RStudio

Introduction to R for Public Health Researchers

## RStudio

* "RStudio is an integrated development environment (IDE) for R."
* It helps the user use R.
* R, in essence is just the a console that takes commands from you typing into it
* Is NOT dropdown statistical tools (such as Stata)
* Snapshots taken from <http://ayeimanol-r.net/2013/04/21/289/>

## RStudio/R Console Console

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* Where code is executed (where things happen)
* You can type here for things interactively
* Code is **not saved** on your disk

## Script/Editor Script

## RStudio/R Script/Rmarkdown files

* Where files open to
* Have R code and comments in them
* Can highlight and press (CMD+Enter (Mac) or Ctrl+Enter (Windows)) to run the code
* Code is saved on your disk

## Workspace/Environment Workspace

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Workspace/Environment

* Tells you what **objects** are in R
* What exists in memory

History

* Shows previous commands. Good to look at for debugging, but **don't rely** on it as a script. Make a script!

## Other Panes

* **Files** - shows the files on your computer of the directory you are working in
* **Viewer** - can view data or R objects
* **Help** - shows help of R commands
* **Plots** - pretty pictures

## Other Panes - packages

* **Packages** - list of R packages that are loaded in memory
  + Packages are a set of functions written by R users
  + We write packages - some are good, some are not so good
* Think of them as "R Extensions"
* If they extend R, when you download R from CRAN, we (and others) refer to things as "base R"
  + We will show you how to do some things in base R, but also show you some newer (and more intuitive) ways to do things
  + You need base R, however, because when you Google for answers, they are commonly answered without any additional packages.

## Hadey Wickham

* Previous Assistant Professor of Statistics at Rice University
* Writes many R packages
* One authority on all things R
* Employee and Developer at RStudio
* I (John) trust almost all his packages
  + How to trust an R package: <http://simplystatistics.org/2015/11/06/how-i-decide-when-to-trust-an-r-package/>