Development of machine learning: derived mhealth composite biomarkers for trial@home clinical trials
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Stellingen behorende bij het proefschrift

1   mHealth devices offer a unique opportunity to capture real-world, continuous health data and provide a more nuanced, objective, and sensitive understanding of disease patterns and treatment effects. *(Chapter 1 of this thesis)*

2   The integration of diverse data types from mHealth devices, including physiological and behavioral signals, enables a more comprehensive understanding of disease states than conventional single-parameter biomarkers. *(Chapter 3 of this thesis)*

3   In evaluating Major Depressive Disorder, a comprehensive understanding necessitates integrating patient-reported outcomes with objective data to capture the full spectrum of symptom severity and treatment effects, underscoring the importance of the patient's lived experience. *(Chapter 5 of this thesis)*

4   The creation of new gold standards for evaluating mHealth devices is crucial to acknowledge and quantify the broader spectrum of symptom manifestations that traditional clinical benchmarks may overlook. *(Chapter 8 of this thesis)*

5   The variability in mHealth device data quality and the need for standardization pose critical challenges for the clinical adoption of machine learning-derived biomarkers.

6   The complexity and interpretability of machine learning-derived biomarkers should be balanced to maintain both predictive accuracy and clinical usability.

7   Sustainable innovation in the industry of mHealth devices requires a careful balance between advancing clinical insights and thorough transparency.

8   The use of digital biomarkers by non-healthcare industries, particularly social media companies, necessitates stringent regulatory frameworks to prevent discrimination and the capitalization on individuals' mental or physical traits, ensuring ethical standards and privacy protection are paramount.

9   Regulatory measures regarding AI should prioritize individual privacy, consent, and the protection of public goods over the interests of tech companies.