

# Using Artificial Intelligence (AI) to Predict Mild Cognitive Impairment (MCI) in Cognitively Unimpaired Individuals

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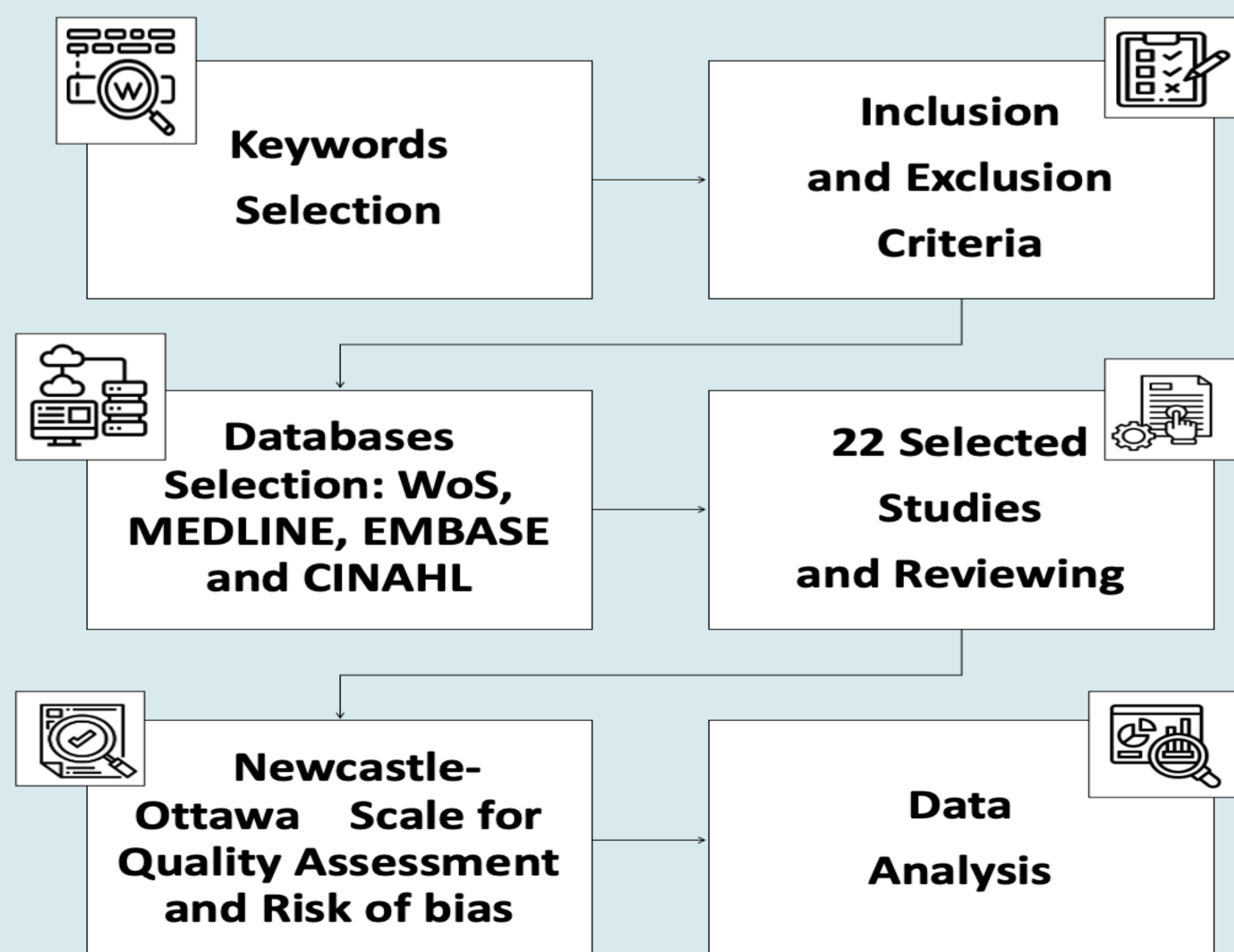
## Introduction

- Mild Cognitive Impairment (MCI) is cognitive changes that are serious to be noticed by the surroundings but do not affect the individual's ability to carry out everyday activities (1).
- Artificial Intelligence (AI) in healthcare refers to using advanced machine learning algorithms to analyse complex medical data and provide predictions based on patient status (2).
- Incorporating non-invasive predictors provides a cost-effective detection, potentially enhancing early intervention for high-risk groups.

## Aim

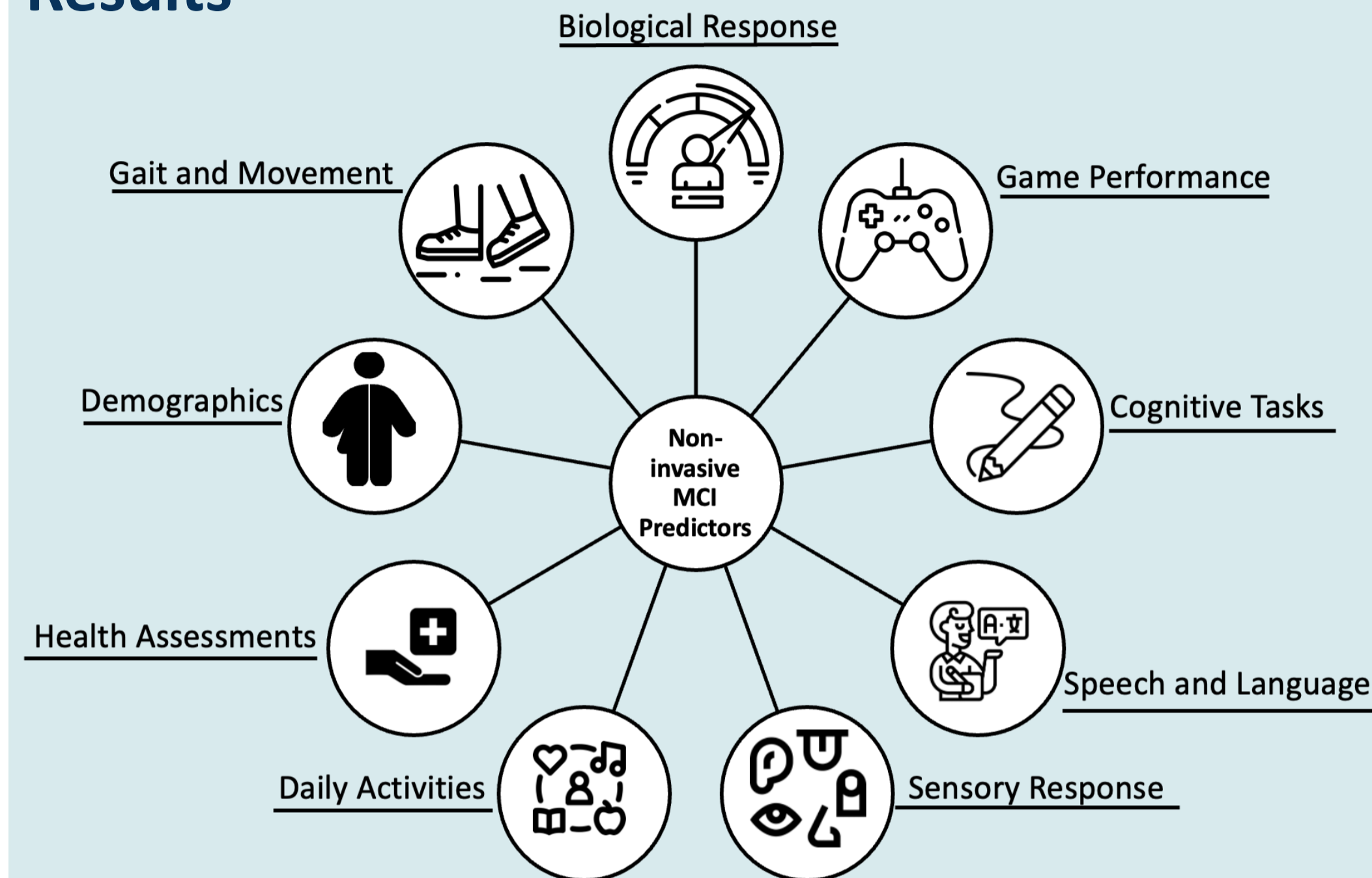
To determine the non-invasive predictors that can be used to train machine learning algorithms to assist clinicians in the early detection of MCI in healthy individuals.

## Method

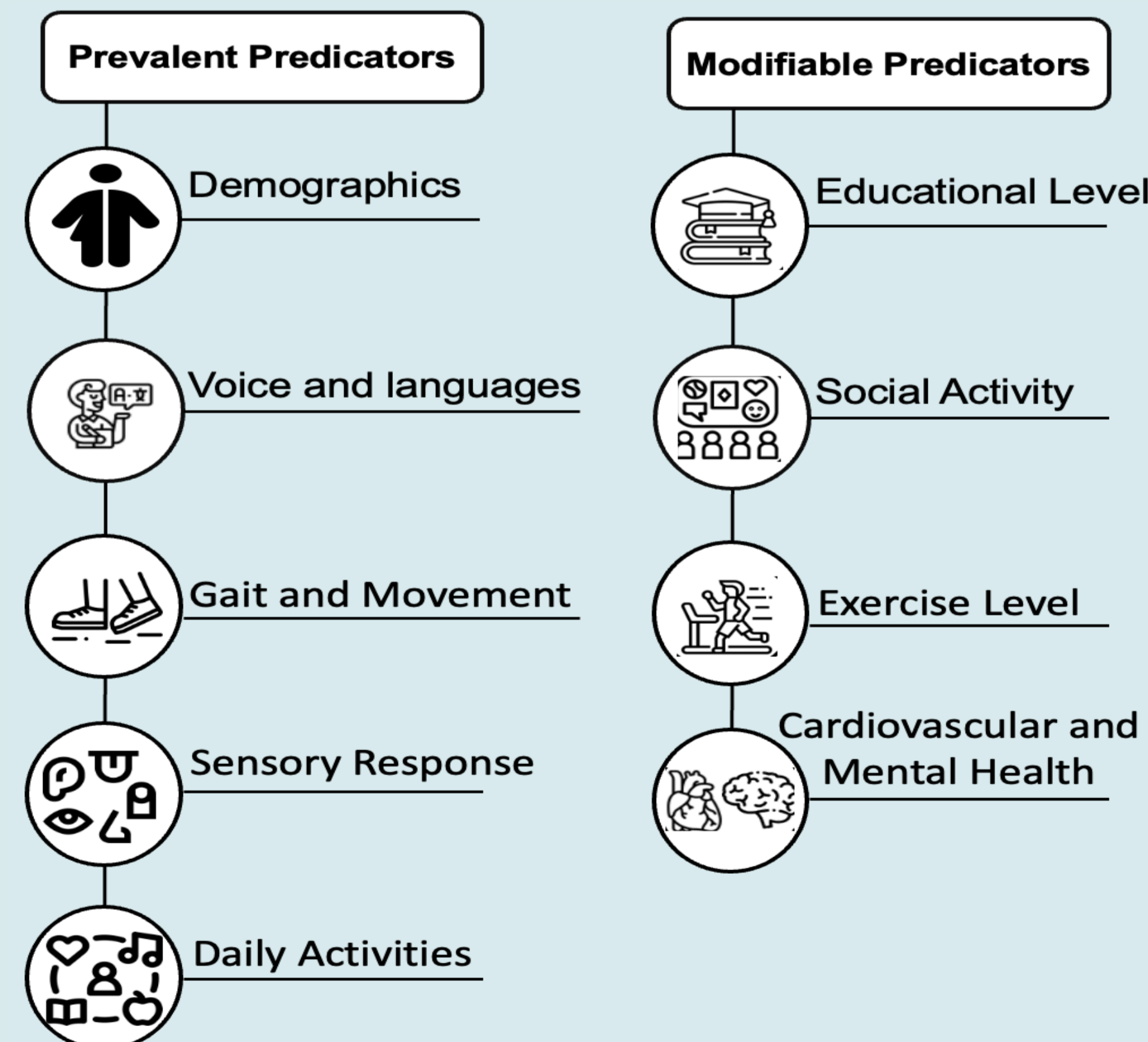


**Figure 1:** The research process of the 22 included studies.

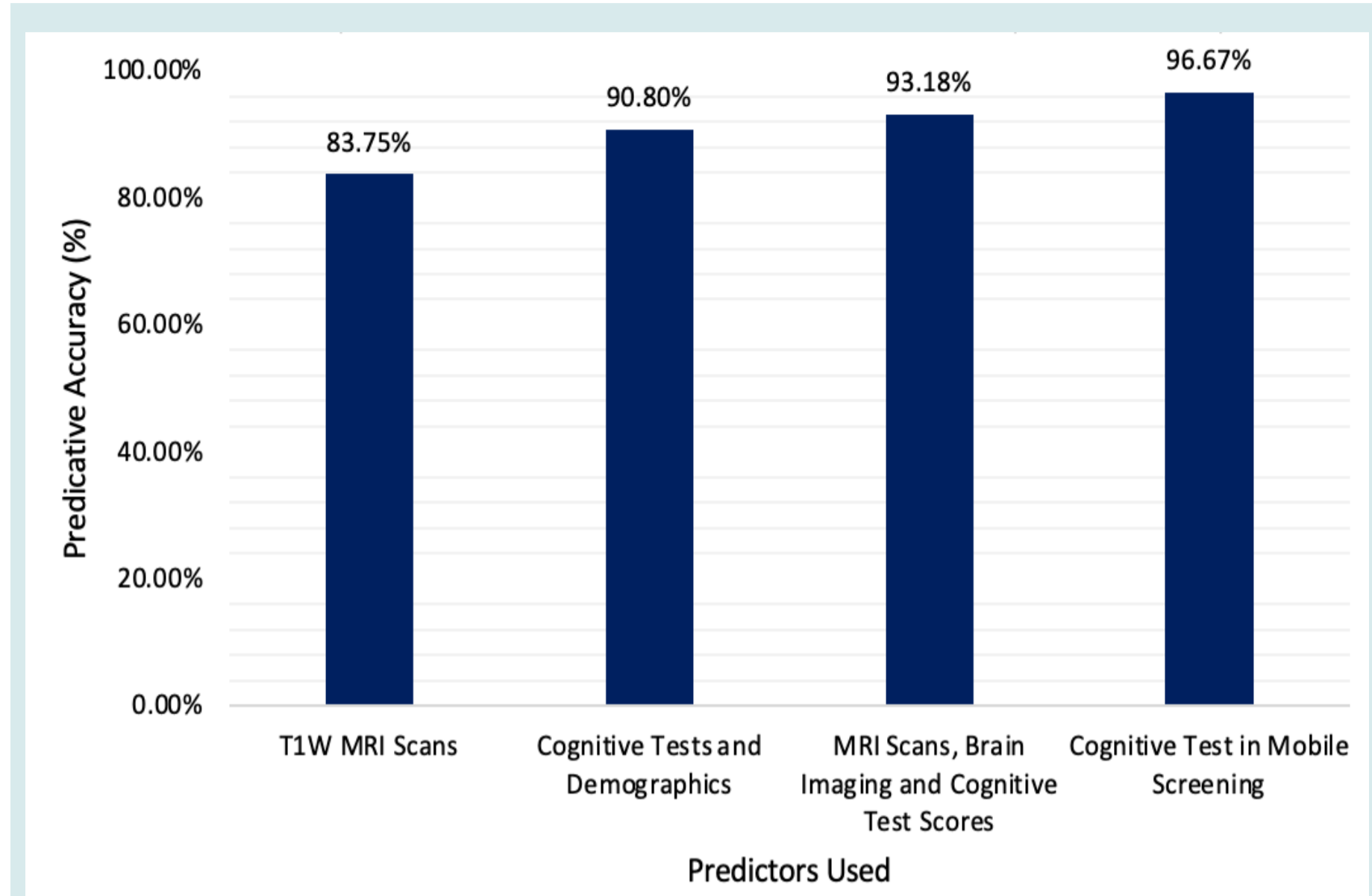
## Results



**Figure 2:** The categories of non-invasive mild cognitive impairment predictors in healthy individuals.



**Figure 3:** The most prevalent and modifiable predictors across the 22 included studies.



**Figure 4:** Bar chart representing the predicative accuracy percentage and predictors used between invasive and non-invasive predictors.

## Conclusion

- Non-invasive predictors offer a potentially highly accurate and cost-effective detection of MCI.
- Trained modules guide clinical decisions and provide early interventions to potentially prevent further neurodegeneration.
- Employing a larger sample size of MCI and healthy individuals can enhance the outcomes and reduce the risk of bias in future research.

## Reference

1. Bradfield NI. Mild Cognitive Impairment: Diagnosis and Subtypes. Clin EEG Neurosci. 2023;54(1):4-11. 2. Davenport T, Kalakota R. The potential for artificial intelligence in healthcare. Future Healthc J. 2019;6(2):94-98.

## Acknowledgement

Thank you to Prof. Sarah Slight, Dr. Riona McArdle, Nehal Hassan (PhD), Sarah Wilson (PhD) and Alya Al Rawi for supervising this project. Thank you to my colleagues Cristina De Newell and Wiktor Stachera.