.

**Communicating with Nonadherent Patients**

While many community pharmacists know that they have an important role in supporting medication adherence, they also have to overcome barriers in order to substantially impact how their patients take their medications. The main barriers that pharmacists face in monitoring their patients’ adherence include time constraints and lack of proper training. To combat these barriers, pharmacists must learn methods of communicating with nonadherent patients both effectively and efficiently. The following steps explain how a pharmacist can convince a nonadherent patient to take their medications as prescribed, and a scenario is provided to demonstrate each of the concepts.

1. **Find the patient’s individualized reason for nonadherence.** Patients have different beliefs about their medication therapy. They either think their medication is needed to keep them healthy (necessity beliefs) or that their medications are causing them more harm through side effects (concern beliefs). Patients who have more concern beliefs than necessity beliefs are more likely to be nonadherent to medication treatment, as they will not believe that taking their medications as prescribed will help them stay healthy. One study sought to measure the nonadherence of these patients using a psychological technique called the repertory grid, where participants rate the meaning of different things in their lives. Applying this technique to medications allowed the researchers to gain insight to patients’ reasons for nonadherence and also give pharmacists advice to tailor their conversation about medications accordingly. A meta-analysis measuring patient adherence found that patients who receive adherence counseling based on their particular reason for nonadherence had better results than those receiving broad adherence interventions that target a wide group of patients.

   - **Scenario:** A middle-aged woman at your community pharmacy has a history of nonadherence. Her prescriptions are usually picked up weeks after the pharmacy fills them, and some refills are not picked up at all. She has multiple chronic conditions, including hypertension, high cholesterol and diabetes. She has a new prescription for atorvastatin that was sent electronically into your pharmacy by her primary care...
physician. It has been sitting in your pick-up area for six days. Today, one of your tasks is to call patients who have had prescriptions sitting at pick-up for more than five days and ask if they still want to pick up their prescription. You call this patient and hope that this conversation will help her become more adherent to her medications in general.

STOP AND REFLECT
A pregnant woman is picking up a prescription for pre-natal vitamins in your pharmacy during flu season. When the pharmacy technician asks her if she received her flu shot, she states that she never gets the flu shot because she does not think it works, and she especially does not want one this year, as she does not want her baby to develop autism. What types of beliefs is this patient displaying, and what would be an appropriate response?

2. Read (and interpret) your patient’s nonverbal cues when giving them advice. Data from the 2003 National Assessment of Adult Literacy found that 53 percent of adults could comprehend moderately challenging health care material and 36 percent could only understand basic health care concepts. Therefore, it is important to monitor patients’ nonverbal cues, as it may be indications that they do not understand the advice you are giving. For example, silence from the patient after a piece of advice likely indicates that they do not understand the material you are presenting to them. If this happens, repeating the information in simpler terms or breaking down complex concepts into multiple parts can help the patient grasp the information.

• Scenario: When you ask the patient why she did not pick up her atorvastatin, you hear silence on the other line. Instead of hanging up the phone, you re-phrase the sentence, asking her if she picked up her Lipitor®. When you still hear silence, you say you are asking about her cholesterol medicine; the new pills that her doctor wanted her to take. After saying this last sentence, she says that she remembers that medication. Now that the patient knows the medication in question, you can continue your conversation about adherence.

3. Use motivational interviewing whenever possible. Motivational interviewing has been shown to increase behavioral change and adherence in more than 70 clinical trials, and can increase a patient’s adherence to many behavioral changes with a high risk of relapse, including smoking cessation, substance abuse treatments, HIV treatment and prevention, and maintaining healthy diet and exercise. Motivational interviewing puts the patient in charge of their own health outcomes and allows them to come up with their own solutions for maintaining their health. This technique requires the pharmacist to ask open questions, requiring the patient to come up with their own solutions. When the patient does come up with a solution to their nonadherence, the pharmacist should then affirm their statement, asking additional probing questions and praising them when they state a specific and reasonable method of adherence.

The simplest way to perform motivational interviewing is to start as many sentences as possible with the words “what, why, how and when.” By using these leading words, your statements will be formed as questions and they will prohibit you from giving too many commands or advice. When you find yourself giving advice, stop yourself and re-phrase your
statements as questions. When using motivational interviewing, your patient should be the one doing the strategizing, with you simply asking leading and probing questions to help them reach their conclusion. For example, instead of saying “You should lose 20 pounds by walking 15 minutes per day” you should first ask “What are your short-term weight-loss goals?” After the patient says 20 pounds, your next question should sound like “So, what can you do to reach your goal?” The patient would then respond with “I think I could walk 15 minutes per day.” This method of reasoning frees the patient to come up with their own lifestyle solutions, and, as a result, they will be more likely to stay adherent to these changes.

- **Scenario:** Your patient informs you that she did not pick up her atorvastatin prescription because she forgot that she needed it, especially since she does not feel sick. Instead of listing off the negative outcomes that you know can occur from not taking statin therapy, you ask your patient what she thinks she could expect from not taking the medicine. The patient then recalls that her physician mentioned “bad heart problems,” which have affected her sister and husband, and that she does not want to have these problems later in life as well.

4. **Describe medication instructions and expected outcomes at a level the patient can understand.** Patients with low health literacy have been shown to be less familiar with medical concepts, ask fewer questions and may hide their lack of understanding out of fear or embarrassment. In order to effectively communicate with this patient population, first assess the patient’s level of health literacy before starting a conversation. This can be done by asking the patient the amount of information they already know about a disease state. Additional communication points include using plain language and simple sentences, continually emphasizing one to three important points throughout the entire conversation, encouraging the patient to ask questions using open-ended questions and statements, writing down important instructions for the patient to take home and providing additional education material, if necessary.

- **Scenario:** Along the course of the conversation, your patient asks you what side effects she can expect from atorvastatin. As you explain the concept of rhabdomyalysis, you continue to hear silence on the opposite end of the phone. Thinking that the patient is not understanding what you are saying, you break down the point you are making into multiple sentences with a clear subject, verb and object. Instead of saying that statins put your patient at an increased risk of rhabdomyalysis, you say “The medicine might make your muscles hurt. It will be a sharp pain that you might feel in your legs. The pain may be bad. If this happens, call your doctor.” Once you say this, the patient says “okay” on the other line, indicating that she understood the information.

5. **Apply a teach-back method after your advice is given.** The teach-back method is when health providers ask patients to repeat back the main points of a conversation after providing a form of health education. This method helps the pharmacist understand what the patient has taken from the conversation and can allow the pharmacist to clarify points that the patient did not originally comprehend. The teach-back method has many advantages; not only does it help patients remember and understand the information given to them, but it also raises their satisfaction with their care and strengthens the patient-provider relationship. Some proper questions to use for the teach-back method include: “I want to make sure I explained each option clearly. Would you please tell me how you will take this medication?” If a patient cannot re-iterate the information, a proper statement to respond would be “I must not have done a good job explaining. Let me try again.” When the patient can re-state the important points, then you know you have communicated effectively, and the patient will be more likely to retain the information. The key for the teach-back
method is to not make the patient feel like they are being quizzed. It is important to indicate to the patient that you are asking them to repeat information to make sure you explained it clearly.

- **Scenario:** After you describe how to take the statin, you ask your patient to repeat back the information you conveyed over the phone because you wanted to make sure you explained everything correctly. The patient then repeats back this information, ensuring that you communicated all of the main points that you intended.

6. **When the visit is done, use the phone or another method of contact to remind patients to continue their therapy.** Continuing to call patients in order to remind them of the medications they should be taking and to answer any questions they have about their medication regimen will increase their long-term adherence and strengthen the relationship between the pharmacist and patient. This is especially important for patients who have recently been discharged from the hospital, as they likely underwent major changes in their health and resulting medication regimen. A pilot study measured the impact of pharmacist follow-up at a community pharmacy for patients who had been discharged from the hospital with the diagnoses of congestive heart failure, pneumonia or myocardial infarction. In this study, the patients were identified by a nurse manager at the hospital and invited to participate. They were then contacted by the pharmacy two to three months post-discharge and asked to undergo a comprehensive medication review (CMR). The patients who participated in a CMR were significantly less likely to be readmitted to the hospital within 30 days, and the authors listed that identifying and discussing patient nonadherence to their new or changed medication regimen was a major factor in this result. Therefore, after a community pharmacist communicates with a nonadherent patient, appropriate follow-up by phone or in person should be initiated to make sure the patient’s adherence does not decrease with time.

- **Scenario:** After you end the call with your patient, you make a note in her profile that she has a history of nonadherence and requires further follow-up to make sure she is taking her statin as prescribed. You enter a request for a follow-up phone call in your pharmacy’s computer system and plan on calling again in two weeks.

**Conclusion and Summary**

Although many successful medications exist to treat chronic and acute conditions, these medications will serve no purpose if the patient does not take them. Unfortunately, the percentage of people who do not properly take their medication is large, hovering at about 50 percent of the population. Therefore, addressing medication adherence, or the act of reaching a conclusion about how to use medications and the act of taking these medications as discussed, is important for many health care professionals. Pharmacists, especially community pharmacists, are in a unique position to address medication adherence, as they have the ability to see patients on a prolonged basis. However, many pharmacists see time constraints and lack of training as barriers to addressing adherence and may not know how to communicate effectively and efficiently.

In order to speak to patients about their adherence, pharmacists should utilize several communication techniques. The pharmacist should first ask the patient about their reason for nonadherence, as many people do not take their medications for different reasons. The pharmacist should then use motivational interviewing skills and refrain from bluntly giving advice. This will allow the patient to decide their own methods to stay adherent and they will be more likely to stick with those changes. The pharmacist should answer any questions from the patient in clear and simple sentences, as patients who understand the purpose of their medications will be more likely to stay adherent to them. If the patient is silent, or displays other body language like they do not understand something, the pharmacist should further clarify their points. Lastly, the pharmacist
should finish the conversation with the teach-back method, asking the patient to repeat the main points from their conversation. The pharmacist should then follow-up with the patient in two to three weeks to reinforce the conversation and strengthen the patient-provider relationship. Using these techniques will help the pharmacist lead quick and effective conversations with many nonadherent patients and will help motivate them to take their medications as prescribed.

Continuing Education Self-Assessment Questions

1. Medication adherence is different from medication compliance in that:
   a. adherence and compliance are the same terms.
   b. compliance requires the patient to be an active member of the health care team and a participant in treatment decision making.
   c. compliance requires the patient to take their medications, as prescribed by their doctor.
   d. None of the above

2. The mathematical equation for adherence is the number of pills present in a given time period divided by the number of pills presented by the physician in the same time period, and a patient is generally considered adherent if this number is greater than 60 percent.
   a. True
   b. False

3. Which of the following is a successful means of monitoring adherence?
   a. Measuring biochemical drug amounts in the patient’s blood or urine
   b. Asking the patient how they take their medications and comparing it to the instructions written on the prescription
   c. Comparing the time the patient picked up refills at the pharmacy with the days’ supply indicated on the prescription
   d. All of the above

4. The prevalence of medication nonadherence in the U.S. is about 30-50 percent, with higher rates among acute conditions than chronic diseases.
   a. True
   b. False

5. Common barriers to medication adherence include all of the following except:
   a. patients who are using many different medications that require dosing multiple times per day.
   b. patients with a low socioeconomic status who rely on public transportation to reach the pharmacy.
   c. patients seeing many different specialists for different conditions instead of a primary care physician.
   d. All of the above are barriers to medication adherence.
6. Motivational interviewing requires all of the following techniques except:
   a. giving advice when the patient asks for it, then asking them to repeat back your instructions to make sure you explained it clearly.
   b. starting each sentence with the words “what, when and how.”
   c. asking the patient probing questions when they describe a lifestyle goal they would like to achieve.
   d. praising the patient when they have successfully implemented a change in their lifestyle, even if the change is small.

7. A patient in your pharmacy with known low health literacy is picking up a new prescription for lisinopril. Which are the most appropriate counseling statements?
   a. This medication will maintain your blood pressure by working in your kidneys. It has once daily dosing. Its main side effects are cough and dizziness, especially at the beginning of therapy. The dizziness should subside after a few days. If it does not, or if you feel faint or pass out, call your doctor, as your dose may be too high. If the cough does not subside, call your doctor as well, because you may need a different anti-hypertensive.
   b. This small, pink pill will lower your blood pressure. Take this one time per day. You may get a cough from this pill. If this happens, call your doctor. You may feel dizzy from this pill. This just means the pill is working, and the dizziness should go away after a few days. If you feel too dizzy, or the dizziness does not go away, call your doctor.
   c. This small, pink pill will lower your blood pressure. Take this one time per day.
   d. None of the statements are appropriate. Say nothing and give your patient a visual handout instead.

8. You are counseling a patient about their new warfarin prescription, and want to make sure the patient understood the main points from the conversation. Which statement is the most appropriate?
   a. I just gave you a lot of information about warfarin and I want to make sure I explained everything correctly, so I am going to ask you to repeat some of the main points we talked about. Would you mind telling me how you will use this medication?
   b. I just gave you a lot of information about warfarin. What questions do you have for me?
   c. I just gave you a lot of information about warfarin and you probably feel very overwhelmed. Would you mind telling me how you will use this medication?
   d. You should not ask the patient to repeat back any information you just told them, as they will likely get offended and not return back to your pharmacy.

9. A patient calls your pharmacy with a question about their insulin. Once you answer the question, you hear silence on the other end of the line. Which statement is most correct?
   a. Hang up the phone, as the patient probably got distracted and is not listening anymore.
   b. Re-state the information using simpler sentences, with a clear subject, verb and object. If there is still silence, ask the patient if he or she does not understand your instructions.
   c. Re-state the information using simpler sentences, with a clear subject, verb and object. If there is still silence, re-emphasize the main point about your answer and ask the patient what questions he or she has for you.
   d. Tell the patient to come into the pharmacy so you can give him or her a visual handout. Questions about insulin cannot be answered over the phone.
10. You call a patient about an overdue refill for fluoxetine. The patient states that she feels this medication has not worked since it was prescribed last month. She feels that she does not need this medication and will refuse any other medication like it because her symptoms have not yet changed. Which statement is correct?
   a. This patient has higher concern beliefs than necessity beliefs about this medication.
   b. This patient has higher necessity beliefs than concern beliefs about this medication.
   c. This patient is correct in assuming no other selective serotonin reuptake inhibitor will ever work for her again.
   d. In order to have a conversation with this patient, the pharmacist must tell her she is wrong and use evidence-based studies to explain why.

References:


