

CHALLENGES

Globally, the prevalence of Parkinson disease (PD) has doubled in the past 25 years with estimates in 2019 showing over 8.5 million individuals living with PD.¹ PD is the second-most common neurodegenerative disease after Alzheimer's disease. Disability and death due to PD are increasing faster than for any other neurological disorder.

Nearly one million people in the U.S. are living with PD.² This number is expected to rise to 1.2 million by 2030.

- Diagnosis is often late and can be initially inaccurate³
- Complex medication regimens are common
- The most commonly used treatment for PD is levodopa⁴
- Approximately 80% of treated PD patients develop levodopa-induced dyskinesia (LID) in advanced PD

MEDICATION ADHERENCE AND DIGITAL BIOMARKERS

Suboptimal adherence varies between 10% and 67% and is associated with motor and non-motor complications and reduced quality of life.⁵ An administrated claims study found 61% of patients with Parkinson's disease were non-adherent and that the average medical cost per non-adherent patient was \$15,826, compared to \$9,228 for adherent patients.⁶

SOLUTION

- Remotely assess study drug administration and treatment responses
- Measure daily activities with tremor scores & biomarker algorithms
- Objectively quantify difficult-to-measure symptoms such as vocal and facial tremor
- Combine dosing activities with ePRO measures to reduce patient burden
- Identify risk based on data and drive timely interventions through predictive analytics

¹ World Health Organization Parkinson's Disease Technical Brief. 14 June 2022.

² Parkinson's Foundation, Statistics, Accessed 13 December 2022.

³ M. Goñi, S. B. Eickhoff, M. S. Far, K. R. Patil and J. Dukart, "Smartphone-Based Digital Biomarkers for Parkinson's Disease in a Remotely-Administered Setting," in IEEE Access, vol. 10, pp. 28361-28384, 2022.

⁴ Kwon DK, Kwatra M, Wang J, Ko HS. Levodopa-Induced Dyskinesia in Parkinson's Disease: Pathogenesis and Emerging Treatment Strategies. Cells. 2022 Nov 23;11(23):3736.

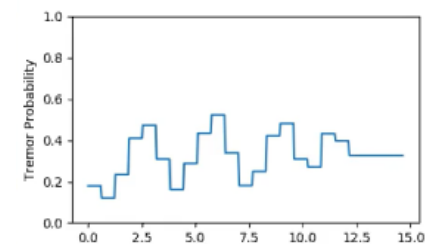
⁵ Straka I, Minar M, Grofik M, Skorvanek M, Bolekova V, Gazova A, Kyselovic J, Valkovic P. Effect of Pillbox Organizers with Alarms on Adherence to Pharmacotherapy in Parkinson Disease Patients Taking Three and More Daily Doses of Dopaminergic Medications. J Pers Med. 2022 Jan 28;12(2):179.

⁶ Davis KL, Edin HM, Allen JK. Prevalence and cost of medication nonadherence in Parkinson's disease: evidence from administrative claims data. Mov Disord. 2010;25(4):474-480.

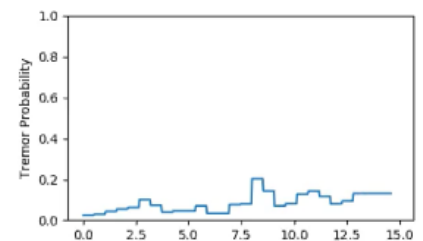
REMOTE TREMOR ASSESSMENT



Parkinson's patient video of hand tremor



Tremor detection - without treatment



Tremor detection - with treatment