Shaping the Value Equation in Digital Healthcare: A Case Study on Digital Neurorehabilitation

Axel Mühlbacher[1 2] , Ann-Kathrin Fischer[1 2]
[1] Health Economics and Health Care Management, University of Applied Sciences Neubrandenburg, Germany
[2] Gesellschaft für empirische Beratung, Affiliated institute of the University of Applied Sciences Neubrandenburg, Germany

Poster Session 2; PCR59

Background: *Value-based Competition*

Decision-making within a patient-centered healthcare system places emphasis on the value of interventions.

Problem: *Valuing Innovations*

Given the novel nature of digital interventions, new evaluation approaches are necessary.

Motivation: *Innovations in Neurorehabilitation*

New digital technologies in neurorehabilitation are undergoing extensive research to address the challenges posed by the rising number of stroke cases worldwide.

Research Question: *Value Equation for Digital Health*

How can the value equation for digital health interventions be utilized in neurorehabilitation by providing relevant information, assessing intervention impact, and identifying value criteria?

Method: *Triangulation*

Literature: Acceptance Criteria

January 2020 and February 2022.
Reports in acceptance theory in context of digital technologies and health.

Literature: Value Measures

August/September 2022.
Reports on evaluation criteria of digital health interventions.

Qualitative Interviews

Semi-structured interviews from March to September 2020. N=4 stroke patients (N=14) and neurorehabilitation experts (N=5).

Results: *Value Level-Where does value come from?*

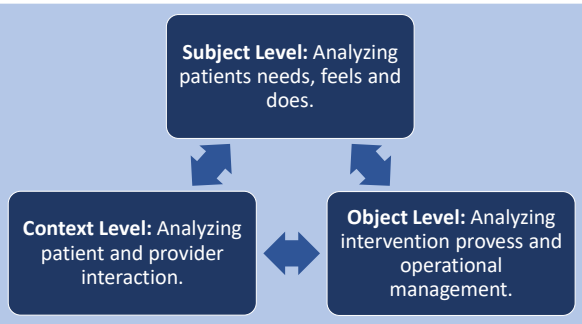

Figure 1: Dimensions of the Value Equation

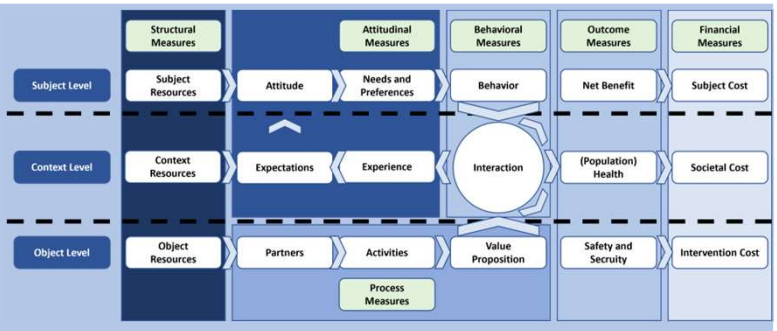

Figure 2: Value Equation, Value Measures and Value Criteria

Value Measures-How to model value?

1. **Structural measures** assess the infrastructure of a health system.
2. **Attitudinal measures** assess beliefs, perceptions, and attitudes related to health, disease, or intervention.
3. **Behavioral measures** provide insights into the performance, as they assess actual behavior.
4. **Outcome measures** can be characterized by net benefit, population health, safety and security.
5. **Financial measures** can provide valuable insights into the performance, as they help to assess the cost-effectiveness.
6. **Process measures** are metrics that assess the efficiency, effectiveness, and quality of intervention.

Case Study: Digital Neurorehabilitation

- The interviews aimed to analyze perspectives on digital neurorehabilitation.
- Participants prefer attributes that enables flexibility, individuality and extended access to healthcare to digital technologies.
- Findings highlight the multidimensional nature of therapy value, indicating that it goes beyond clinical outcomes.
- This suggests the need for a more comprehensive evaluation of net benefits, considering their societal and economic impacts.
- Additionally, literature reviews identify criteria for assessing value.

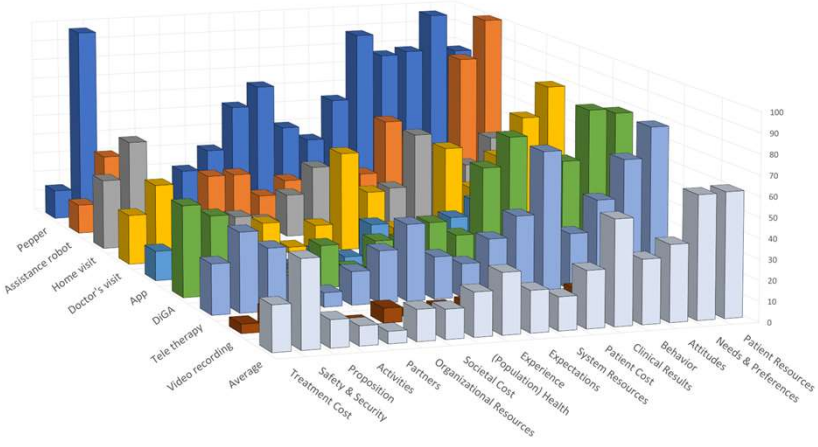

Figure 3: Valuing digital Neurorehabilitation

Discussion: *Value Equation*

- The high demand and use of digital technologies as a supplement to traditional rehabilitation underscore the necessity for a comprehensive assessment of multidimensional criteria for digital health interventions, ensuring that the evolving facets of digital health interventions are adequately addressed.

References: Available upon request; **Conflict disclosure:** The joint-project is funded by European Funds ESF, EFRE, ELER and the Ministery of Education, Science and Culture Mecklenburg-Vorpommern, Germany. Reference: ESF/14-BM-A55-0001/19-A01. The authors declare no conflicts of interests; **Institutional Review Board Statement:** The study was approved by the Ethics Committee at Hochschule Neubrandenburg (HSNB/177/21)