

Researchers look for new ways to get teens to take their medicine

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(Medical Xpress) -- Skipping doses of medicine or taking it at the wrong times can worsen a patient's condition and lead to costly complications — even organ rejection in patients who have undergone a kidney transplant.

A consortium of researchers in the United States and Canada, including at the University of Florida, has received a \$2.5 million grant from the National Institutes of Health to test techniques that may increase medication adherence in perhaps the most challenging population of patients: teenagers.

“Newer medicines and technologies have improved the lives of people with illness. But such improvements have much less of an effect if patients don't take their medicines on time or use the technologies appropriately,” said Dr. Vikas Dharnidharka, division chief of nephrology in the UF College of Medicine department of pediatrics and one of the study's investigators. “Teenagers who have chronic diseases really struggle with being adherent.”

As part of the five-year grant, researchers will study whether a menu of techniques, including a high-tech pillbox, will improve how well adolescent kidney [transplant patients](#) stick to their medication regimens.

The pillbox, produced by MedMinder, is connected to a monitoring service that tracks when patients take their medicine. The device can also send reminders about when a dose is due, through texts, emails or

phone calls, features the researchers hope will appeal to tech-savvy teens.

Study participants will be able to choose what options on the pillbox will best work for them. They also will work with health professionals to discuss what hinders them from taking their medications and develop plans to tackle these obstacles, said Dr. Beth Foster, an associate professor of pediatrics at McGill University in Montreal and the grant's primary investigator. Using MedMinder's Maya device, patients can also pinpoint problem times and patterns, like always forgetting to take a dose on Saturday mornings.

After a transplant, patients must take drugs that suppress the immune system so the body does not fight off the new organ. Not taking them or even just deviating from the medication schedule can have dire consequences, Foster said.

“(Non-adherence) is probably the single most important reason for graft losses and rejections,” Foster said. “If you look at the risk of graft failure related to the age of patients and plot it, you can see a hump during the adolescent years. It is definitely the highest-risk interval, and the reason is likely adherence. Adherence dips during this period.”

The researchers also will examine how outcomes differ from patients in the Canadian and U.S. health systems.

Although their study focuses on [kidney transplant](#) patients, the researchers think the findings will translate to patients with other chronic diseases and conditions as well.

“It could be something that could be applied across all populations for all chronic conditions,” Dharnidharka said. “We often spend 20 years developing new drugs, but they will have a limited effect if patients don't

take them.”

Provided by University of Florida

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