

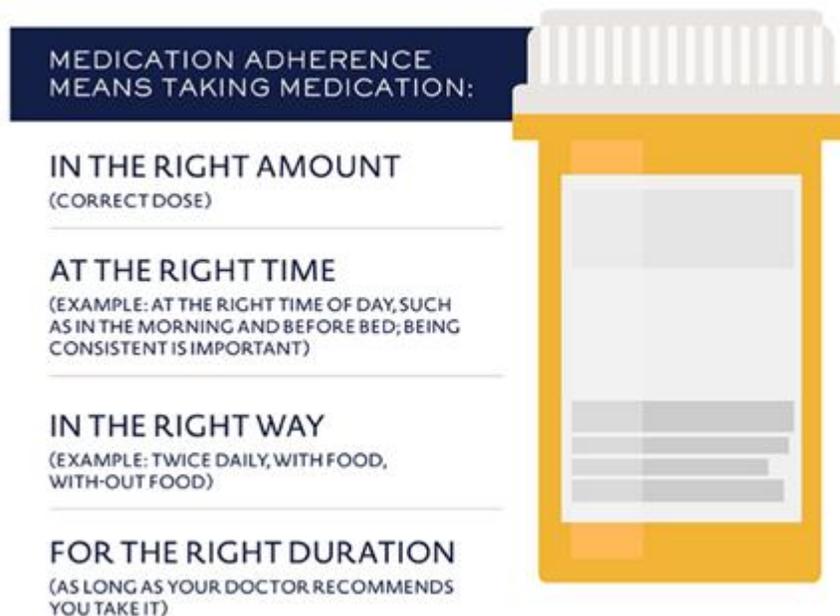
AbbVie Foundation STEM Challenge

Introduction: About AbbVie Foundation

The AbbVie Foundation, a nonprofit 501(c)(3), is dedicated to having a remarkable impact on the lives of the underserved around the world through a commitment to building strong communities, sustainable health care systems and effective educational programs. For more information please visit www.abbviefoundation.org.

The AbbVie Foundation Challenge

Approximately 50 % of patients with chronic or long-term conditions do not take their prescribed medication as directed - either stopping the medication prematurely, taking it in a manner other than what's been prescribed, or never filling the prescription in the first place. This is defined as medication non-adherence, and it's a problem costing the United States 125,000 lives and \$289 billion annually.



This is a very complex issue. Unpleasant side effects, lack of transportation to pharmacies, depression, forgetfulness, being on too many different medications, and cultural or language barriers have all been shown to make patients less likely to take medication as directed. Sometimes these decisions are made due to a lack of “health literacy” - the ability to access, understand and process adequate health information.

There is no “one size fits all” solution. Since patients - face different barriers to medication adherence - including age, cultural background, or income level - they require different strategies for ensuring they take their medication correctly.

Your Challenge is to design solutions and interventions to improve medication adherence for patients with chronic or long-term conditions. Specifically, using AbbVie’s therapeutic focus areas, choose one of the following patient populations and focus areas to develop solutions:

Seniors (age 65+) - Alzheimer's disease

As the number of patients and caregivers seeking help from the health care system increases, Alzheimer’s represents a growing challenge for society. Current treatments simply address the symptoms and do nothing to prevent the progression of the disease or reverse the damage. We are collaborating with the world’s leading Alzheimer’s researchers to identify ways of stopping the disease in its earliest stages. Our anti-tau antibody is being investigated to treat Alzheimer’s disease and progressive supranuclear palsy (PSP) and is advancing to Phase 2 development.

[Read more about our fight against Alzheimer’s disease](#)

Veterans - Hepatitis C Virus (HCV)

Hepatitis C is an infectious liver disease resulting from infection with the hepatitis C virus (HCV).

It typically spreads when blood from an infected person enters the body of someone who is not infected. 71 million people are infected with HCV worldwide. The reported incidence of new infections is estimated at nearly 24 cases per 100,000 people annually. Veterans are disproportionately affected by HCV. Prevalence of hepatitis C among veterans who receive care through the Veterans Health Administration (VA) is twice the rate reported in the general population. Still, the number of infections is estimated to be even higher because less than half of veterans in VA care have been tested, and because most veterans do not receive care through the VA and are even more unlikely to be tested.

Young Adults - Celiac disease and Psoriasis

Plaque psoriasis is a chronic skin condition in which a person’s immune system sends faulty signals, resulting in skin cells that grow too rapidly. The body does not shed these

excess skin cells, leading to a pile-up on the surface resulting in white, silvery or red patches of skin. The accumulation of these skin cells forms thick patches called “plaques” that typically appear on the knees, elbows, scalp, hands, feet and lower back.

The extent and duration of symptoms in plaque psoriasis varies greatly from patient to patient. Symptoms tend to disappear, even without treatment, and can flare up without warning.

Predicted Problem Statement:

In order to investigate this problem, you will need to consider the following questions:

Phase I: Research & Learn

- What is medication non-adherence and how would you explain it to a patient?
- What factors contribute to non-adherence?
- Are any of these factors specific to your patient population?
- Are there systems currently in place to increase medication adherence?
- How does the disease affect the patient?
 - What are factors that impact patients with chronic or long-term conditions? For example, are those with this disease likely to have or develop other health issues?
 - What is the patient journey for an individual with this condition?
 - What are typical touch points that they might have in the healthcare system?
 - How can we assess the current state of available resources and support for your patient population with this disease?
- Who is critical in a patient’s support system? For example, healthcare providers, caregivers, family, etc.?

Phase II: Design & Test

- Brainstorm possible design ideas that could lessen non-adherence in your patient group - consider what you have learned about the specific needs of your patient population.
- What tools could you create for patients, caregivers, family members or healthcare providers?
- How can your solution help patients to better understand their disease?
- How does this solution or strategy improve the overall well-being of the patient?

- Work with your mentors to learn from people most closely impacted - such as patients, caregivers, family members, and healthcare providers.
- Where possible, conduct interviews or other methods to gather information about the needs of your users.
- Share your initial design and ideas with your teachers, classmates, and mentors.

Phase III: Prototype, Iterate, Communicate

- Where possible, build a prototype or model of your solution and develop a pitch as to how it will improve medication adherence.
- Why did you choose this solution or strategy for this patient population?
- How can you measure the effectiveness of your solution?
- Go over your research, ideas, and prototype with your mentors throughout the Challenge. The strongest ideas will be looked at from every angle, many times. Iteration and integrating feedback is a critical part of the design process.
- Incorporate feedback from your mentors and classmates into your solution.
- Develop a presentation to explain how your solution will improve medication adherence for your patient population.
- Your presentation should not only discuss what your solution is, but the process that your team took to get there and why.
- Present your research, analysis, and solutions to your classmates, teachers, AbbVie mentors, and other key stakeholders in the community.

Suggested Resources:

[AbbVie Presents Results from Large Global Study of Patient Attitudes and Adherence Across Six Chronic Inflammatory Diseases](#)

[The Surprising Reasons People Don't Do What the Doctor Ordered](#)

[CDC Public Health Grand Rounds: Overcoming Barriers to Medication Adherence for Chronic Diseases](#)

[Medication Adherence: WHO Cares?](#)