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Patterns of Health Target Attainment Among Diabetes Patients

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Introduction

- This research can lead to the development of strategies to prevent and control health problems, particularly in vulnerable communities. By understanding how diseases spread and impact different groups, epidemiologists can contribute to improving health outcomes on a global scale.

Objective of the Study

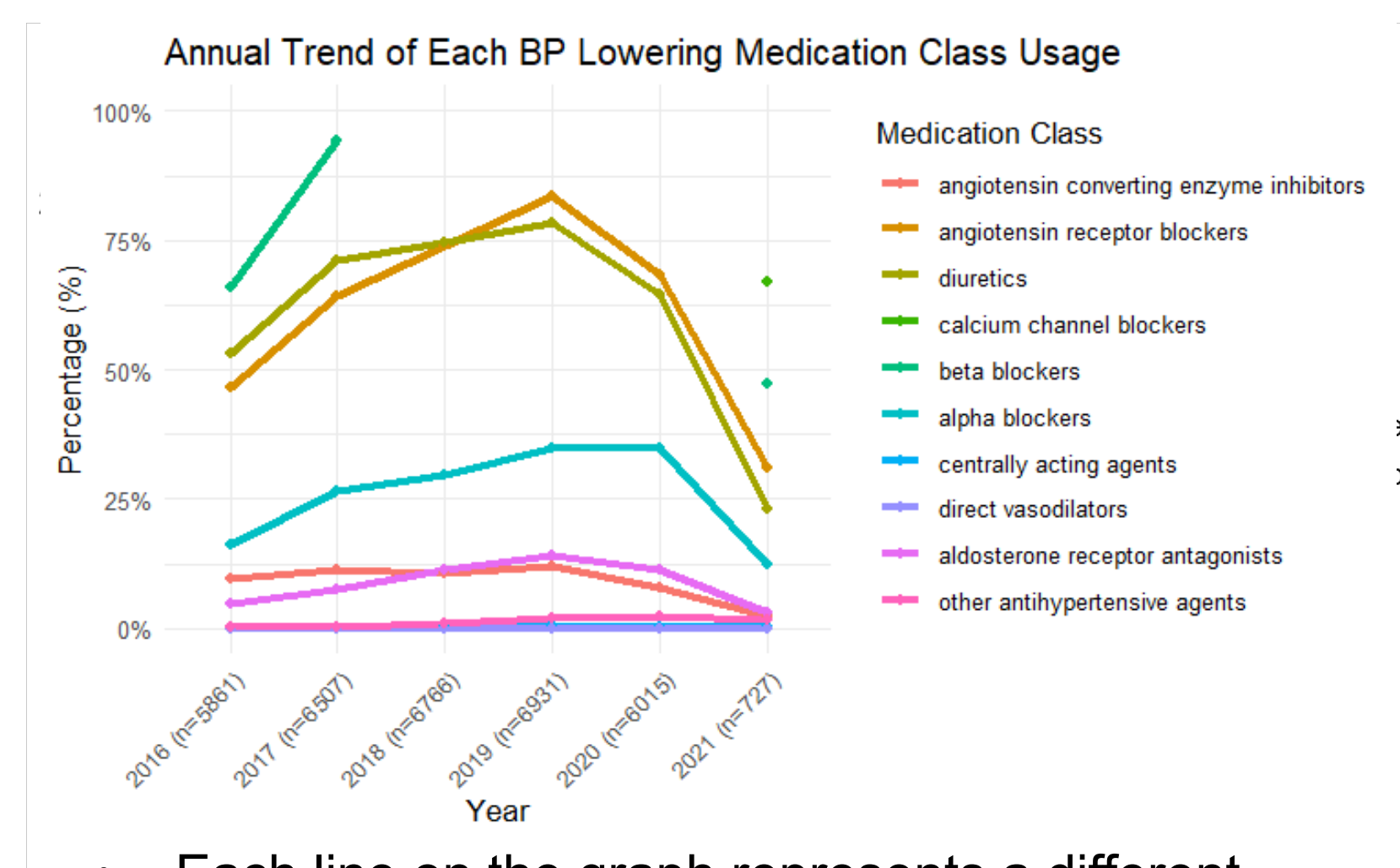
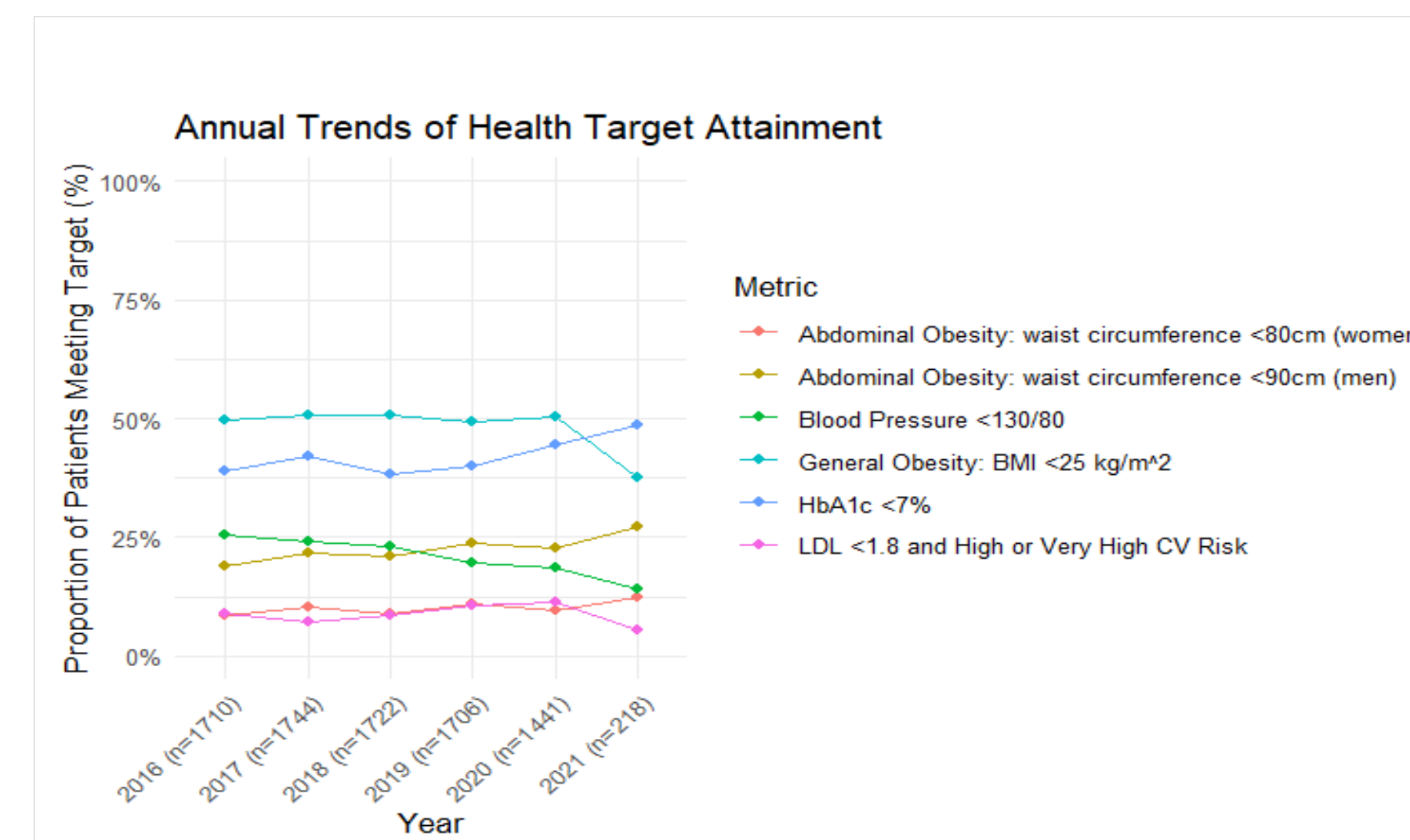
- The central objective of my study was to explore how various health targets, such as HbA1c levels, blood pressure control, and lipid management, were achieved across different demographic groups, including patients with and without different chronic conditions

Methods

- Utilized a robust dataset from the MeLODY study, which provided comprehensive patient information, including lab results, diagnoses, and demographic data
- Data cleaning and processing, followed by the application of statistical methods in R to assess the proportion of patients meeting specific health targets over a five-year period (2016-2021)
- Create summary tables and graphs that illustrated trends in health target attainment

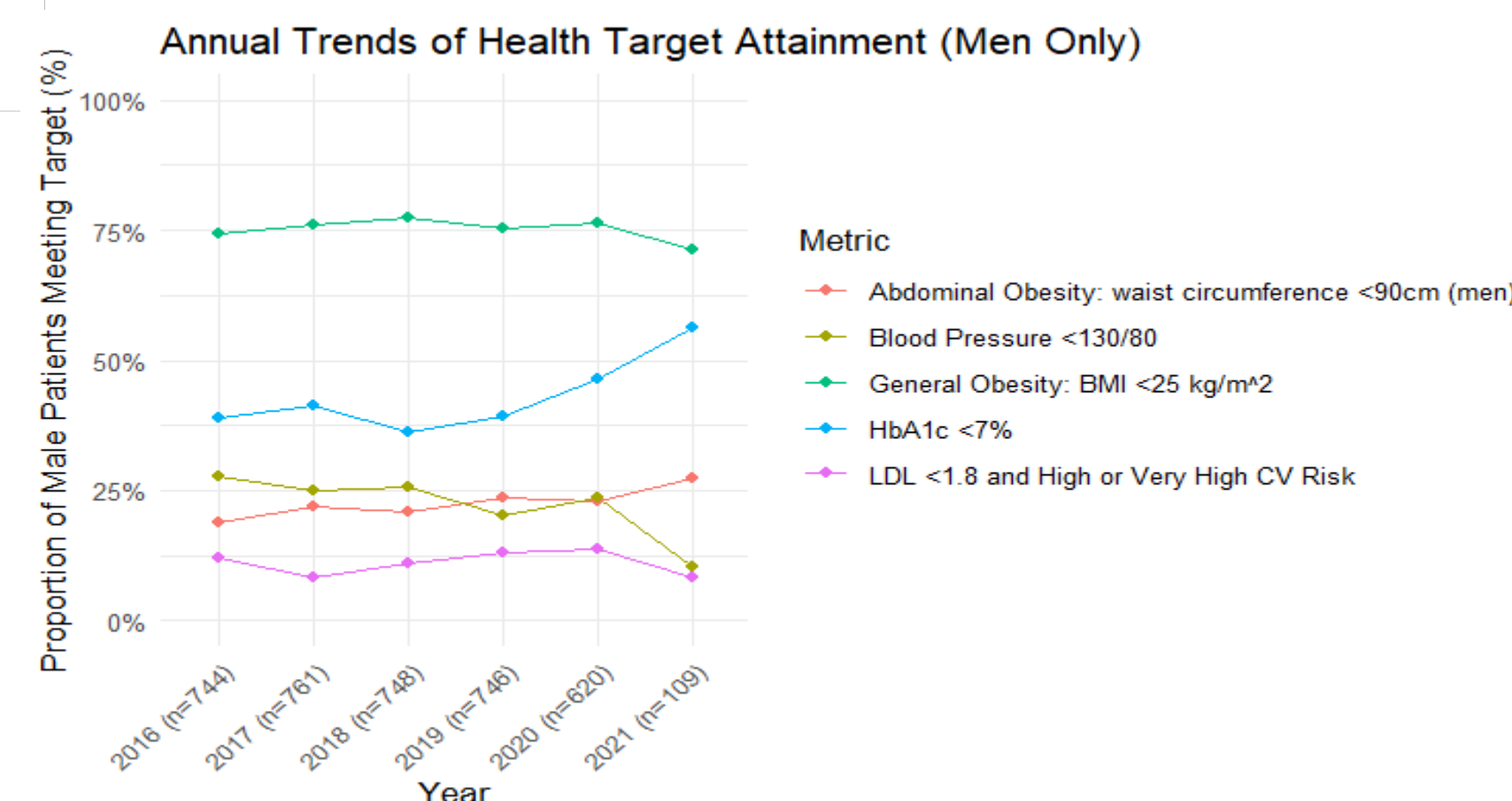
Results

- Each line on the graph represents a different **health metric**, with the y-axis showing the **proportion of patients in each year who met the target**
- Also looked at how these trends differed based on **gender**, the presence/absence of **CKD**, and the presence/absence of **CVD**
- Some fluctuation, stability over the years, proportion never > 50%



- Each line on the graph represents a different health metric, with the y-axis showing the proportion of **male patients** in each year who met the target
- A steady **increase** in the proportion of male patients attaining the target **Hba1c level** of <7%
- Compared to female patients, much **higher proportion of patients** attaining target **BMI** level of <25 kg/m^2

- Illustrates the proportion of patients using **different classes of blood pressure (BP) lowering medications** from 2016 to 2021
- Also looked at classes of glucose-lowering medication, lipid lowering medication, and antiplatelet medication
- Helps in understanding the **trends in medication usage**, which can guide future prescribing practices and ensure alignment with trends in health target attainment



Discussion

By analyzing patient data, including demographic factors, risk categories, and health targets, the hospital could better understand how well patients were managing conditions like diabetes and cardiovascular disease. Insights gained from this would allow them to identify areas where patients were not meeting health goals and to tailor interventions more effectively.

Questions

Why is it that a higher proportion of men (compared to women) were able to meet the target BMI of <25 kg/m^2?

Conclusion

- Patients with higher cardiovascular risk seem to have lower rates of target attainment, and the metric with the highest proportion of patients attaining the target level was general obesity

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