

What is related to cardiovascular disease

1. Motivation

It is said that the cardiovascular disease has becoming much a problem for people in modern society, and people nowadays pay more attention to their cardiovascular health than before. Even if people started to review the problem and studied in search of a way to stay away from the cardiovascular disease, the situation doesn't seem to be relieved, the question I would like to research on is that if the situation of cardiovascular disease had been relieved and in addition, what might be related to the problem of cardiovascular disease. Furthermore, I would like to develop a way to predict the cardiovascular disease situation.

2. Hypothesis

cardiovascular disease is not totally independent of the characteristic of individuals. There assume no interdependence between the observation.

3. Method

First in order to evaluate the question whether the problem of cardiovascular disease become more or less troubling, I would transfer the question into numerical form, that is if the average percentage of the people with cardiovascular disease increased. Set up that as the null hypothesis, and pull out the data of several years for comparison(the data of average will be adjusted for more accuracy based on the sampling survey), and then test the null hypothesis for the result.

In the second stage, my goal would become to analyze the trend of the cardiovascular disease population. The three way of analysis that I come up now are time series analysis, regression analysis and recursive partitioning. In addition to that, in the method of recursive partitioning, I will analyze on the variable affecting the result of cardiovascular disease population,

and the choice of variables will be based on trial and error and valued by cross validation(I will change later if find any better method).

4. Starting Resources

- <http://cran.r-project.org/web/packages/rpart/index.html>
- http://en.wikipedia.org/wiki/Time_series
- <http://www.cdc.gov/nchs/nhanes.htm>
- http://en.wikipedia.org/wiki/Cardiovascular_disease
- http://en.wikipedia.org/wiki/Null_hypothesis