Metadata Framework to Support Deployment of Digital Health Technologies in Clinical Trials in Parkinson's Disease

Hill DL, Stephenson D, Brayanov J, Claes K, Badawy R, Sardar S, Fisher K, Lee SJ, Bannon A, Roussos G, Kangarloo T, Terebaite V, Müller MLTM, Bhatnagar R, Adams JL, Dorsey ER, Cosman J. Metadata Framework to Support Deployment of Digital Health Technologies in Clinical Trials in Parkinson's Disease. Sensors. 2022; 22(6):2136.

Abstract

Sensor data from digital health technologies (DHTs) used in clinical trials provides a valuable source of information, because of the possibility to combine datasets from different studies, to combine it with other data types, and to reuse it multiple times for various purposes. To date, there exist no standards for capturing or storing DHT biosensor data applicable across modalities and disease areas, and which can also capture the clinical trial and environment-specific aspects, so-called metadata. In this perspectives paper, we propose a metadata framework that divides the DHT metadata into metadata that is independent of the therapeutic area or clinical trial design (concept of interest and context of use), and metadata that is dependent on these factors. We demonstrate how this framework can be applied to data collected with different types of DHTs deployed in the WATCH-PD clinical study of Parkinson's disease. This framework provides a means to pre-specify and therefore standardize aspects of the use of DHTs, promoting comparability of DHTs across future studies.

Read the full publication here.