Public Health Class with R Markdown

subtitle here

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Target Audience

Aim: Introductory

- Teaching Staff
- Student

Disclaimer

- Very simple slide
  - short learning curve
- Be creative!
- Try, try, try

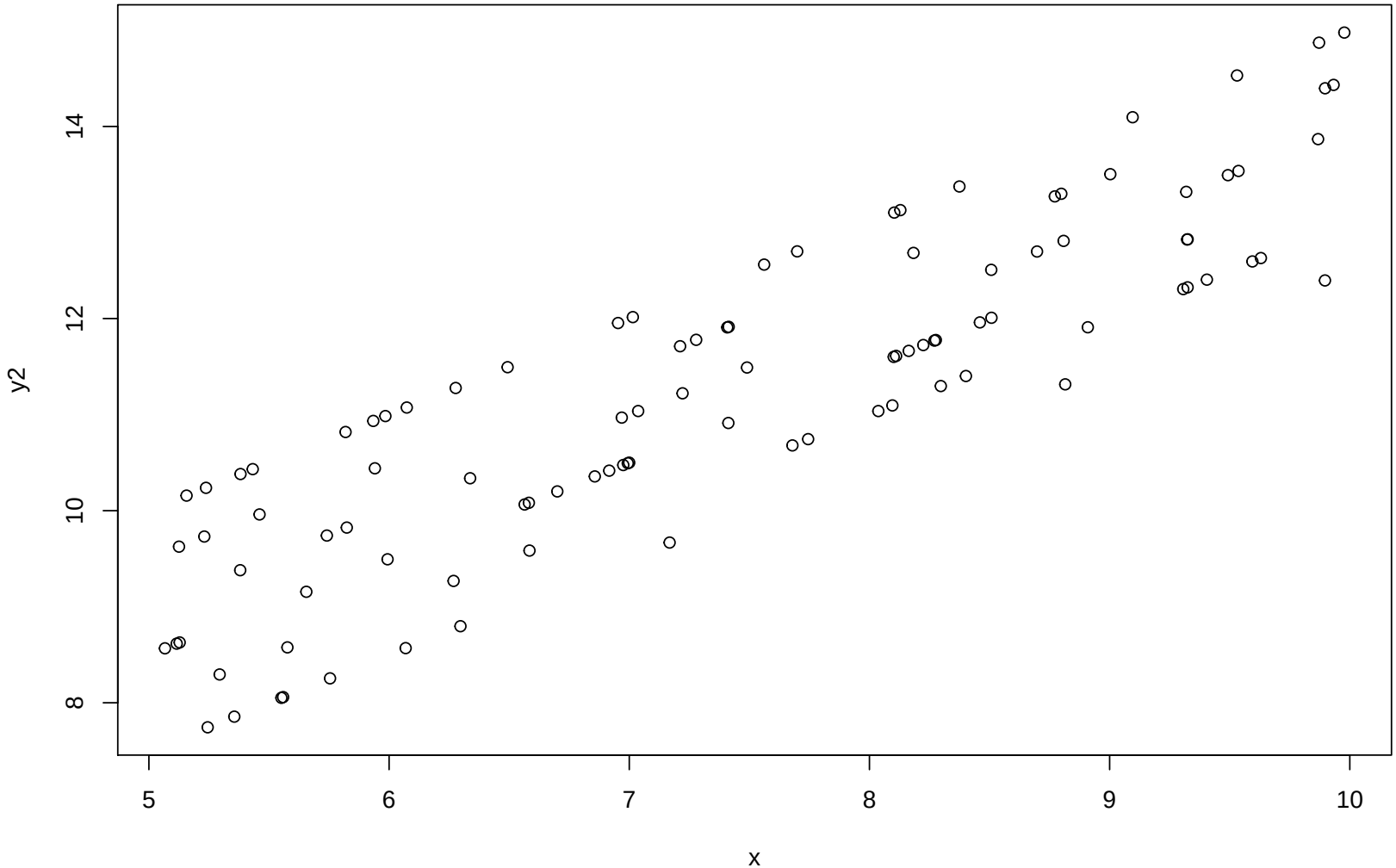
Motivation

- Statistic and Public Health
- Multiple output file for same purpose

Teaching Statistic

- fast, reproducible

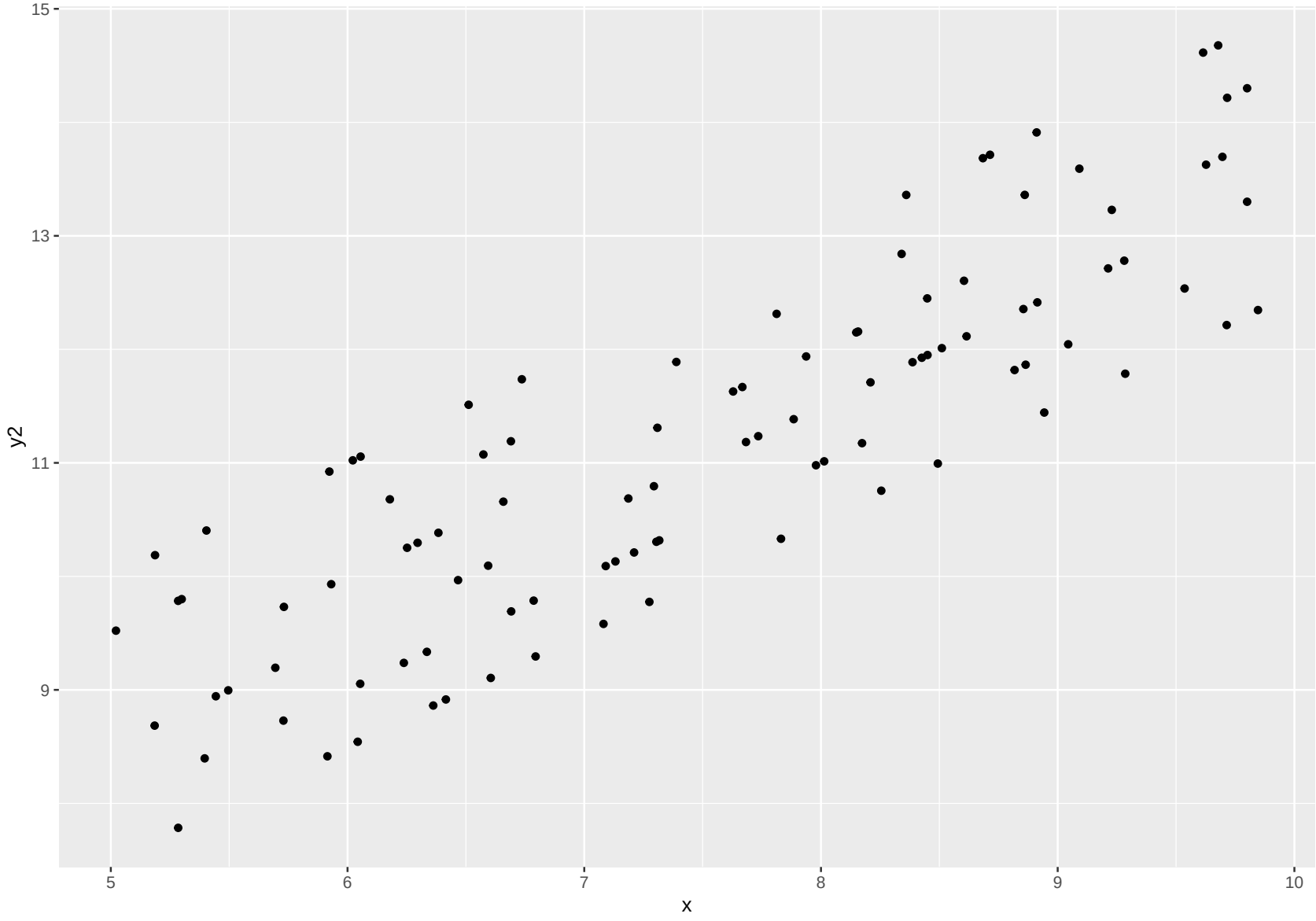
```
x <- runif(100, 5, 10)
y <- sample(5:10, 100, replace = T)
y2 <- (x+y/2)
fake <- data.frame(x,y,y2)
with(fake, plot(x,y2))
```


y2
8
10
12
14
5
6
7
8
9
10
x

Tidyverse

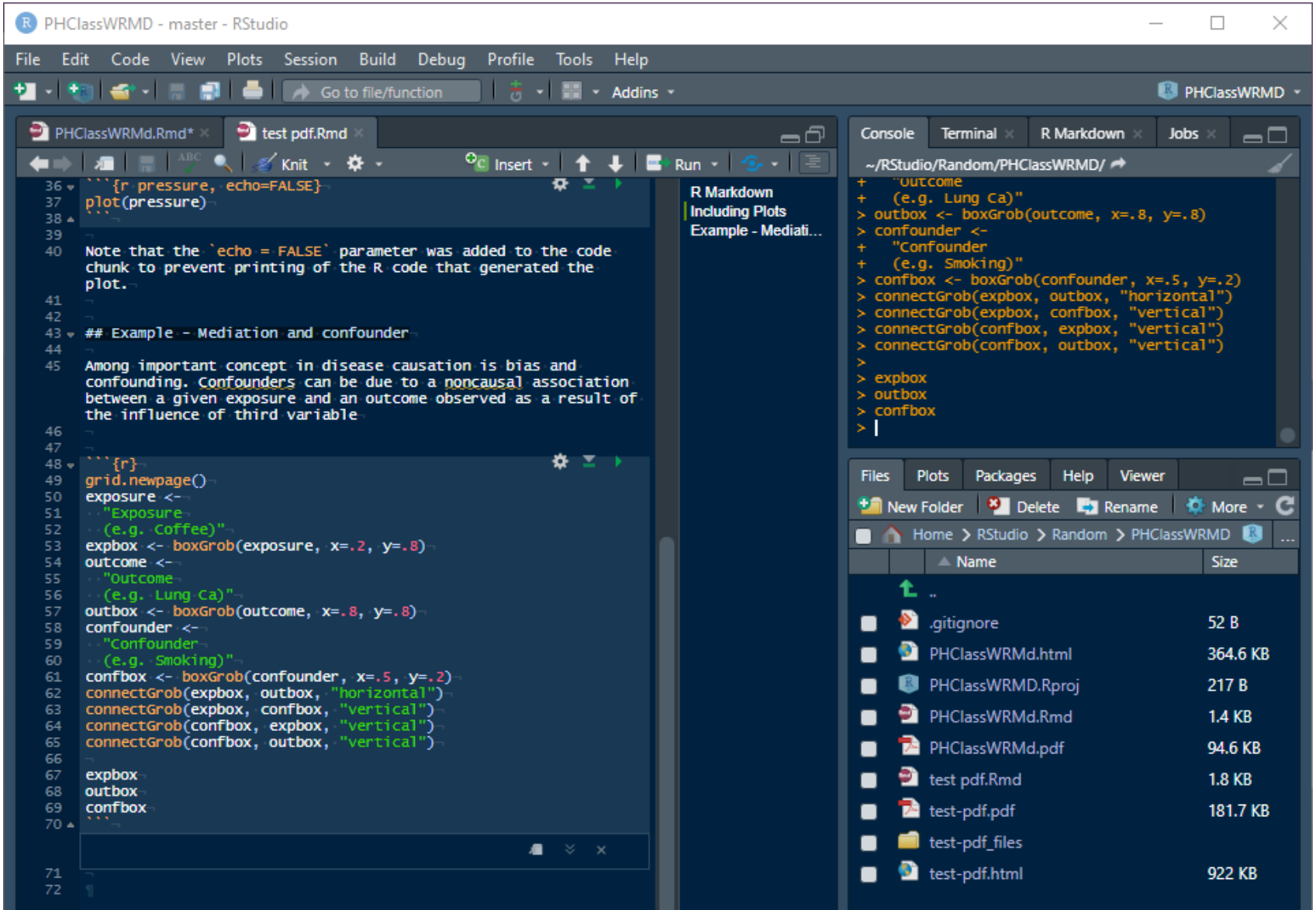
- example using tidyverse

```
tibble(x=runif(100, 5, 10), y2=(x+sample(5:10, 100, replace =
T))/2)

%>%

ggplot(aes(x,y2)) + geom_point()
```


15
13
11
9
y2
5
6
7
8
9
10
x

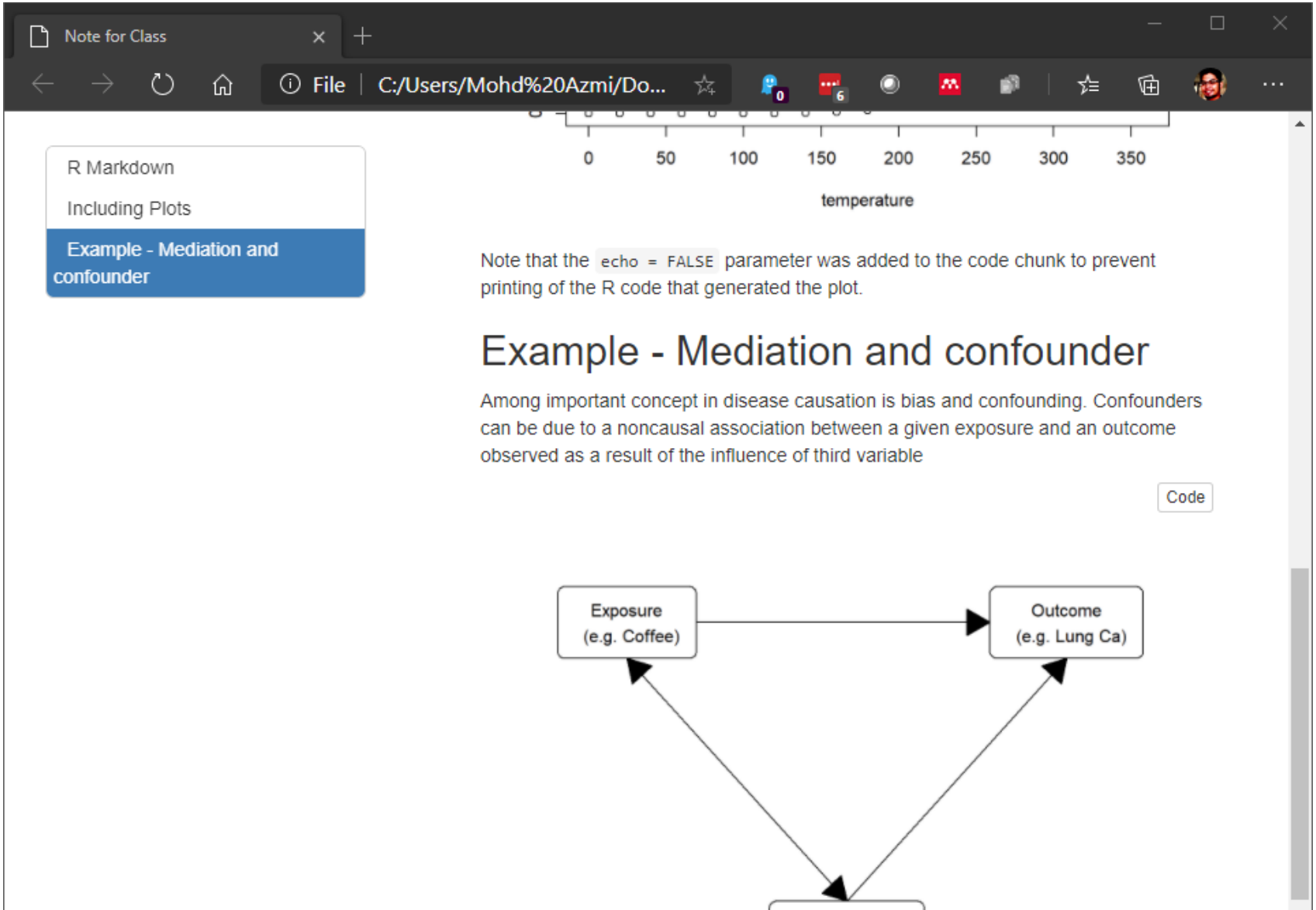
One file, various output

Rmarkdown file



One file, various output

HTML output



One file, various output

pdf output

test-pdf.pdf

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Bookmarks

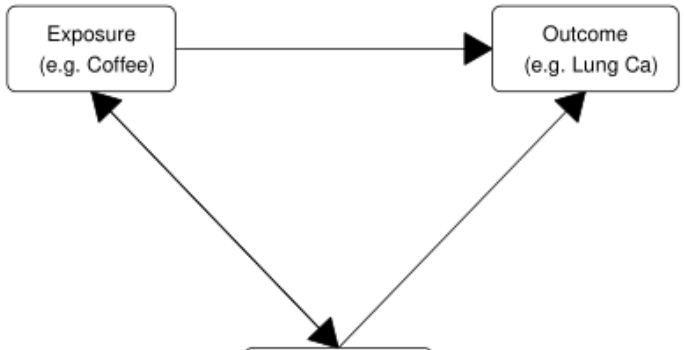
- R Markdown
- Including Plots
- Example - Mediation and confou

```
outcome <-
  "Outcome
  (e.g. Lung Ca)"
outbox <- boxGrob(outcome, x=.8, y=.8)
confounder <-
  "Confounder
  (e.g. Smoking)"
confbox <- boxGrob(confounder, x=.5, y=.2)
connectGrob(expbox, outbox, "horizontal")
connectGrob(expbox, confbox, "vertical")
connectGrob(confbox, expbox, "vertical")
```

2

```
connectGrob(confbox, outbox, "vertical")

expbox
outbox
confbox
```



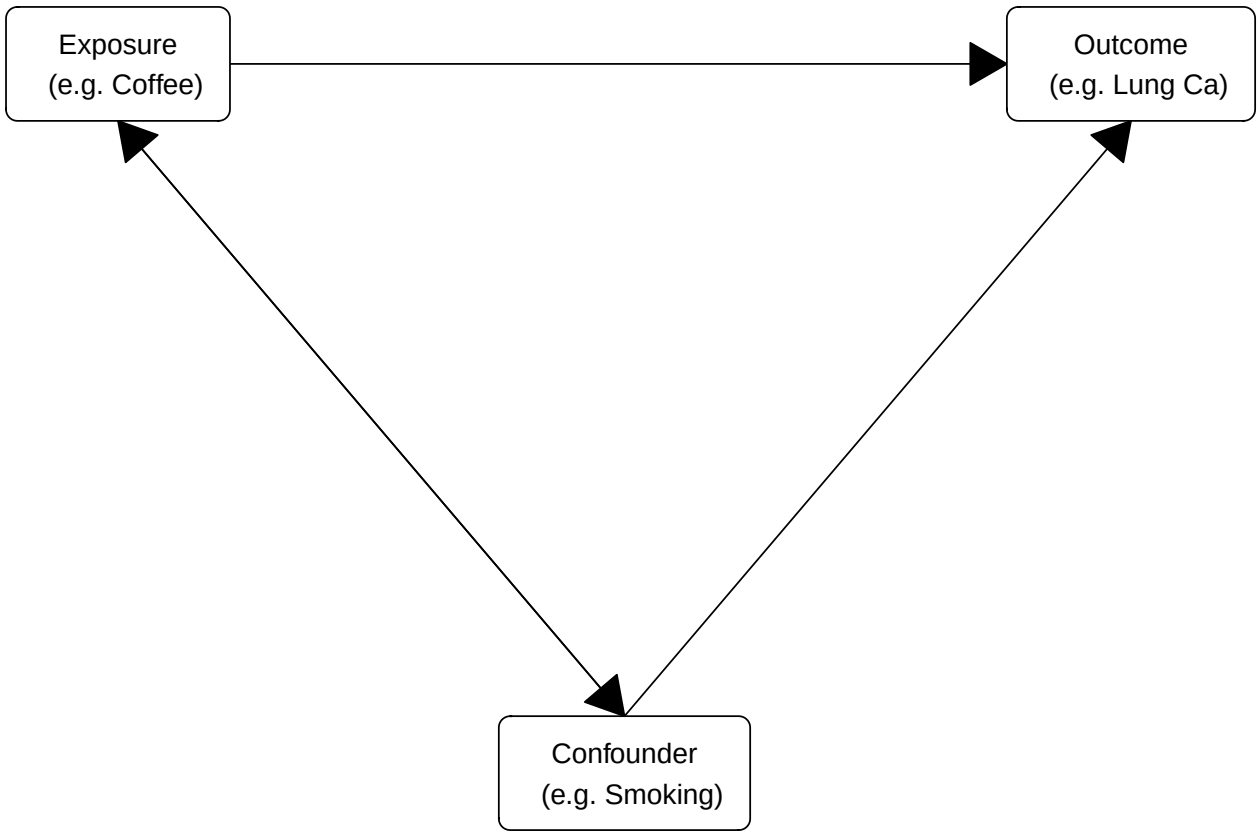
Generate simple chart directly

- Gmisc and grid package

source:
https://cran.r-project.org/web/packages/Gmisc/vignettes/Grid-based_flowcharts.html

grid.newpage()
exposure <- "Exposure (e.g. Coffee)" expbox <-
boxGrob(exposure, x=.2, y=.8)
outcome <- "Outcome (e.g. Lung Ca)" outbox <-
boxGrob(outcome, x=.8, y=.8)
confounder <- "Confounder (e.g. Smoking)" confbox <-
boxGrob(confounder, x=.5, y=.2)
connectGrob(expbox, outbox, "horizontal") connectGrob(expbox,
confbox, "vertical") connectGrob(confbox, expbox, "vertical")
connectGrob(confbox, outbox, "vertical")
expbox outbox confbox

Generate simple chart directly



Generate simple chart directly

Other option - ggplot

source: https://rpubs.com/phiggins/461686

Student

- of course!
  - reproducible

Submit assignment

- RPubs
-