ENAR 2024 DataFest Project Report

Mailman School of Public Health at Columbia University

Yi Huang, Yiying Wu

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Abstract

This study used 1999-2020 National Health and Nutrition Examination Survey (NHANES) data to investigate hypertension risk factors in the U.S. adult population. We aim to identify the potential causes or correlates of worsening BP control among US adults with hypertension over the past decade. Logistic regression analysis incorporated multi-year dataset weighting and multiple imputations for missing data. Key variables included survey year, age, race, gender, BMI, diabetes, CKD, CVD, medication use, and hypertension awareness.

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1 Introduction

Effective blood pressure (BP) management is essential for reducing the risk of cardiovascular diseases. However, since 2013, there has been a concerning decline in BP control among U.S. adults with hypertension. Our study, utilizing data from the National Health and Nutrition Examination Survey (NHANES) from 1999 to 2020, investigates the potential factors contributing to this trend. The NHANES dataset, encompassing demographics, BP measurements, hypertension status, antihypertensive medication use, and co-morbidities of 59,799 U.S. adults, provides insight into the shifts in hypertension management over twenty years. We approach this analysis by handling missing data through multiple imputations and exploring relationships between various factors and BP control trends using logistic regression. The goal is to address the key elements linked to the decline in BP and enhance health outcomes for individuals with hypertension across the U.S.

2 Methodology

2.1 Weighting the Survey Data

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