Factors Correlated with Patient Mortality

SNIGDHA CHATURVEDI
LYNDSEY FRANKLIN
Datasets

- Two datasets
  - 4000 hospitals and 45 columns each

- First dataset
  - patient mortality and readmission information for Heart Attack, Heart Failure and Pneumonia

- Second dataset
  - medical procedures such as blood clot treatment, blood sugar control, beta-blockers usage etc.
Orange County Hospitals Crowded with Flu Shot Skippers

According to Mimi Reggentin, Program Manager at the Orange County Office on Aging: “...[M]ore than 34 percent of adults 65 and older in Florida did not get their flu shot during the 2010-2011 influenza season,”
Are beta-blockers overrated?

Mortality Rate (Heart Attack) versus Beta-blockers Usage

Color by:
- Comparison to US rate - Hospital 30-Day Death (Mortality) Rates from Heart Attack
- Better than US Rate
- No different from US Rate
- Worse than US Rate

Study published in Journal of American Medical Association Has similar findings

Percentage of Surgical Patients who were taking beta-blockers before and after surgery
Are beta-blockers overrated?

Comparison of beta-blockers usage in hospitals with low and high mortality rate (heart attack)

Color by:
Comparison to US rate - Hospital 30-Day Death (Mortality) Rates from Heart Attack
- Better than US Rate
- Worse than US Rate

Percentage of Surgical Patients who were taking beta-blockers before and after surgery
Researcher Petur Petursson states that: “Medical personnel can pretty much assume that coronary artery disease patients will have some kind of blood sugar disorder, so there must be established strategies for managing these disorders at every heart clinic in the country.”
Tool Critique

• **Spotfire**
  • Join datasets
  • Missing values
  • Numerous graph options
  • Adjusting font sizes and axes/legend properties
  • Default graph values

• **HCE and comparison with Spotfire**
  • Intuitive, red-green heat map
  • Scattergram
  • Selecting one or more clusters
Tool Critique

Cluster 1: Low readmission and patient numbers

Cluster 2: High readmission and patient numbers

Inverse Clusters
Thank you