

An Exploratory Methodology For Longitudinal Analysis Of Population Data Oriented To Dementia Detection

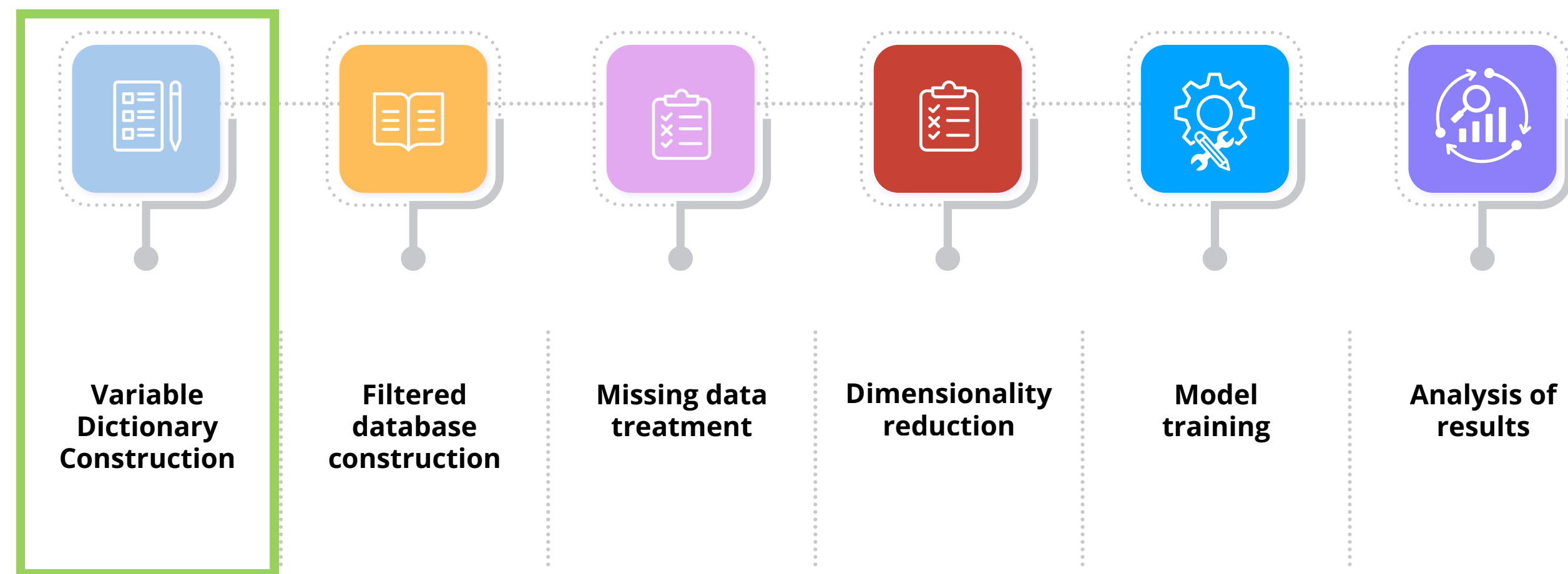
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Introduction

Mexico, like the rest of the world, is facing a projected increase in the number of dementia cases in the coming years [1]. The currently available therapeutic options for effectively treating dementia have not yet met expected outcomes [2]. In this context, prevention strategies and the development of public policies informed by systematic analysis of existing data play a crucial role in decision-making and in mitigating the impact of this growing public health challenge.

Methods

- Selection of the Mexican Health and Aging Study (MHAS) [3] dataset as the primary data source.
- Development of a methodology for building an AI model to identify behavioral patterns and anomalies associated with dementia trends.
- Adoption of a longitudinal design to leverage the temporal characteristics of the data over time.



Conclusions

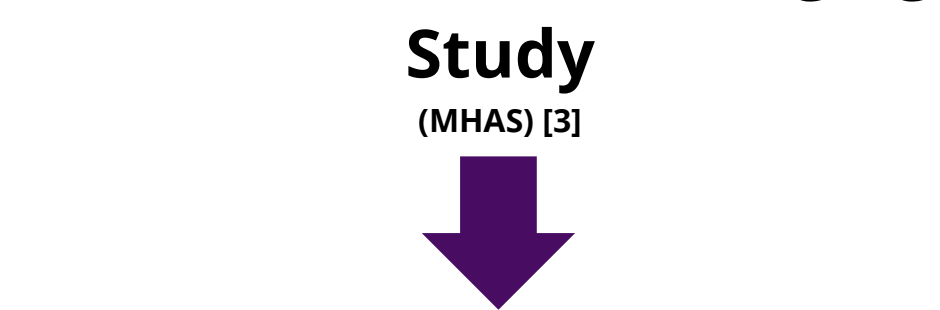
The proposed methodology highlights the importance of appropriate data treatment and clearly defined steps when using longitudinal databases under this approach. Limitations related to the structure of the dataset and to the longitudinal framework itself were identified, and potential analytical tools were also outlined.

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Results

Mexican Health and Aging Study (MHAS) [3]



Factors Identification

Modifiables

- Education
- Hearing loss
- Cholesterol
- Brain injury
- Physical activity
- Diabetes
- Smoking
- High blood pressure
- Obesity
- Alcohol consumption
- Social isolation
- Air pollution
- Vision loss

361 Questions

Remove Duplicates

Exclusion criteria:

- Proxy questions
- Deceased questions

151 Questions

Lancet Risk Factors [4]

Other Risk Factors

- Sleep [5]
- Falls [6]
- Hospitalization [7]
- Emergency room visit [8]
- Herpes Zoster vaccine [9]
- COVID-19 [10]
- Stress [11]

Non-modifiables

- Age
- Sex

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