**Reducing Stroke Risk Before the Age of 65**

**A graph of a number of people with different colored numbers

AI-generated content may be incorrect.**

Based on a dataset, **did you know that nearly 90% of stroke patients under the age of 65 are married?** Of course, that doesn’t mean marriage causes stroke, it’s a statistical reminder that correlation is not necessarily causation.

In healthcare, **age** **is one of the** **strongest predictors** **of** **stroke**, but while we cannot stop time, we can **prepare for the journey** into our golden years.

**Stroke is the leading cause of death in the U.S.**, and its risk rises steeply with age. But what happens before the age of 65? That’s the focus of this project.

**Project Goal**

Our goal is to identify the **top risk factors** **among patients under 65,** examine how these risks develop over time, and suggest **screening recommendations** that can help clinicians and public health leaders help patients under 65 **reduce their risk of stroke**.

By focusing on patients **under the age of 65**, we can temper down the dominance of age and gain clearer insight into **manageable and preventable** **risk factors**.

**Dataset Summary**

The dataset includes deidentified patient records with features:

* Age and Gender
* Medical history (hypertension, heart disease, BMI, and glucose level)
* Lifestyle factors (smoking, marriage history, work type, and residence type)

**Key Insights**

The top four medically alterable risk factors are heart disease, hypertension, diabetes, and smoking.

**Heart Disease**

* Highest in-group stroke rate of **13.54%**
* Accounts for **14.44%** of all stroke cases.
* Found in only **2.35%** of patients.
* Prevalence **increases six times** starting at age 34.

**Hypertension**

* Stroke rate of **5.97%**
* Can develop at **any age**.
* Nearly **25%** of patients have hypertension at age **55-64**.

**Diabetes**

* Stroke rate at **4.78%**
* Affects around **20%** of patients aged **45-54**.
* Presence rise to about **25%** at age **55-64**.

**Smoking History**

* Stroke rate at **3.79%**
* Former smokers’ stroke rate is **3.76%**, risk is **similar even after quitting**.
* **1 in 4** patients had a history of smoking by age **18-24**.

**Recommendations**

* Heart disease screening by age 35.
* Diabetes monitoring starting at age 25.
* Hypertension and smoking risk assessment and prevention as early as age 18.

**Closing Statement**

Stroke risk factors begin developing well before the age of 65. By screening early for heart disease, hypertension, diabetes, and preventing smoking, we can help patients take action before these risks compound into preventable medical emergencies.