In Search of the Holy Grail to Improve Medication Adherence:
How Memory and the Team Approach Help
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IMAGINE...

- A time when everyone in America has health insurance.
- A time when pharmacists are integral members of an individual’s healthcare team.
- A time when people with chronic diseases like diabetes, high blood pressure, or high cholesterol spend more time with their loved ones because they live longer and are hospitalized less.

That time is now – solving the problem of medication non-adherence can make all of this a reality.

THE PROBLEM – MEDICATION NON-ADHERENCE

The World Health Organization (WHO) defines adherence to long-term therapy as “the extent to which a person’s behavior—taking medication, following a diet, and/or executing lifestyle changes—corresponds with agreed recommendations from a health care provider.”

Any deviation is termed “non-adherence,” a problem referred to as the “next frontier in patient care” because solving it will lead to enormous potential cost savings and positive implications for population health.

Studies show that only 50 - 70% of patients with chronic medical conditions take their medicines properly. The financial impact of non-adherence in the US healthcare system is over $300+ billion annually. In other terms, curing non-adherence would cover the cost of healthcare for 44.8 million Americans.

In 2002, Haynes, et al. predicted that “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.” In 2013, they are being proven correct.
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**FIVE MAJOR REASONS FOR MEDICATION NON-ADHERENCE**

There are five primary reasons for medication non-adherence. Addressing them is key to successfully fixing this problem:

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<tr>
<th>Reason</th>
<th>Description</th>
<th>Solution</th>
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| Not Understanding Why Meds Are Taken | ■ Not understanding why medications are taken.  
■ Stopping medications because one feels better.  
■ Not recognizing the importance of taking medications as prescribed. | ■ Learning more about medications and their reasons for use will attribute importance to them and improve adherence by creating a memory about the medicine.  
■ Interacting with the new healthcare team – pharmacists, health coaches, telephonic nurses, family caregivers. |
| Missed Doses            | ■ Forgetting to take, or skipping, doses of prescribed medications.          | ■ Receiving reminders via email, text, or mobile alarms will signal people to take their medicines as scheduled. |
| Late Refills            | ■ Procrastinating refills or medicines, and running out before replacements arrive. | ■ Receiving reminders via email, text, or mobile alarms will alert people to call the pharmacy in time to fill the medicine without missing doses. |
| High Costs              | ■ Unwilling or unable to pay for medications.                                | ■ Increasing use of generic medications.                                  ।  
■ Utilizing tools like GoodRx.  
■ Taking advantage of programs offered by pharmaceutical companies. |
| Side Effects            | ■ Experiencing real and/or perceived side effects.                         | ■ Understanding more about medications and their potential side effects via discussions with the healthcare team – particularly pharmacists. This will help prevent patients from stopping medicines too early. |
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**A SOLUTION: IMPROVING ADHERENCE THROUGH MEMORY ASSOCIATION**

A key factor in improving medication adherence is for the individual to understand why they are taking a medicine. This creates a personal association to the medication. Once a person attributes importance to a medicine, the next step is developing memory for it. When the memory is created, the person is more likely to remember to take it.

Remembering to take medicines is a behavior. Changing that behavior is the key to improving adherence. There are two types of memory involved in behavior – explicit and implicit memory. Both of these memories play a role in improving adherence.

Memory for a recent event can be expressed explicitly, as conscious recollection, or implicitly, without conscious recollection. More simply put, explicit memory is when one has to consciously work to remember something. Implicit memory is one that is subconscious; it is just something one does without thinking, like a habit.

For example, when people learn to ride a bike, they must think about the steps involved. Each time they fall off and get back on, they are consciously thinking about what they did correctly and incorrectly, so they do not repeat mistakes. This is explicit memory. Eventually, they are able to just pick up the bike and start riding, without thinking. This is implicit memory.

To improve medication adherence, the concept is similar. Explicit memory is engaged when people are required to learn a medication name and what it is for. As they tie the name of the medicine to its reason for use, they must consciously think about it. Then, each time the person receives a medication reminder, the name and reason are shown. This repetition enhances explicit memory. Eventually, due to the personalized association created for the medicine, implicit memory is engaged and people just remember to take the medicine.

For example, if one takes lisinopril, but doesn’t know why, he may forget to take it. If one takes a blood pressure pill, but doesn’t know the name, it might be forgotten. However, if a person takes lisinopril, and knows that controls blood pressure, and controlling blood pressure prevents strokes, it becomes important to take the medicine. As a result, the lisinopril will be taken more consistently because importance has been attributed to it.
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A SOLUTION: THE TEAM APPROACH TO MEDICATION NON-ADHERENCE

Medication non-adherence is a problem of individuals. However, the solution involves a team – family caregivers, nurses, MTM pharmacists, physicians, and patients.

Most of the digital adherence solutions available today require self-population of medication information. This is effective for self-motivated people, those who are already more likely to be adherent. However, giving an already non-adherent individual a self-managed tool is not likely to succeed. They will need additional help from their healthcare team to populate the medication information into the application.

If someone else can help to populate the medication information, then the odds for improving the user’s adherence rise dramatically. These are the people who are driving the costs of non-adherence, and attention should be paid to helping them improve their medication-taking habits in order to affect the problem.

Providing a tool that individuals own and control is very important to empower them to become involved in their health. Just as important is offering a tool that allows them to keep their healthcare team in sync as they address transitions in care – home to hospital to rehab to home again. The team approach is critical to successfully combating the problem of medication non-adherence.

Individuals with complex medication regimens – for example, those with diabetes, high blood pressure, and heart disease – need additional support from professionals to ensure improved adherence. More and more frequently, these professionals are pharmacists via programs like medication therapy management (MTM).

As people search for the “holy grail” in combating medication non-adherence, the team approach will emerge as the key to success.
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9 Ibid.
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About the Author

Dr. Shah founded MyMeds in 2003, in response to a need for patients to become more actively involved in their health care. He recognized that involving patients in their care by educating them about why they take medicines is the key to better adherence and improved health outcomes.

Board-certified in Nephrology (kidney diseases) and Internal Medicine, Dr. Shah received his M.D. from the University of Minnesota School of Medicine and his B.A. in Psychology from Boston University. He completed his residency and fellowship training at Hennepin County Medical Center, and practices Nephrology at InterMed Consultants, where he serves as the Managing Partner/President.

At age 21, Dr. Shah was a co-founder of ACES, an after-school, tutoring/mentoring organization for inner-city children. ACES was the first program in the history of professional sports to unite all of the local teams in a long-term initiative to educate inner-city kids. For his work, he has been awarded the Virginia Binger Award in Human Service by the McKnight Foundation, the Ten Outstanding Young Minnesotans Award from the Jaycees, and has been named 40 Under 40 by the Twin Cities Business Journal.

About MyMeds

MyMeds is a medication adherence system designed to help people learn how and why they should take their medications properly. It incorporates a team approach, one that includes doctors, pharmacists and loved ones, to combat medication non-adherence, one of the biggest problems in healthcare today. It is the most comprehensive medication management and reminder system available on the market, integrating web and mobile interfaces and secure cloud storage of users’ medication data. MyMeds lets users create, track, and share medication records for their entire families. It is ideal for individuals who take medications or caregivers of elderly relatives and children.