

Master Thesis

Refinement, Feasibility and Evaluation of an eHealth Application for Opioid Management in Palliative Care

In cooperation with Dr. med. Tobias Steigleder, Department of Palliative Medicine, University Hospital Erlangen

Background:

Patients in palliative care are often treated with opioids for pain relief. However, patients react very differently to opioid dosages. Furthermore, opioids can cause serious adverse reactions. As wrong dosages can lead to serious unwanted outcomes, this overall setting may potentially lead to prescribed dosage lower than anticipated, causing unnecessary pain for the patient.

While patients inside the clinic can be monitored closely, a „feedback“ channel is missing in at-home/ambulatory environments.

We developed an initial version of a smartphone application that opens a „feedback channel“ from the patient to the user during one of our Innolab projects. This app offers different features (questionnaires, examinations, biosignal analysis) to provide a closer monitoring in an at-home setting. We now aim to assess this application in larger study.

Task(s):

- Refine (i.e. improve) an existing smartphone application based on already collected and available user feedback
- Literature research of similar projects and studies
- Identification of relevant metrics and inclusion in study design
- Conduction of the study in close cooperation with the Department of Palliative Medicine

This thesis provides the unique opportunity to closely cooperate with the Department of Palliative Care (including potential „Hospitationen“ in the university hospital). Please note that this thesis requires a certain level of sensitivity with respect to the domain of palliative care.

Must-Haves:

- Basic previous full-stack development experience (Ionic, NodeJS, MySQL)
- German language proficiency

Contact:

Michael Nissen
Machine Learning and Data Analytics Lab
Michael.nissen@fau.de

Please include 2-3 sentences about your motivation, information about previous experience in full stack development, a CV and transcript of records in all applications.