1. The Importance of Exploratory Data Analysis before the Use of Sophisticated Procedures

The note gave us an example that without doing exploratory data analysis, we may assume the data in a wrong way. And by using those assumptions, it leads to wrong results. By exploratory data analysis, we may observed missing data and structure of data. Therefore, we may do some other work to transform data so that it satisfies our assumption for models.

1. Exploratory data analysis of a clinical study group: Development of a procedure for exploring multidimensional data

This is a case study in clinical studies. In clinical study, there are many factors that are connected together and we also make assumptions for our models. We also need to know the differences among different features of each patients, e.g., gender, age, race, … . In order to get the full picture, we may need to do different types of data observations for even one features. If we do that carefully, we may obtains some important connections and it may lead to better contributions and our understanding for the problems.

1. Mining and exploring care pathways from electronic medical records with visual analytics

Visualization and finding the pattern of data are two of the most effective ways to understand our data. This paper, the authors created “Care Pathway Explorer”, a system that mines and visualizes a set of frequent event sequences from patient EMR data. The goal is to utilize historical EMR data to extract common sequences of medical events such as diagnoses and treatments, and investigate how these sequences correlate with patient outcome. By looking at the patterns of the data and its visualization aid, they could be able to discover new results that people have not thought about. This paper shows that even with a very effective model, if we do data exploratory well, we may even have a better result then expected.