Data Visualization_1RMarkdown

A. Hott

May 16, 2018

R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
mers <- read.csv("cases.csv")
head(mers)
```

```
##   number FT KSA_case code gender age country province  city district
## 1      1  2           25M      M  25  Jordan          Zarqa
## 2      2              30M      M  30  Jordan          Zarqa
## 3      3  1           40F      F  40  Jordan          Zarqa
## 4      4              60M      M  60  Jordan          Zarqa
## 5      5              29M      M  29  Jordan          Zarqa
## 6      6              33M      M  33  Jordan          Zarqa
##   prior_travel hospital exposure      onset hospitalized sampled reported
## 1                               2012-03-21   2012-04-04
## 2                               2012-03-30   2012-04-08
## 3                               2012-04-02   2012-04-09
## 4                               2012-04-02
## 5                               2012-04-11   2012-04-15
## 6                               2012-04-12   2012-04-14
##        death discharged comorbidity severity outcome    clinical
## 1 2012-04-25                            fatal   fatal       fatal
## 2                                         CCU            clinical
## 3 2012-04-19                            fatal   fatal       fatal
## 4                                                     subclinical
## 5                                         CCU            clinical
## 6                                         CCU            clinical
##   old_cluster cluster Cauchemez.cluster animal_contact camel_contact   HCW
## 1           A       A                 4          FALSE         FALSE FALSE
## 2           A       A                 4          FALSE          TRUE
## 3           A       A                 4          FALSE          TRUE
## 4           A       A                 4          FALSE          TRUE
## 5           A       A                 4                         TRUE
## 6           A       A                 4                         TRUE
##   contact_with            contact secondary suspected inferred    notes
## 1                                                          NA
## 2            1 health care worker      TRUE      TRUE       NA probable
## 3            1 health care worker      TRUE                 NA
## 4            1 health care worker      TRUE      TRUE       NA probable
## 5              health care worker      TRUE      TRUE       NA probable
## 6            1 health care worker      TRUE      TRUE       NA probable
##                                                                    citation
## 1 http://applications.emro.who.int/emhj/v19/Supp1/EMHJ_2013_19_Supp1_S12_S18.pdf
```

```
## 2 http://applications.emro.who.int/emhj/v19/Supp1/EMHJ_2013_19_Supp1_S12_S18.pdf
## 3 http://applications.emro.who.int/emhj/v19/Supp1/EMHJ_2013_19_Supp1_S12_S18.pdf
## 4 http://applications.emro.who.int/emhj/v19/Supp1/EMHJ_2013_19_Supp1_S12_S18.pdf
## 5 http://applications.emro.who.int/emhj/v19/Supp1/EMHJ_2013_19_Supp1_S12_S18.pdf
## 6 http://applications.emro.who.int/emhj/v19/Supp1/EMHJ_2013_19_Supp1_S12_S18.pdf
##   citation2 citation3 citation4 citation5       sequence accession patient
## 1                                                                       1
## 2                                                                       2
## 3                                       Jordan-N3_2012  KC776174       3
## 4                                                                       4
## 5                                                                       5
## 6                                                                       6
##   speculation  X                                              X.1
## 1             NA http://promedmail.org/direct.php?id=3587349
## 2             NA
## 3             NA
## 4             NA
## 5             NA
## 6             NA
```

```
mers$hospitalized[890] <- c("2015-02-20")
mers <- mers[-471,]

library(lubridate)
```

```
## Warning: package 'lubridate' was built under R version 3.4.4
```

```
##
## Attaching package: 'lubridate'
```

```
## The following object is masked from 'package:base':
##
##     date
```

```
mers$onset2 <- ymd(mers$onset)
mers$hospitalized2 <- ymd(mers$hospitalized) #5 failed to parse
```

```
## Warning: 5 failed to parse.
```

```
class(mers$onset2)
```

```
## [1] "Date"
```

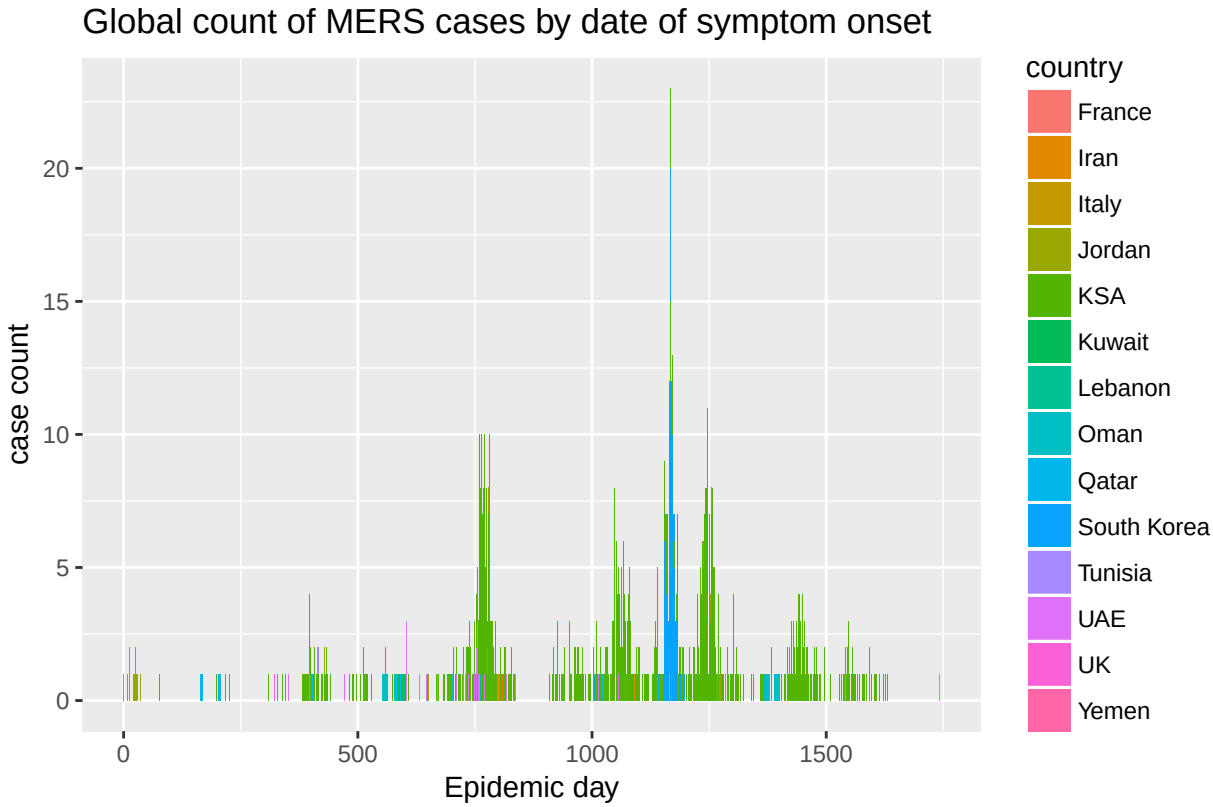
```
day0 <- min(na.omit(mers$onset2))
mers$epi.day <- as.numeric(mers$onset2 - day0)
library(ggplot2)
```

```
## Warning: package 'ggplot2' was built under R version 3.4.4
```

```
ggplot(data=mers) +
  geom_bar(mapping=aes(x=epi.day , fill=country)) +
  labs(x="Epidemic day" , y="case count" , title="Global count of MERS cases by date of symptom onset"
    caption="Data from: http://github.com/rambaut/MERS-Cases/blob/gh-pages/data/cases.csv")
```

```
## Warning: Removed 535 rows containing non-finite values (stat_count).
```

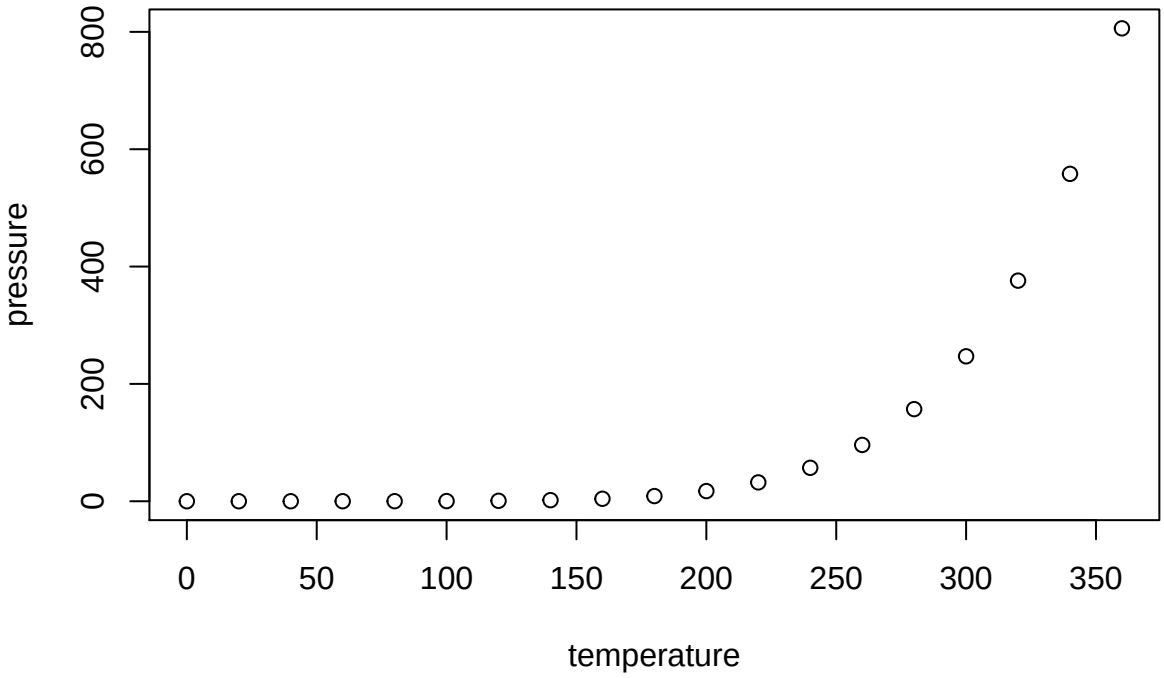
```
## Warning: position_stack requires non-overlapping x intervals
```



Data from: http://github.com/rambaut/MERS−Cases/blob/gh−pages/data/cases.csv

Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.