

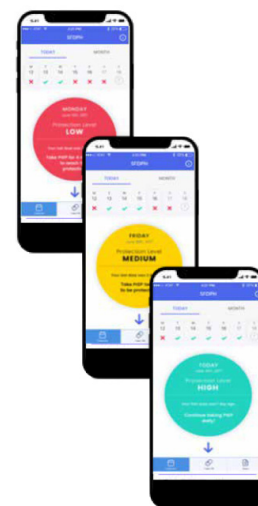
APP CONFIRMS HIV PROPHYLAXIS ADHERENCE

About 1.2 million people in the US are living with HIV. Only 28% of them are taking HIV medicine regularly and have their virus under control.¹

Men who have sex with men (MSM) have an estimated lifetime risk for HIV infection of one in six, compared with heterosexual men at one in 524.²

Oral pre-exposure prophylaxis (PrEP) with tenofovir disoproxil fumarate co-formulated with emtricitabine (TDF/FTC) is highly effective in preventing infection.³ However, continuing PrEP treatment over time has been challenging, with **37–62% of MSM stopping PrEP use by 6 months.**

AiCure's automated directly observed therapy (DOT) uses computer vision and machine learning to detect adherence, combining the **accuracy of in-person DOT with the convenience of real-time centralized data collection and monitoring.**



ADHERENCE AND PATIENT DIARY DATA SHOW PROTECTION LEVELS

AiCure's smartphone app with automated DOT and PrEP adherence visualization toolkit was used in a randomized clinical trial to **measure and increase PrEP adherence among young MSM.**

Participants were randomized 2:1 to AiCure's Health Insurance Portability and Accountability Act (HIPAA)-compliant app or a standard of care arm.

Branded as DOT Diary, the AiCure app was used by participants who showed their dose to their smartphone camera, placed the pill on their tongue, and swallowed it. Computer vision and neural networks **confirmed the correct participant was presenting and ingesting the correct medication.**

The app provided daily dosing alerts selected by participants or configured by study staff. Doses were classified as missed or taken with date and time stamping. Participants who did not confirm dosing with video could still use the app to report dosing.

The AiCure system flagged doses for review when **detecting signs of intentional non-adherence**, such as presenting a different pill, spitting out the medication, or hiding it in the mouth without swallowing. If human reviewers confirmed non-adherence, study staff contacted participants to determine the cause and mitigate further issues.

By combining a sexual activity diary with adherence data, the app calendar **displayed daily levels of HIV protection.**

Tenofovir diphosphate (TFV-DP) and emtricitabine triphosphate (FTC-TP) concentrations were collected at weeks 6, 12, 18, and 24. The observed **concordance between DOT Diary measures of PrEP use and FTC-TP samples was 91.0%.** Concordance of DOT Diary measurement of PrEP use and TFV-DP protective levels was also high, with an **observed concordance of 85.3% and a kappa of 0.61, indicating substantial agreement.**

Participants were asked about their overall satisfaction with the app; **91.7% indicated that they were mostly or very satisfied.** Asked if the app helped them in taking PrEP, 46.7% said it helped, and another 46.7% said it helped a great deal. When asked if they would use the app in the future, 96.6% said yes, and 90.0% said they would recommend the app to a friend.

¹ CDC Vital Signs, New Hope for Stopping HIV. 6 Jan 2020.

² CDC Sexually Transmitted Infections Treatment Guidelines, 2021, Accessed 16 Dec 2022.

³ Buchbinder SP, et al. AIDS and Behavior, 19 Aug 2022, <https://doi.org/10.1007/s10461-022-03805-3>