

## **Blog post EMODA – LUCIA February 2024**

### **Data-Driven Healthcare: The LUCIA Project's Vision for Precision Screening in Lung Cancer**

The LUCIA project is an initiative exploring innovative approaches to understanding the risk factors of lung cancer in the dynamic world of healthcare. Our aim is to revolutionize diagnostics methods by adding valuable knowledge to the complexity of lung cancer.

LUCIA is taking significant steps to reshape our understanding and care of health in relation to lung cancer. One of these moves involves blending a Digital Biobank and an intelligent software system into a powerful health data platform.

What does this platform do? It collects, analyzes, and uses health information from the past and future.

#### **Understanding Lung Cancer: A Dive into the Data**

As we embark on this crucial work, we are embracing mobile health (mHealth) apps designed for both patients and clinicians. These apps go beyond being data tools; they collect emotional, lifestyle, and physiological data, providing a deep understanding of lung cancer risk factors. From diet and exercise to emotions and daily habits, every piece of data contributes to our comprehensive analysis.

#### **Connecting the Dots: LUCIA's Health Data Platform**

Imagine LUCIA's health data platform as where everything fits together seamlessly. It processes information from the past and future, including exposure data. We call it a virtual Data Lake because it is like a digital repository of information ready for studies and building advanced AI models.

#### **Precision Screening: Patients mHealth App**

For citizens and patients, LUCIA's application serves as a helpful hub, effortlessly collecting crucial health details, simplifying data gathering, and delivering useful notifications. It adeptly manages messages, alerts, and lifestyle information while providing users with the ability to organize their health records.

The combined power of LUCIA's mHealth app and the Wide-spectrum-biomarker multi-use sensing patch (WBSP) marks a major step forward in enhancing precision screening for lung cancer.

The collaborative efforts of LUCIA's mHealth app and the WBSP patch contribute significantly to advancing precision screening for lung cancer. Tailored for patients, the app easily works with the WBSP patch and can provide real-time insights,. This patch features three sets of sensors, checking various biomarkers from the skin's headspace, sweat, and interstitial fluid.

In essence, LUCIA is about taking concrete steps in healthcare. It is about understanding and addressing the nuances of lung cancer risk factors and reshaping the future of healthcare through responsible data practices. Stay tuned as we continue this journey of discovery, one step at a time.



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