Introduction to R for Data Management and Analysis

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Announcements

- Posted Google Doc for terminology
- Exercises will be submitted on BlackBoard

Notes on Thursday's lecture

- Interactivity
- Plotting Odds Ratios
    - Base graphics
    - ggplot2

Review

- Plotting systems in R
- base, lattice, ggplot2
- Exploratory Data Analysis
- Graphics device
    - the default window / pane for all your plots
    - save to external files (pdf, png, etc.)

Today's lecture topics

- Repetitive code
- `for` loops
- Functions
- Functionals and functional programming
    - `apply` family

Examples

- Replacing missing values with NA
- Using a `for` loop
- Using a `function`

for loops

- Repeat code a certain number of times
- for *<variable>* in *<sequence of numbers>* { }
- Each step is visible
- Purpose may not be immediately clear

Functions

- Extend the language
- Group operations for *ideally* one purpose
- *Pure* functions

Functionals

- An argument that itself is a function
- Many functions can accept other functions as an arguments
- Make coding more efficient and customizeable