

## Problem Statement

The rising costs of medical care in the United States present a significant challenge for both healthcare providers and patients. Understanding the factors that influence these costs is essential for developing effective strategies to manage and reduce healthcare expenses. This analysis seeks to explore how various demographic and lifestyle variables, such as age, gender, BMI, smoking status, and region of residence, impact the cost of medical services.

**Objective:** To identify and quantify the relationships between medical costs and key patient characteristics in order to provide actionable insights that can inform healthcare policy and personal health management.

## Key Questions:

1. Which region has the lowest cost of medical care?
2. Which gender incurs the highest typical medical charges?
3. Is there a correlation between the number of dependents a patient has and their medical charges?
4. Is there a correlation between age and medical charges?
5. Do individuals with higher BMI have higher medical charges?
6. What is the relationship between smoking and medical charges?