

Generate histograms in Figure 1

Simina Boca, Jeff Leek

2017-06-22

Load the relevant libraries:

```
library(readr)
```

```
## Warning: package 'readr' was built under R version 3.3.3
```

```
library(dplyr)
library(fdrtool)
```

```
## Warning: package 'fdrtool' was built under R version 3.3.2
```

```
library(betareg)
```

```
## Warning: package 'betareg' was built under R version 3.3.3
```

```
library(splines)
library(Hmisc)
```

```
## Warning: package 'Hmisc' was built under R version 3.3.3
```

```
## Warning: package 'survival' was built under R version 3.3.3
```

```
## Warning: package 'Formula' was built under R version 3.3.2
```

```
## Warning: package 'ggplot2' was built under R version 3.3.3
```

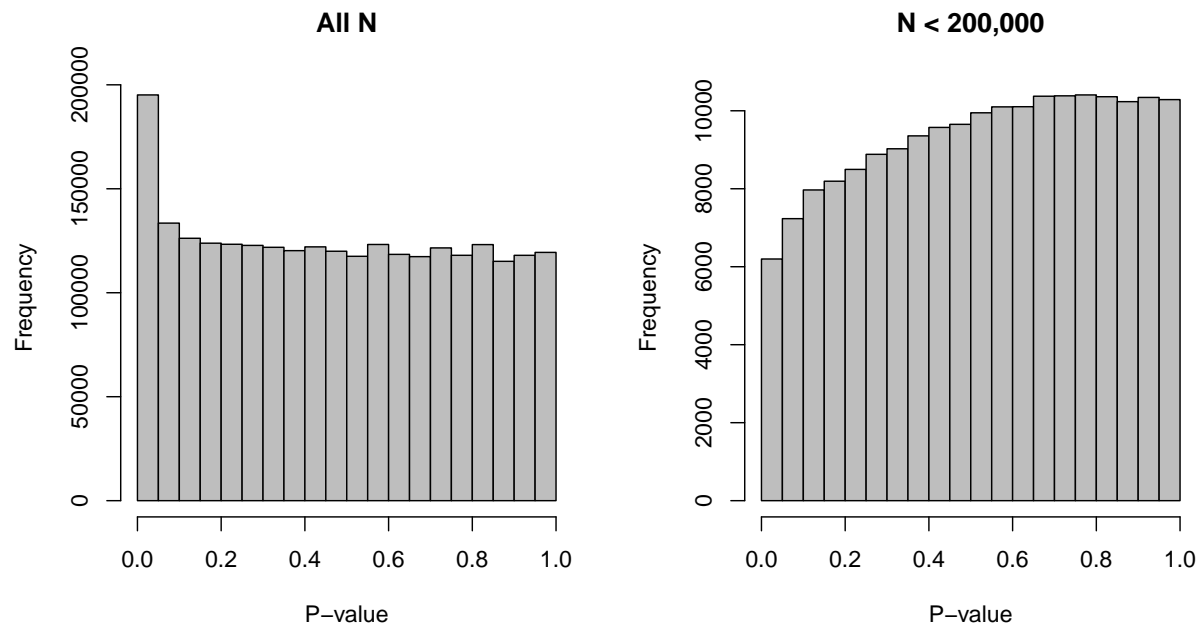
```
library(ggplot2)
```

Load the .RData file with the BMI GIANT GWAS meta-analysis data:

```
load("BMI_GIANT_GWAS.RData")
```

Generate histogram of p-values for all sample sizes and histogram of p-values for sample sizes < 200,000:

```
par(mfrow=c(1,2))
hist(BMI_GIANT_GWAS$p, col="grey", main="All N", xlab="P-value")
hist(BMI_GIANT_GWAS$p[BMI_GIANT_GWAS$N < 200000],
     col="grey", main="N < 200,000", xlab="P-value")
```



Session Information

```
devtools::session_info()
```

```
## Session info -----
##   setting  value
##   version  R version 3.3.1 (2016-06-21)
##   system   x86_64, mingw32
##   ui       RTerm
##   language (EN)
##   collate   English_United States.1252
##   tz        America/New_York
##   date      2017-06-22

## Packages -----
##   package      * version date       source
##   acepack       1.4.1   2016-10-29 CRAN (R 3.3.3)
##   assertthat    0.1     2013-12-06 CRAN (R 3.3.1)
##   backports     1.0.4   2016-10-24 CRAN (R 3.3.1)
##   base64enc     0.1-3   2015-07-28 CRAN (R 3.3.2)
##   betareg       * 3.1-0   2016-08-06 CRAN (R 3.3.3)
##   BiocStyle     * 2.0.3   2016-08-04 Bioconductor
##   checkmate     1.8.2   2016-11-02 CRAN (R 3.3.3)
##   cluster       2.0.4   2016-04-18 CRAN (R 3.3.1)
##   codetools     0.2-14  2015-07-15 CRAN (R 3.3.1)
##   colorspace    1.2-6   2015-03-11 CRAN (R 3.3.1)
##   data.table    1.10.4  2017-02-01 CRAN (R 3.3.2)
##   DBI           0.4-1   2016-05-08 CRAN (R 3.3.1)
##   devtools      1.12.0  2016-06-24 CRAN (R 3.3.3)
##   digest        0.6.9   2016-01-08 CRAN (R 3.3.1)
```

```

## dplyr          * 0.4.3    2015-09-01 CRAN (R 3.3.1)
## evaluate       0.10      2016-10-11 CRAN (R 3.3.1)
## fdrtool        * 1.2.15   2015-07-08 CRAN (R 3.3.2)
## flexmix        2.3-14    2017-04-28 CRAN (R 3.3.3)
## foreign        0.8-66    2015-08-19 CRAN (R 3.3.1)
## Formula        * 1.2-1    2015-04-07 CRAN (R 3.3.2)
## ggplot2        * 2.2.1    2016-12-30 CRAN (R 3.3.3)
## gridExtra      2.2.1     2016-02-29 CRAN (R 3.3.1)
## gtable         0.2.0     2016-02-26 CRAN (R 3.3.1)
## Hmisc          * 4.0-3     2017-05-02 CRAN (R 3.3.3)
## hms            0.3       2016-11-22 CRAN (R 3.3.3)
## htmlTable      1.9       2017-01-26 CRAN (R 3.3.3)
## htmltools      0.3.5     2016-03-21 CRAN (R 3.3.1)
## htmlwidgets    0.8       2016-11-09 CRAN (R 3.3.3)
## knitr          1.15.1    2016-11-22 CRAN (R 3.3.1)
## lattice        * 0.20-33  2015-07-14 CRAN (R 3.3.1)
## latticeExtra   0.6-28    2016-02-09 CRAN (R 3.3.3)
## lazyeval       0.2.0     2016-06-12 CRAN (R 3.3.1)
## lmtest         0.9-35    2017-02-11 CRAN (R 3.3.3)
## magrittr       1.5       2014-11-22 CRAN (R 3.3.1)
## Matrix         1.2-6     2016-05-02 CRAN (R 3.3.1)
## memoise        1.0.0     2016-01-29 CRAN (R 3.3.1)
## modeltools     0.2-21    2013-09-02 CRAN (R 3.3.2)
## munsell        0.4.3     2016-02-13 CRAN (R 3.3.1)
## nnet           7.3-12    2016-02-02 CRAN (R 3.3.1)
## plyr           1.8.4     2016-06-08 CRAN (R 3.3.1)
## R6             2.1.2     2016-01-26 CRAN (R 3.3.1)
## RColorBrewer   1.1-2     2014-12-07 CRAN (R 3.3.0)
## Rcpp           0.12.10    2017-03-19 CRAN (R 3.3.3)
## readr          * 1.1.0     2017-03-22 CRAN (R 3.3.3)
## rmarkdown      1.2       2016-11-21 CRAN (R 3.3.1)
## rpart          4.1-10    2015-06-29 CRAN (R 3.3.1)
## rprojroot      1.1       2016-10-29 CRAN (R 3.3.1)
## sandwich       2.3-4     2015-09-24 CRAN (R 3.3.3)
## scales         0.4.1     2016-11-09 CRAN (R 3.3.3)
## stringi        1.1.1     2016-05-27 CRAN (R 3.3.0)
## stringr        1.0.0     2015-04-30 CRAN (R 3.3.1)
## survival       * 2.41-3    2017-04-04 CRAN (R 3.3.3)
## tibble         1.2       2016-08-26 CRAN (R 3.3.2)
## withr          1.0.2     2016-06-20 CRAN (R 3.3.1)
## yaml           2.1.13    2014-06-12 CRAN (R 3.3.1)
## zoo            1.7-14    2016-12-16 CRAN (R 3.3.2)

```