

Automated DOT® - Facial Recognition Software To Confirm Medication Adherence On Mobile Devices

BACKGROUND: Directly Observed Therapy (DOT) remains the most effective strategy for ensuring patients take their medication as prescribed.

INTERVENTION: AiCure has developed Automated DOT®, state-of-the-art HIPAA-compliant facial recognition software that works on smartphones or tablets to automate DOT by visually and automatically confirming that the right patient is taking the right medication at the right time.



1 MEDICATION REMINDER ON THE SMARTPHONE PROMPTS THE PATIENT TO TAKE THEIR DOSE



2 PATIENT IS IDENTIFIED MEDICATION IS IDENTIFIED



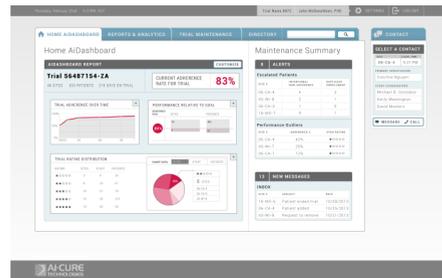
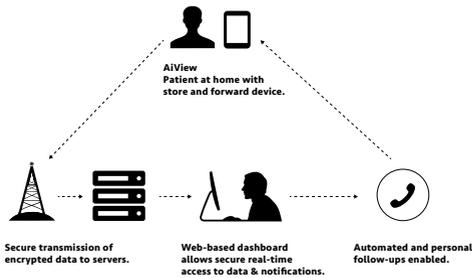
3 INGESTION IS CONFIRMED



4 REAL-TIME ENCRYPTED DATA ARE AUTOMATICALLY TRANSMITTED TO A CENTRALIZED DASHBOARD

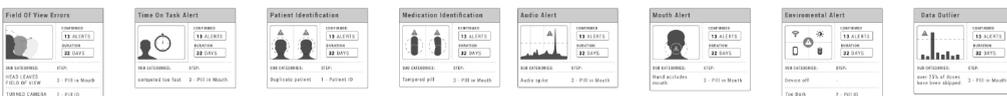
HOW IT WORKS: The technology can be downloaded as an app onto any mobile device and each administration takes a few seconds to use. Unlike traditional DOT, the platform allows small numbers of healthcare workers to monitor large patient populations accurately and remotely while increasing patient privacy and convenience. Unlike video DOT, the software requires no human review. The app is available in multiple languages and can be used to track multiple medications across different co-morbidities.

DATA: Medication adherence data are automatically transferred to a centralized dashboard where providers can follow adherence patterns in real-time. The Automated DOT® platform is designed to adapt to patient behavior. Improper administration or suspicious behavior triggers alerts to healthcare workers who can intervene immediately and effectively.



PRIVACY: Encrypted data can be easily integrated into existing electronic medical records and can incorporate patient questionnaires. In addition, patient adherence data as well as performance metrics for healthcare workers can be used to monitor the quality & effectiveness of interventions and identify best practices according to patient populations.

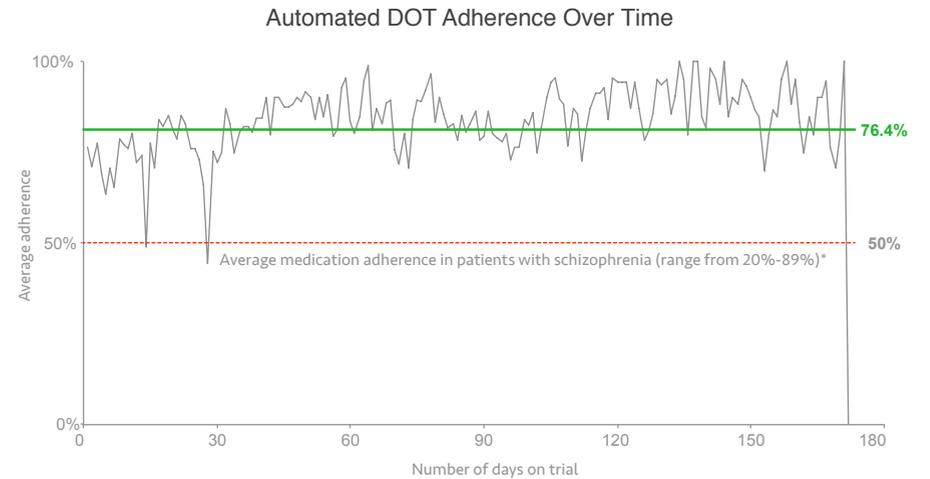
MALICIOUS INTENT: Additional surveillance technologies have been incorporated into the Automated DOT® platform to identify nonadherence:



RESULTS: The Automated DOT® platform has been implemented in multiple patient populations including substance abuse, stroke, depression, and schizophrenia.

In an ongoing Phase 2B Schizophrenia study with 53 patients enrolled for up to 180 days, average adherence rates were over 76% and as high as 86.8% when self-reporting and in clinic dosing were included.

Automated DOT is feasible in multi-site trials, including in difficult patient populations. Adherence rates achieved were far higher than expected. Early behavior was predictive of future behavior making it possible to develop risk-based predictive algorithms.



*Fenton WS, Blyler CR, Heinssen RK. Determinants of medication compliance in schizophrenia: empirical and clinical findings. Schizophr Bull 1997; 23:637-653.
*Lacro JP, Dunn LB, Dolder CR, et al. Prevalence and risk factors for medication nonadherence in patients with schizophrenia: a comprehensive review of recent literature. J Clin Psychiatry 2002; 63:892-909.

CONCLUSION: High average medication adherence and promising usability data suggest that the technology encourages high and sustained adherence rates even in challenging patient populations. For TB patients, alleviating the need for traditional DOT should improve treatment initiation and completion, as well as increase access to treatment for those who need it.

Early patient categorization according to adherence will allow for a more effective use of resources. More intensive intervention and contact with those at greatest risk for poor adherence can mitigate against treatment discontinuation.

Future strategies to encourage patient adoption may include micro-incentive structures and contingency management programs linked to individual adherence data. Provider performance metrics may also be captured to measure intervention response times and changes in patient behavior. Best practices can be identified and optimized by patient population.