

Trends in Stage 2 Hypertension Management in U.S. Adults: A Comprehensive Analysis (1999-2020)

YiyingWu, Yi Huang

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Introduction: Background

Background

- Hypertension is a leading risk factor for cardiovascular diseases, affecting public health worldwide and prominently in the U.S.

Problem

- Following an initial improvement in blood pressure control among U.S. adults with hypertension from 1999-2000 to 2007-2008, there was a stagnation and subsequent decrease post-2013 (Muntner P, et al., 2020).

Motivation

- This study is motivated by the need to investigate the reasons behind this decline and to identify factors contributing to the diminishing control of hypertension in recent years.

Study Objective

- Examining the trends, awareness, and medication use in stage 2 hypertension among U.S. adults.
- Assessing the impact of demographic factors and comorbid conditions on hypertension control.

Methodology

Methodology

- 1 Weighting and multiple year adjustment
- 2 Multiple Imputation to address missing data
- 3 Logistic Regression Models (Dobson, 2008):

Suppose there are n covariates $X_i, i = 1, \dots, n$, the model can be expressed as:

$$\log\left(\frac{\pi}{1-\pi}\right) = X\beta = \beta_0 + \beta_1 X_1 + \dots + \beta_n X_n$$

- π is the risk
- $\frac{\pi}{1-\pi}$ is the odds
- β_0 is the log odds for $X_i' s = 0$
- β_i is the log odds ratio per unit change of X_i , holding all other covariates fixed

Results

Results

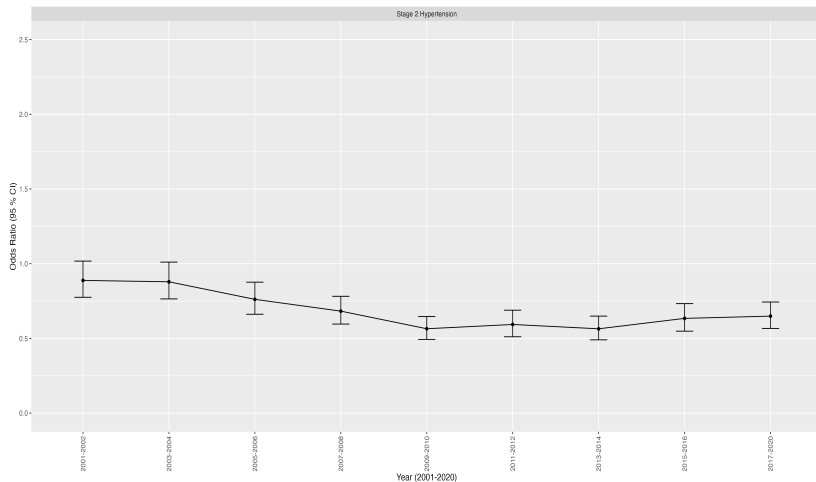


Figure 1: OR (95% CI) of Stage 2 Hypertension

Results

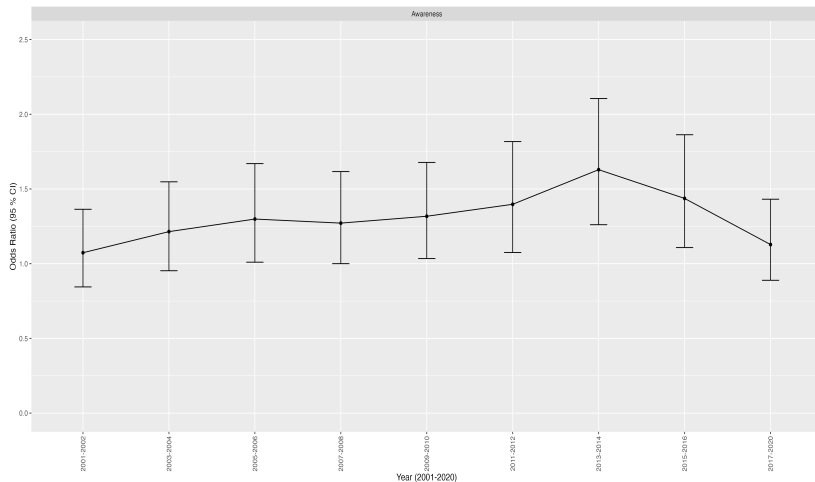


Figure 2: OR (95% CI) of Awareness

Results

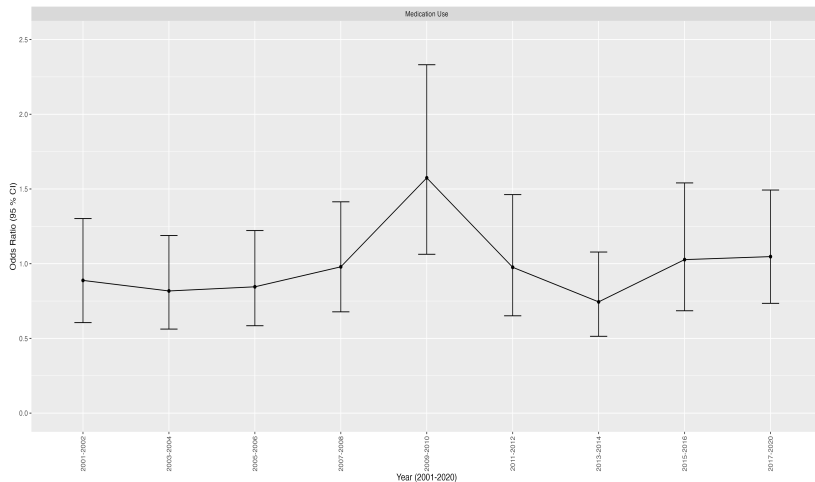


Figure 3: OR (95% CI) of Self-reported Antihypertensive Medication Use

Discussion

Discussion

References

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