

Cardiovascular Death Rate Capstone: Project Proposal

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1 Motivation and Problem

Heart disease has been one of the leading causes of death in the United States for decades.¹ An abundant variety of resources are available to help people understand their individual level of risk of cardiovascular health issues, as well as guidelines for reducing that risk. However, given the frequency, severity, and overall scale of cardiovascular health issues in the United States, a more macroscopic analysis of this public health crisis might provide some insight into less obvious contributing factors, and also how these factors could be addressed. To put this more succinctly;

If population demographic data can be used to model trends in cardiovascular death rate, what recommended course of action would the model suggest to address cardiovascular health issues, if any?

2 Potential Clients

The target primary audience for such a project would be individuals or organizations capable of introducing policies and implementing public health initiatives aimed at addressing any large-scale contributing factors identified by this work.

3 Data

Fluctuations in the annual rate of cardiovascular related deaths can be seen when examining data at the state and county level. Social and economic data are publicly available for these subsets of the national population from United States Census Bureau data bases.²

4 Approach

If a data set is constructed from a combination of CDC and Census data, **can a machine-learning model be built to predict changes in the rate of cardiovascular related deaths at the county level?**

¹<https://www.cdc.gov/nchs/fastats/deaths.htm>

²<https://www.census.gov/data/developers/guidance/api-user-guide.html>

5 Deliverables

The primary result of this project would be a recommended course of action to address national cardiovascular health issues on a large scale. This recommendation would be based on possible demographic and population factors for poor cardiovascular health, and the potential significance of these factors would be supported quantitatively by resultant data obtained from a machine learning modeling approach.