

NOVEL PREDICTIVE BIOMARKER ASSESSMENT

Identification of novel predictive biomarkers to enable early diagnosis and classification of patients with melanoma, NSCLC, and bladder cancer



Company Overview

A leading pharmaceutical company offering unique ways to treat oncology patients.

Industry

Medical/Pharmaceutical

Number of Employees

Over 1000 employees

Location

Alpharetta, GA, USA

CHALLENGE

Patient-level health records often contain unstructured or semi-structured data, making it challenging to extract, normalize, and annotate data points due to the variability of text formats, abbreviations, and medical jargon. Melanoma, NSCLC, and bladder cancer are heterogeneous diseases with various subtypes and clinical presentations. Capturing the diversity and nuances of these cancers within the EMRs poses a challenge for accurate classification. The project aims to discover novel predictive biomarkers for early cancer detection and classification, leading to improved patient outcomes through tailored therapeutic interventions.

SOLUTION

Maxis Clinical Sciences (MCS) utilized a comprehensive dataset of patients diagnosed with melanoma, NSCLC, and bladder cancer. The dataset included a diverse range of variables, including patient demographics, medical history, clinical notes, pathology reports, and diagnostic findings. These data were anonymized, then standardized and normalized to ensure consistency. The SMEs mapped the variables and aligned data formats to facilitate meaningful analysis. Utilizing specific criteria, such as diagnosis codes and biomarker testing, patient cohorts were identified. The team at MCS then delved deep into the correlations between specific biomarkers (e.g., genetic mutations, protein expressions, clinical indicators) and disease outcomes.



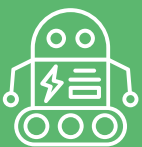
Novel biomarker prediction



Oncology data analysis and data-driven insights



Personalized treatment strategies, identify at-risk patients, timely interventions, and improve outcomes



AI/ML model for early diagnosis

OUTCOME

With the innovative use of RWE and advanced data mining techniques, MCS demonstrated the potential of utilizing advanced data mining and machine learning techniques to identify novel predictive biomarkers for early diagnosis and classification of melanoma, NSCLC, and bladder cancer. These models offered invaluable insights into potential biomarkers that can aid in personalized treatment strategies, identifying at-risk patients, initiating timely interventions, and enhancing patient outcomes. The company recognized the need for further research and validation on larger datasets and other cancer types to improve the discovery of additional predictive biomarkers and broaden the applicability in clinical settings.

BENEFITS

The study underscored the vast potential of using novel predictive biomarkers in the realm of oncology, spotlighting opportunities for early diagnosis and tailored treatment strategies. Leveraging AI/ML models, MCS established a robust mechanism for the prompt identification and classification of oncology patients, subsequently paving the way for timely interventions and improved patient outcomes.



"With the support of Maxis Clinical, we are moving closer to our goal of personalized medicine. Their innovative use of RWE and advanced data mining techniques has opened new avenues for early cancer diagnosis and classification. It is a step forward in our pursuit to improve patient outcomes."

-- Director of R&D

ABOUT MAXIS CLINICAL SCIENCES

Maxis Clinical Sciences is a pioneering integrated research competence center and specialized management consulting organization. We are dedicated to advancing drug development, healthcare equity, and digital transformation in the healthcare and life sciences sectors. As a strategic partner, we deliver customized, innovative solutions that align with our clients' unique goals. We are not merely providing resources; we are instigating transformation.

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