

# PLOTLY AND DASHBOARDS

Jeff Goldsmith, PhD  
Department of Biostatistics

# Web-centric tools

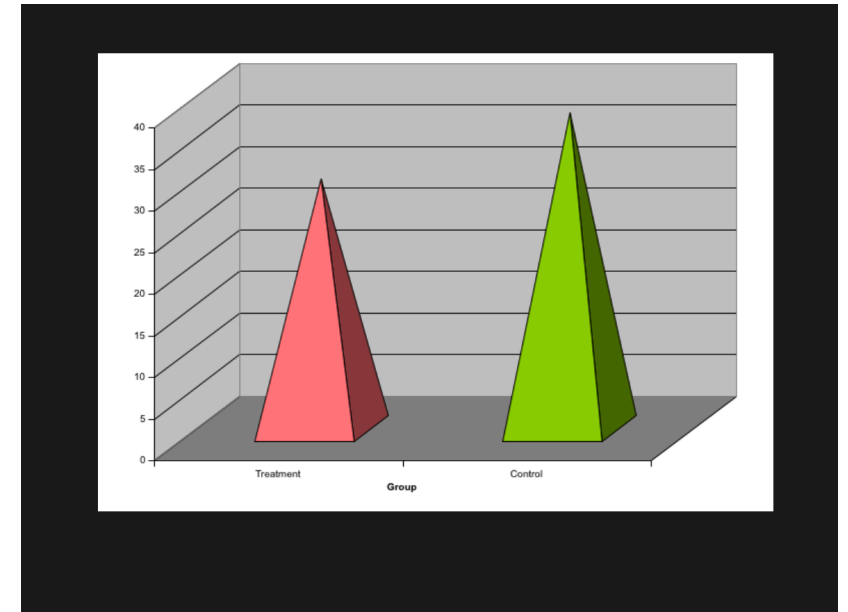
- Plotly provides a platform for online data analytics and visualization;
  - Built on of HTML, CSS, and D3.js
- Dashboards provide a way to summarize complex data in an easy-to-read format
  - Often built using HTML, CSS and other web-friendly platforms.
- Web-based platforms can be used locally or online

# Plotly

- `plot_ly` is an R implementation for the general plotly framework
- Interface is different from `ggplot`, but is based on similar ideas
  - Start with a dataset
  - Define mappings from variables to plot features
  - Specify plot type
- This is the “grammar of graphics” in **ggplot**

# Using plotly

- Interactivity is neat!
- Don't get carried away



Gratuitous interactivity looks like this

- I use interactive plots in a few contexts:
  - Complicated plots where zooming helps
  - When information (conveyed in a plot element or not) should be shown through hovering
  - When the ability to subset my data matters

# Dashboards

- Data dashboards are a whole thing now
  - Often web-based (or at least web-inspired)
  - Contain well-organized plots, tables, etc. with only a little text
- Goal is to convey a lot of information in a easy-to-understand format
  - Typically enable exploration by the user
  - Most useful for large, complex datasets
- More of a “deliverable” than an “exploratory product”
  - The plots embedded in a dashboard are deliberately chosen to be useful

# Dashboards

- Data dashboards are a whole thing, new

- Often
- Cont

- Goal is

- Typi
- Mos

- More o

- The



e text

nd format

osen to be useful

# Dashboards

- Data dashboards are a whole thing new

- Often
- Cont

- Goal is

- Typi
- Mos

- More o

- The



be useful

# Dashboards

- Data dashboards are a whole thing, new

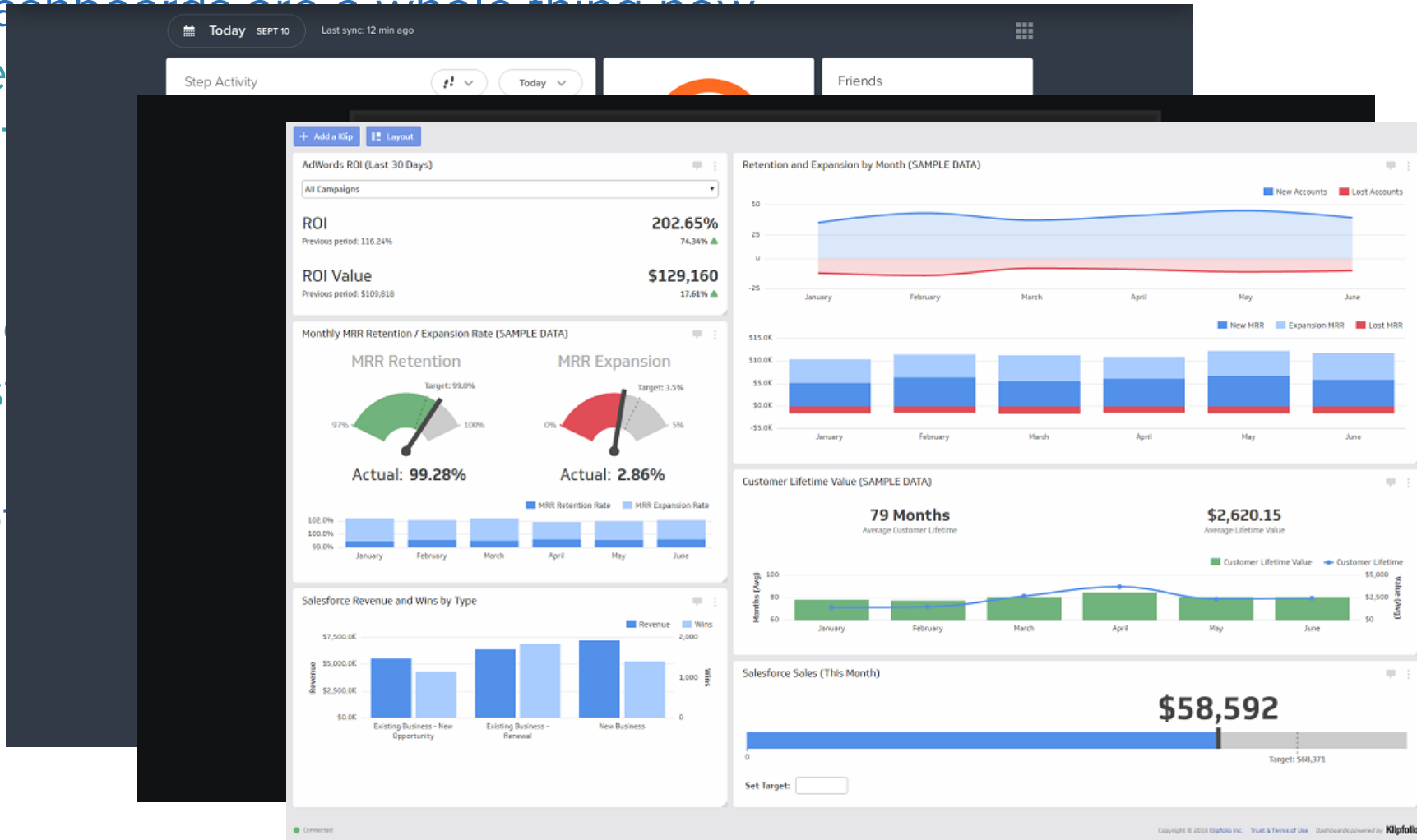
- Often
- Cont

- Goal is

- Typi
- Mos

- More o

- The



useful



# flexdashboard

- Sort of like when we talked about web-pages ...
- flexdashboard allows R Markdown to output a structured HTML file
  - You have to learn (or copy) elements for layout, but otherwise you're writing an RMD file
- Can host online as part of a webpage, just like any other HTML file produced by R Markdown
  - Create a GitHub repo + R Project
  - Put website stuff in it
  - Tell GitHub this is a website
  - ...
  - Profit?