

Framingham Risk Score Calculator plus WHO-ish scoring

Developing Data Projects, Course Project

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Abstract

The Framingham Heart Study is a long-term, ongoing cardiovascular study on residents of the town of Framingham, Massachusetts. The study began in 1948 with 5,209 adult subjects from Framingham, and is now on its third generation of participants. Prior to the study almost nothing was known about the "epidemiology of hypertensive or arteriosclerotic cardiovascular disease" or more commonly know as Cardiovascular Heart Disease (CVHD). Much of the now-common knowledge concerning heart disease, such as the effects of diet, exercise, and common medications such as aspirin, is based on this localized study.

Cardiovascular Heart disease (CVHD) has historically been considered a disease of the developed nations, such as the United States or England. However, CVHD is rapidly becoming the largest contributor to morbidity and mortality in growing "countries" where their economies have vastly improved. Evidence now supports a "global" view of patient care & treatment for CVHD, with diverse race/ethnic groups providing more & more detail. Furthermore, due to globally increasing mobility large race/ethnic minority groups arise in developed countries. As a primary prevention of CVHD there is a need to identify and treat high-risk individuals using risk prediction models.

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Methods

This shiny app extends the common variates found in the original Framingham Heart Study to include two substantially important variables published by World Health Organization (WHO):

1. Impacts attributed to Racial or Ethnicity
2. Prior medical history of CVHD (either self or parent) The analysis of variables identified by the original Framingham Heart Study include:

Patient Information:

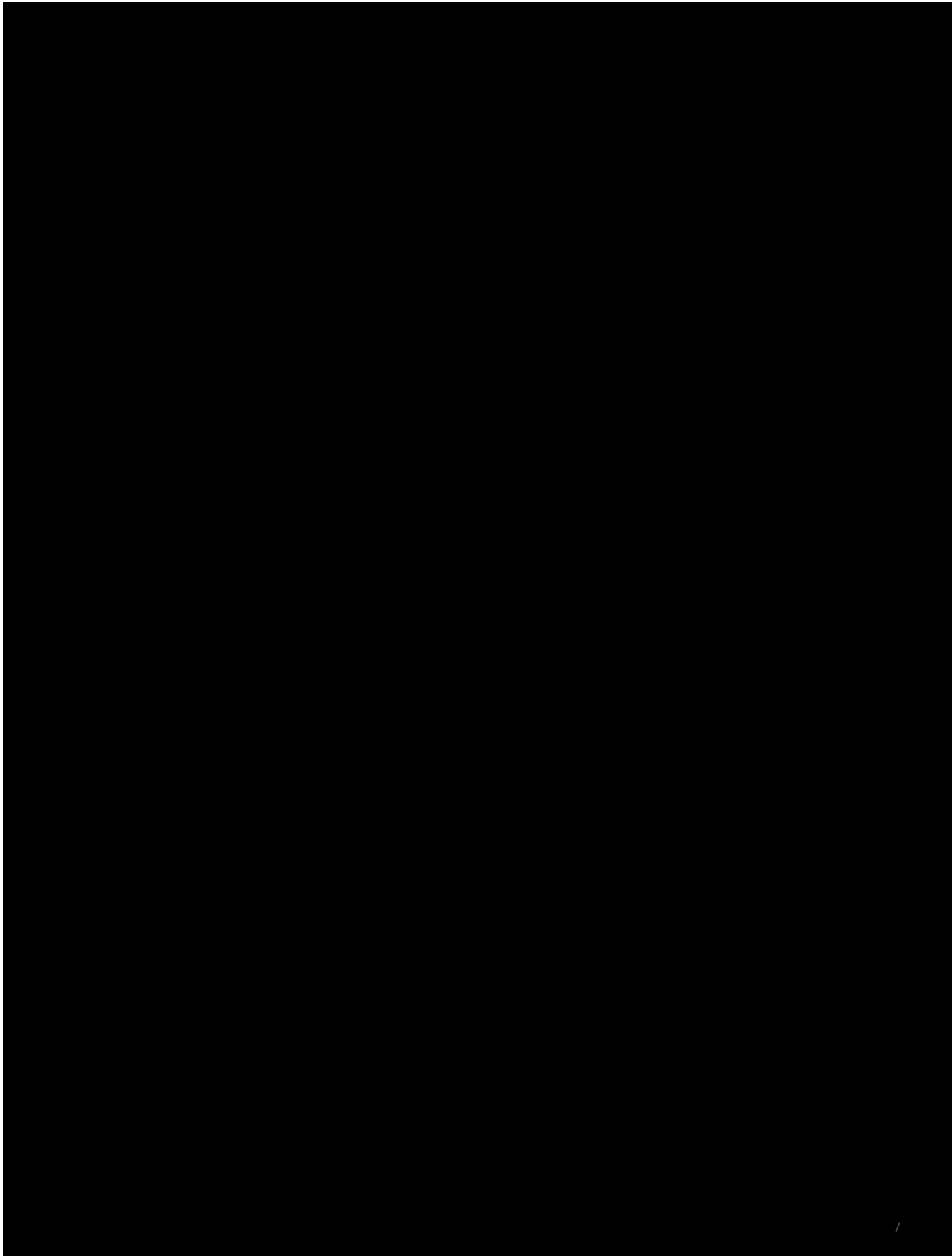
Sex (M/F), Age (19 >) grouped in varying intervals, Smoker (Y/N)

Medical or Lab Results:

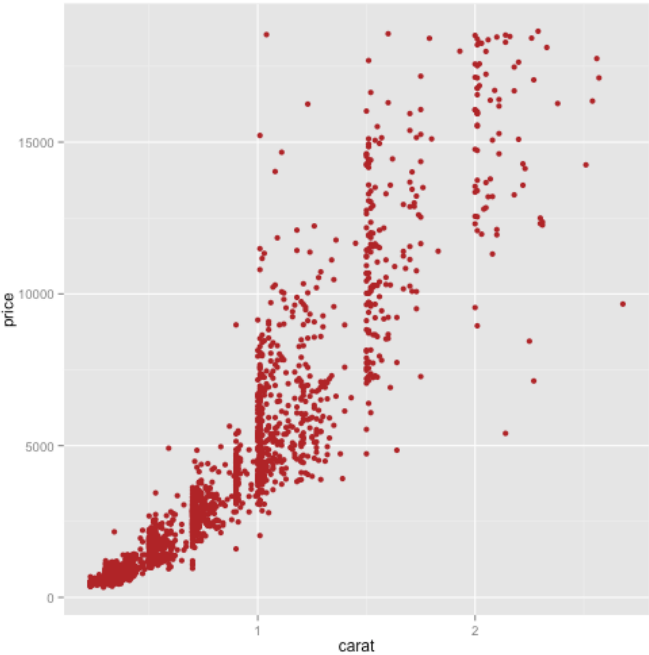
Systolic Blood Pressure (grouped in varying age intervals), Total Cholesterol (grouped in varying levels), HDL (grouped in varying levels), and Under going medical treatment (Y/N)

Who-ish Variables

Racial/Ethnicity (4 significant types) and Prior CVHD (Y/N)



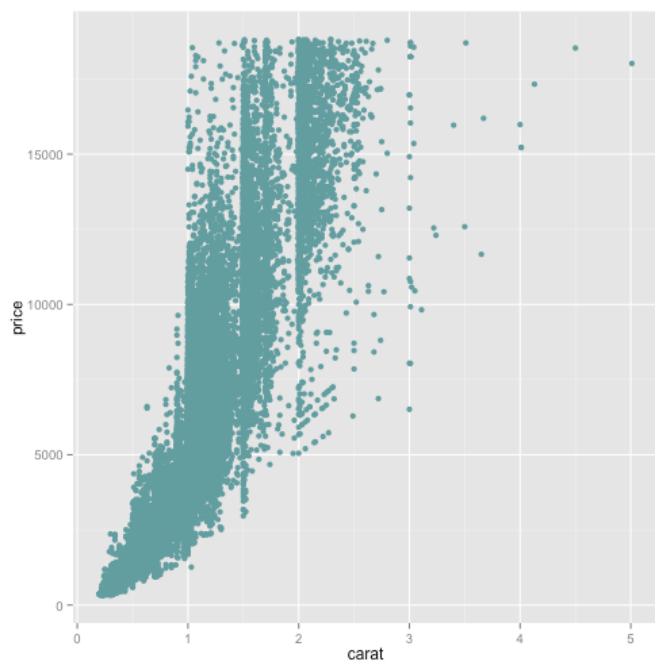
Slide 4



Two column example

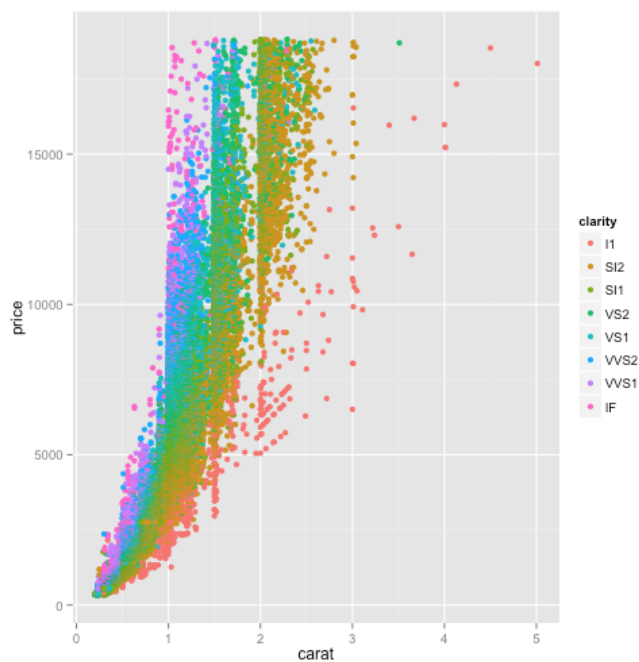
First plot

```
ggplot(diamonds, aes(carat, price))+geom_point
```



Second plot

```
ggplot(diamonds, aes(carat, price, color=clarity))
```



```
publish(title = 'mytitle', 'index.html', host =  
'rpubs')
```