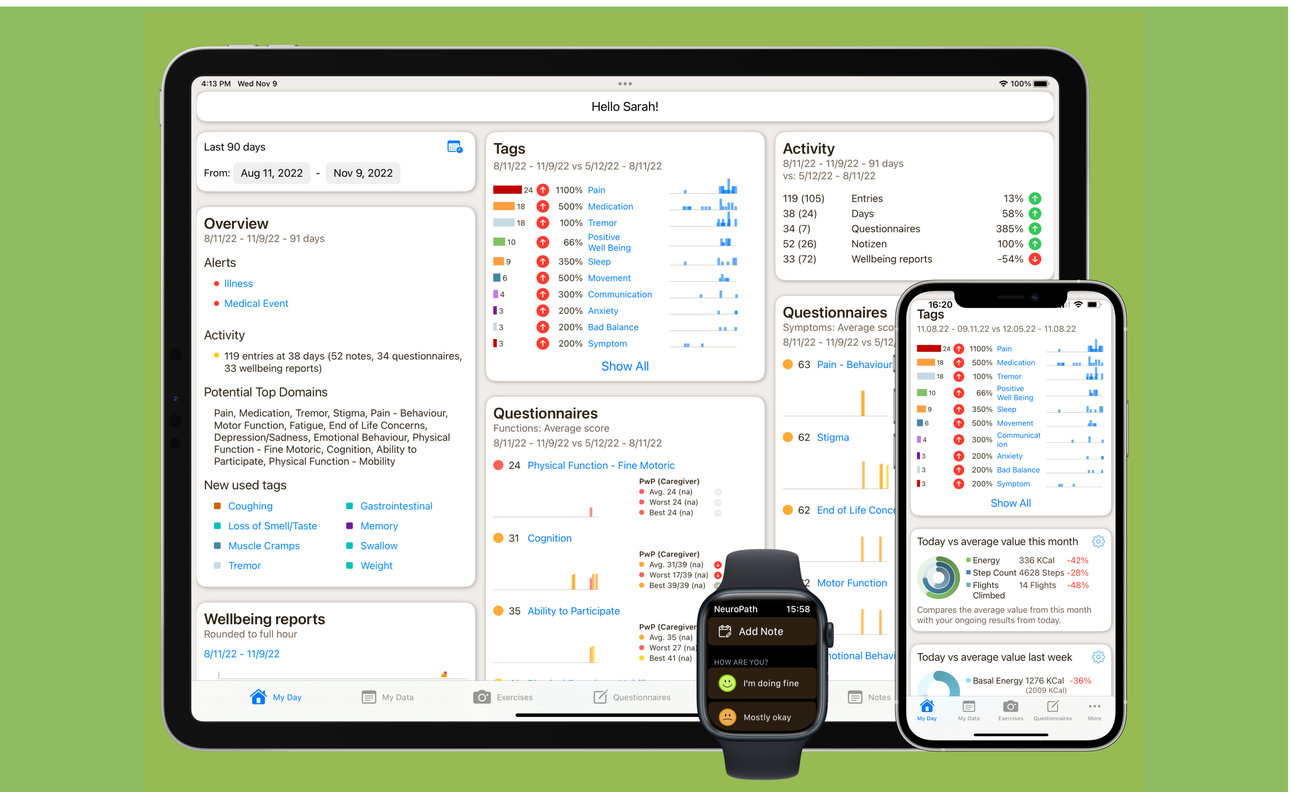
AICCELERATE

smart hospital care pathway engine

A 26-week case study of long-term adherence to a iPhone and Apple Watch patient reported outcomes (PRO) platform: enhancing measurement and improving outcomes for an individual living with Parkinson's

www.neuropath.life



We outline the utilization habits and resulting data from a six-month pilot of a PwP using NeuroPath Insights™ on a iPhone and Apple Watch and digital platform in real-life.

METHOD

- Single male user, age 64, H&Y 1, neurologist-verified diagnosis of idiopathic Parkinson disease (June 2018)
- NeuroPath Insights™ implemented on iPhone and Apple Watch (June-December 2022)
- Multiple active and passive data entries regarding motor/non-motor symptoms and activities.

DATA COLLECTED

- E-diary (written/voice activated) with symptoms tracking
- Well-being
- Medication diary and adherence
- Health biomarkers (activity/cardio/energy/breathing/saturation)
- Mobility analysis (steps/walking distance/- speed/- asymmetry)
- Dyskinesia, tremor
- Physical therapy/sports
- AI analysis of marker-less video capturing of exercises
- Clinically-validated PROM on Quality of Life with score and classification (Neuro-QoL™)

DISCUSSION

NeuroPath Insights™ allowed for active and passive monitoring which provided relevant insights to the user and his neurologist. User reported making use of the information provided to identify relevant information that he shared with his neurologist.

Recognizing the limitations of a single case design, utilization and compliance above 80% provides encouraging signalling towards wider implementation.

This may be due to a combination of the motivation of the user due to the information being provided by the NeuroPath Insights™ platform in conjunction with the ease of use of the interface, which includes passive monitoring functions and a voice interface that extends to the Apple Watch.

According to the participant, "using NeuroPath Insights™ increases my **understanding** in my Parkinson's and helps me to **anticipate** and **manage** my mental and physical activities".

RESULTS

User implemented NeuroPath Insights™ for a total of 460 entries over 146 out of 182 days, resulting in 80.2% compliance over 26 weeks. Participant used NeuroPath Insights™ at least once per day for six days of every seven-day window, including 97 Neuro-QoL™ questionnaires entries and 146 notes.

These insights were combined with passively captured data and reported on a dashboard via iPhone and Apple Watch.

The participant tracked significant improvements in mobility, flexibility and cognitive function, which motivated him to adhere to his medication and physical exercise regimen. On average, it took him about five minutes of active tracking of symptoms per day, typically over two or three sessions.

AUTHORS

Benoit Tas · NeuroPath, Enghien, Belgium
Benoit Duvivier, PwP, RN · Wondelgem, Belgium
Heiko Mueller · NeuroPath, Enghien, Belgium
John M. Dean MA CCC-SLP · Triad Health, Aurora, United States
Christiaan van der Linden · CNOG, Neurologie, Gent, Belgium

BIOWIN THE HEALTH CLUSTER OF WALLONIA

MECATECH CLUSTER WALLOON COMPETITIVENESS CLUSTER IN MECHANICAL ENGINEERING

DAVIS PHINNEY Foundation For Parkinson's
every victory counts
https://davisphinneyfoundation.org/

HUS Helsinki University Hospital · Università degli Studi di Padova · Padova neuroscience CENTER

NeuroPath · ticbiomed TRANSFORMING HEALTH

www.aiccelerate.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement n° 101016902. This document reflects only the author's view and the Commission is not responsible for any use that may be made of the information it contains. Also, this program benefited from a financial support of Wallonia in the frame of a BioWin and MecaTech Clusters program