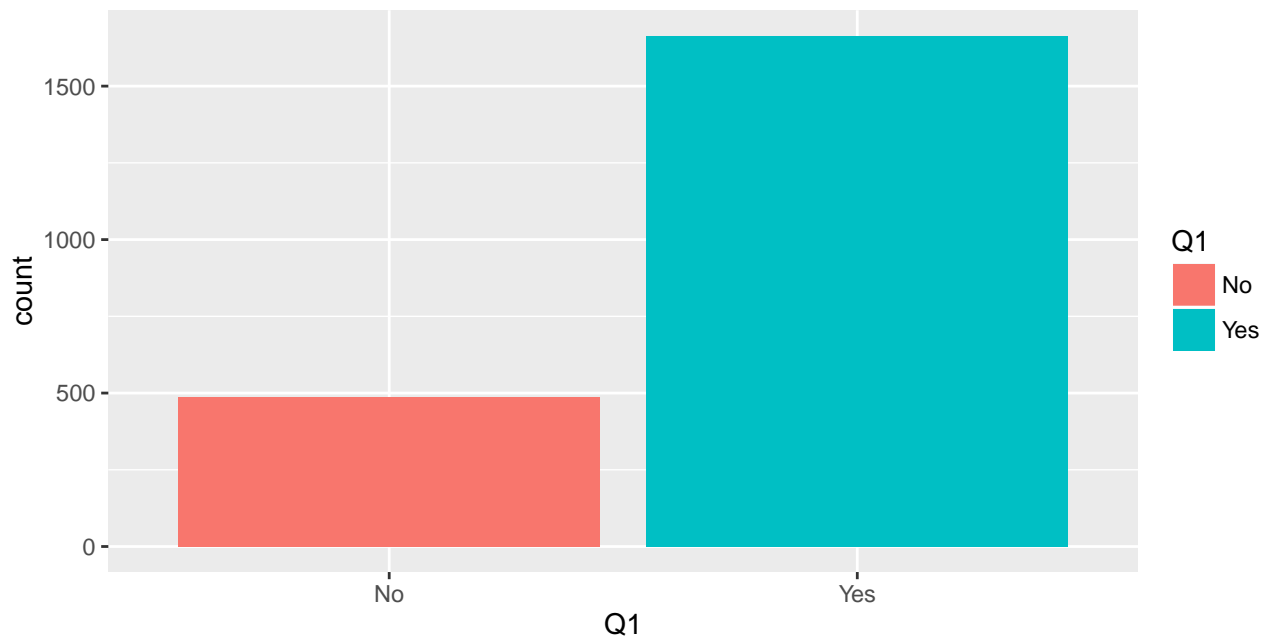# Working report

Contents

Working analysis

Survey questions

Q1. Before receiving this survey, did you know influenza is different from the stomach flu?

```r
# Q1 summary
with(data2, table(Q1))
```

```
## Q1
##   No  Yes
##  488 1664
```

```r
q1 <- data2 %>%
  count(Q1)

# plot with this one
ggplot(data2[!is.na(data2$Q1), ]) + geom_bar(mapping = aes(x = Q1, fill = Q1))
```

```
# ggplot(q1, aes(x = Q1, y = n, fill = Q1)) + geom_bar(stat = 'identity')

# plot without na's
#ggplot(q1[!is.na(q1$Q1), ], aes(x = Q1, y = n, fill = Q1)) +
#  geom_bar(stat = 'identity', position = position_dodge())



# by gender, PPGENDER
with(data2, table(PPGENDER, Q1))
```
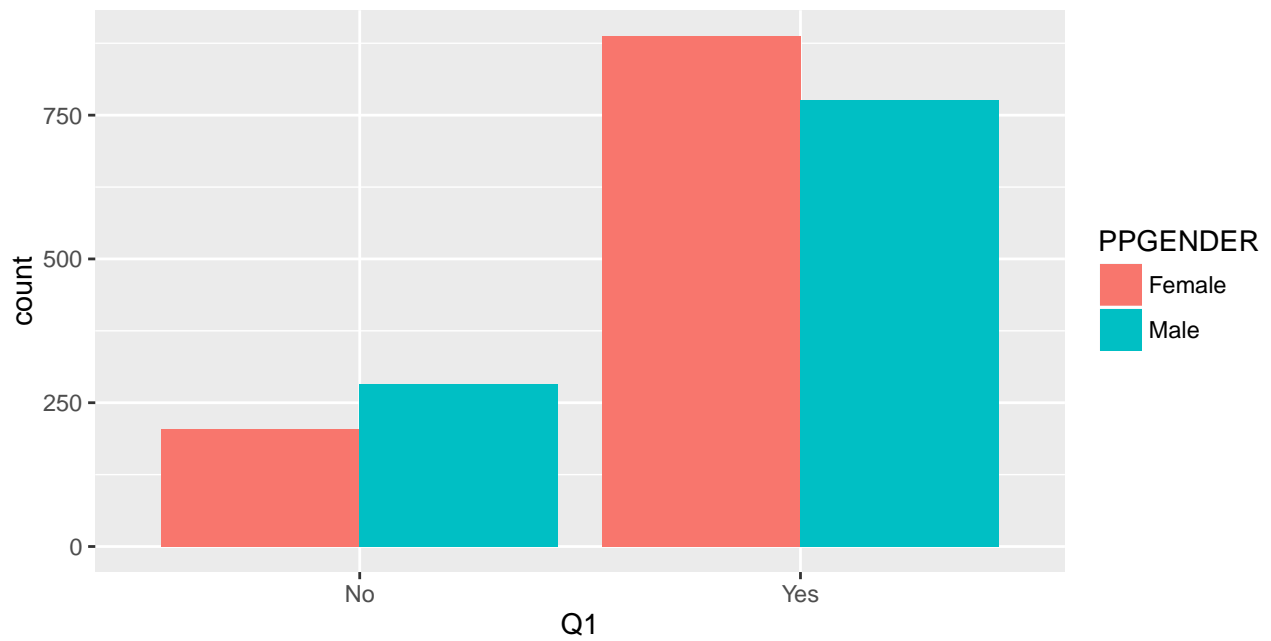
```
##         Q1
## PPGENDER  No Yes
##   Female 205 888
##   Male   283 776
```

```
q1 <- data2 %>%
  count(Q1, PPGENDER)

# plot
ggplot(data2[!is.na(data2$Q1), ]) + geom_bar(mapping = aes(x = Q1, fill = PPGENDER), position = position
```

```
# ggplot(q1[!is.na(q1$Q1), ], aes(x = Q1, y = n, fill = PPGENDER)) +
#   geom_bar(stat = 'identity', position = position_dodge())

# plot with facet
ggplot(q1[!is.na(q1$Q1), ], aes(x = Q1, y = n, fill = Q1)) +
  geom_bar(stat = 'identity', position = position_dodge()) + facet_wrap(~PPGENDER)
```
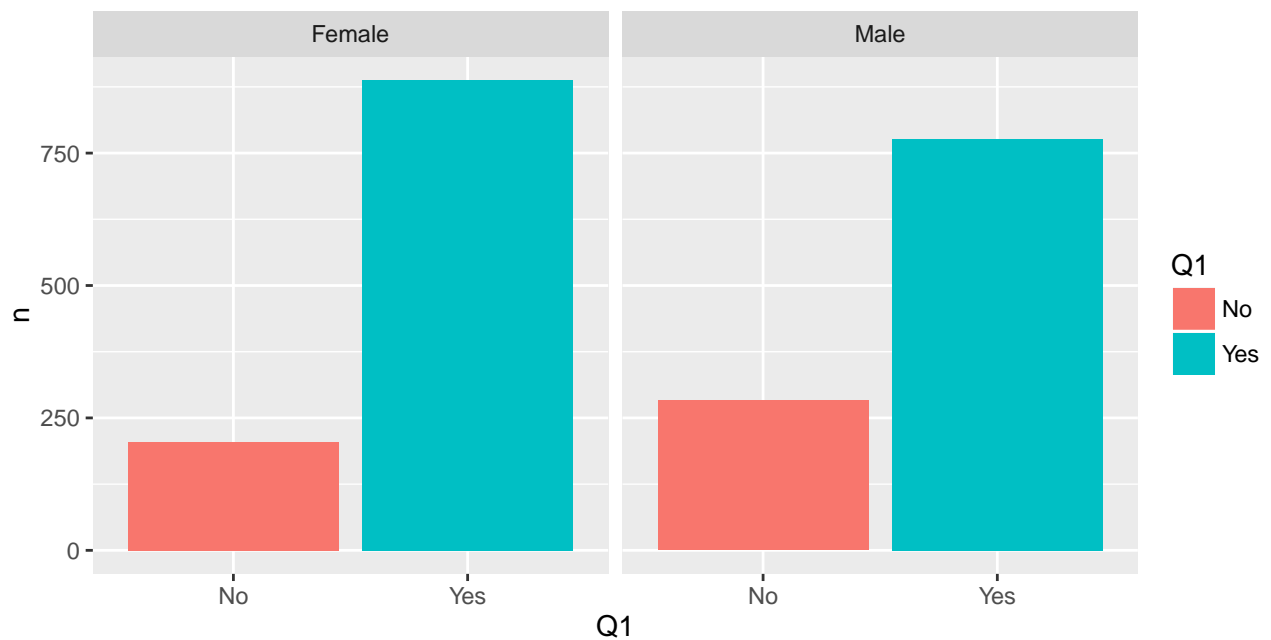


```
# by ethnicity, PPETHM
with(data2, table(PPETHM, Q1))
```

```
##                          Q1
## PPETHM                    No  Yes
```

```
##    2+ Races, Non-Hispanic    18    62
##    Black, Non-Hispanic       50   143
##    Hispanic                  69   161
##    Other, Non-Hispanic       29    63
##    White, Non-Hispanic      322  1235
```

```
q1 <- data2 %>%
  count(Q1, PPETHM)

# plot
ggplot(q1[!is.na(q1$Q1), ], aes(x = Q1, y = n, fill = PPETHM)) +
  geom_bar(stat = 'identity', position = position_dodge())
```



```
# plot with facet
ggplot(q1[!is.na(q1$Q1), ], aes(x = Q1, y = n, fill = Q1)) +
  geom_bar(stat = 'identity', position = position_dodge()) + facet_wrap(~PPETHM)
```
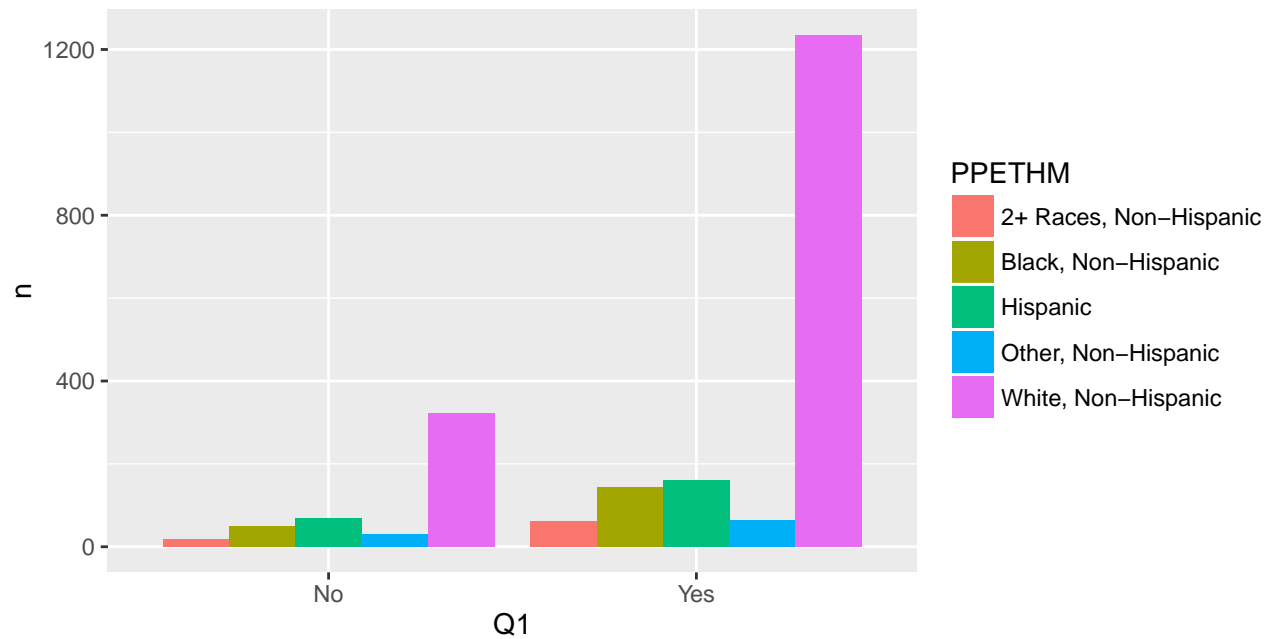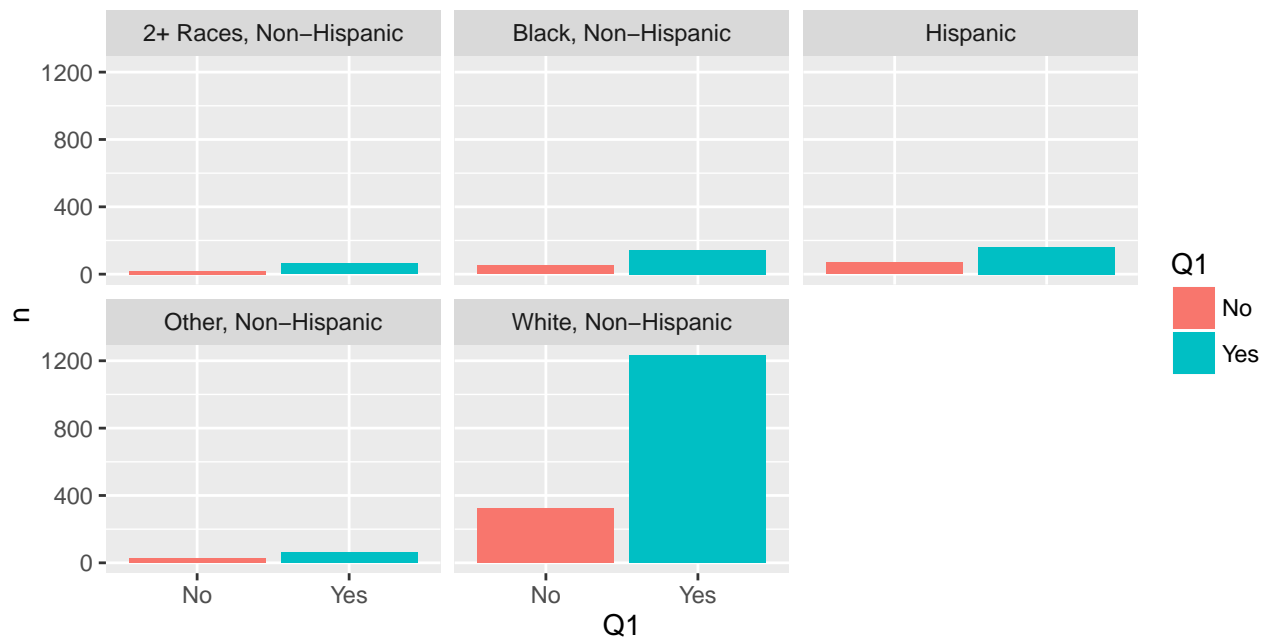
```r
# by income, PPINCIMP
with(data2, table(PPINCIMP, Q1))
```

```
##                       Q1
## PPINCIMP              No Yes
##   Less than $5,000     22  30
##   $5,000 to $7,499      8  16
##   $7,500 to $9,999      7   7
##   $10,000 to $12,499   17  39
##   $12,500 to $14,999   10  38
##   $15,000 to $19,999   22  40
##   $20,000 to $24,999   16  55
##   $25,000 to $29,999   23  76
##   $30,000 to $34,999   21  70
##   $35,000 to $39,999   31  72
##   $40,000 to $49,999   42 107
##   $50,000 to $59,999   46 137
##   $60,000 to $74,999   50 172
##   $75,000 to $84,999   26 133
##   $85,000 to $99,999   33 120
##   $100,000 to $124,999 56 269
##   $125,000 to $149,999 24 108
##   $150,000 to $174,999 16  68
##   $175,000 or more     18 107
```

```r
q1 <- data2 %>%
  count(Q1, PPINCIMP)

# plot
ggplot(q1[!is.na(q1$Q1), ], aes(x = Q1, y = n, fill = PPINCIMP)) +
  geom_bar(stat = 'identity', position = position_dodge())
```

```
# plot with facet
ggplot(q1[!is.na(q1$Q1), ], aes(x = Q1, y = n, fill = Q1)) +
  geom_bar(stat = 'identity', position = position_dodge()) + facet_wrap(~PPINCIMP)
```
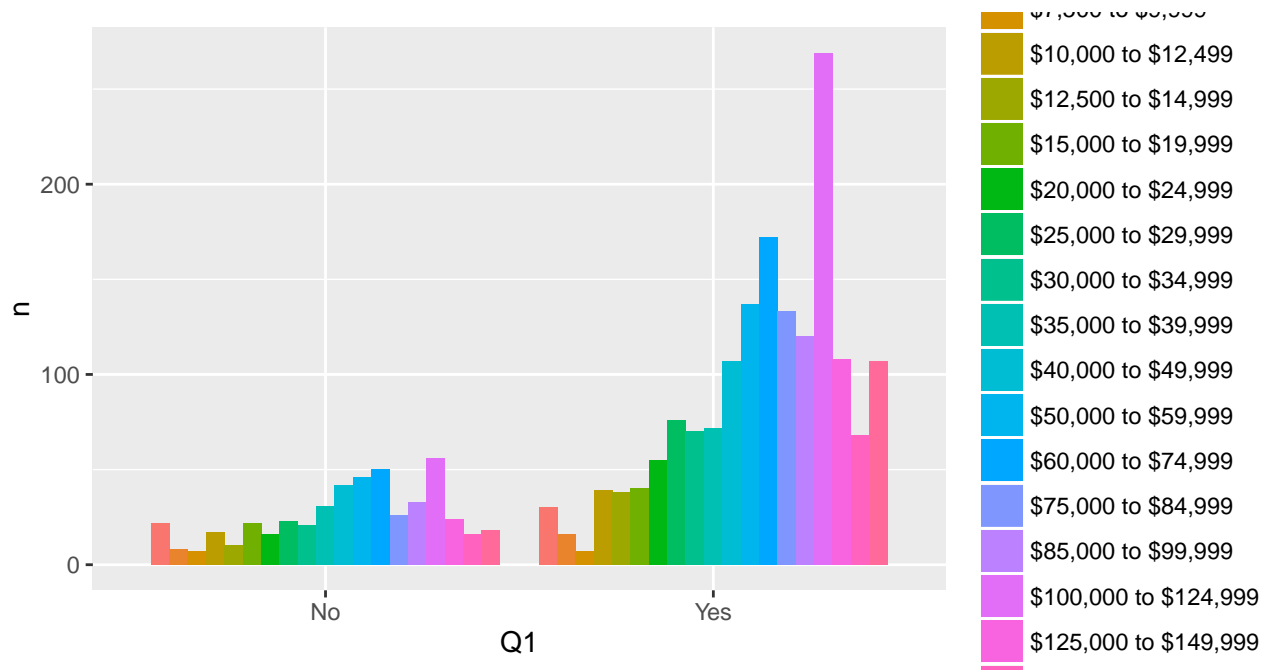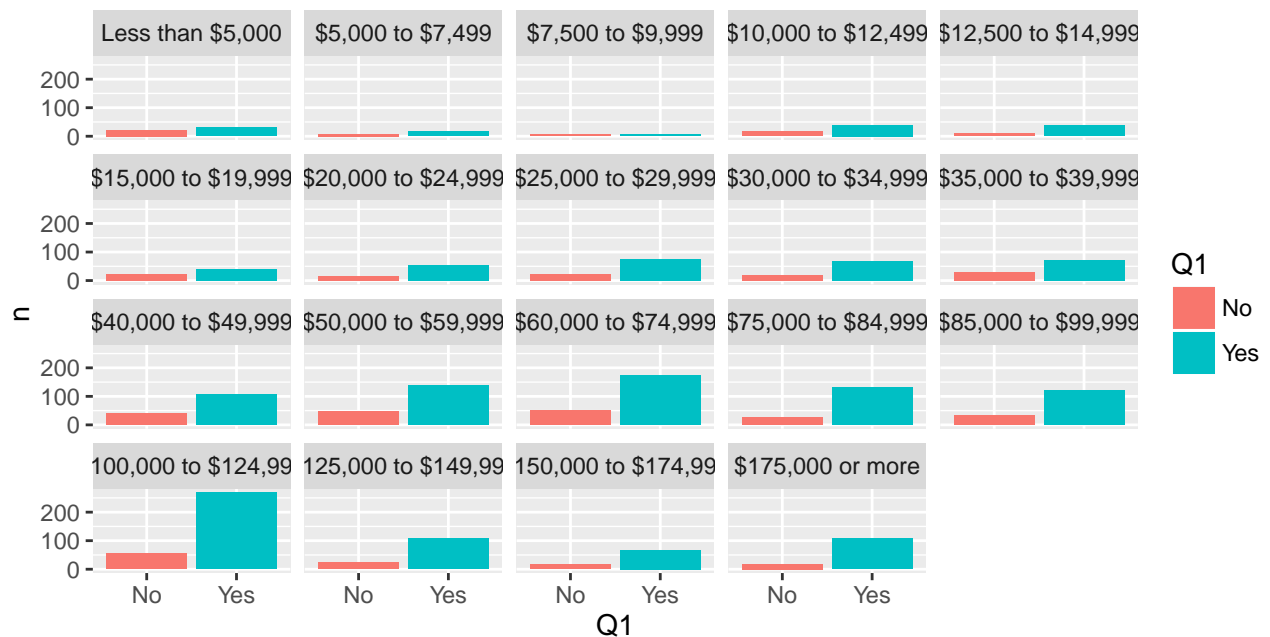

Q2. Have you had an illness with influenza-like symptoms since August 2015?

```
#
with(data2, table(Q2))
```

```
## Q2
```

```
##   No  Yes
## 1735  414
```

```
q2 <- data2 %>%
  count(Q2)
ggplot(q2, aes(x = Q2, y = n, fill = Q2)) + geom_bar(stat = 'identity')
```
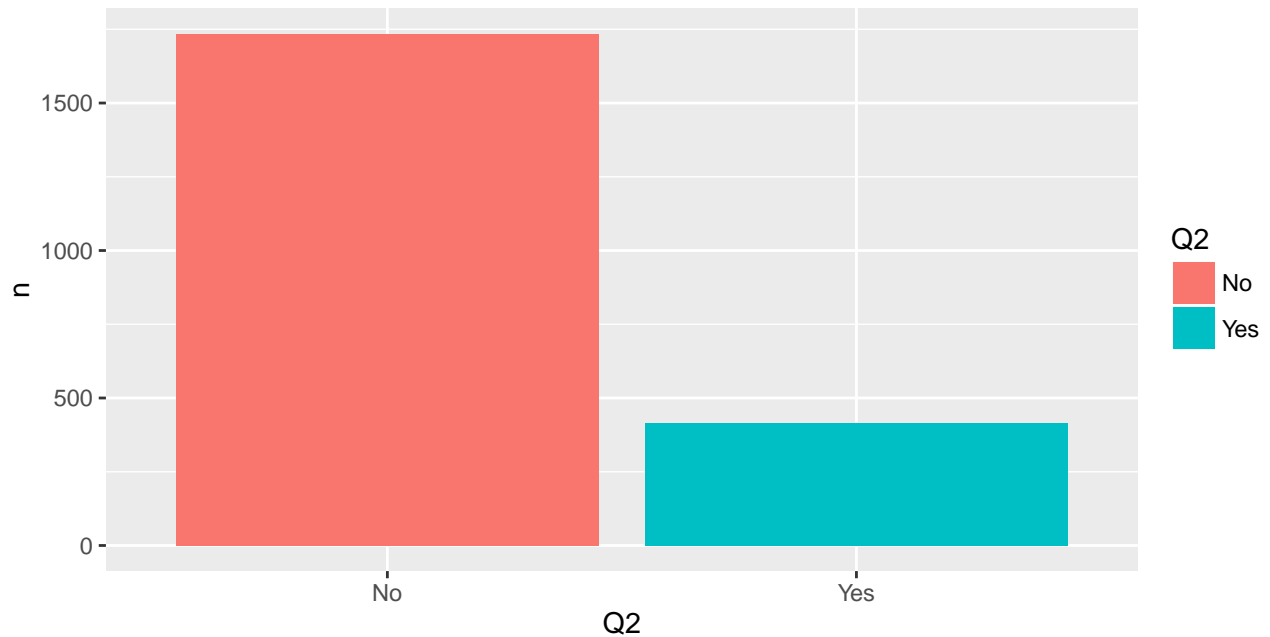


```
# by gender
with(data2, table(Q2, PPGENDER))
```

```
##        PPGENDER
## Q2    Female Male
##   No     858  877
##   Yes    234  180
```

```
q2 <- data2 %>%
  count(Q2, PPGENDER)
ggplot(q2, aes(x = Q2, y = n, fill = PPGENDER)) +
  geom_bar(stat = 'identity', position = position_dodge())
```

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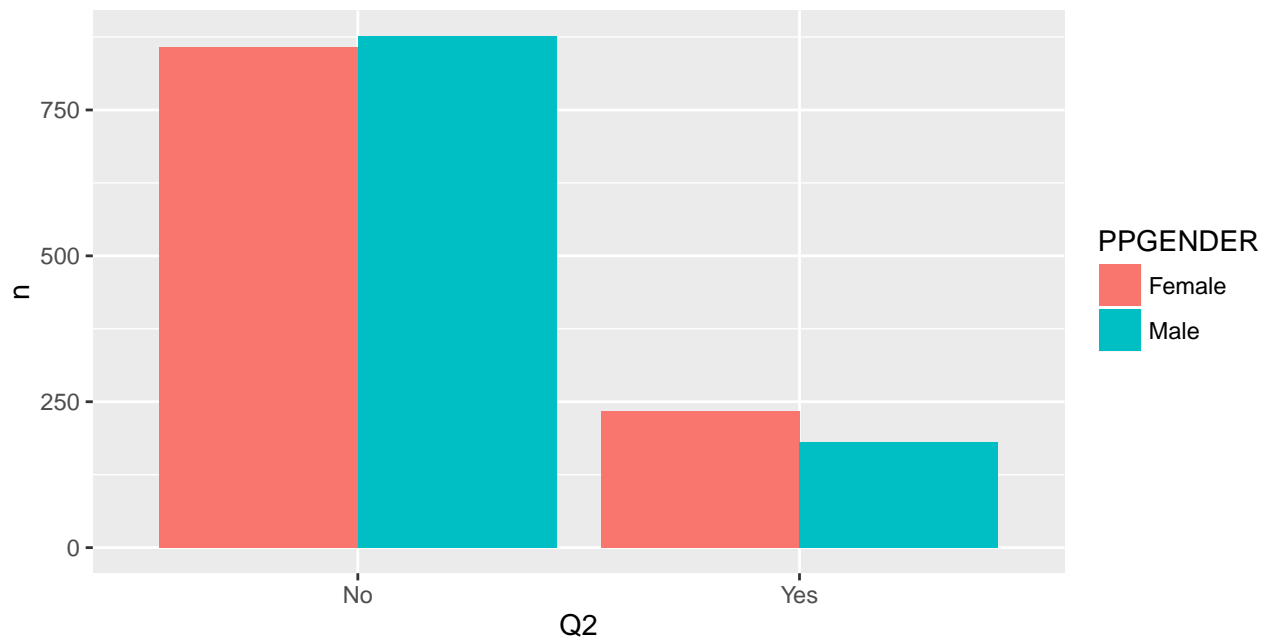
```
# by ethnicity
with(data2, table(Q2, PPETHM))
```

```
##      PPETHM
## Q2    2+ Races, Non-Hispanic Black, Non-Hispanic Hispanic
##   No                     61                 152      164
##   Yes                    19                  39       65
##      PPETHM
## Q2    Other, Non-Hispanic White, Non-Hispanic
##   No                     71                1287
##   Yes                    22                 269
```

```
q2 <- data2 %>%
  count(Q2, PPETHM)
ggplot(q2, aes(x = Q2, y = n, fill = PPETHM)) +
  geom_bar(stat = 'identity', position = position_dodge())
```
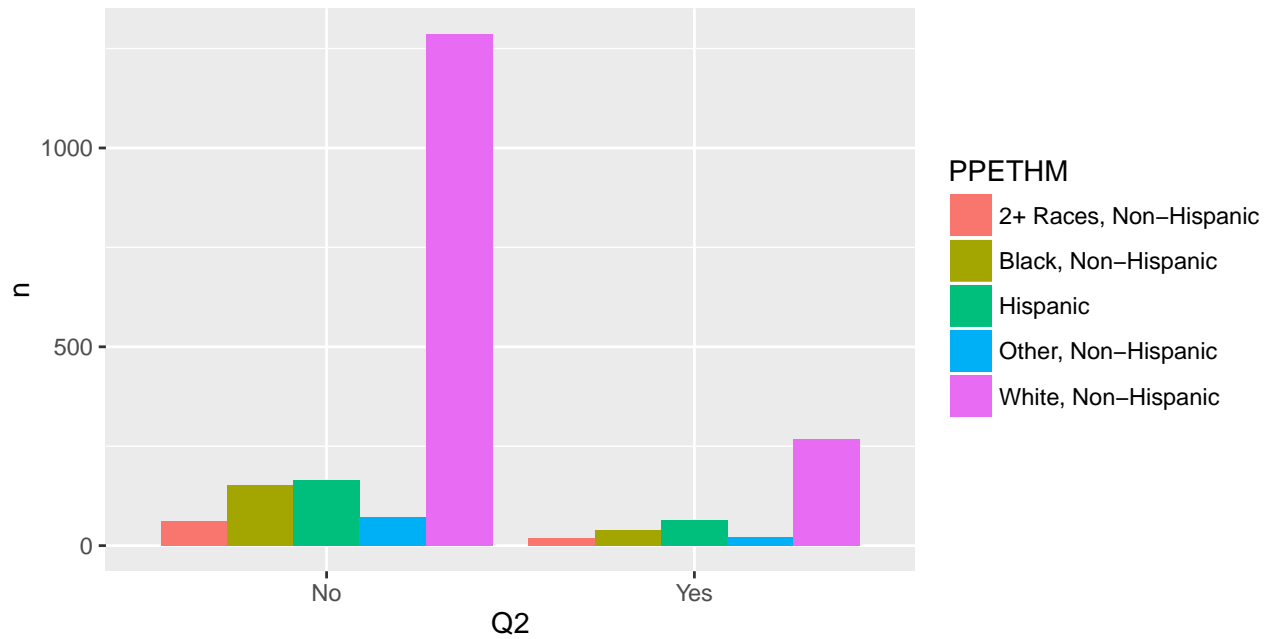
```r
# by income
with(data2, table(Q2, PPINCIMP))
```

```
##      PPINCIMP
## Q2    Less than $5,000 $5,000 to $7,499 $7,500 to $9,999
##   No                43               19               13
##   Yes                9                6                1
##      PPINCIMP
## Q2    $10,000 to $12,499 $12,500 to $14,999 $15,000 to $19,999
##   No                 38                 39                 46
##   Yes                17                  9                 15
##      PPINCIMP
## Q2    $20,000 to $24,999 $25,000 to $29,999 $30,000 to $34,999
##   No                 55                 79                 74
##   Yes                17                 19                 18
##      PPINCIMP
## Q2    $35,000 to $39,999 $40,000 to $49,999 $50,000 to $59,999
##   No                 85                121                155
##   Yes                18                 27                 27
##      PPINCIMP
## Q2    $60,000 to $74,999 $75,000 to $84,999 $85,000 to $99,999
##   No                172                130                123
##   Yes                50                 29                 29
##      PPINCIMP
## Q2    $100,000 to $124,999 $125,000 to $149,999 $150,000 to $174,999
##   No                  265                  112                   62
##   Yes                  61                   20                   21
##      PPINCIMP
## Q2    $175,000 or more
##   No                104
##   Yes                21
```

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```
q2 <- data2 %>%
  count(Q2, PPINCIMP)
ggplot(q2, aes(x = Q2, y = n, fill = PPINCIMP)) +
  geom_bar(stat = 'identity', position = position_dodge())
```


Q3. Has any other person in your household had an illness with influenza like symptoms since August 2015?

```
# all
with(data2, table(Q3))
```

```
## Q3
## Don_t know        No       Yes
##        161      1608       383
```

```
q3 <- data2 %>%
  count(Q3)
ggplot(q3, aes(x = Q3, y = n, fill = Q3)) + geom_bar(stat = 'identity')
```
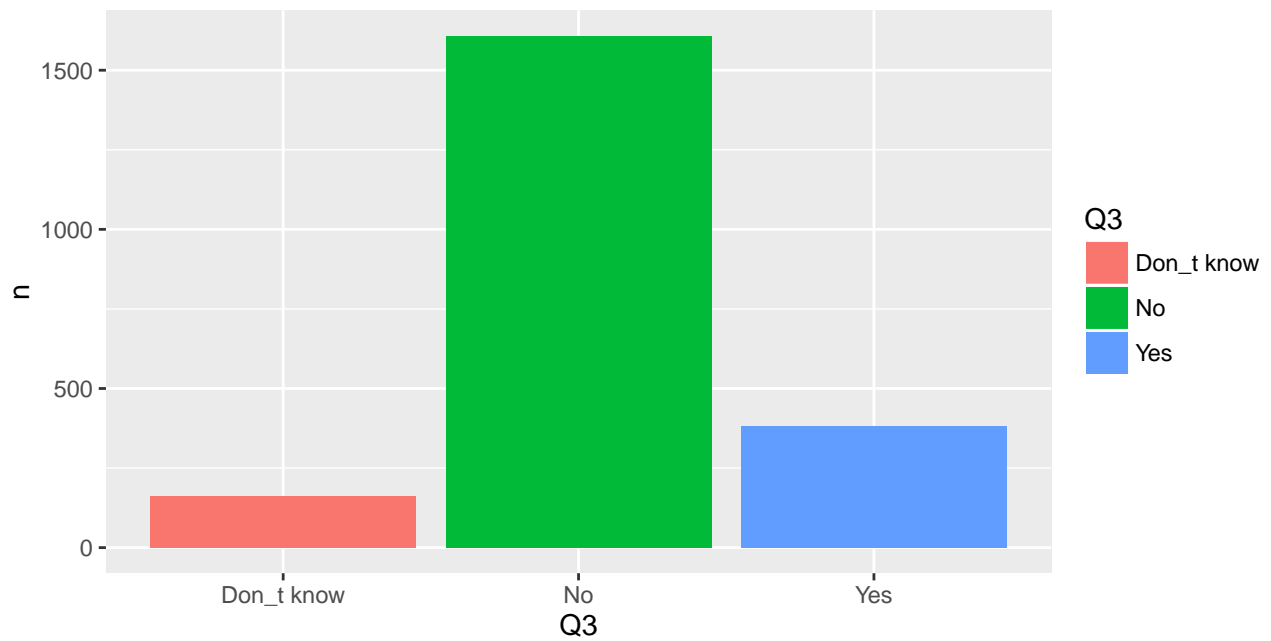
```
# by gender
with(data2, table(Q3, PPGENDER))
```

```
##               PPGENDER
## Q3            Female Male
##   Don_t know      72   89
##   No             804  804
##   Yes            217  166
```

```
q3 <- data2 %>%
  count(Q3, PPGENDER)
ggplot(q3, aes(x = Q3, y = n, fill = PPGENDER)) +
  geom_bar(stat = 'identity', position = position_dodge())
```
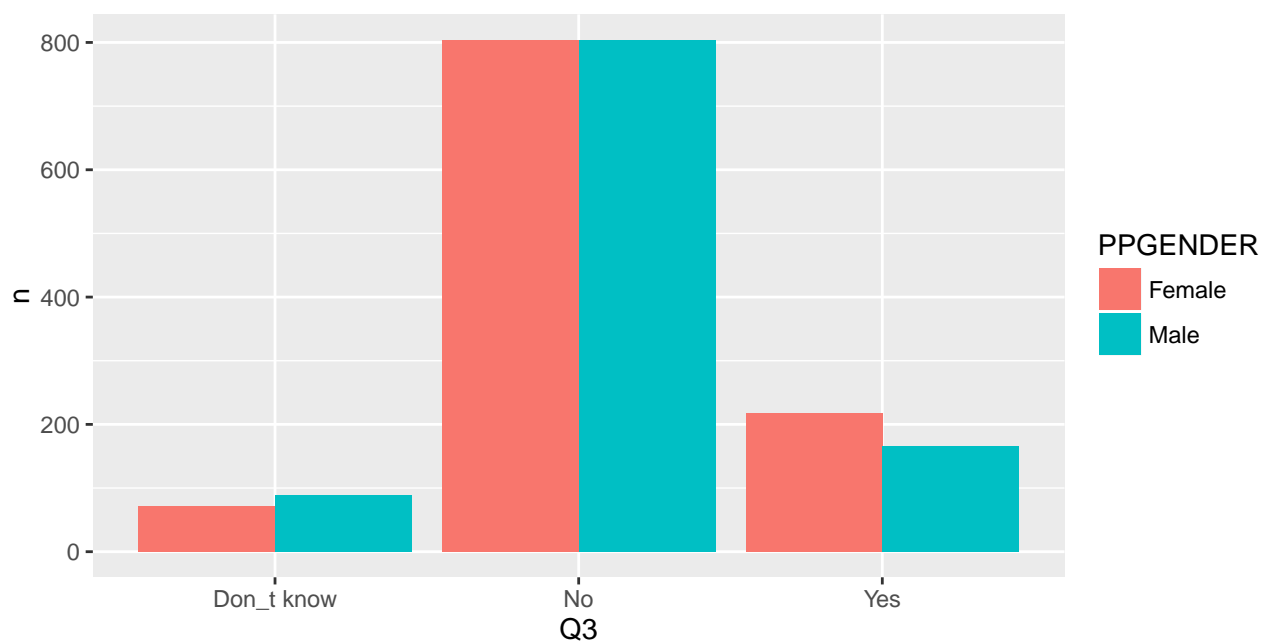
```r
# by ethnicity
with(data2, table(Q3, PPETHM))
```

```
##            PPETHM
## Q3           2+ Races, Non-Hispanic Black, Non-Hispanic Hispanic
##   Don_t know                      6                    19       30
##   No                             57                   149      146
##   Yes                            17                    25       53
##            PPETHM
## Q3           Other, Non-Hispanic White, Non-Hispanic
##   Don_t know                  11                    95
##   No                          59                  1197
##   Yes                         23                   265
```
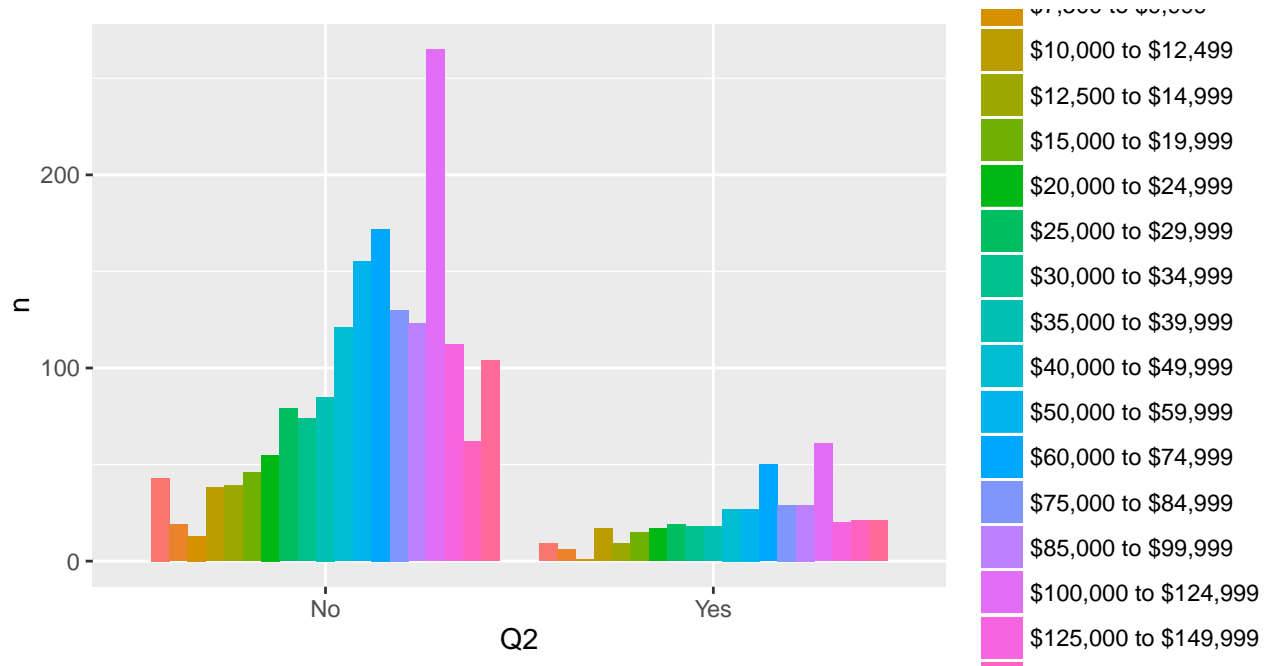
```r
q3 <- data2 %>%
  count(Q3, PPETHM)
ggplot(q3, aes(x = Q3, y = n, fill = PPETHM)) +
  geom_bar(stat = 'identity', position = position_dodge())
```
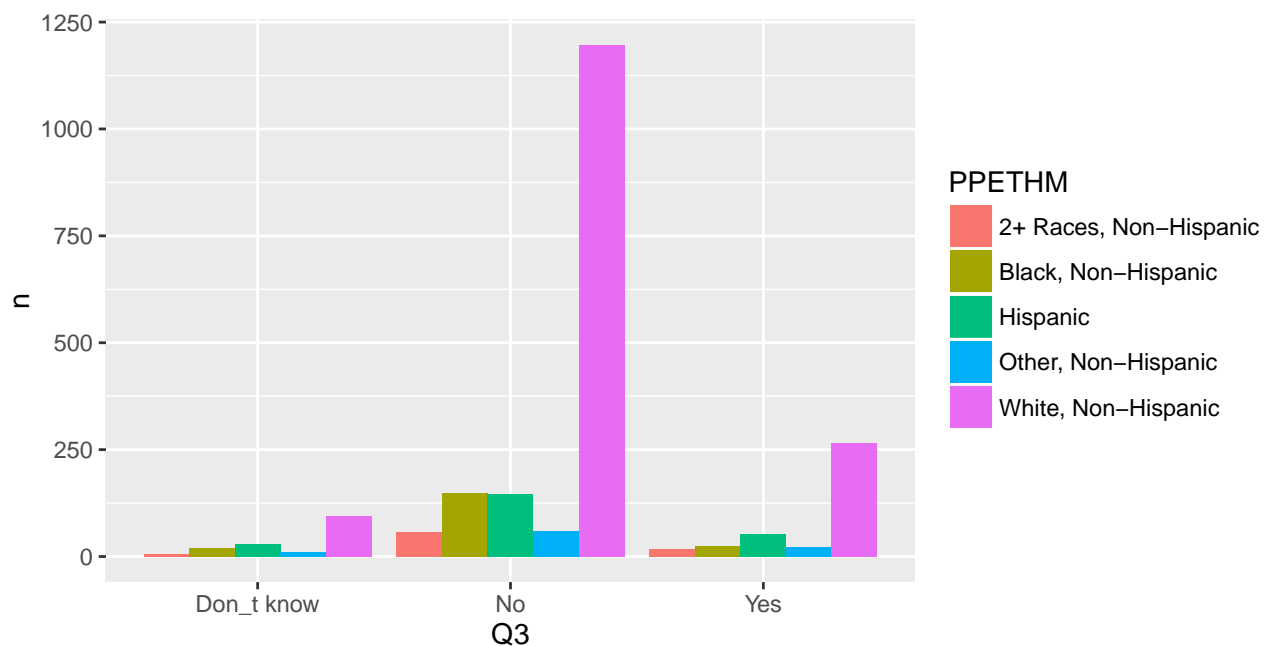


```r
# by income
with(data2, table(Q3, PPINCIMP))
```

```
##            PPINCIMP
## Q3           Less than $5,000 $5,000 to $7,499 $7,500 to $9,999
##   Don_t know               11                6                1
##   No                       36               18               13
##   Yes                       5                1                0
##            PPINCIMP
## Q3           $10,000 to $12,499 $12,500 to $14,999 $15,000 to $19,999
##   Don_t know                  4                  7                  7
##   No                         44                 30                 47
```

```
##   Yes                               8                11                 8
##          PPINCIMP
## Q3          $20,000 to $24,999 $25,000 to $29,999 $30,000 to $34,999
##   Don_t know                 8                  4                 11
##   No                        52                 81                 70
##   Yes                       12                 13                  9
##          PPINCIMP
## Q3          $35,000 to $39,999 $40,000 to $49,999 $50,000 to $59,999
##   Don_t know                11                  6                 13
##   No                        75                117                136
##   Yes                       17                 25                 33
##          PPINCIMP
## Q3          $60,000 to $74,999 $75,000 to $84,999 $85,000 to $99,999
##   Don_t know                18                  7                 11
##   No                       165                120                107
##   Yes                       39                 33                 35
##          PPINCIMP
## Q3          $100,000 to $124,999 $125,000 to $149,999
##   Don_t know                  20                    6
##   No                         245                  100
##   Yes                         61                   26
##          PPINCIMP
## Q3          $150,000 to $174,999 $175,000 or more
##   Don_t know                   3                7
##   No                          58               94
##   Yes                         23               24
```

```
q3 <- data2 %>%
  count(Q3, PPINCIMP)
ggplot(q3, aes(x = Q3, y = n, fill = PPINCIMP)) +
  geom_bar(stat = 'identity', position = position_dodge())
```


```
```
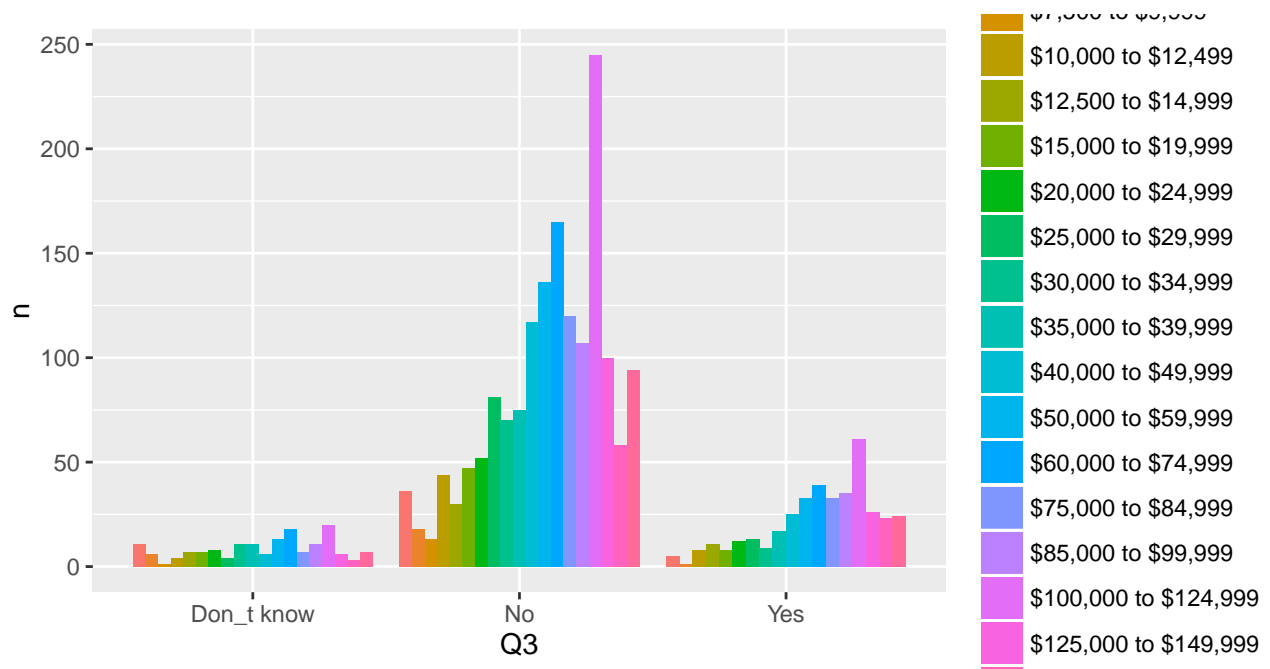
Q4. Does your job require you to have a lot of contact with the public?

```
# all
with(data2, table(Q4))
```

```
## Q4
##                                               No, I don_t work
##                                                           779
## No, my job does not require much contact with the public
##                                                           620
##                                                           Yes
##                                                           751
```

```
(
q4 <- data2 %>%
  count(Q4)
)
```

```
## Source: local data frame [4 x 2]
##
##                                                       Q4     n
##                                                    <chr> <int>
## 1                                       No, I don_t work   779
## 2 No, my job does not require much contact with the public   620
##                                                      Yes   751
## 4                                                     NA    18
```

```
ggplot(q4, aes(x = Q4, y = n, fill = Q4)) + geom_bar(stat = 'identity') +
    theme(axis.text.x = element_text(angle = 45, hjust = 1))
```

```
# by gender
with(data2, table(Q4, PPGENDER))
```

```
##                                                     PPGENDER
## Q4                                                   Female Male
##    No, I don_t work                                     430  349
##    No, my job does not require much contact with the public  263  357
##    Yes                                                  400  351
```

```
q4 <- data2 %>%
  count(Q4, PPGENDER)
ggplot(q4, aes(x = Q4, y = n, fill = PPGENDER)) +
  geom_bar(stat = 'identity', position = position_dodge()) +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```
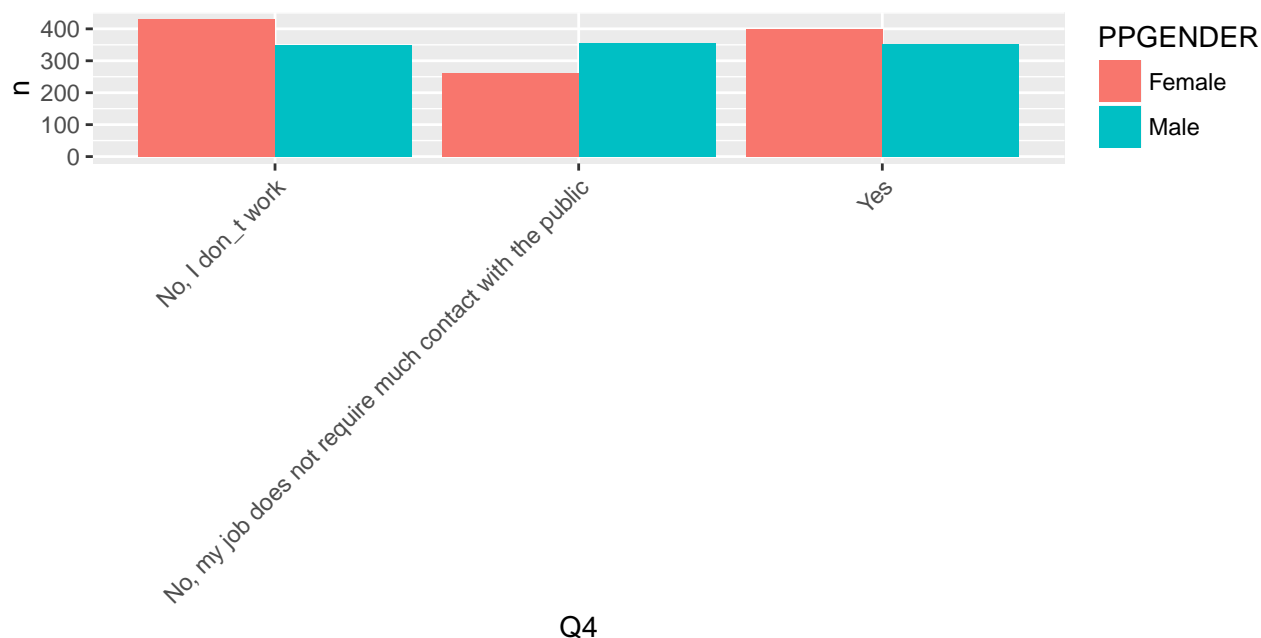


```
# by ethnicity
with(data2, table(Q4, PPETHM))
```

```
##                                                     PPETHM
## Q4                                                   2+ Races, Non-Hispanic
##    No, I don_t work                                                    30
##    No, my job does not require much contact with the public            23
##    Yes                                                                 27
##                                                     PPETHM
## Q4                                                   Black, Non-Hispanic
##    No, I don_t work                                                    69
##    No, my job does not require much contact with the public            59
##    Yes                                                                 64
##                                                     PPETHM
## Q4                                                   Hispanic
##    No, I don_t work                                                    69
```

```
##    No, my job does not require much contact with the public         72
##   Yes                                                                87
##                                                                   PPETHM
## Q4                                                     Other, Non-Hispanic
##   No, I don_t work                                                   24
##   No, my job does not require much contact with the public           34
##   Yes                                                                35
##                                                                   PPETHM
## Q4                                                     White, Non-Hispanic
##   No, I don_t work                                                  587
##   No, my job does not require much contact with the public          432
##   Yes                                                               538
```
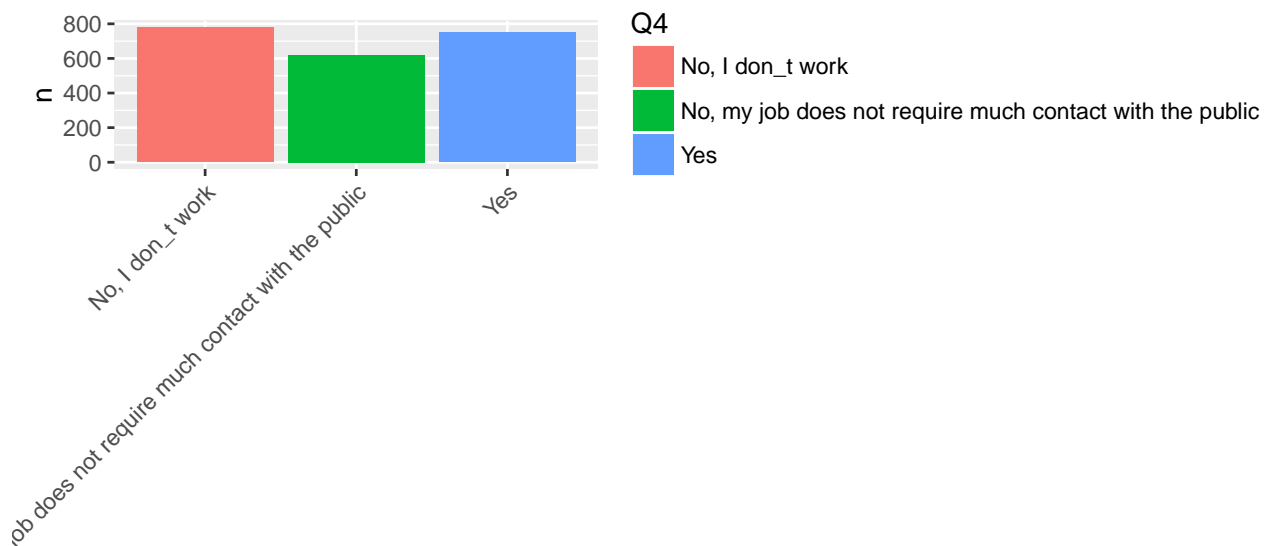
```r
q4 <- data2 %>%
  count(Q4, PPETHM)
ggplot(q4, aes(x = Q4, y = n, fill = PPETHM)) +
  geom_bar(stat = 'identity', position = position_dodge()) +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```



```r
# by income
with(data2, table(Q4, PPINCIMP))
```

```
##                                                                  PPINCIMP
## Q4                                                     Less than $5,000
##   No, I don_t work                                                   29
##   No, my job does not require much contact with the public           17
##   Yes                                                                 6
##                                                                  PPINCIMP
## Q4                                                     $5,000 to $7,499
##   No, I don_t work                                                   15
##   No, my job does not require much contact with the public            5
##   Yes                                                                 5
```
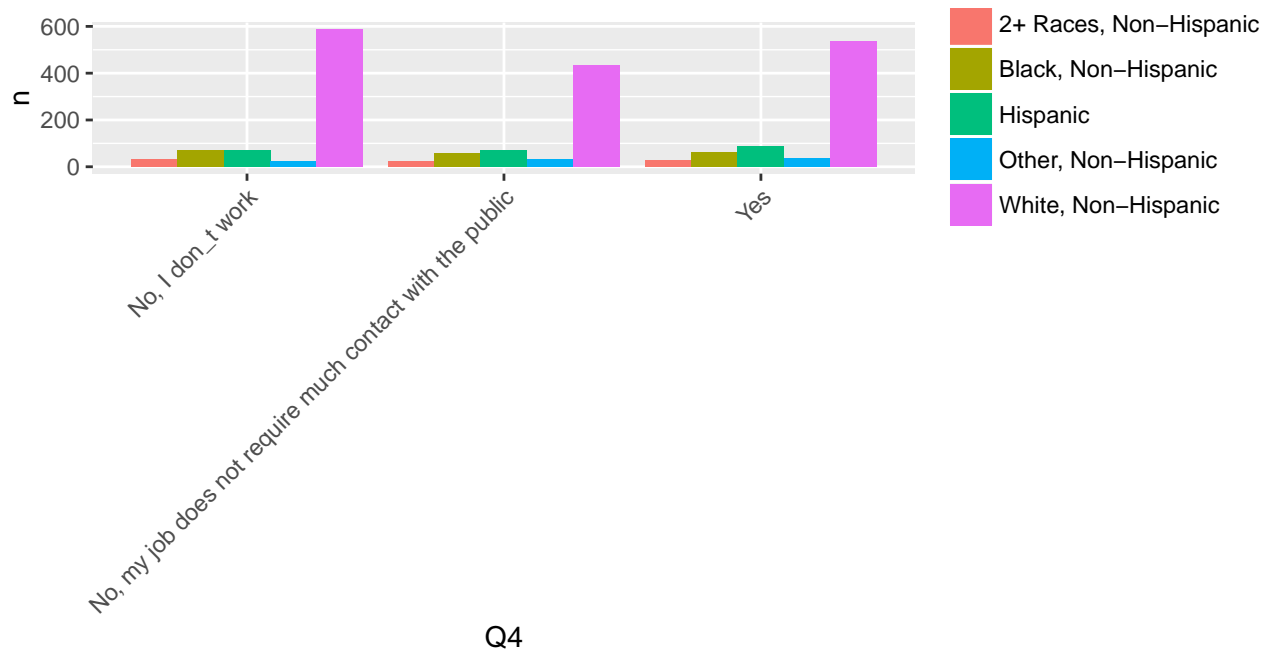
```
##                                                            PPINCIMP
## Q4                                                         $7,500 to $9,999
##   No, I don_t work                                                      11
##   No, my job does not require much contact with the public              1
##   Yes                                                                   2
##                                                            PPINCIMP
## Q4                                                         $10,000 to $12,499
##   No, I don_t work                                                      33
##   No, my job does not require much contact with the public              7
##   Yes                                                                   15
##                                                            PPINCIMP
## Q4                                                         $12,500 to $14,999
##   No, I don_t work                                                      32
##   No, my job does not require much contact with the public              5
##   Yes                                                                   11
##                                                            PPINCIMP
## Q4                                                         $15,000 to $19,999
##   No, I don_t work                                                      28
##   No, my job does not require much contact with the public             13
##   Yes                                                                   21
##                                                            PPINCIMP
## Q4                                                         $20,000 to $24,999
##   No, I don_t work                                                      35
##   No, my job does not require much contact with the public             18
##   Yes                                                                   19
##                                                            PPINCIMP
## Q4                                                         $25,000 to $29,999
##   No, I don_t work                                                      46
##   No, my job does not require much contact with the public             15
##   Yes                                                                   37
##                                                            PPINCIMP
## Q4                                                         $30,000 to $34,999
##   No, I don_t work                                                      38
##   No, my job does not require much contact with the public             25
##   Yes                                                                   29
##                                                            PPINCIMP
## Q4                                                         $35,000 to $39,999
##   No, I don_t work                                                      42
##   No, my job does not require much contact with the public             22
##   Yes                                                                   39
##                                                            PPINCIMP
## Q4                                                         $40,000 to $49,999
##   No, I don_t work                                                      64
##   No, my job does not require much contact with the public             41
##   Yes                                                                   43
##                                                            PPINCIMP
## Q4                                                         $50,000 to $59,999
##   No, I don_t work                                                      60
##   No, my job does not require much contact with the public             58
##   Yes                                                                   63
##                                                            PPINCIMP
## Q4                                                         $60,000 to $74,999
##   No, I don_t work                                                      73
##   No, my job does not require much contact with the public             60
```

```
##   Yes                                                                88
##                                                        PPINCIMP
## Q4                                             $75,000 to $84,999
##   No, I don_t work                                                  45
##   No, my job does not require much contact with the public          51
##   Yes                                                               64
##                                                        PPINCIMP
## Q4                                             $85,000 to $99,999
##   No, I don_t work                                                  47
##   No, my job does not require much contact with the public          48
##   Yes                                                               58
##                                                        PPINCIMP
## Q4                                            $100,000 to $124,999
##   No, I don_t work                                                  87
##   No, my job does not require much contact with the public         111
##   Yes                                                              127
##                                                        PPINCIMP
## Q4                                            $125,000 to $149,999
##   No, I don_t work                                                  39
##   No, my job does not require much contact with the public          51
##   Yes                                                               42
##                                                        PPINCIMP
## Q4                                            $150,000 to $174,999
##   No, I don_t work                                                  23
##   No, my job does not require much contact with the public          25
##   Yes                                                               36
##                                                        PPINCIMP
## Q4                                              $175,000 or more
##   No, I don_t work                                                  32
##   No, my job does not require much contact with the public          47
##   Yes                                                               46
```

```r
q4 <- data2 %>%
  count(Q4, PPINCIMP)
ggplot(q4, aes(x = Q4, y = n, fill = PPINCIMP)) +
  geom_bar(stat = 'identity', position = position_dodge()) +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```
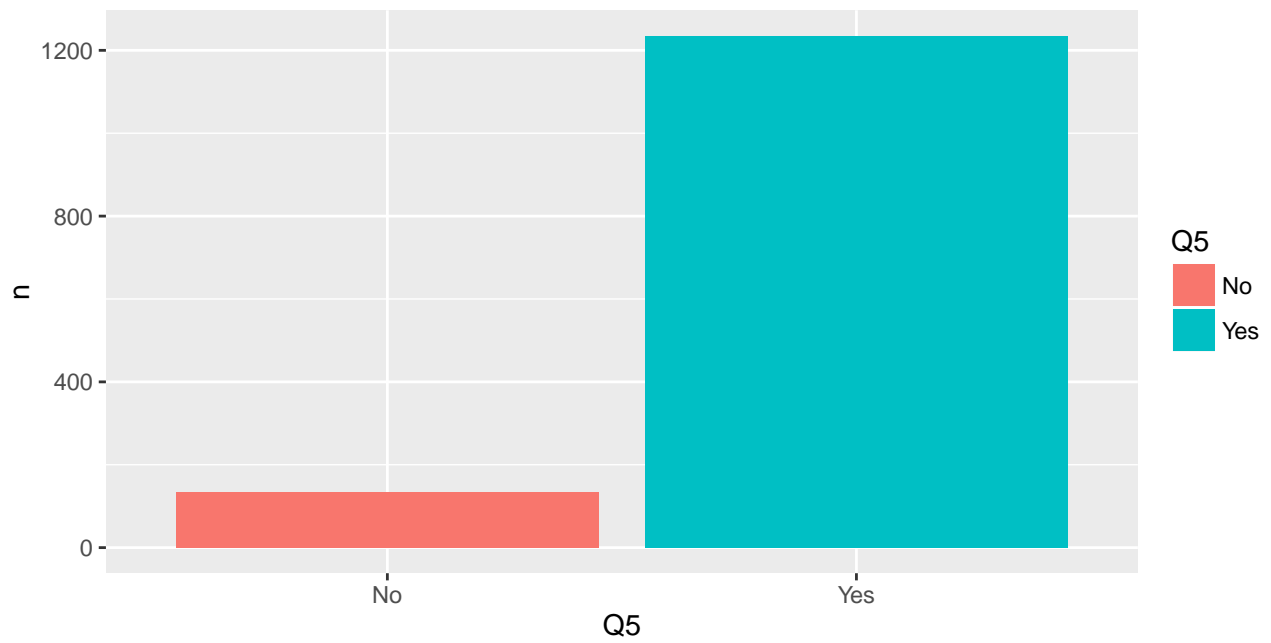
$25,000 to $29,999	
$30,000 to $34,999	
$35,000 to $39,999	
$40,000 to $49,999	
$50,000 to $59,999	
$60,000 to $74,999	
$75,000 to $84,999	
$85,000 to $99,999	
$100,000 to $124,999	
$125,000 to $149,999	
$150,000 to $174,999	
$175,000 or more	

Q4
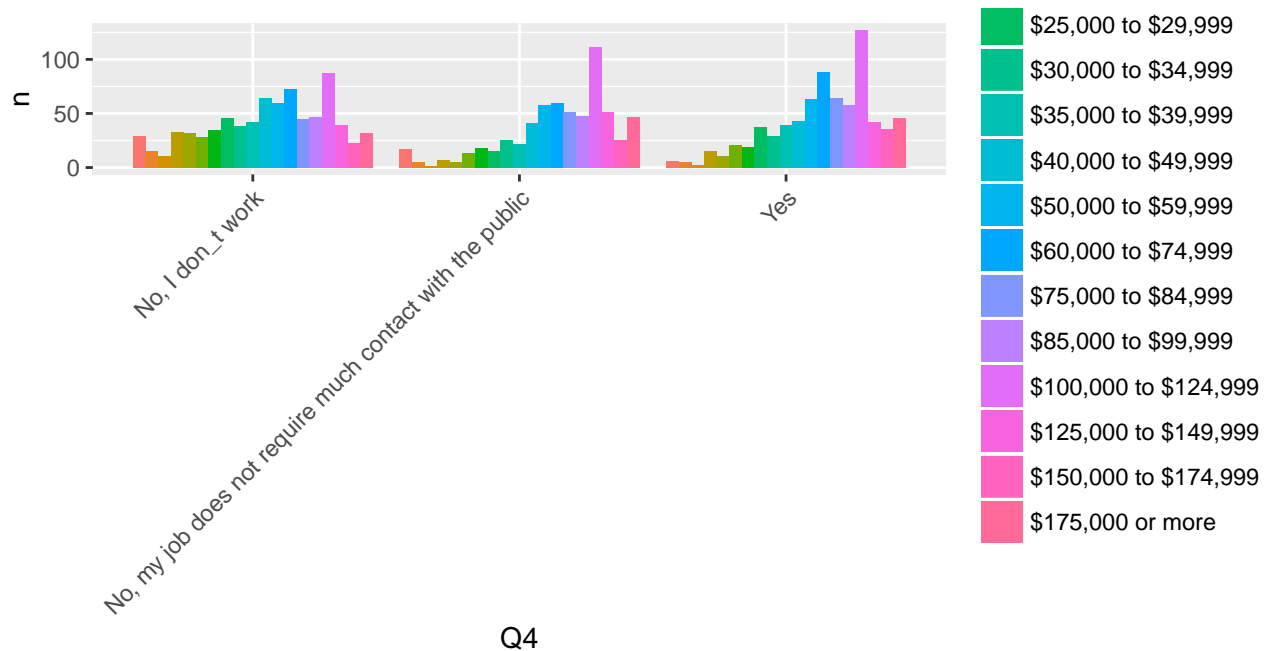
Q5. Do you have a car that you can use to travel to work?

```r
# all
with(data2, table(Q5))
```
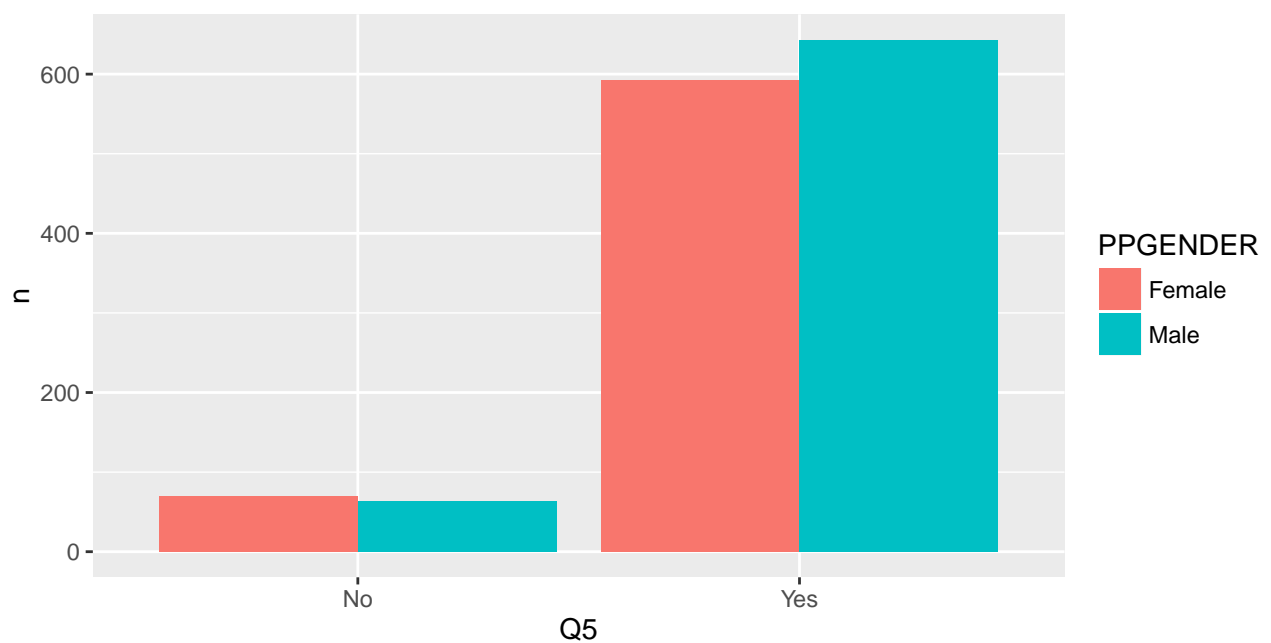
```
## Q5
##   No  Yes
##  133 1235
```

```r
q5 <- data2 %>%
  count(Q5)
ggplot(q5, aes(x = Q5, y = n, fill = Q5)) + geom_bar(stat = 'identity')
```

```
# by gender
with(data2, table(PPGENDER, Q5))
```

```
##          Q5
## PPGENDER  No Yes
##   Female  70 592
##   Male    63 643
```

```
q5 <- data2 %>%
  count(Q5, PPGENDER)
ggplot(q5, aes(x = Q5, y = n, fill = PPGENDER)) +
  geom_bar(stat = 'identity', position = position_dodge())
```

```
# by ethnicity
q5 <- data2 %>%
  count(Q5, PPETHM)
ggplot(q5, aes(x = Q5, y = n, fill = PPETHM)) +
  geom_bar(stat = 'identity', position = position_dodge())
```
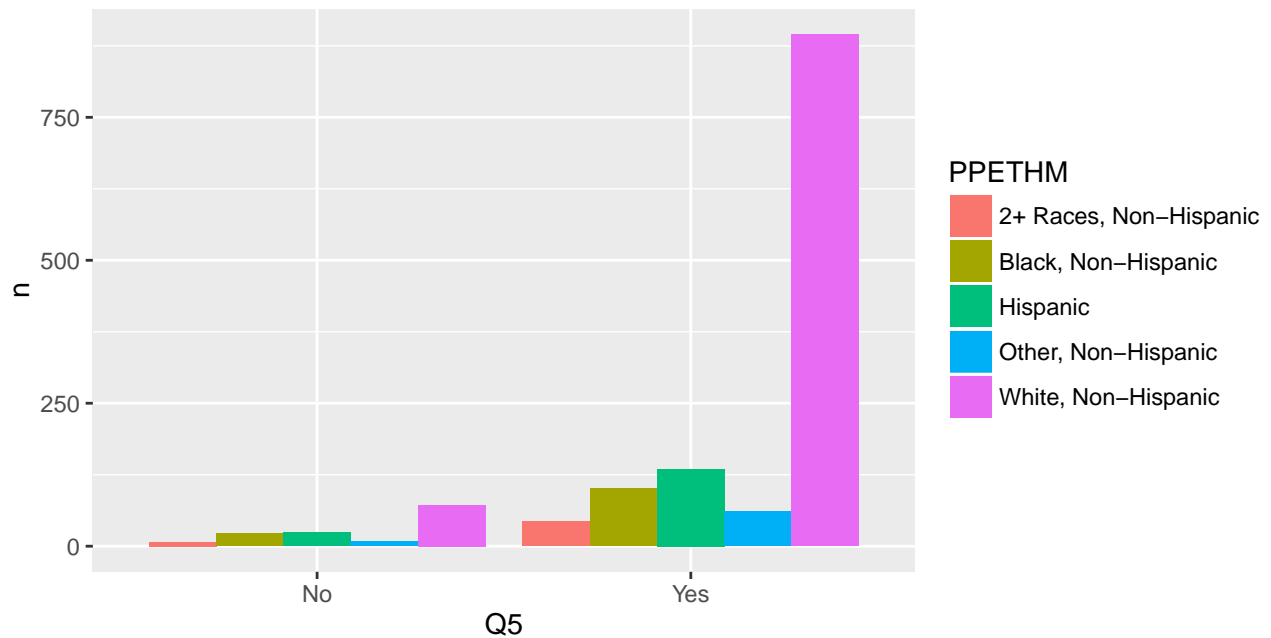


```
# by income
q5 <- data2 %>%
  count(Q5, PPINCIMP)
ggplot(q5, aes(x = Q5, y = n, fill = PPINCIMP)) +
  geom_bar(stat = 'identity', position = position_dodge())
```
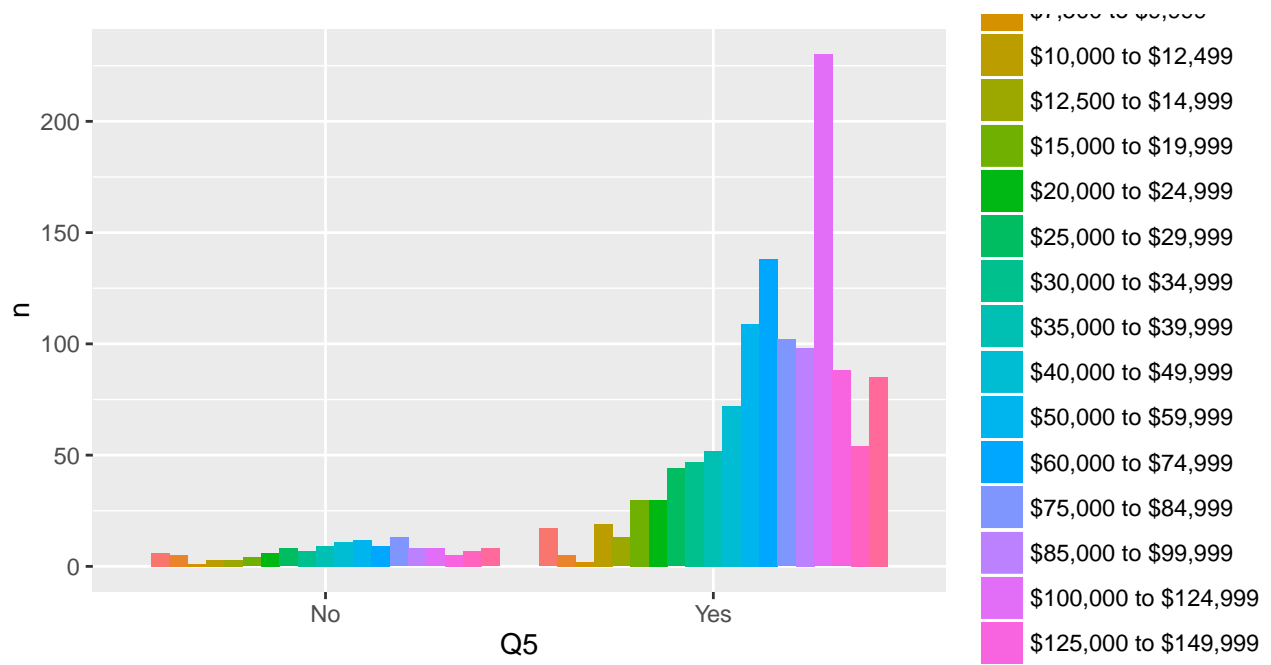
Q6. Do you regularly use public transportation?

```
# all
with(data2, table(Q6))
```

```
## Q6
##   No  Yes
## 1959  194
```

```
q6 <- data2 %>%
  count(Q6)
ggplot(q6, aes(x = Q6, y = n, fill = Q6)) + geom_bar(stat = 'identity')
```
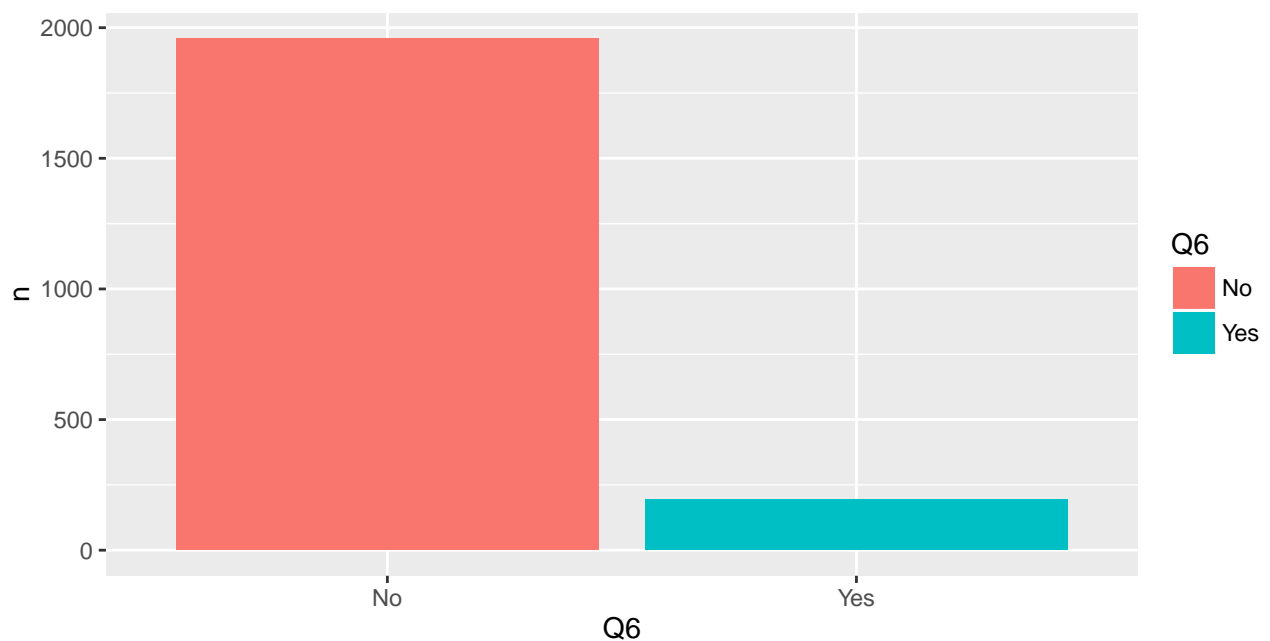


```
# by gender
# with(data2, table(PPGENDER, Q6))
(q6 <- data2 %>%
  count(Q6, PPGENDER)
)
```

```
## Source: local data frame [6 x 3]
## Groups: Q6 [?]
##
##      Q6 PPGENDER     n
##   (chr)    (chr) (int)
## 1    No   Female   998
## 2    No     Male   961
## 3   Yes   Female    96
## 4   Yes     Male    98
## 5    NA   Female     3
## 6    NA     Male    12
```

```r
ggplot(q6, aes(x = Q6, y = n, fill = PPGENDER)) +
  geom_bar(stat = 'identity', position = position_dodge())
```
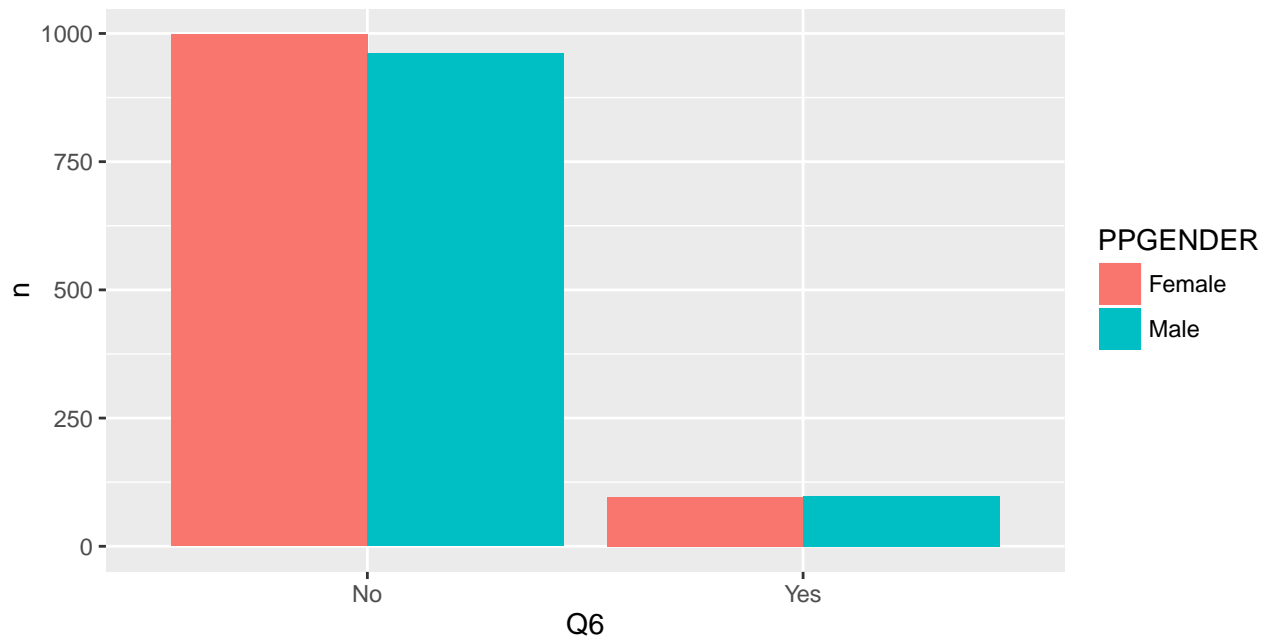


```r
# by ethnicity
(q6 <- data2 %>%
  count(Q6, PPETHM)
)
```

```
## Source: local data frame [13 x 3]
## Groups: Q6 [?]
##
##        Q6               PPETHM    n
##    (chr)                (chr)  (int)
## 1     No 2+ Races, Non-Hispanic    62
## 2     No    Black, Non-Hispanic   158
## 3     No              Hispanic   196
## 4     No    Other, Non-Hispanic    80
## 5     No    White, Non-Hispanic  1463
## 6    Yes 2+ Races, Non-Hispanic    18
## 7    Yes    Black, Non-Hispanic    36
## 8    Yes              Hispanic    32
## 9    Yes    Other, Non-Hispanic    13
## 10   Yes    White, Non-Hispanic    95
## 11    NA    Black, Non-Hispanic     1
## 12    NA              Hispanic     4
## 13    NA    White, Non-Hispanic    10
```

```r
ggplot(q6, aes(x = Q6, y = n, fill = PPETHM)) +
  geom_bar(stat = 'identity', position = position_dodge())
```
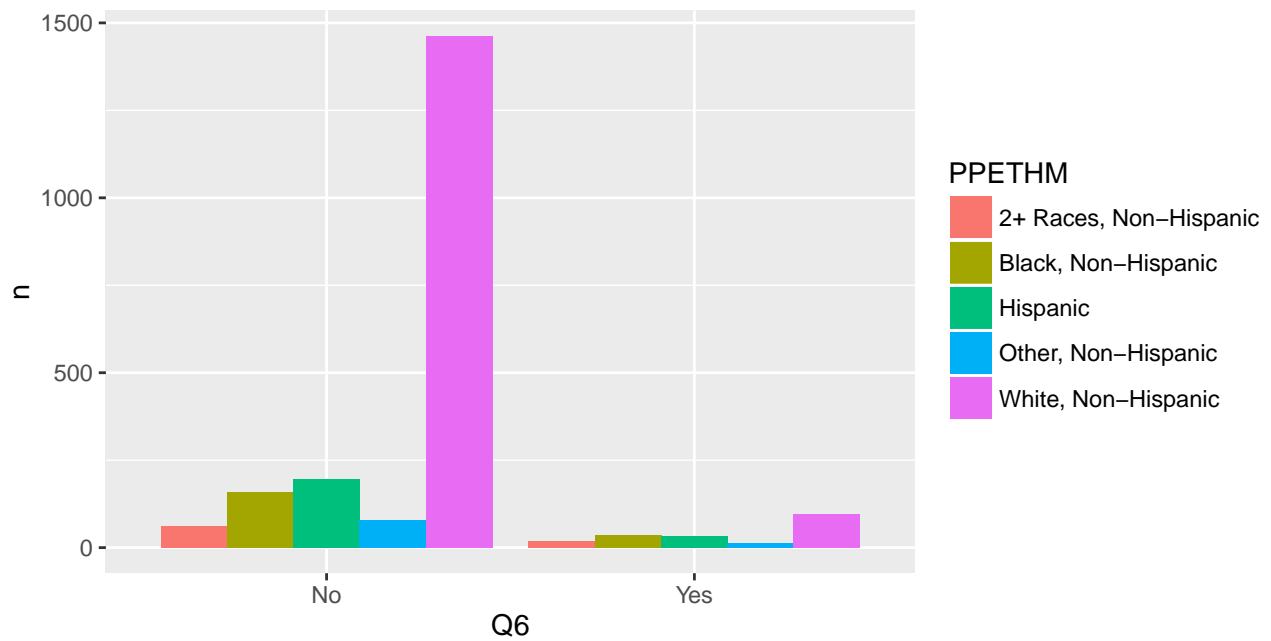
```
# by income
(q6 <- data2 %>%
  count(Q6, PPINCIMP)
)
```

```
## Source: local data frame [50 x 3]
## Groups: Q6 [?]
##
##       Q6            PPINCIMP      n
##    (chr)              (fctr) (int)
## 1     No   Less than $5,000     42
## 2     No    $5,000 to $7,499     22
## 3     No    $7,500 to $9,999     10
## 4     No  $10,000 to $12,499     47
## 5     No  $12,500 to $14,999     42
## 6     No  $15,000 to $19,999     58
## 7     No  $20,000 to $24,999     64
## 8     No  $25,000 to $29,999     90
## 9     No  $30,000 to $34,999     85
## 10    No  $35,000 to $39,999     92
## ..   ...                 ...    ...
```

```
ggplot(q6, aes(x = Q6, y = n, fill = PPINCIMP)) +
  geom_bar(stat = 'identity', position = position_dodge())
```
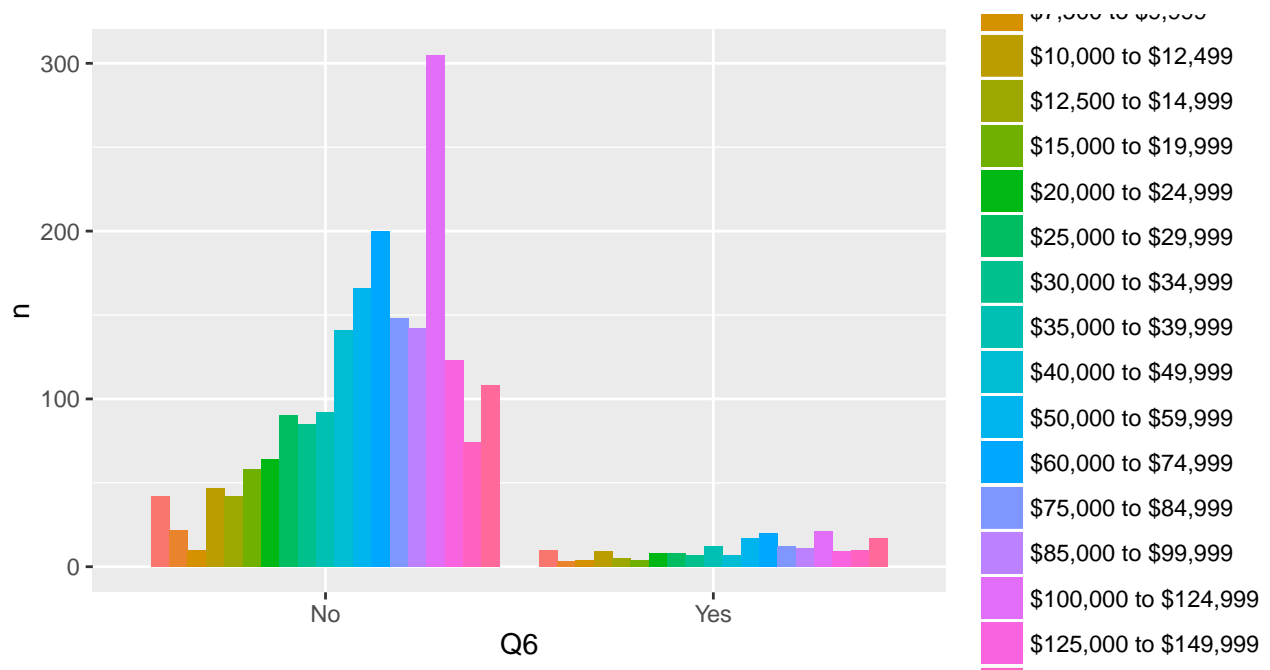
**Q7. What types of public transportation do you regularly use?**

```
Q7 <- data2 %>%
  select(PPGENDER, PPAGE, PPEDUC, PPETHM, PPINCIMP, PPWORK, Q7_1_Bus:Q7_otherText) %>%
  gather("q", "r", Q7_1_Bus:Q7_7_Other)


# Q7
with(Q7, table(q, r))
```

```
##              r
## q             No Yes
##   Q7_1_Bus     57 137
##   Q7_2_Carpool 184  10
##   Q7_3_Subway  131  63
##   Q7_4_Train   139  55
##   Q7_5_Taxi    169  25
##   Q7_6_Airplane 175  19
##   Q7_7_Other   179  15
```

```
q7 <- Q7 %>%
  count(q, r)

# flip coordinates
ggplot(q7[!is.na(q7$r), ], aes(x = r, y = n, fill = r)) +
  geom_bar(stat = 'identity', position = position_dodge()) + facet_wrap(~q) + coord_flip()
```
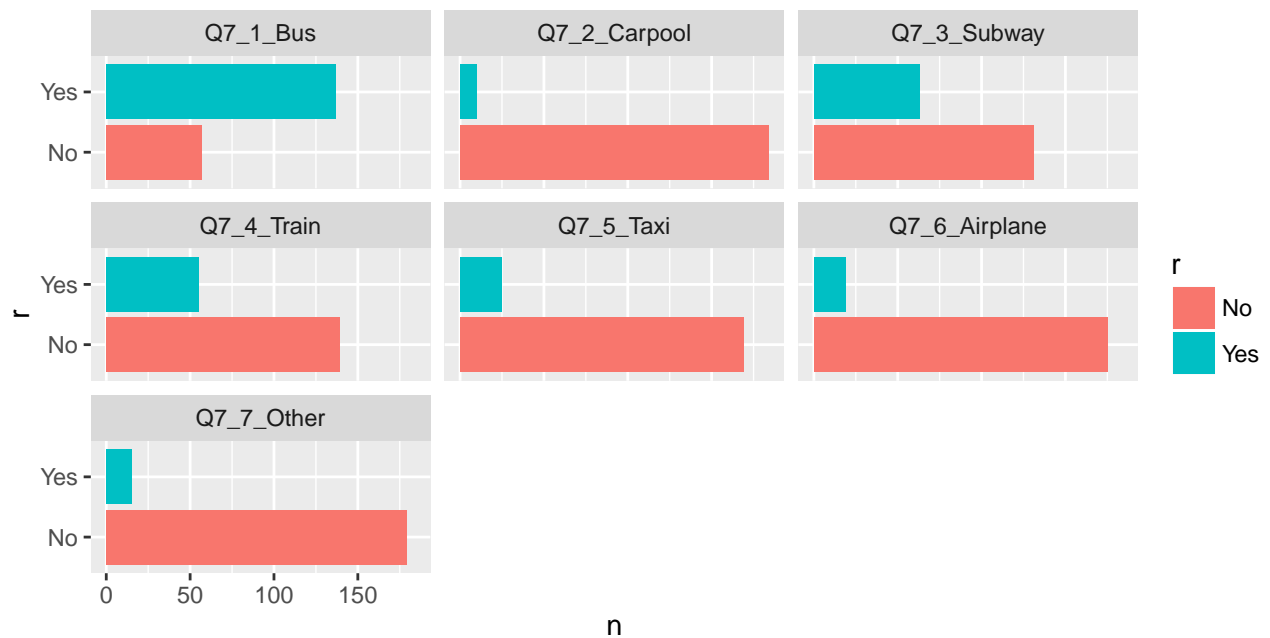
```r
# by gender
# with(Q7, table(PPGENDER, r, q))
(q7 <- Q7 %>%
  group_by(PPGENDER, q, r) %>%
  count(PPGENDER, q, r)
)
```

```
## Source: local data frame [42 x 4]
## Groups: PPGENDER, q [?]
##
##     PPGENDER            q      r      n
##        (chr)        (chr)  (chr)  (int)
## 1     Female      Q7_1_Bus     No     27
## 2     Female      Q7_1_Bus    Yes     69
## 3     Female      Q7_1_Bus     NA   1001
## 4     Female  Q7_2_Carpool     No     91
## 5     Female  Q7_2_Carpool    Yes      5
## 6     Female  Q7_2_Carpool     NA   1001
## 7     Female   Q7_3_Subway     No     68
## 8     Female   Q7_3_Subway    Yes     28
## 9     Female   Q7_3_Subway     NA   1001
## 10    Female    Q7_4_Train     No     75
## ..       ...          ...    ...    ...
```

```r
ggplot(q7[!is.na(q7$r), ], aes(x = r, y = n, fill = PPGENDER)) +
  geom_bar(stat = 'identity', position = position_dodge()) + facet_wrap(~q)
```
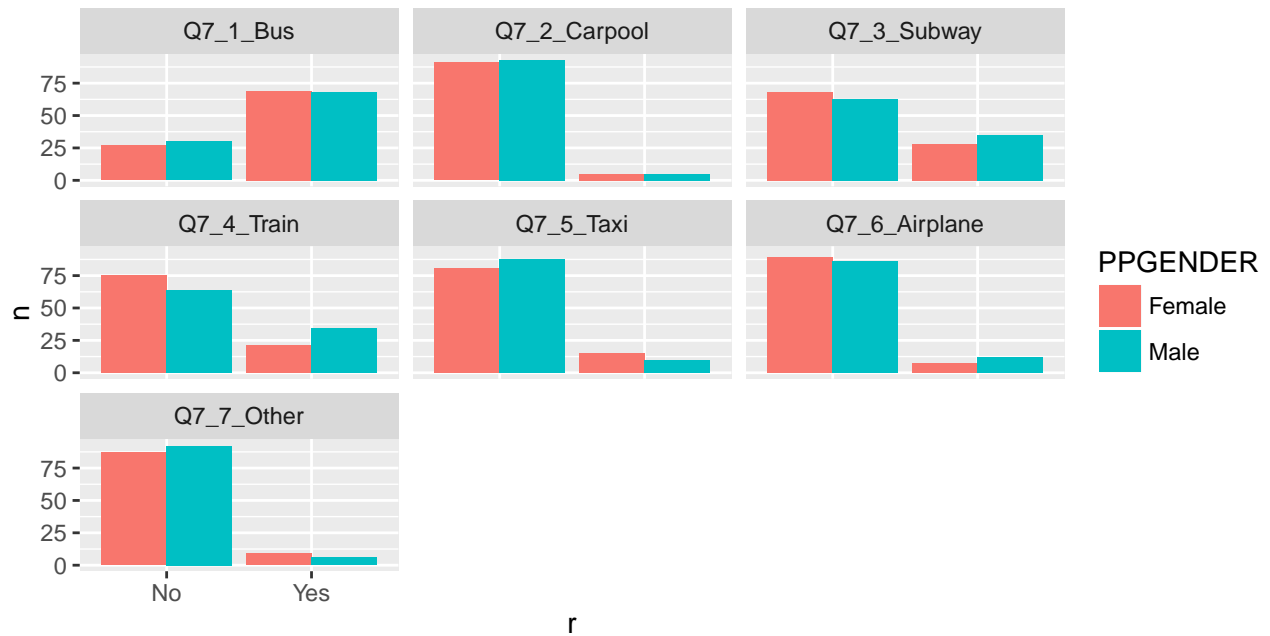
```r
# by ethnicity
# with(Q7, table(PPETHM, r, q))
(q7 <- Q7 %>%
  group_by(PPETHM, q, r) %>%
  count(PPETHM, q, r)
)
```

```
## Source: local data frame [100 x 4]
## Groups: PPETHM, q [?]
##
##                    PPETHM           q     r      n
##                     (chr)       (chr) (chr)  (int)
## 1  2+ Races, Non-Hispanic    Q7_1_Bus    No      4
## 2  2+ Races, Non-Hispanic    Q7_1_Bus   Yes     14
## 3  2+ Races, Non-Hispanic    Q7_1_Bus    NA     62
## 4  2+ Races, Non-Hispanic Q7_2_Carpool    No     18
## 5  2+ Races, Non-Hispanic Q7_2_Carpool    NA     62
## 6  2+ Races, Non-Hispanic Q7_3_Subway    No     12
## 7  2+ Races, Non-Hispanic Q7_3_Subway   Yes      6
## 8  2+ Races, Non-Hispanic Q7_3_Subway    NA     62
## 9  2+ Races, Non-Hispanic  Q7_4_Train    No     15
## 10 2+ Races, Non-Hispanic  Q7_4_Train   Yes      3
## ..                    ...         ...   ...    ...
```

```r
ggplot(q7[!is.na(q7$r), ], aes(x = r, y = n, fill = PPETHM)) +
  geom_bar(stat = 'identity', position = position_dodge()) + facet_wrap(~q)
```
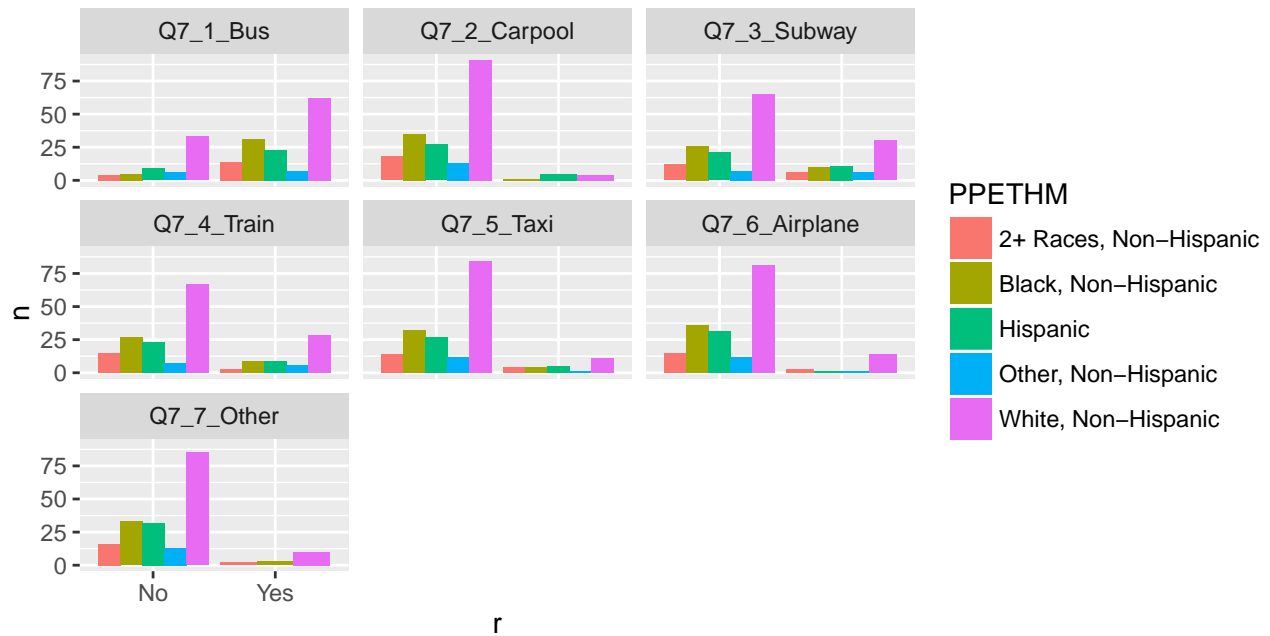
```r
# by income
# with(Q7, table(q, r, PPINCIMP))
(q7 <- Q7 %>%
  group_by(PPINCIMP, q, r) %>%
  count(PPINCIMP, q, r)
)
```

```
## Source: local data frame [357 x 4]
## Groups: PPINCIMP, q [?]
##
##             PPINCIMP           q     r      n
##               (fctr)       (chr) (chr)  (int)
## 1  Less than $5,000      Q7_1_Bus   Yes     10
## 2  Less than $5,000      Q7_1_Bus    NA     43
## 3  Less than $5,000 Q7_2_Carpool    No     10
## 4  Less than $5,000 Q7_2_Carpool    NA     43
## 5  Less than $5,000  Q7_3_Subway    No      9
## 6  Less than $5,000  Q7_3_Subway   Yes      1
## 7  Less than $5,000  Q7_3_Subway    NA     43
## 8  Less than $5,000   Q7_4_Train    No      8
## 9  Less than $5,000   Q7_4_Train   Yes      2
## 10 Less than $5,000   Q7_4_Train    NA     43
## ..               ...         ...   ...    ...
```

```r
ggplot(q7[!is.na(q7$r), ], aes(x = r, y = n, fill = PPINCIMP)) +
  geom_bar(stat = 'identity', position = position_dodge()) + facet_wrap(~q)
```
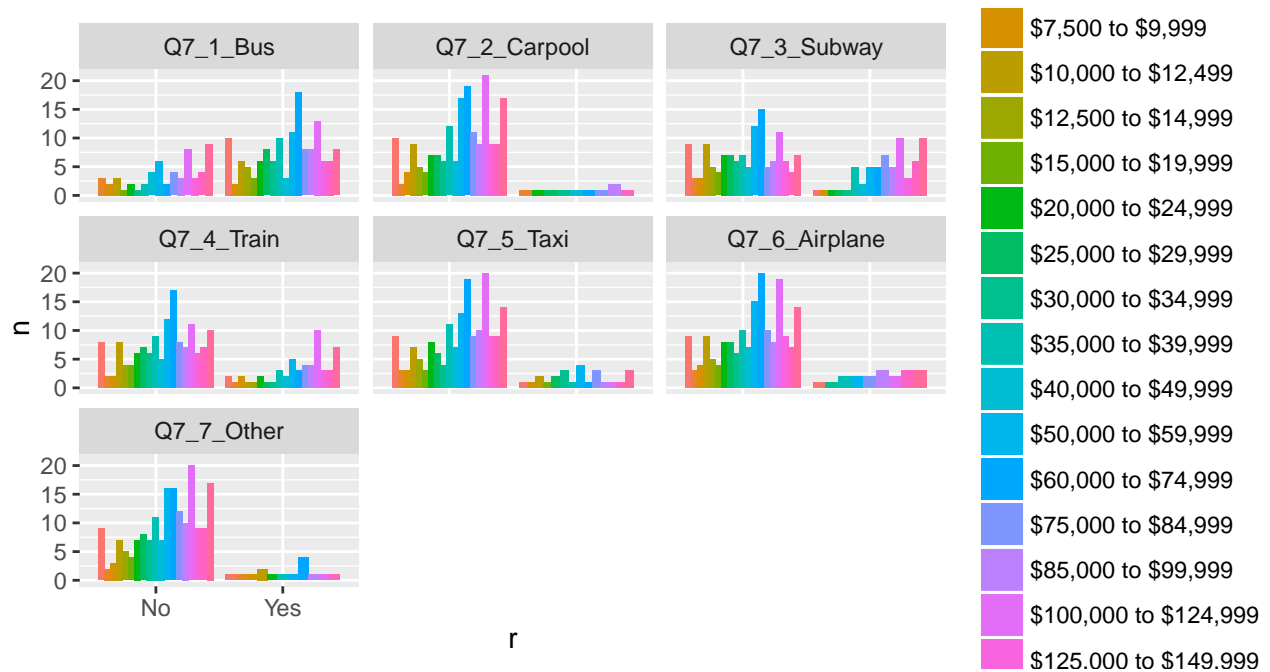
Q8. For what types of activities do you regularly use public transportation?

```
Q8 <- data2 %>%
  select(PPGENDER, PPAGE, PPEDUC, PPETHM, PPINCIMP, PPWORK, Q8_1_Work:Q8_otherText) %>%
  gather("q", "r", Q8_1_Work:Q8_6_Other)

with(Q8, table(q, r))
```

```
##                       r
## q                      No Yes
##   Q8_1_Work            89 105
##   Q8_2_School         158  36
##   Q8_3_Shopping       107  87
##   Q8_4_Visiting people 125  69
##   Q8_5_Recreation     127  67
##   Q8_6_Other          175  19
```

```
q8 <- Q8 %>%
  count(q, r)
```

Q9. Do other members of your household regularly use public transportation?

```
with(data2, table(Q9))
```

```
## Q9
## Don_t know         No         Yes
##         32       1935         183
```

Q10. What types of public transportation do other members of your household regularly use?

```
Q10 <- data2 %>%
  select(PPGENDER, PPAGE, PPEDUC, PPETHM, PPINCIMP, PPWORK, Q10_1_Bus:Q10_9_Refused) %>%
  gather("q", "r", Q10_1_Bus:Q10_8_Other)

with(Q10, table(q, r))
```

```
##                     r
## q                    No Yes
##   Q10_1_Bus          48 135
##   Q10_2_Carpool     166  17
##   Q10_3_Subway      130  53
##   Q10_4_Train       137  46
##   Q10_5_Taxi        157  26
##   Q10_6_Airplane    164  19
##   Q10_7_Don_t know  182   1
##   Q10_8_Other       172  11
```

```
q10 <- Q10 %>%
  count(q, r)
```

Q11. How do you rate your risk of getting influenza if you visited each of the following locations?

```
Q11 <- data2 %>%
  select(PPGENDER, PPAGE, PPEDUC, PPETHM, PPINCIMP, PPWORK, Q11_1_Work:Q11_OtherText_Codes) %>%
  gather("q", "r", Q11_1_Work:Q11_11_Other)


# all
with(Q11, table(q, r))
```

```
##                              r
## q                            Don_t Know High Risk, Very Likely
##   Q11_1_Work                        185                    524
##   Q11_10_Family or friends          121                    541
##   Q11_11_Other                      915                     51
##   Q11_2_Schools                     178                    909
##   Q11_3_Day care                    214                    924
##   Q11_4_Stores                      115                    551
##   Q11_5_Restaurants                 111                    483
##   Q11_6_Libraries                   169                    386
##   Q11_7_Hospitals                   123                    982
##   Q11_8_Doctor_s office             110                    994
##   Q11_9_Public transportation       147                   1093
##                              r
## q                            Low Risk, Not Likely
##   Q11_1_Work                                  643
##   Q11_10_Family or friends                    485
##   Q11_11_Other                                104
```

```
##    Q11_2_Schools                                      508
##    Q11_3_Day care                                     554
##    Q11_4_Stores                                       405
##    Q11_5_Restaurants                                  442
##    Q11_6_Libraries                                    700
##    Q11_7_Hospitals                                    374
##    Q11_8_Doctor_s office                              308
##    Q11_9_Public transportation                        353
##                                       r
## q                     Medium Risk, Somewhat Likely
##    Q11_1_Work                                         795
##    Q11_10_Family or friends                          1000
##    Q11_11_Other                                        54
##    Q11_2_Schools                                      551
##    Q11_3_Day care                                     454
##    Q11_4_Stores                                      1076
##    Q11_5_Restaurants                                 1111
##    Q11_6_Libraries                                    890
##    Q11_7_Hospitals                                    669
##    Q11_8_Doctor_s office                              733
##    Q11_9_Public transportation                        551
```

```r
q11 <- Q11 %>%
  count(q, r)
ggplot(q11[!is.na(q11$r), ], aes(x = r, y = n, fill = r)) +
  geom_bar(stat = 'identity', position = position_dodge()) + facet_wrap(~q) +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```



```r
# by gender
# with(Q7, table(PPGENDER, r, q))
(q11 <- Q11 %>%
  group_by(PPGENDER, q, r) %>%
  count(PPGENDER, q, r)
```

```
)
```

```
## Source: local data frame [110 x 4]
## Groups: PPGENDER, q [?]
##
##      PPGENDER                    q                             r      n
##        (chr)                 (chr)                         (chr)  (int)
## 1    Female             Q11_1_Work                    Don_t Know     89
## 2    Female             Q11_1_Work       High Risk, Very Likely    309
## 3    Female             Q11_1_Work        Low Risk, Not Likely     310
## 4    Female             Q11_1_Work Medium Risk, Somewhat Likely    381
## 5    Female             Q11_1_Work                           NA      8
## 6    Female Q11_10_Family or friends                  Don_t Know     53
## 7    Female Q11_10_Family or friends       High Risk, Very Likely    302
## 8    Female Q11_10_Family or friends        Low Risk, Not Likely     229
## 9    Female Q11_10_Family or friends Medium Risk, Somewhat Likely    506
## 10   Female Q11_10_Family or friends                          NA      7
## ..      ...                    ...                          ...    ...
```

```r
ggplot(q11[!is.na(q11$r), ], aes(x = r, y = n, fill = PPGENDER)) +
  geom_bar(stat = 'identity', position = position_dodge()) + facet_wrap(~q) +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```
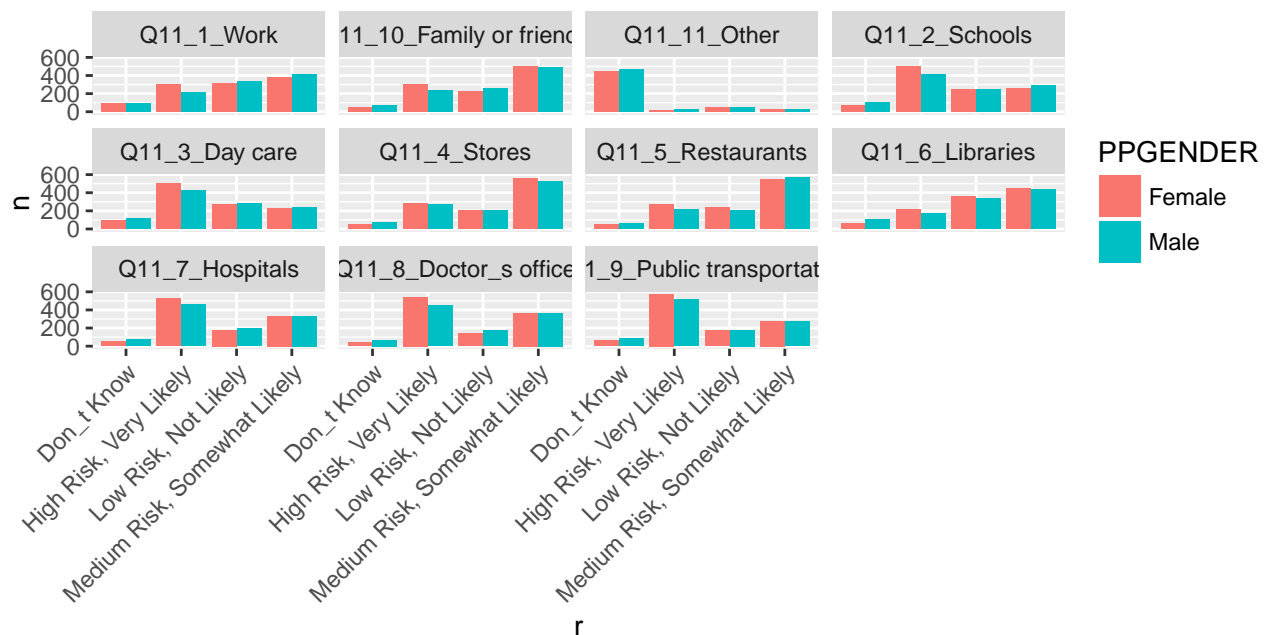


```r
# by ethnicity
# with(Q7, table(PPETHM, r, q))
(q11 <- Q11 %>%
  group_by(PPETHM, q, r) %>%
  count(PPETHM, q, r)
)
```

```
## Source: local data frame [275 x 4]
```

32

```
## Groups: PPETHM, q [?]
##
##                    PPETHM                        q
##                     (chr)                      (chr)
## 1  2+ Races, Non-Hispanic          Q11_1_Work
## 2  2+ Races, Non-Hispanic          Q11_1_Work
## 3  2+ Races, Non-Hispanic          Q11_1_Work
## 4  2+ Races, Non-Hispanic          Q11_1_Work
## 5  2+ Races, Non-Hispanic          Q11_1_Work
## 6  2+ Races, Non-Hispanic Q11_10_Family or friends
## 7  2+ Races, Non-Hispanic Q11_10_Family or friends
## 8  2+ Races, Non-Hispanic Q11_10_Family or friends
## 9  2+ Races, Non-Hispanic Q11_10_Family or friends
## 10 2+ Races, Non-Hispanic Q11_10_Family or friends
## ..                    ...                       ...
## Variables not shown: r (chr), n (int)
```

```r
ggplot(q11[!is.na(q11$r), ], aes(x = r, y = n, fill = PPETHM)) +
  geom_bar(stat = 'identity', position = position_dodge()) + facet_wrap(~q) +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```



```r
# by income
# with(Q7, table(q, r, PPINCIMP))
(q11 <- Q11 %>%
  group_by(PPINCIMP, q, r) %>%
  count(PPINCIMP, q, r)
)
```

```
## Source: local data frame [985 x 4]
## Groups: PPINCIMP, q [?]
##
##              PPINCIMP                        q                        r
```

```
##              (fctr)                      (chr)                        (chr)
## 1  Less than $5,000              Q11_1_Work                    Don_t Know
## 2  Less than $5,000              Q11_1_Work        High Risk, Very Likely
## 3  Less than $5,000              Q11_1_Work          Low Risk, Not Likely
## 4  Less than $5,000              Q11_1_Work Medium Risk, Somewhat Likely
## 5  Less than $5,000              Q11_1_Work                            NA
## 6  Less than $5,000 Q11_10_Family or friends                    Don_t Know
## 7  Less than $5,000 Q11_10_Family or friends        High Risk, Very Likely
## 8  Less than $5,000 Q11_10_Family or friends          Low Risk, Not Likely
## 9  Less than $5,000 Q11_10_Family or friends Medium Risk, Somewhat Likely
## 10 Less than $5,000 Q11_10_Family or friends                            NA
## ..              ...                      ...                          ...
## Variables not shown: n (int)
```

```
ggplot(q11[!is.na(q11$r), ], aes(x = r, y = n, fill = PPINCIMP)) +
  geom_bar(stat = 'identity', position = position_dodge()) + facet_wrap(~q) +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```
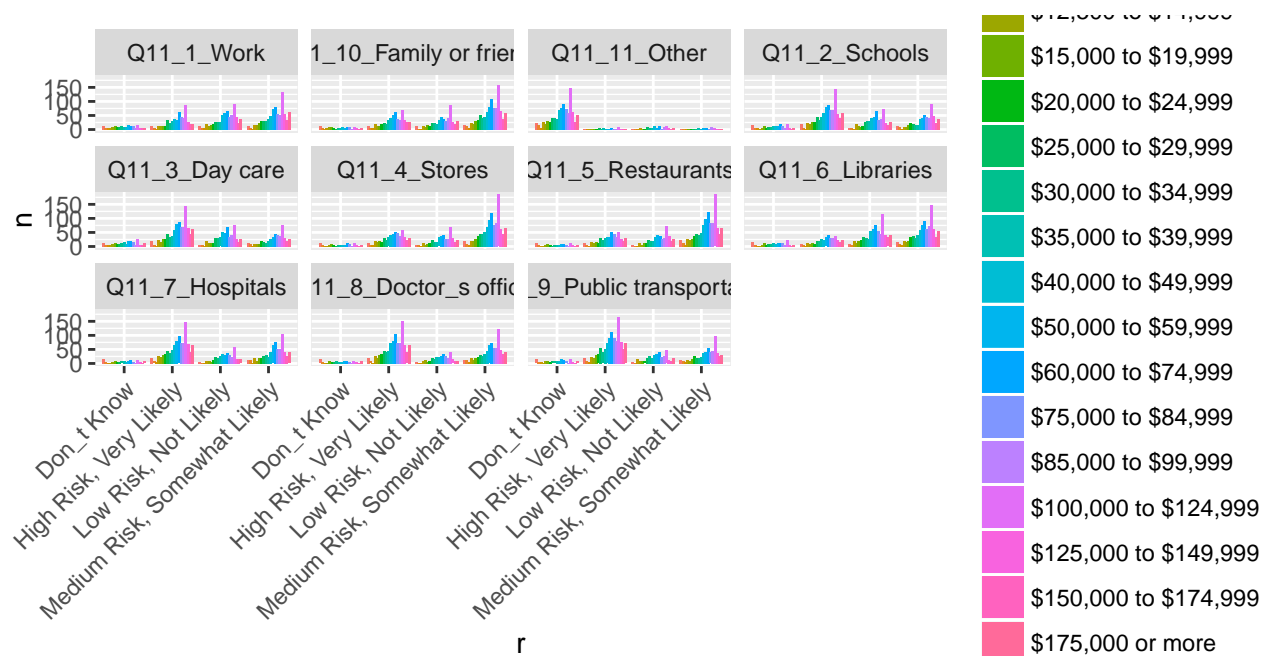

Q12. Which of the following actions do you take to avoid getting sick?

```
Q12 <- data2 %>%
  select(PPGENDER, PPAGE, PPEDUC, PPETHM, PPINCIMP, PPWORK, 75:91) %>%
  gather("q", "r", 7:21)

with(Q12, table(q, r))
```

```
##                                          r
## q                                        Always Never
##   Q12_1_Avoid touching my eyes              653   324
##   Q12_10_Get recommended vaccine           1041   564
##   Q12_11_Take preventive medicine           425   831
```

```
##    Q12_12_Cover my nose and mouth with a surgical mask    218  1568
##    Q12_13_Avoid contact with people who are sick          765   153
##    Q12_14_Avoid crowded places                            406   413
##    Q12_15_Other                                             91   472
##    Q12_2_Avoid touching my nose                            613   349
##    Q12_3_Avoid touching my mouth                           758   300
##    Q12_4_Wash my hands with soap more often              1774    52
##    Q12_5_Use hand sanitizers                              911   278
##    Q12_6_Clean the surfaces in my home                   1132   115
##    Q12_7_Clean the surfaces at work                       752   544
##    Q12_8_Eat nutritious food                              895   107
##    Q12_9_Get adequate rest                                899   114
##                                                                 r
## q                                                       Sometimes
##    Q12_1_Avoid touching my eyes                              1168
##    Q12_10_Get recommended vaccine                             540
##    Q12_11_Take preventive medicine                           890
##    Q12_12_Cover my nose and mouth with a surgical mask       358
##    Q12_13_Avoid contact with people who are sick            1228
##    Q12_14_Avoid crowded places                             1322
##    Q12_15_Other                                               87
##    Q12_2_Avoid touching my nose                             1183
##    Q12_3_Avoid touching my mouth                            1085
##    Q12_4_Wash my hands with soap more often                 317
##    Q12_5_Use hand sanitizers                                957
##    Q12_6_Clean the surfaces in my home                      899
##    Q12_7_Clean the surfaces at work                         842
##    Q12_8_Eat nutritious food                               1144
##    Q12_9_Get adequate rest                                 1130
```
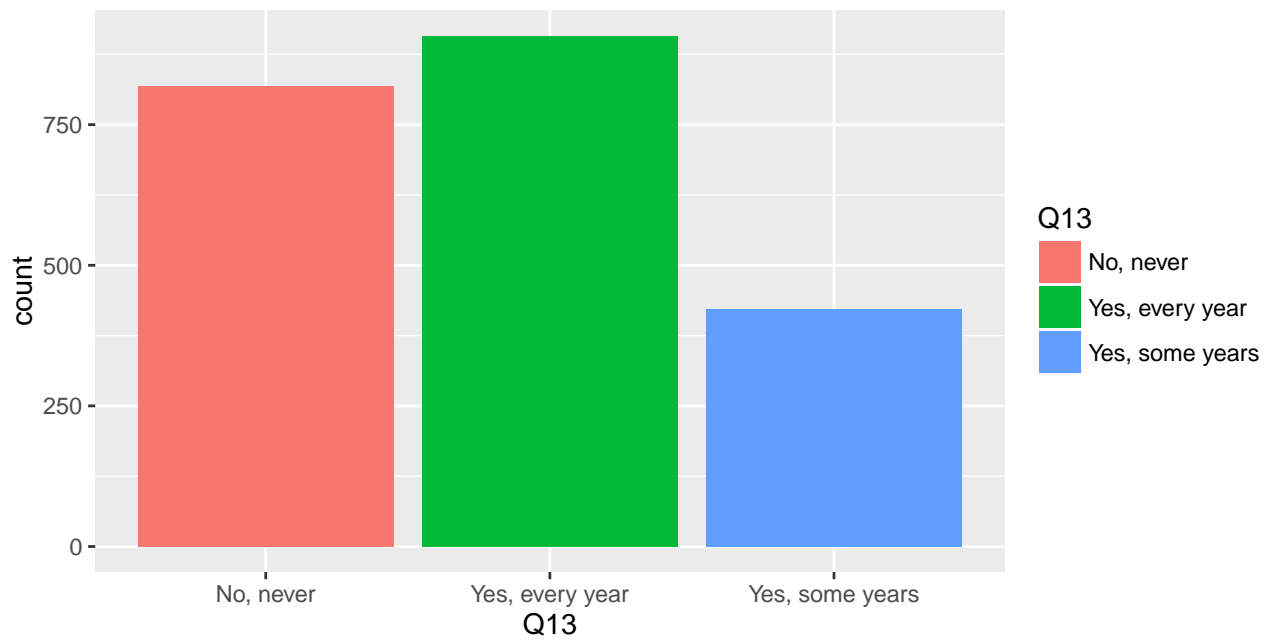
```
q12 <- Q12 %>%
  count(q, r)
```

Q13. Do you get the flu vaccine?

```
with(data2, table(Q13))
```

```
## Q13
##     No, never Yes, every year Yes, some years
##           819            908            423
```

```
ggplot(data2[!is.na(data2$Q13), ]) + geom_bar(mapping = aes(x = Q13, fill = Q13), position = position_d
```
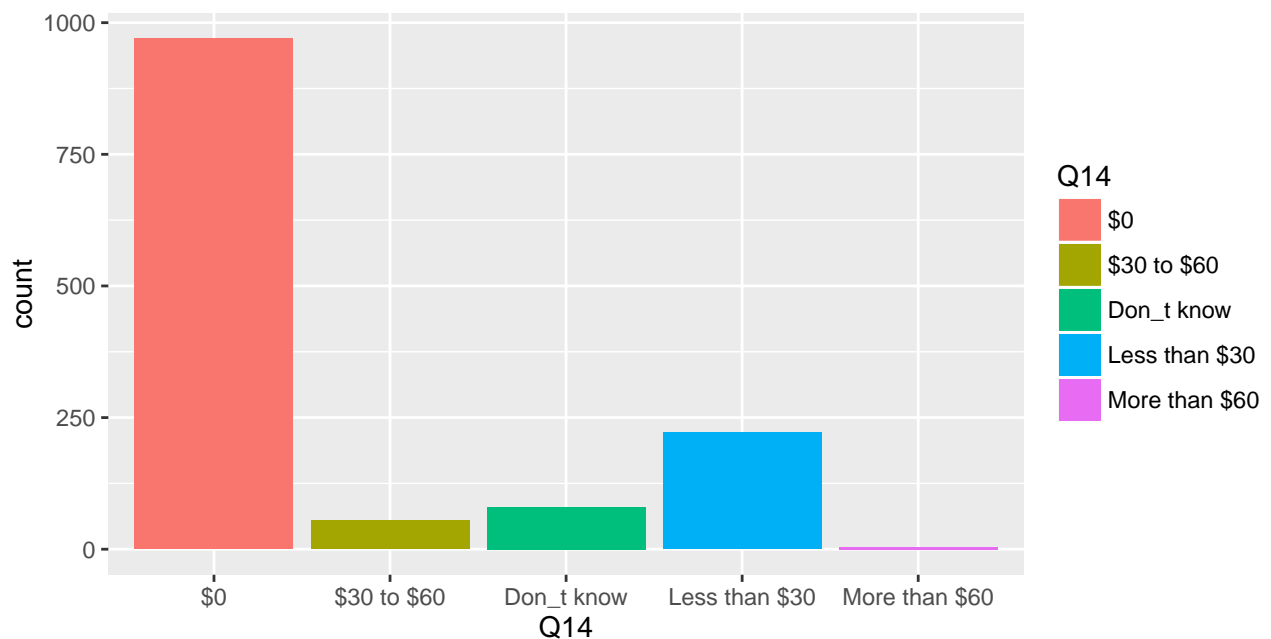
Q14. How much do you pay to get an influenza vaccine?

```
with(data2, table(Q14))
```

```
## Q14
##              $0    $30 to $60    Don_t know Less than $30 More than $60
##             970            54            80           222             4
```

```
ggplot(data2[!is.na(data2$Q14), ]) + geom_bar(mapping = aes(x = Q14, fill = Q14), position = position_d
```

```
# by gender
with(data2, by(Q14, PPGENDER, summary))
```

```
## PPGENDER: Female
##            $0    $30 to $60    Don_t know Less than $30 More than $60
##           514            28            41           101             2
##          NA's
##           411
## -----------------------------------------------------------
## PPGENDER: Male
##            $0    $30 to $60    Don_t know Less than $30 More than $60
##           456            26            39           121             2
##          NA's
##           427
```
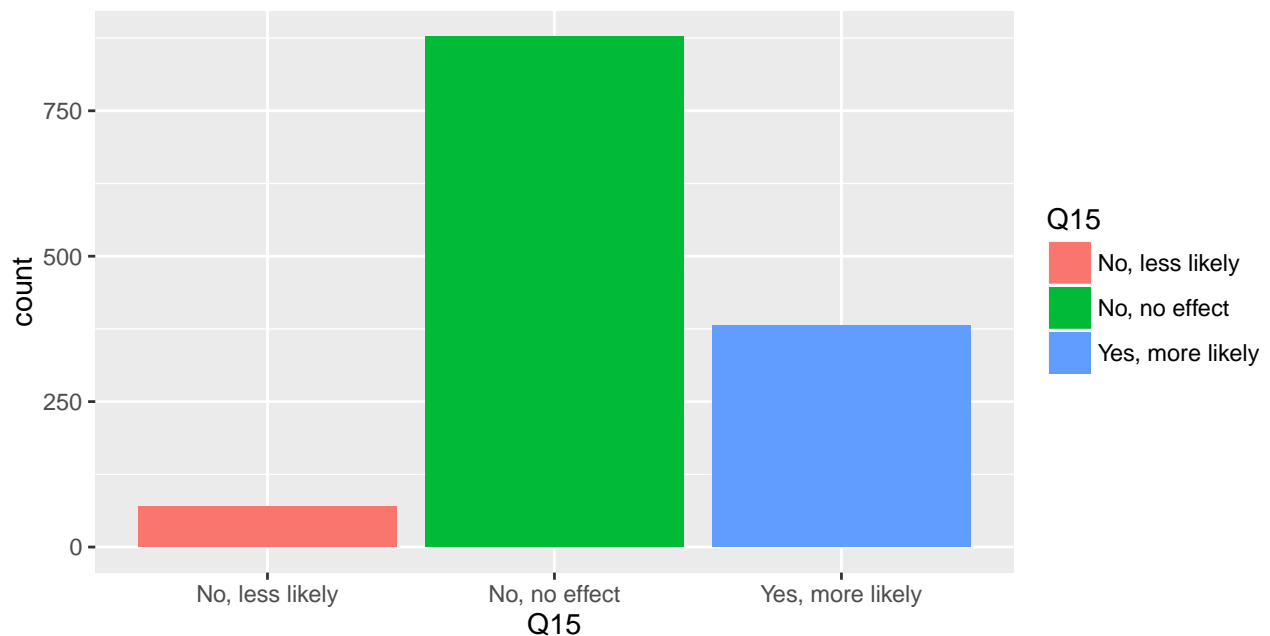
Q15. Are you more likely to get a vaccine if others around you get a vaccine?

```
with(data2, table(Q15))
```

```
## Q15
##  No, less likely    No, no effect Yes, more likely
##             70              878              381
```

```
ggplot(data2[!is.na(data2$Q15), ]) + geom_bar(mapping = aes(x = Q15, fill = Q15), position = position_d
```
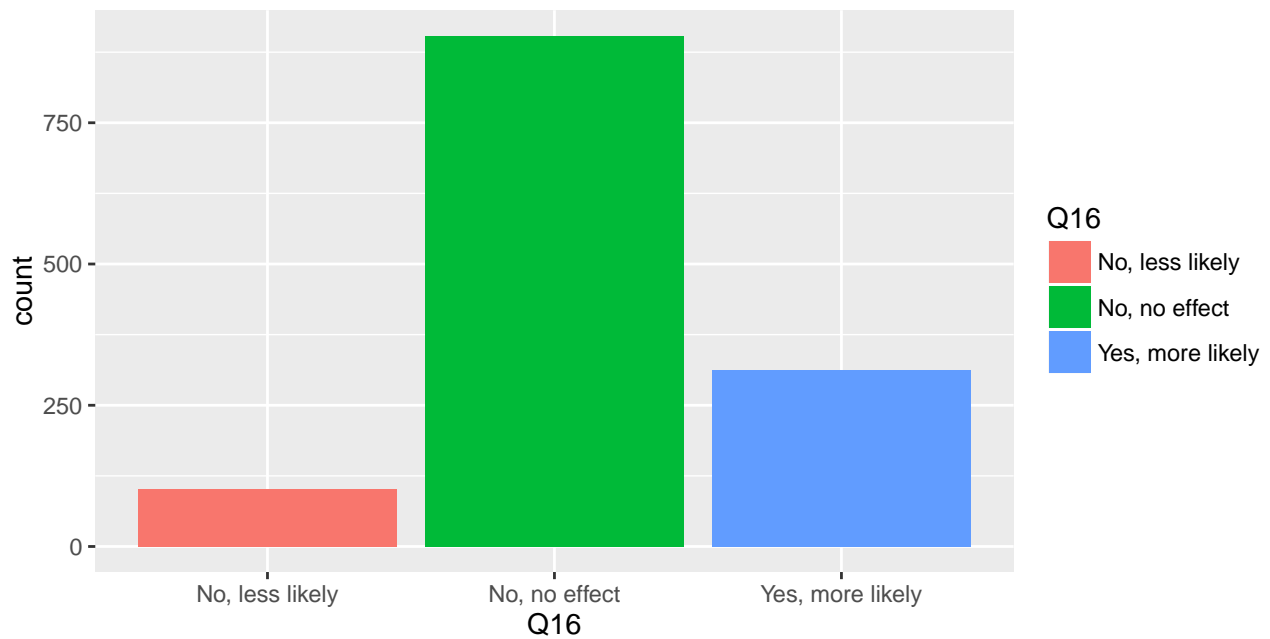

Q16. Are you more likely to get a vaccine if others around you do not get a vaccine?

```
with(data2, table(Q16))
```

```
## Q16
##  No, less likely     No, no effect Yes, more likely
##              101               904              313
```

```
ggplot(data2[!is.na(data2$Q16), ]) + geom_bar(mapping = aes(x = Q16, fill = Q16), position = position_d
```


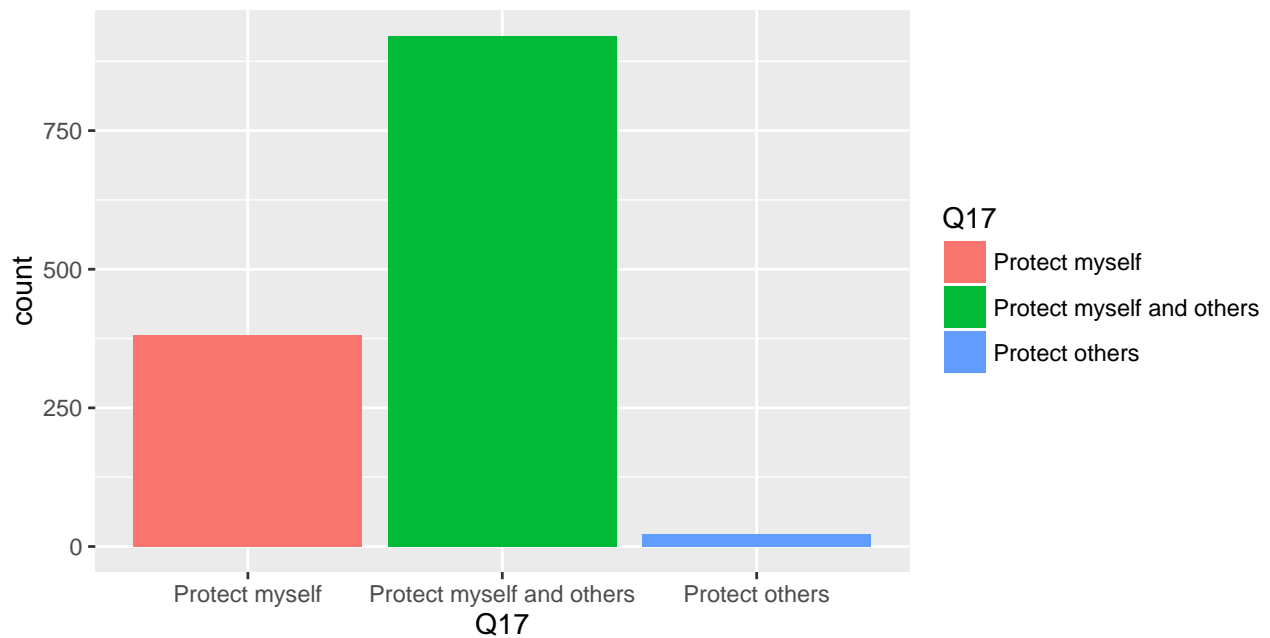**Q17.** **Do you get a vaccine to protect yourself, protect others, or protect yourself and others?**

```
with(data2, table(Q17))
```

```
## Q17
##         Protect myself Protect myself and others
##                    381                       921
##         Protect others
##                     22
```

```
ggplot(data2[!is.na(data2$Q17), ]) + geom_bar(mapping = aes(x = Q17, fill = Q17), position = position_d
```

Q18. What are the reasons you would not get an influenza vaccine?

```
Q18 <- data2 %>%
  select(PPGENDER, PPAGE, PPEDUC, PPETHM, PPINCIMP, PPWORK, 97:108) %>%
  gather("q", "r", 7:Q18_10_Other)

with(Q18, table(q, r))
```

```
##                                                             r
## q                                                          No
##   Q18_1_The vaccine costs too much                        1132
##   Q18_10_Other                                            1064
##   Q18_2_The vaccine is not very effective in preventing influenza   903
##   Q18_3_I am not likely to get influenza                   964
##   Q18_4_Do not know where to get vaccine                  1199
##   Q18_5_The side effect of the vaccine are too risky       958
##   Q18_6_I am allergic to some of the ingredients in the vaccine   1184
##   Q18_7_I do not like shots                                976
##   Q18_8_I just don_t get around to doing it                878
##   Q18_9_I have to travel too far to get vaccine           1216
##                                                             r
## q                                                         Yes
##   Q18_1_The vaccine costs too much                         110
##   Q18_10_Other                                             178
##   Q18_2_The vaccine is not very effective in preventing influenza   339
##   Q18_3_I am not likely to get influenza                   278
##   Q18_4_Do not know where to get vaccine                    43
##   Q18_5_The side effect of the vaccine are too risky       284
##   Q18_6_I am allergic to some of the ingredients in the vaccine    58
##   Q18_7_I do not like shots                                266
##   Q18_8_I just don_t get around to doing it                364
##   Q18_9_I have to travel too far to get vaccine             26
```
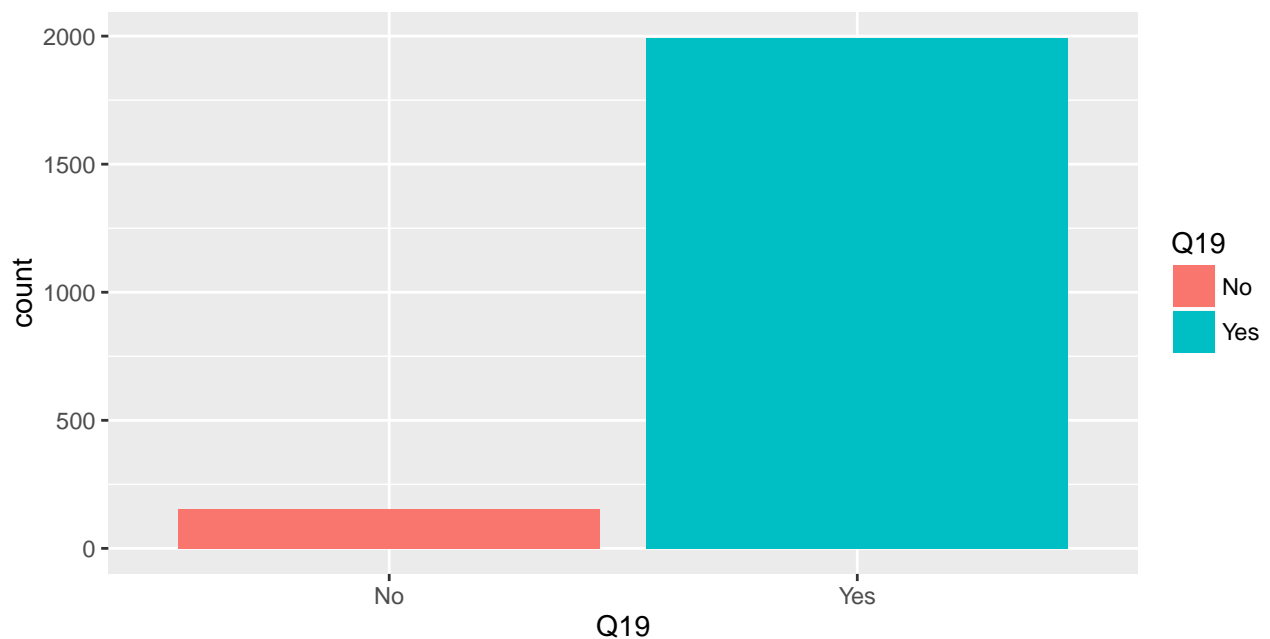
```
q18 <- Q18 %>%
  count(q, r)
```

Q19. Do you have health insurance?

```
with(data2, table(Q19))
```

```
## Q19
##   No  Yes
##  154 1994
```

```
ggplot(data2[!is.na(data2$Q19), ]) + geom_bar(mapping = aes(x = Q19, fill = Q19), position = position_d
```


Q20. How effective do you think the influenza vaccine is in protecting people from becoming sick with influenza?

```
with(data2, table(Q20))
```

```
## Q20
##                Don_t know It varies from season to season
##                       228                             433
##              Not effective             Somewhat effective
##                       144                             961
##            Very effective
##                       383
```

```
ggplot(data2[!is.na(data2$Q20), ]) + geom_bar(mapping = aes(x = Q20, fill = Q20), position = position_d
```

Q21. Are influenza vaccines covered by your health insurance?

```
with(data2, table(Q21))
```

```
## Q21
##                           Don_t know
##                                  500
##                                   No
##                                   55
## Yes, but only part of the cost is paid
##                                  153
##           Yes, the full cost is paid
##                                 1282
```

```
ggplot(data2[!is.na(data2$Q21), ]) + geom_bar(mapping = aes(x = Q21, fill = Q21), position = position_d
```
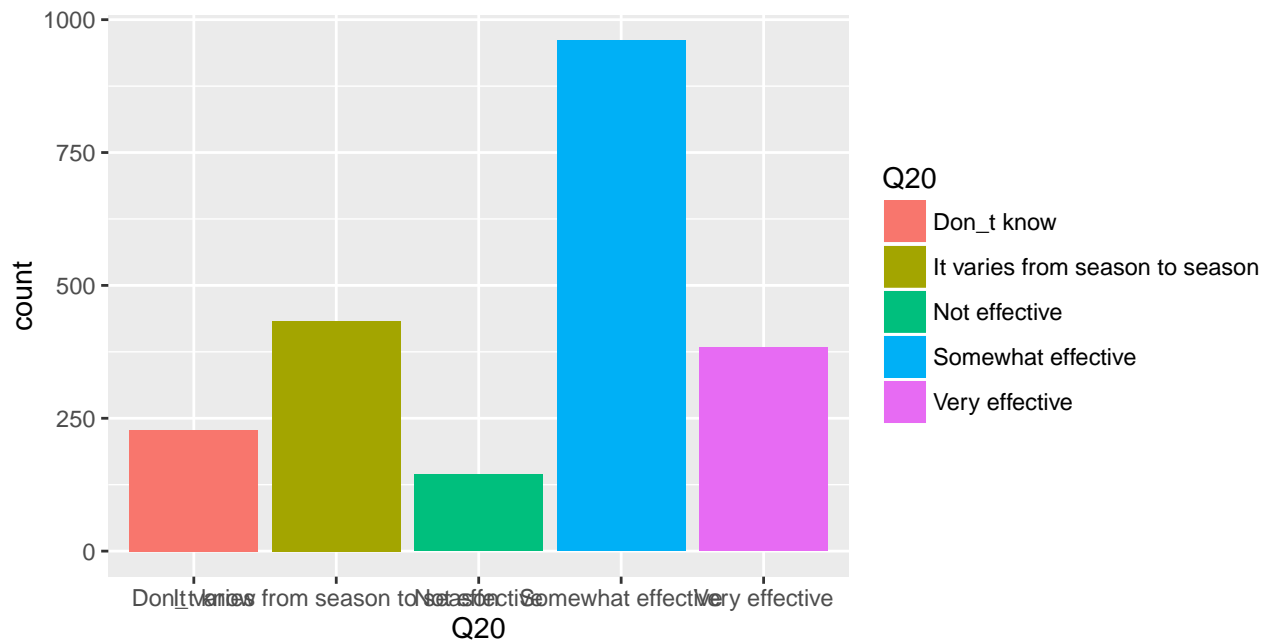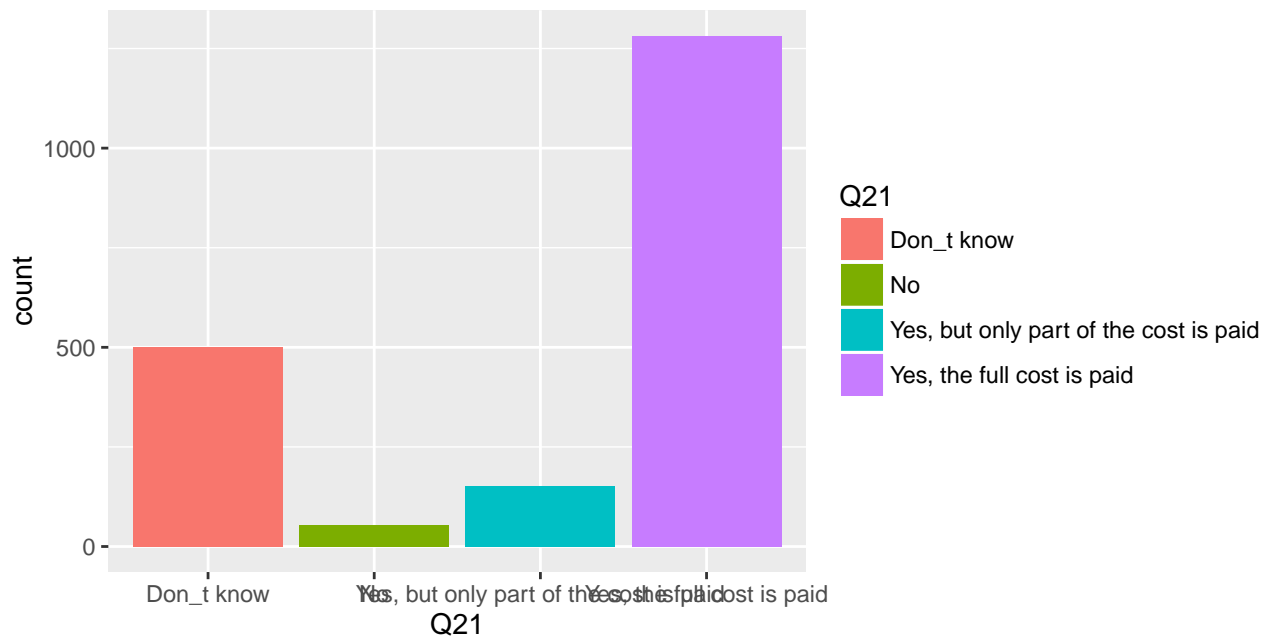
Q22. Do you do any of the following when you have influenza symptoms?

```
Q22 <- data2 %>%
  select(PPGENDER, PPAGE, PPEDUC, PPETHM, PPINCIMP, PPWORK, 112:122) %>%
  gather("q", "r", 7:Q22_9_Other)

with(Q22, table(q, r))
```

```
##                                                                  r
## q                                                           Always
##   Q22_1_Go to a doctor_s office or medical clinic              349
##   Q22_2_Decide on treatment without consulting a health practitioner   335
##   Q22_3_Search the internet for a treatment                   126
##   Q22_4_Get adequate sleep                                   1147
##   Q22_5_Eat nutritious food                                   909
##   Q22_6_Take-over-counter medication for symptoms             796
##   Q22_7_Take an antiviral medicine                            153
##   Q22_8_Take no action to treat the illness                    96
##   Q22_9_Other                                                  54
##                                                                  r
## q                                                            Never
##   Q22_1_Go to a doctor_s office or medical clinic              552
##   Q22_2_Decide on treatment without consulting a health practitioner   473
##   Q22_3_Search the internet for a treatment                  1148
##   Q22_4_Get adequate sleep                                    115
##   Q22_5_Eat nutritious food                                   135
##   Q22_6_Take-over-counter medication for symptoms             210
##   Q22_7_Take an antiviral medicine                           1103
##   Q22_8_Take no action to treat the illness                  1199
##   Q22_9_Other                                                 448
##                                                                  r
## q                                                        Sometimes
```

```
##    Q22_1_Go to a doctor_s office or medical clinic                      1235
##    Q22_2_Decide on treatment without consulting a health practitioner    1329
##    Q22_3_Search the internet for a treatment                             861
##    Q22_4_Get adequate sleep                                              875
##    Q22_5_Eat nutritious food                                            1091
##    Q22_6_Take-over-counter medication for symptoms                      1130
##    Q22_7_Take an antiviral medicine                                      877
##    Q22_8_Take no action to treat the illness                             839
##    Q22_9_Other                                                            38
```

```
q22 <- Q22 %>%
  count(q, r)
```

Q23. Which of the following actions do you take when you have influenza symptoms to avoid someone else from getting sick?

```
Q23 <- data2 %>%
  select(PPGENDER, PPAGE, PPEDUC, PPETHM, PPINCIMP, PPWORK, 123:Q23_11_Other) %>%
  gather("q", "r", 7:Q23_11_Other)

with(Q23, table(q, r))
```

```
##                                                        r
## q                                               Always Never
##    Q23_1_Stand away from people                    1006   135
##    Q23_10_Cover my nose and mouth when I sneeze or cough  1717    81
##    Q23_11_Other                                      54   421
##    Q23_2_Avoid public places                        897   196
##    Q23_3_Avoid public transportation               1342   245
##    Q23_4_Stay at home                               869   163
##    Q23_5_Wash my hands with soap more often        1559    92
##    Q23_6_Use hand sanitizers                       1014   299
##    Q23_7_Clean the surfaces in my home             1151   153
##    Q23_8_Clean the surfaces I use at work           856   508
##    Q23_9_Cover my nose and mouth with a surgical mask  267  1463
##                                                        r
## q                                               Sometimes
##    Q23_1_Stand away from people                       996
##    Q23_10_Cover my nose and mouth when I sneeze or cough   341
##    Q23_11_Other                                        28
##    Q23_2_Avoid public places                         1044
##    Q23_3_Avoid public transportation                  550
##    Q23_4_Stay at home                                1106
##    Q23_5_Wash my hands with soap more often           488
##    Q23_6_Use hand sanitizers                          825
##    Q23_7_Clean the surfaces in my home                832
##    Q23_8_Clean the surfaces I use at work             772
##    Q23_9_Cover my nose and mouth with a surgical mask   409
```

```
q23 <- Q23 %>%
  count(q, r)
```

Q24. What sources of information do you recall hearing or seeing about influenza outbreaks?

```
Q24 <- data2 %>%
  select(PPGENDER, PPAGE, PPEDUC, PPETHM, PPINCIMP, PPWORK, 137:Q24_7_Refused) %>%
  gather("q", "r", 7:Q24_6_Other)

with(Q24, table(q, r))
```

```
##                                                          r
## q                                                        No   Yes
##   Q24_1_Print media such as newspapers and magazines   1460   708
##   Q24_2_Traditional media such as television and radio  811  1357
##   Q24_3_Social media such as internet and blogs        1680   488
##   Q24_4_Word of mouth                                  1213   955
##   Q24_5_None                                           1764   404
##   Q24_6_Other                                          2114    54
```

```
q24 <- Q24 %>%
  count(q, r)
```

Q25. If you received information from the news, internet or other public media that there was an influenza outbreak in your community would you do any of the following?

```
Q25 <- data2 %>%
  select(PPGENDER, PPAGE, PPEDUC, PPETHM, PPINCIMP, PPWORK, 145:Q25_11_Other) %>%
  gather("q", "r", 7:Q25_11_Other)

with(Q25, table(q, r))
```

```
##                                                             r
## q                                                      Always Never
##   Q25_1_Stand away from people                            649   217
##   Q25_10_Cover my nose and mouth when I sneeze or cough  1643    90
##   Q25_11_Other                                             32   393
##   Q25_2_Avoid public places                               648   270
##   Q25_3_Avoid public transportation                      1221   268
##   Q25_4_Stay at home                                      484   429
##   Q25_5_Wash my hands with soap more often               1477    99
##   Q25_6_Use hand sanitizers                              1077   257
##   Q25_7_Clean the surfaces in my home                    1116   160
##   Q25_8_Clean the surfaces I use at work                  902   464
##   Q25_9_Cover my nose and mouth with a surgical mask      343  1286
##                                                             r
## q                                                      Sometimes
##   Q25_1_Stand away from people                             1268
##   Q25_10_Cover my nose and mouth when I sneeze or cough     399
##   Q25_11_Other                                               21
##   Q25_2_Avoid public places                               1217
##   Q25_3_Avoid public transportation                        643
##   Q25_4_Stay at home                                      1222
##   Q25_5_Wash my hands with soap more often                 554
```

```
##    Q25_6_Use hand sanitizers                               799
##    Q25_7_Clean the surfaces in my home                     857
##    Q25_8_Clean the surfaces I use at work                  766
##    Q25_9_Cover my nose and mouth with a surgical mask      505
```
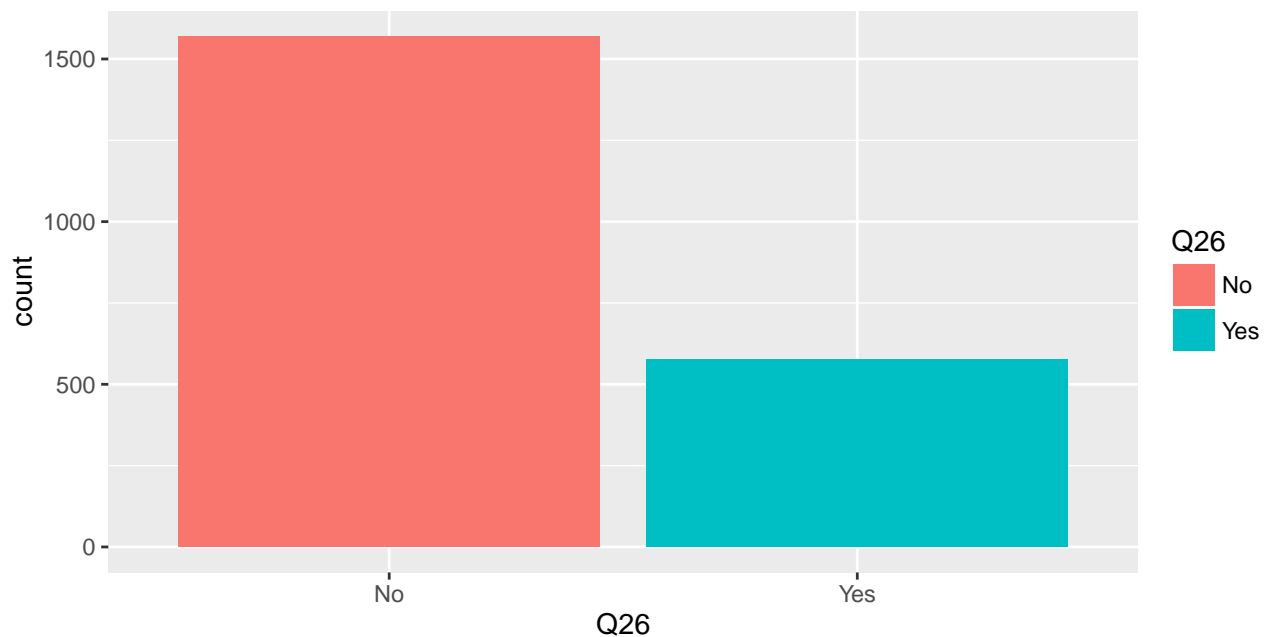
```
q25 <- Q25 %>%
  count(q, r)
```

Q26. Does your household have children?

```
with(data2, table(Q26))
```

```
## Q26
##   No  Yes
## 1570  576
```

```
ggplot(data2[!is.na(data2$Q26), ]) + geom_bar(mapping = aes(x = Q26, fill = Q26), position = position_d
```


Q27. What actions do you take when a child in your household has influenza symptoms?

```
Q27 <- data2 %>%
  select(PPGENDER, PPAGE, PPEDUC, PPETHM, PPINCIMP, PPWORK, 159:Q27_4_Other) %>%
  gather("q", "r", 7:Q27_4_Other)
```

```
with(Q27, table(q, r))
```

```
##                                                               r
## q                                                         Always Never
##    Q27_1_Keep the child away from the others in the residence    198    90
##    Q27_2_Keep the child out of school/daycare                    377    46
```

```
##   Q27_3_Stop child_s social activities like play dates             388    41
##   Q27_4_Other                                                       12    93
##                                                                        r
## q                                                              Sometimes
##   Q27_1_Keep the child away from the others in the residence         285
##   Q27_2_Keep the child out of school/daycare                         149
##   Q27_3_Stop child_s social activities like play dates               144
##   Q27_4_Other                                                         12
```
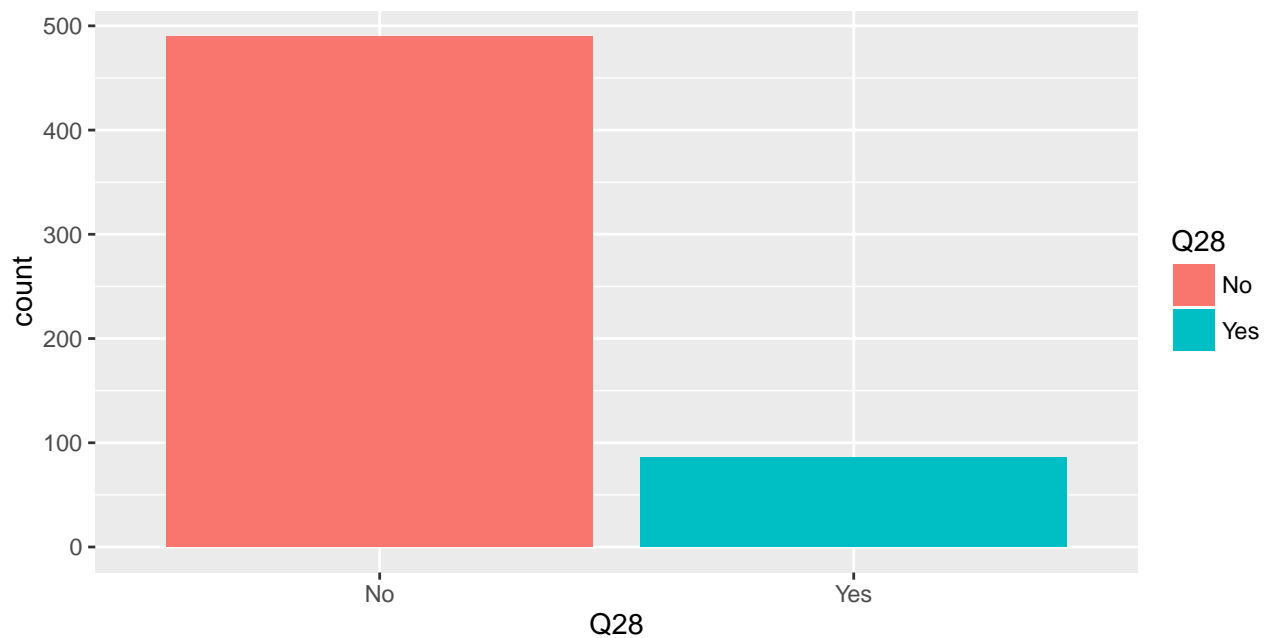
```
q27 <- Q27 %>%
  count(q, r)
```

Q28. Are you a single parent?

```
with(data2, table(Q28))
```

```
## Q28
##  No Yes
## 490  86
```

```
ggplot(data2[!is.na(data2$Q28), ]) + geom_bar(mapping = aes(x = Q28, fill = Q28), position = position_d
```


Q29. How do you care for a sick child?

```
Q29 <- data2 %>%
  select(PPGENDER, PPAGE, PPEDUC, PPETHM, PPINCIMP, PPWORK, 166:Q29_6_Other) %>%
  gather("q", "r", 7:Q29_6_Other)

with(Q29, table(q, r))
```

```
##                                                   r
## q                                        Always Never Sometimes
##   Q29_1_A parent brings the child to work      7   438        41
##   Q29_2_A parent stays home                  266    27       193
##   Q29_3_Another adult stays home              68   202       216
##   Q29_4_Send the child to school sick          1   414        70
##   Q29_5_Take the child to a relative or friends 8   292       186
##   Q29_6_Other                                  4    76         6
```

```r
q29 <- Q29 %>%
  count(q, r)
```

Q30. How do you care for a sick child?

```r
Q30 <- data2 %>%
  select(PPGENDER, PPAGE, PPEDUC, PPETHM, PPINCIMP, PPWORK, 174:Q30_6_Other) %>%
  gather("q", "r", 7:Q30_6_Other)

with(Q30, table(q, r))
```

```
##                                                r
## q                                     Always Never Sometimes
##   Q30_1_I bring the child to work          4    77         5
##   Q30_2_I stay home                       34    10        42
##   Q30_3_Another adult stays home           9    25        52
##   Q30_4_Send the child to school sick      3    60        23
##   Q30_5_Take the child to a relative or friends 7   33        46
##   Q30_6_Other                              1    14         3
```

```r
q30 <- Q30 %>%
  count(q, r)
```

Q31. How many hours of screen time (time spent watching television, a computer, smartphone, iPad, etc.) do you spend each day on average when you are not sick? Enter 0 if none

```r
with(data2, summary(Q31))
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   0.000   2.000   4.000   4.868   6.000  24.000      52
```

```r
# by gender
with(data2, by(Q31, PPGENDER, summary))
```

```
## PPGENDER: Female
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   0.000   2.000   4.000   4.838   6.000  21.000      21
## -----------------------------------------------------------
## PPGENDER: Male
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   0.000   2.000   4.000   4.898   6.000  24.000      31
```

Q32. How many hours of screen time do you spend each day on average when you are sick? Enter 0 if none

```r
with(data2, summary(Q32))
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   0.000   1.000   4.000   4.267   6.000  24.000      61
```

```r
# by gender
with(data2, by(Q33, PPGENDER, summary))
```

```
## PPGENDER: Female
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   1.000   2.000   2.000   2.567   3.000   9.000       8
## ------------------------------------------------------------
## PPGENDER: Male
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   1.000   2.000   2.000   2.594   3.000  14.000      20
```

Q33. How many people, including yourself, reside in your household?

```r
with(data2, summary(Q33))
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##    1.00    2.00    2.00    2.58    3.00   14.00      28
```

```r
# by ethnicity
with(data2, by(Q33, PPETHM, summary))
```

```
## PPETHM: 2+ Races, Non-Hispanic
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   1.000   2.000   2.000   2.709   3.000   7.000       1
## ------------------------------------------------------------
## PPETHM: Black, Non-Hispanic
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   1.000   1.000   2.000   2.544   3.000  13.000       2
## ------------------------------------------------------------
## PPETHM: Hispanic
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   1.000   2.000   3.000   2.903   4.000   9.000       6
## ------------------------------------------------------------
## PPETHM: Other, Non-Hispanic
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   1.000   2.000   3.000   2.946   4.000   7.000       1
## ------------------------------------------------------------
## PPETHM: White, Non-Hispanic
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   1.000   2.000   2.000   2.509   3.000  14.000      18
```

Household Members

HHM1

Q35. What is the gender of this member of the household? Remember, this relates to HHM1_Name who is HHM1_AGE years old.

```
with(data2, table(Q35))
```

```
## Q35
## Female   Male
##    799    859
```

Q36. On average, how many days per week does this member of your household work or attend day care or school outside of your home?

```
with(data2, summary(Q36))
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   0.000   0.000   4.000   2.874   5.000   7.000     571
```

Q37. On average, how many days per week does this member of your household participate in social activities outside of your home?

```
with(data2, summary(Q37))
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   0.000   0.000   2.000   2.098   3.000   7.000     663
```

Q38. On average, how many days per week does this member of your household use public transportation?

```
with(data2, summary(Q38))
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##  0.0000  0.0000  0.0000  0.3909  0.0000  7.0000     582
```

Q39. How frequently does this member of your household visit a doctor's office for wellness appointments?

```
with(data2, summary(Q39))
```

```
##    Length     Class      Mode
##      2168 character character
```

Q40. How frequently does this member of the household get sick in a typical year?

```r
with(data2, summary(Q40))
```

```
##    Length     Class      Mode
##      2168 character character
```

Q41. How many times has this member of your household had influenza or another respiratory illness in the last two years?

```r
with(data2, summary(Q41))
```

```
##    Length     Class      Mode
##      2168 character character
```

Q42. Does this member of your household get an annual influenza vaccine?

```r
with(data2, summary(Q42))
```

```
##    Length     Class      Mode
##      2168 character character
```

HHM2

Q43. What is the gender of this member of the household? Remember, this relates to HHM1_Name who is HHM1_AGE years old.

```r
with(data2, summary(Q43))
```

```
##    Length     Class      Mode
##      2168 character character
```

Q44. On average, how many days per week does this member of your household work or attend day care or school outside of your home?

```r
with(data2, summary(Q44))
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   0.000   1.000   5.000   3.669   5.000   7.000    1383
```

Q45. On average, how many days per week does this member of your household participate in social activities outside of your home?

```r
with(data2, summary(Q45))
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##   0.000   1.000   2.000   2.395   4.000   7.000    1419
```

Q46. On average, how many days per week does this member of your household use public transportation?

```r
with(data2, summary(Q46))
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.    NA's
##  0.0000  0.0000  0.0000  0.5727  0.0000  7.0000    1391
```

Q47. How frequently does this member of your household visit a doctor's office for wellness appointments?

```r
with(data2, summary(Q47))
```

```
##    Length     Class      Mode
##      2168 character character
```

Q48. How frequently does this member of the household get sick in a typical year?

```r
with(data2, summary(Q48))
```

```
##    Length     Class      Mode
##      2168 character character
```

Q49. How many times has this member of your household had influenza or another respiratory illness in the last two years?

```r
with(data2, summary(Q49))
```

```
##    Length     Class      Mode
##      2168 character character
```

Q50. Does this member of your household get an annual influenza vaccine?

```r
with(data2, summary(Q50))
```

```
##    Length     Class      Mode
##      2168 character character
```