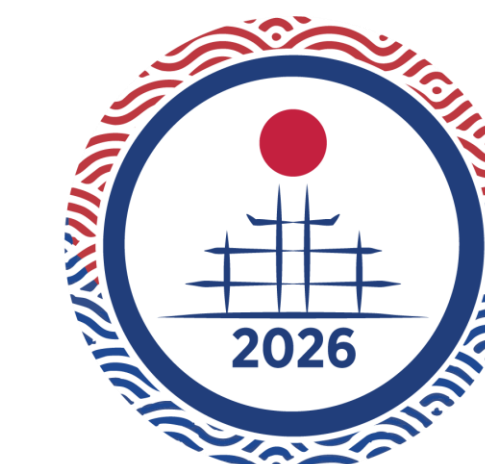


P1.378. L-CANDIS: Lung Cancer in the Population With Intellectual Disabilities in Spain

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INTRODUCTION

Lung Cancer (LC) is the major leading cause of cancer death in Spain, making prevention and early detection key public health priorities (1,2). However, these strategies must also address vulnerable groups, such as people with intellectual disabilities (PwID) a population of over 268,000 people in Spain. PwID represents a population with high tobacco exposure: 45% compared to 21% non-PwID population (3) and remains underrepresented in health education programs and epidemiological registries. Despite existing epidemiological studies, there is currently no data on LC prevalence, stages at diagnoses, mobility and mortality and treatments received for PwID in Spain.

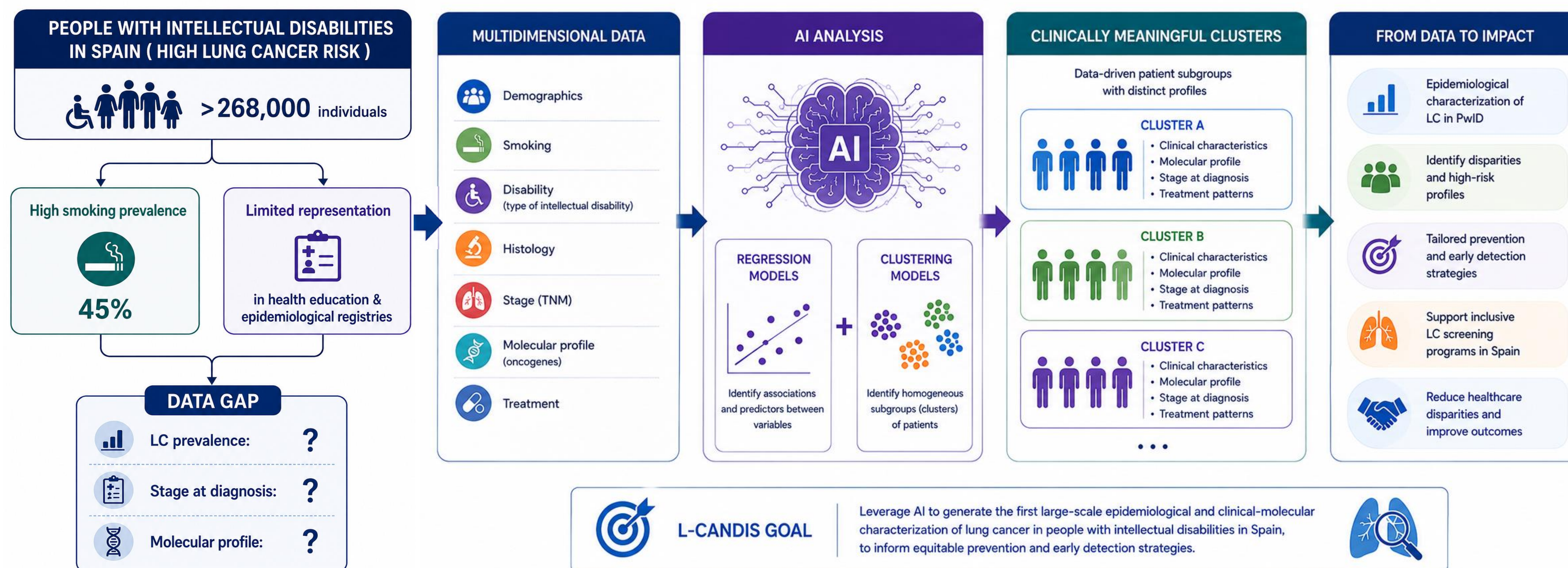


Figure 1.

METHODS

This ongoing project aims to:

- 1) Determine the prevalence of LC among PwID using data from public hospitals in recent years.
- 2) Develop proposals for risk reduction and early detection programs specifically adapted to this population.

A collaboration agreement has been established with a public database (PADRIS). The appropriately anonymized data will be collected within a clinical framework. The clinical data (age, sex, smoking history), the presence of different types of intellectual disability, as well as variables associated with LC (histology, TNM stage, associated oncogenes) will be collected (Fig.1) Artificial intelligence (AI) methods (i.e: regression and clustering models) will be used to identify patterns (LC subtypes associated with specific disabilities, age at diagnosis, tumor stage, and treatments received). The quality indicators of the collected data will be evaluated according to specific parameters (completeness, validity, uniqueness, integrity, accuracy, consistency, timeliness, and data representation). Using the statistical analysis of the data obtained, unsupervised model training (regression and clustering models) will be applied to identify patterns and relationships within the data. Regression models (simple or multiple linear) will be used to search for correlations between variables. Clustering models will aim to group a dataset into homogeneous subsets (clusters). The resulting clusters will be subjected to internal validation (Silhouette index, Calinski-Harabasz index, and Davies-Bouldin index) and external validation (F-measure, error rate). These findings will help design targeted early diagnosis strategies in the future for PwID as seen in Figure 1.

EXPECTED RESULTS

This ongoing study is expected to provide the first large-scale epidemiological characterization of LC in PwID in Spain. Based on prior international evidence and known healthcare disparities, we anticipate identifying differences in stage at diagnosis, with a higher proportion of advanced-stage disease in PwID compared to the general population. Additionally, distinct clinical and molecular patterns may emerge, potentially associated with specific types of intellectual disability.

DISCUSSION AND CONCLUSION

L-CANDIS is intended to describe disparities and to identify PwID who are at risk to develop LC. L-CANDIS is included within a main project (the Explora't Project) with the final goal to develop tailored prevention and early detection strategies for this vulnerable population in Spain.

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