**General context**: Factors of everyday life affect a person’s health greatly, such as nutrition, physical activity, stress etc. However, health problems are usually only addressed in the hospital, rendering this approach highly inefficient. Such diseases as cancer are usually only detected in its later stages when patients start having serious symptoms. The later a cancer is being detected and treated, the fewer are the chances of an uncomplicated therapy and healing.

Providing visibility to healthcare professionals about what patients are doing outside of the hospital, how various factors are affecting their health, can be highly important. If patient generated data can be directly synced to electronic health records, then doctors can monitor patient activities, such as step counts or heart rates, without seeing the patients. They can spot trends within their patients’ populations, which would result in reducing healthcare costs and increasing personalized preventive medicine accuracy. The early detection of cancer highly increases the chances of healing and a full recovery.

**Thesis**

**Title**: Effectiveness and acceptance of wearable sensors in prediction and early detection of cancer.

**Problem**: There is not enough academic overview and general knowledge about the implementation of wearable sensors in early detection of cancer. Even though many studies have arisen in the past decade regarding usage of wearables in healthcare, few have provided a summary and main indications of current studies and research in this field. Furthermore, only few qualitative and quantitative studies have been conducted, regarding the user, in this case patient, acceptance of wearable sensor technology in cancer prevention.

**Research questions**: To what extent can wearable sensor technology accurately detect early signs and symptoms of cancer? What are the factors influencing patient compliance with wearable device use?

**Objective**: To thoroughly research state-of-the-art technology and implementation of wearable devices in preventive healthcare, in form of a scoping review. In addition, to conduct a patient survey on wearable device (e.g., smartwatch) usability and technology acceptance.

<https://www.mdpi.com/2075-4426/12/11/1792>

<https://www.mdpi.com/2072-6694/15/6/1775>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9263785/>