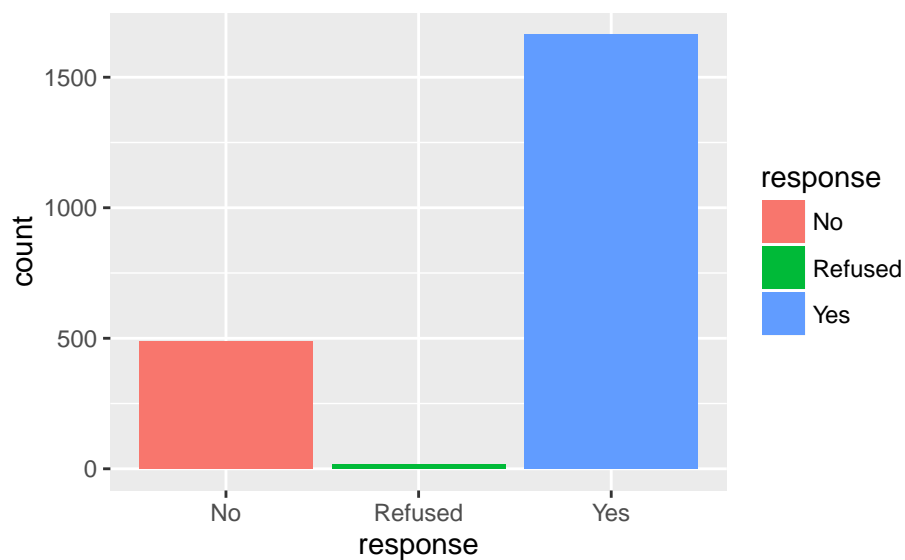# Flu Survey Data

Contents

Survey data by question

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

```
summary(q1.df)
```

```
##        Q1
##  No      : 488
##  Refused:  16
##  Yes     :1664
```

```
ggplot(q1) + geom_bar(aes(x=response, fill=response))
```

```
# alternatively, summary(q1.df)
data %>%
  group_by(Q1) %>%
  summarise(count = n())
```

```
## Source: local data frame [3 x 2]
##
##        Q1 count
##    (fctr) (int)
## 1     No   488
## 2 Refused   16
## 3    Yes  1664
```

```
# by gender
q1.gen = data %>%
  group_by(Q1, PPGENDER)
q1.gen %>%
  summarise(count = n())
```

```
## Source: local data frame [6 x 3]
## Groups: Q1 [?]
##
##        Q1 PPGENDER count
##    (fctr)   (fctr) (int)
## 1     No   Female   205
## 2     No     Male   283
## 3 Refused  Female     4
## 4 Refused    Male    12
## 5    Yes   Female   888
## 6    Yes     Male   776
```

```
ggplot(q1.gen) + geom_bar(aes(x = Q1, fill = PPGENDER), position = "dodge")
```
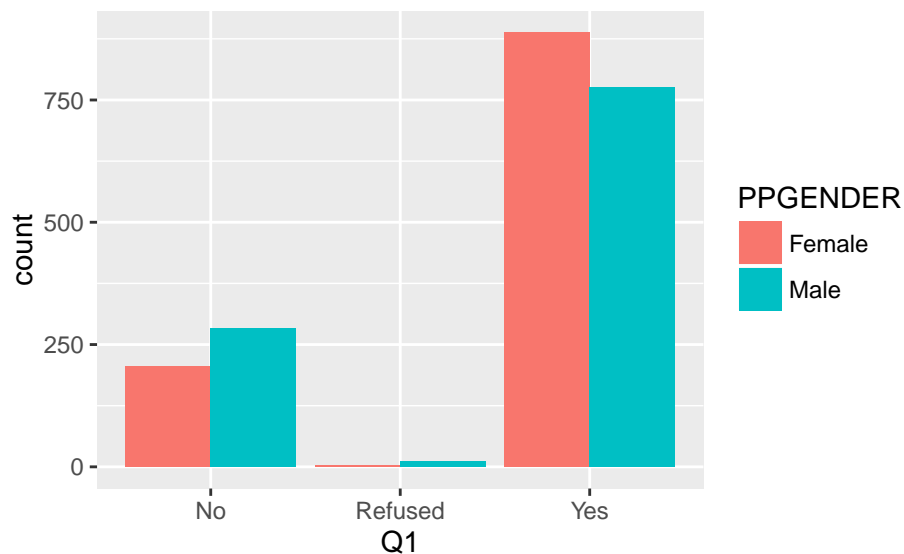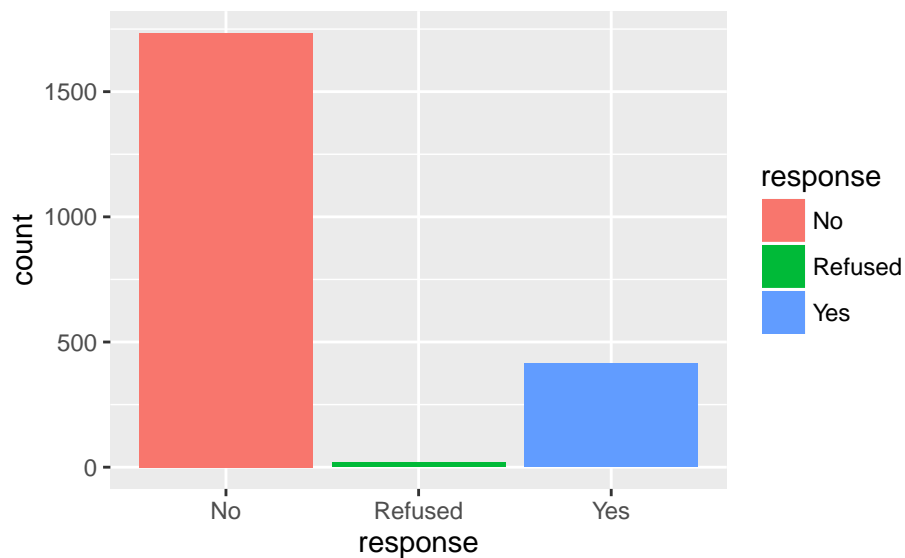
Q2. Have you had an illness with influenza like symptoms since August 2015?

```
summary(q2.df)
```

```
##       Q2
##  No     :1735
##  Refused:  19
##  Yes    : 414
```
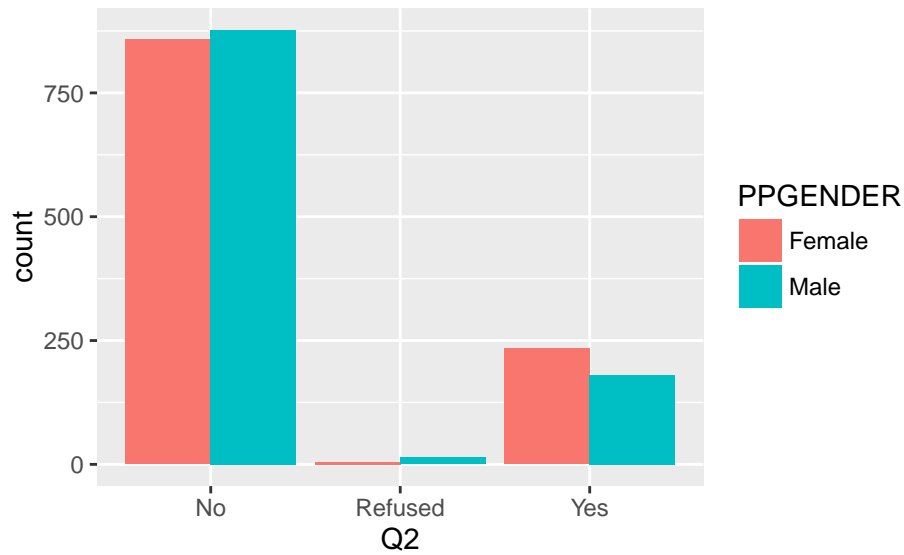
```
ggplot(q2) + geom_bar(aes(x=response, fill=response))
```



```
# by gender
q2.gen = data %>%
  group_by(Q2, PPGENDER)
q2.gen %>%
  summarise(count = n())
```

```
## Source: local data frame [6 x 3]
## Groups: Q2 [?]
##
##        Q2 PPGENDER count
##    (fctr)   (fctr) (int)
## 1      No   Female   858
## 2      No     Male   877
## 3 Refused   Female     5
## 4 Refused     Male    14
## 5     Yes   Female   234
## 6     Yes     Male   180
```

```
ggplot(q2.gen) + geom_bar(aes(x = Q2, fill = PPGENDER), position = "dodge")
```

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

```
##            Q3
##  Don_t know: 161
##  No        :1608
##  Refused   :  16
##  Yes       : 383
```
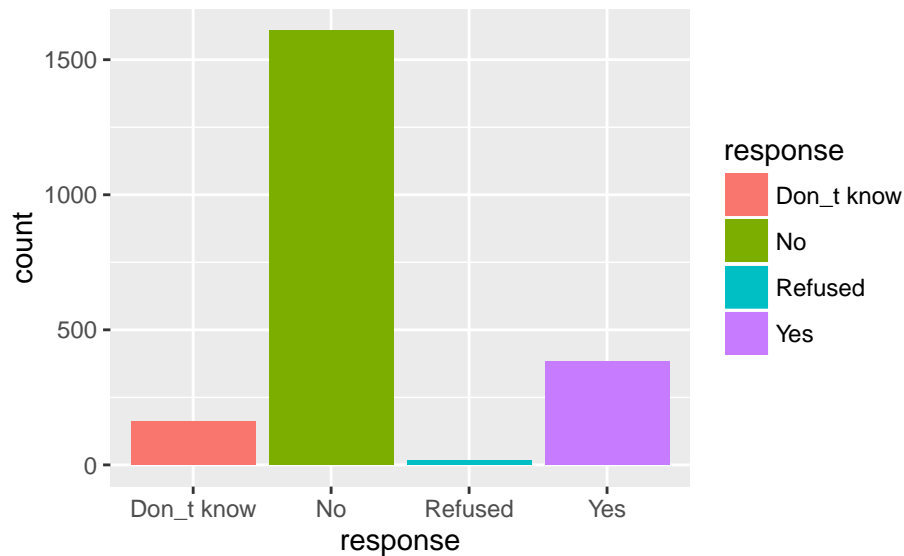

Q4. Does your job require you to have a lot of contact with the public?

```
##                                                     Q4
##  No, I don_t work                                  :779
##  No, my job does not require much contact with the public:620
##  Refused                                           : 18
##  Yes                                               :751
```
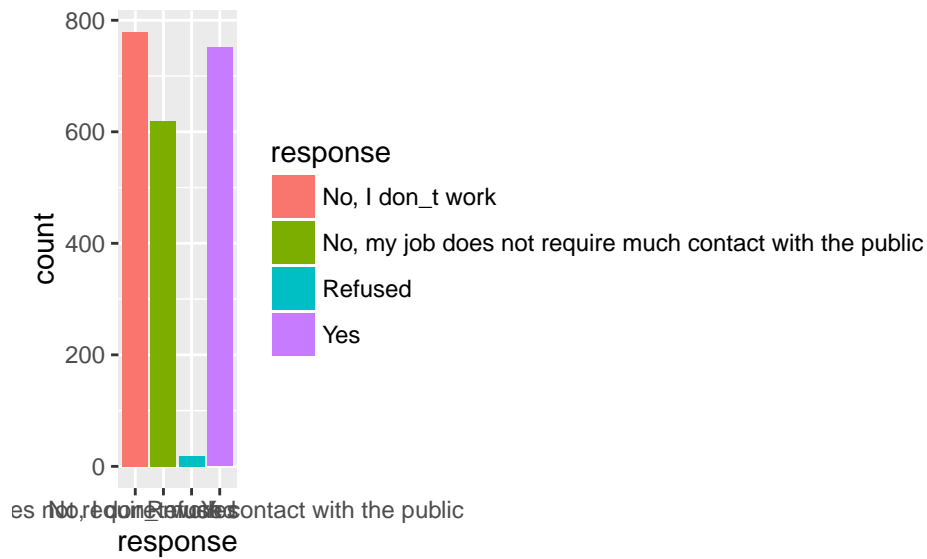
Q5. Do you have a car that you can use to travel to work?

```
##         Q5
##   No      : 133
##   Refused:   3
##   Yes     :1235
##   NA's    : 797
```
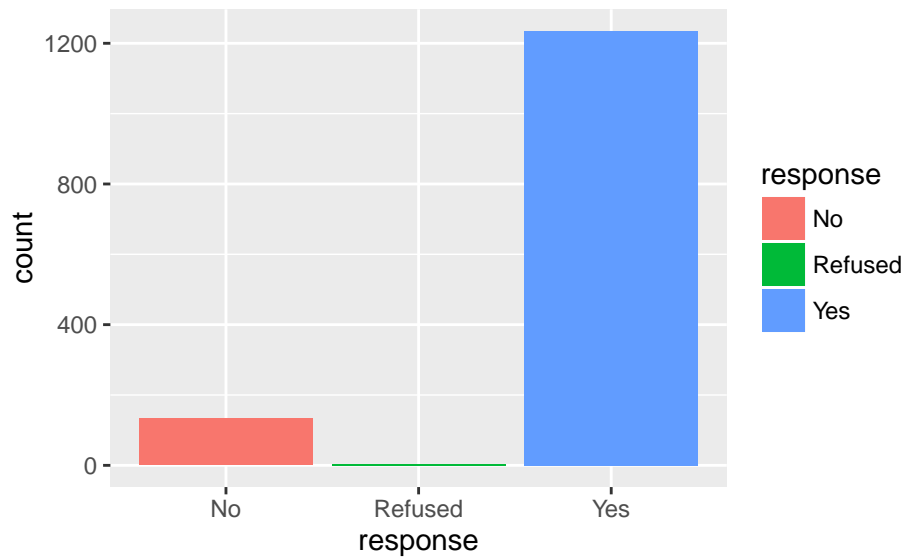

Q6. Do you regularly use public transportation?

```
##         Q6
##   No      :1959
##   Refused:  15
##   Yes     : 194
```

Q7. What types of public transportation do you regularly use?
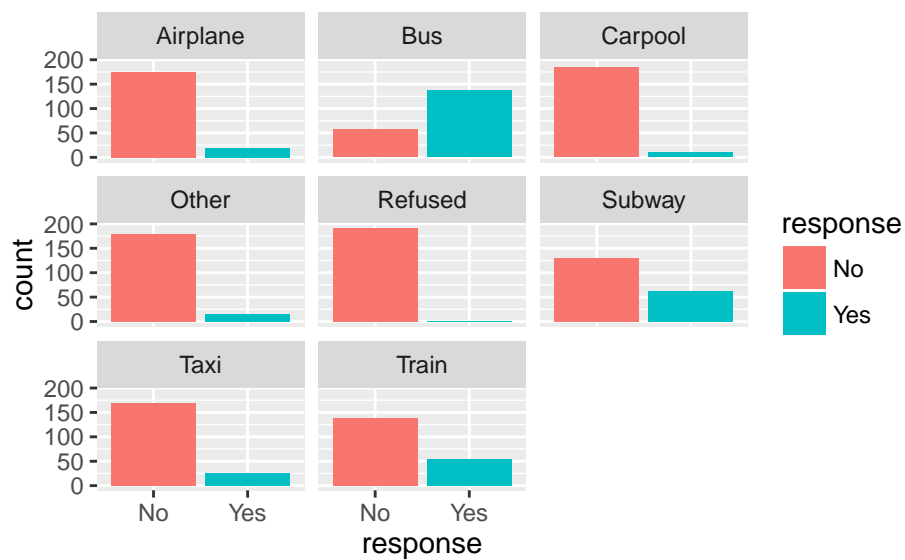

```
##     Bus          Carpool        Subway         Train          Taxi          Airplane
##  No  :  57    No  : 184    No  : 131    No  : 139    No  : 169    No  : 175
##  Yes : 137    Yes :  10    Yes :  63    Yes :  55    Yes :  25    Yes :  19
##  NA's:1974    NA's:1974    NA's:1974    NA's:1974    NA's:1974    NA's:1974
##
##
##
##
##   Other        Refused          Other text
##  No  : 179    No  : 192              :2153
##  Yes :  15    Yes :   2    bike,walk:   1
##  NA's:1974    NA's:1974    car      :   1
##                            ferry    :   1
##                            Ferry    :   1
```
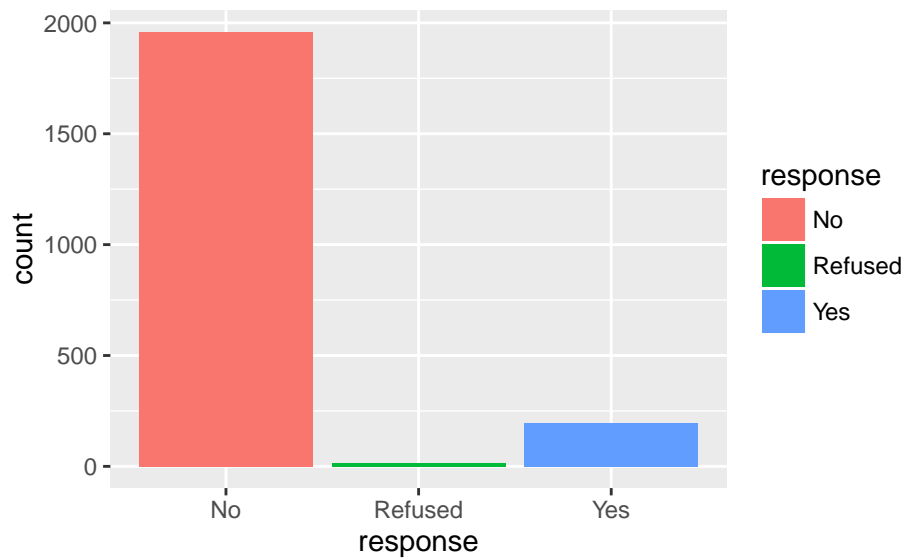
```
##                                Horse   :   1
##                                (Other) :  10

## Source: local data frame [15,176 x 3]
## Groups: PPGENDER, option, response [42]
##
##    PPGENDER option response
##      (fctr)  (chr)    (chr)
## 1    Female   Q7_1      Yes
## 2      Male   Q7_1       NA
## 3    Female   Q7_1       NA
## 4      Male   Q7_1      Yes
## 5      Male   Q7_1       NA
## 6      Male   Q7_1       NA
## 7    Female   Q7_1       NA
## 8      Male   Q7_1       NA
## 9    Female   Q7_1       NA
## 10     Male   Q7_1       NA
## ..      ...    ...      ...
```
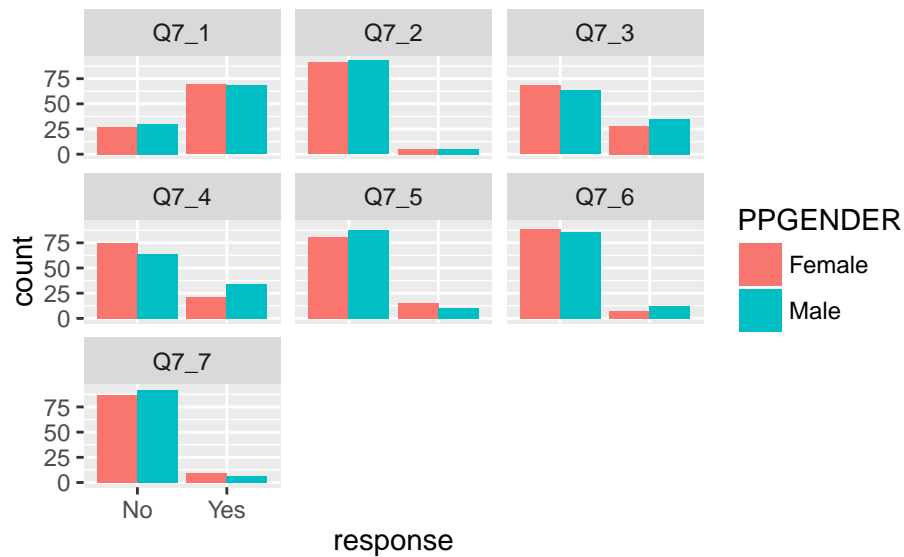


```
## Source: local data frame [42 x 4]
## Groups: PPGENDER, option [?]
##
##    PPGENDER option response count
##      (fctr)  (chr)    (chr) (int)
## 1    Female   Q7_1       No    27
## 2    Female   Q7_1      Yes    69
## 3    Female   Q7_1       NA  1001
## 4    Female   Q7_2       No    91
## 5    Female   Q7_2      Yes     5
## 6    Female   Q7_2       NA  1001
## 7    Female   Q7_3       No    68
## 8    Female   Q7_3      Yes    28
## 9    Female   Q7_3       NA  1001
## 10   Female   Q7_4       No    75
## ..      ...    ...      ...   ...
```

Q8. For what types of activities do you regularly use public transportation?
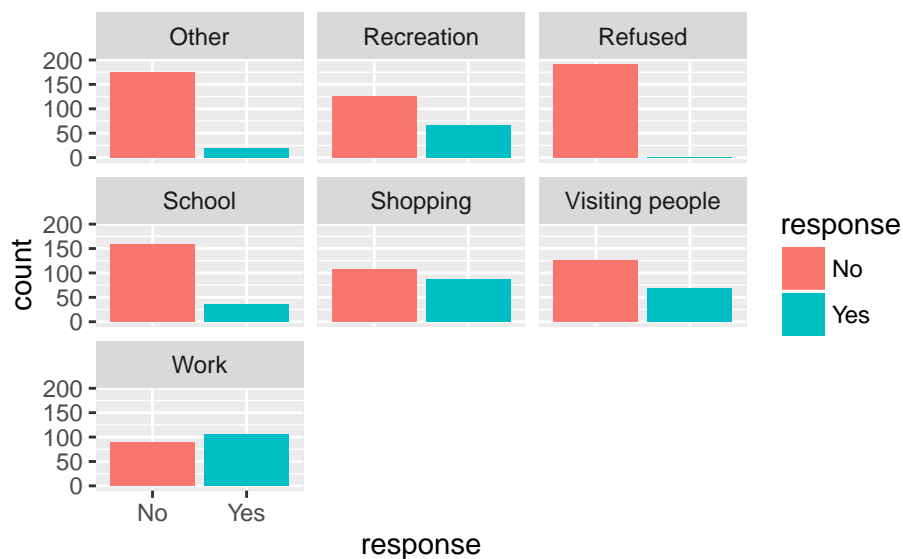

```
##     Work         School       Shopping       Visiting people Recreation
##  No  :  89   No  : 158   No  : 107   No  : 125          No  : 127
##  Yes : 105   Yes :  36   Yes :  87   Yes :  69          Yes :  67
##  NA's:1974   NA's:1974   NA's:1974   NA's:1974          NA's:1974
##
##
##
##
##   Other       Refused                        Other text
##  No  : 175   No  : 192                              :2149
##  Yes :  19   Yes :   2   church, adult ed      :   1
##  NA's:1974   NA's:1974   doc. app.             :   1
##                          Doctor                :   1
##                          doctor visits         :   1
##                          Doctor's appointments:   1
##                          (Other)               :  14


## Source: local data frame [15,176 x 3]
## Groups: PPGENDER, option, response [42]
##
##     PPGENDER option response
##        (fctr)  (chr)    (chr)
## 1    Female   Q8_1      No
## 2      Male   Q8_1      NA
## 3    Female   Q8_1      NA
## 4      Male   Q8_1     Yes
## 5      Male   Q8_1      NA
## 6      Male   Q8_1      NA
## 7    Female   Q8_1      NA
## 8      Male   Q8_1      NA
## 9    Female   Q8_1      NA
## 10     Male   Q8_1      NA
## ..      ...    ...      ...
```

```
## Source: local data frame [42 x 4]
## Groups: PPGENDER, option [?]
##
##    PPGENDER option response count
##      (fctr)  (chr)    (chr) (int)
## 1    Female   Q8_1       No    53
## 2    Female   Q8_1      Yes    43
## 3    Female   Q8_1       NA  1001
## 4    Female   Q8_2       No    78
## 5    Female   Q8_2      Yes    18
## 6    Female   Q8_2       NA  1001
## 7    Female   Q8_3       No    43
## 8    Female   Q8_3      Yes    53
## 9    Female   Q8_3       NA  1001
## 10   Female   Q8_4       No    60
## ..      ...    ...      ...   ...
```
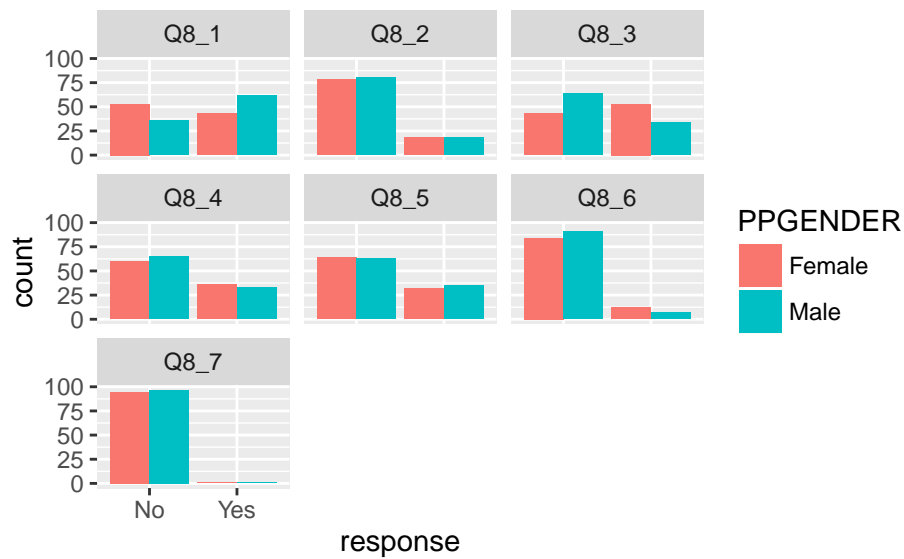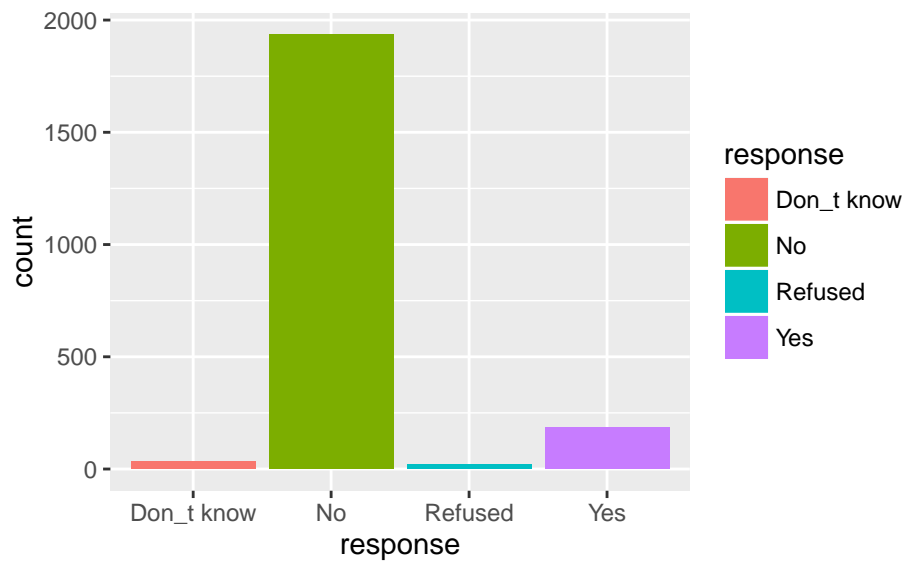
Q9. Do other members of your household regularly use public transportation?

```
##               Q9
##  Don_t know:  32
##  No        :1935
##  Refused   :  18
##  Yes       : 183
```

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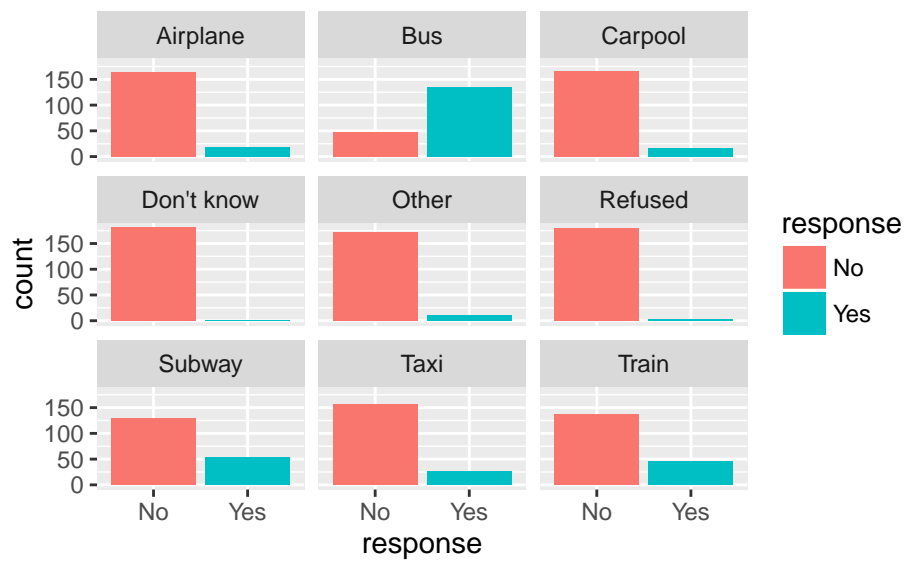

```
##    Bus         Carpool       Subway        Train         Taxi        Airplane
##  No  :  48    No  : 166    No  : 130    No  : 137    No  : 157    No  : 164
##  Yes : 135    Yes :  17    Yes :  53    Yes :  46    Yes :  26    Yes :  19
##  NA's:1985    NA's:1985    NA's:1985    NA's:1985    NA's:1985    NA's:1985
##
##
##
##
##  Don't know    Other        Refused         Other text
##  No  : 182    No  : 172    No  : 180               :2157
##  Yes :   1    Yes :  11    Yes :   3    None   :   2
##  NA's:1985    NA's:1985    NA's:1985    car    :   1
##                                         ferry  :   1
##                                         Ferry  :   1
```

```
##                                                Horse   :    1
##                                                (Other):    5
```

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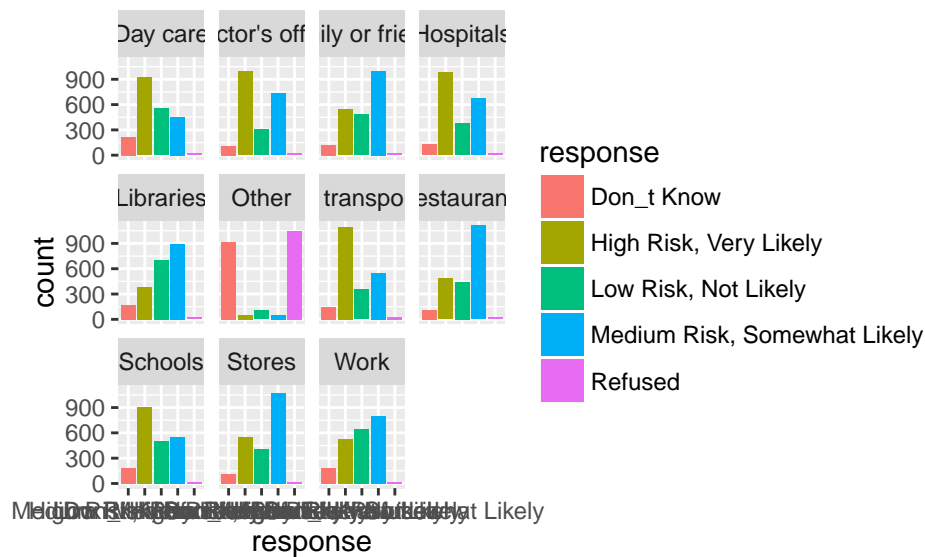

```
##                              Work                                    Schools
## Don_t Know                  :185   Don_t Know                       :178
## High Risk, Very Likely      :524   High Risk, Very Likely           :909
## Low Risk, Not Likely        :643   Low Risk, Not Likely             :508
## Medium Risk, Somewhat Likely:795   Medium Risk, Somewhat Likely:551
## Refused                     : 21   Refused                          : 22
##
##
##                          Day care                                    Stores
## Don_t Know                  :214   Don_t Know                       : 115
## High Risk, Very Likely      :924   High Risk, Very Likely           : 551
## Low Risk, Not Likely        :554   Low Risk, Not Likely             : 405
## Medium Risk, Somewhat Likely:454   Medium Risk, Somewhat Likely:1076
## Refused                     : 22   Refused                          : 21
##
##
##                       Restaurants                                  Libraries
## Don_t Know                  : 111   Don_t Know                      :169
## High Risk, Very Likely      : 483   High Risk, Very Likely          :386
## Low Risk, Not Likely        : 442   Low Risk, Not Likely            :700
## Medium Risk, Somewhat Likely:1111   Medium Risk, Somewhat Likely:890
## Refused                     :  21   Refused                         : 23
##
##
##                         Hospitals                              Doctor's office
## Don_t Know                  :123   Don_t Know                      :110
## High Risk, Very Likely      :982   High Risk, Very Likely          :994
## Low Risk, Not Likely        :374   Low Risk, Not Likely            :308
## Medium Risk, Somewhat Likely:669   Medium Risk, Somewhat Likely:733
```

```
##   Refused                     : 20    Refused                      : 23
##
##
##                   Public transportation
##   Don_t Know                  : 147
##   High Risk, Very Likely      :1093
##   Low Risk, Not Likely        : 353
##   Medium Risk, Somewhat Likely: 551
##   Refused                     :  24
##
##
##                   Family or friends                         Other
##   Don_t Know                  : 121    Don_t Know               : 915
##   High Risk, Very Likely      : 541    High Risk, Very Likely   :  51
##   Low Risk, Not Likely        : 485    Low Risk, Not Likely     : 104
##   Medium Risk, Somewhat Likely:1000    Medium Risk, Somewhat Likely:  54
##   Refused                     :  21    Refused                  :1044
##
##
##     Other text
##          :1997
##   church :  13
##   Church :  13
##   none   :   8
##   gym    :   7
##   n/a    :   4
##   (Other): 126


## Source: local data frame [23,848 x 3]
## Groups: PPGENDER, option, response [110]
##
##     PPGENDER option                     response
##      (fctr)  (chr)                         (chr)
## 1    Female  Q11_1         High Risk, Very Likely
## 2      Male  Q11_1                        Refused
## 3    Female  Q11_1 Medium Risk, Somewhat Likely
## 4      Male  Q11_1         High Risk, Very Likely
## 5      Male  Q11_1         High Risk, Very Likely
## 6      Male  Q11_1 Medium Risk, Somewhat Likely
## 7    Female  Q11_1           Low Risk, Not Likely
## 8      Male  Q11_1           Low Risk, Not Likely
## 9    Female  Q11_1           Low Risk, Not Likely
## 10     Male  Q11_1           Low Risk, Not Likely
## ..      ...    ...                            ...
```
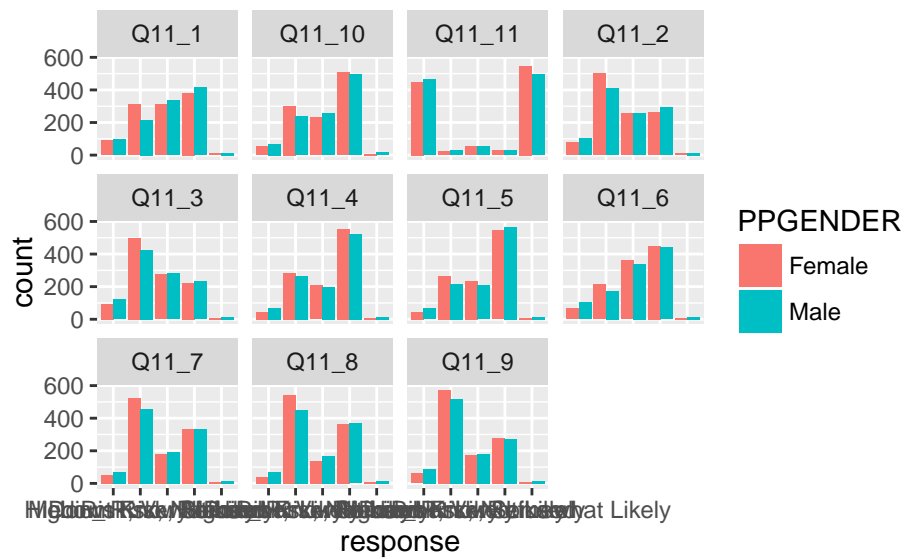
```
## Source: local data frame [110 x 4]
## Groups: PPGENDER, option [?]
##
##    PPGENDER option                         response count
##      (fctr) (chr)                            (chr) (int)
## 1    Female  Q11_1                      Don_t Know    89
## 2    Female  Q11_1        High Risk, Very Likely   309
## 3    Female  Q11_1          Low Risk, Not Likely   310
## 4    Female  Q11_1 Medium Risk, Somewhat Likely   381
## 5    Female  Q11_1                         Refused     8
## 6    Female Q11_10                      Don_t Know    53
## 7    Female Q11_10        High Risk, Very Likely   302
## 8    Female Q11_10          Low Risk, Not Likely   229
## 9    Female Q11_10 Medium Risk, Somewhat Likely   506
## 10   Female Q11_10                         Refused     7
## ..      ...    ...                             ...   ...
```

Q13. Do you get the flu vaccine?

```
##               Q13
## No, never       :819
## Refused         : 18
## Yes, every year:908
## Yes, some years:423
```
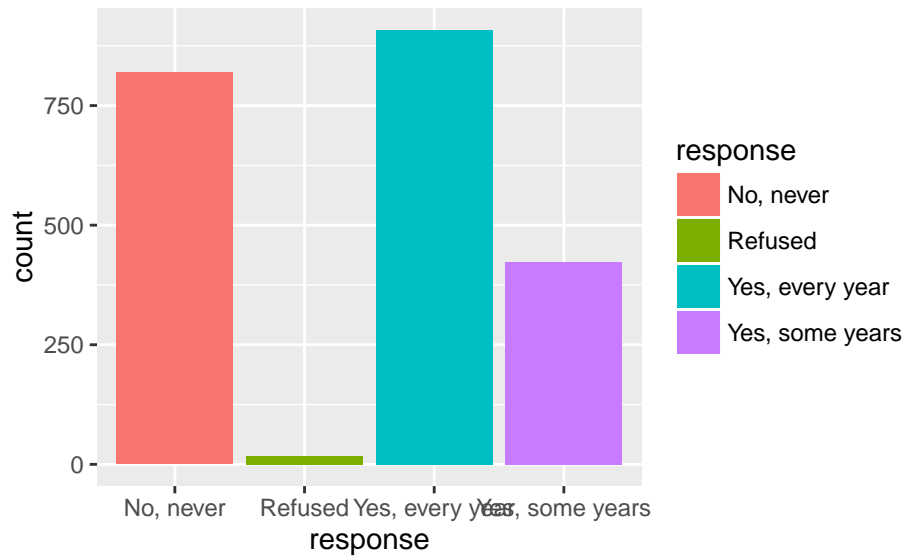
```
## Source: local data frame [8 x 3]
## Groups: Q13 [?]
##
##              Q13 PPGENDER count
##           (fctr)  (fctr) (int)
## 1     No, never   Female   408
## 2     No, never     Male   411
## 3       Refused   Female     2
## 4       Refused     Male    16
## 5 Yes, every year  Female   460
## 6 Yes, every year    Male   448
## 7 Yes, some years  Female   227
## 8 Yes, some years    Male   196
```
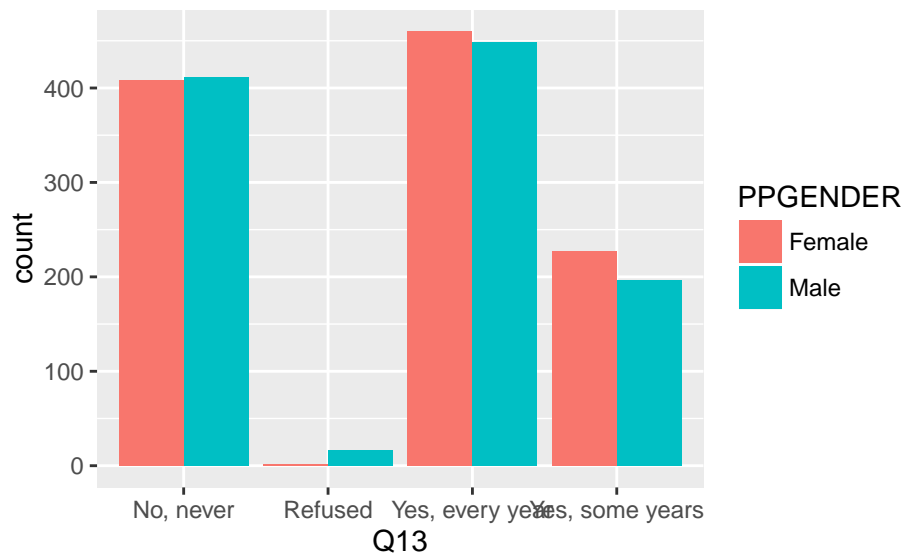

Q12. Which of the following actions do you take to avoid getting sick?

```
##   Avoid touching my eyes Avoid touching my nose Avoid touching my mouth
##   Always   : 653         Always   : 613         Always   : 758
##   Never    : 324         Never    : 349         Never    : 300
##   Refused  :  23         Refused  :  23         Refused  :  25
##   Sometimes:1168         Sometimes:1183         Sometimes:1085
##
##
##
##   Wash my hands with soap Use hand sanitizers Clean the surfaces in my home
##   Always   :1774         Always   :911       Always   :1132
##   Never    :  52         Never    :278       Never    : 115
##   Refused  :  25         Refused  : 22       Refused  :  22
##   Sometimes: 317         Sometimes:957       Sometimes: 899
##
##
##
##   Clean the surfaces at work Eat nutritious food Get adequate rest
##   Always   :752          Always   : 895      Always   : 899
##   Never    :544          Never    : 107      Never    : 114
##   Refused  : 30          Refused  :  22      Refused  :  25
##   Sometimes:842          Sometimes:1144      Sometimes:1130
##
##
##
##   Get recommended vaccine Take preventive medicine
##   Always   :1041         Always   :425
##   Never    : 564         Never    :831
##   Refused  :  23         Refused  : 22
##   Sometimes: 540         Sometimes:890
##
##
##
##   Cover my nose and mouth with a surgical mask
##   Always   : 218
##   Never    :1568
##   Refused  :  24
```

```
## Sometimes: 358
##
##
##
## Avoid contact with people who are sick Avoid crowded places
## Always   : 765                         Always   : 406
## Never    : 153                         Never    : 413
## Refused  :  22                         Refused  :  27
## Sometimes:1228                         Sometimes:1322
##
##
##
##         Other                 Other text
## Always   :  91                          :2022
## Never    : 472   none             :   7
## Refused  :1518   stay home        :   4
## Sometimes:  87   avoid sick people:   3
##                  N/A              :   3
##                  nothing          :   3
##                  (Other)          : 126


## Source: local data frame [32,520 x 3]
## Groups: PPGENDER, option, response [120]
##
##    PPGENDER option   response
##      (fctr)  (chr)      (chr)
## 1    Female  Q12_1  Sometimes
## 2      Male  Q12_1    Refused
## 3    Female  Q12_1     Always
## 4      Male  Q12_1  Sometimes
## 5      Male  Q12_1  Sometimes
## 6      Male  Q12_1  Sometimes
## 7    Female  Q12_1  Sometimes
## 8      Male  Q12_1      Never
## 9    Female  Q12_1     Always
## 10     Male  Q12_1  Sometimes
## ..      ...    ...        ...
```
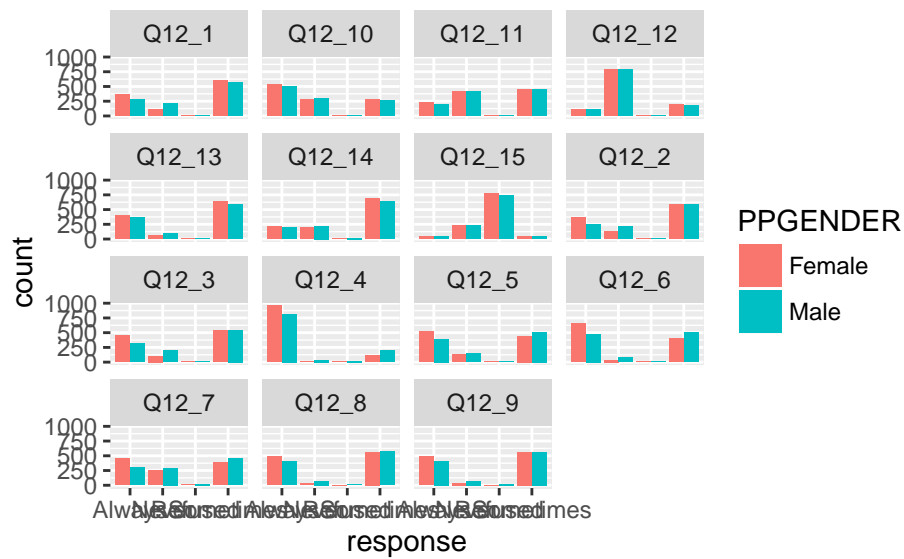
```
## Source: local data frame [120 x 4]
## Groups: PPGENDER, option [?]
##
##     PPGENDER option   response count
##       (fctr)  (chr)      (chr) (int)
## 1    Female   Q12_1    Always   367
## 2    Female   Q12_1     Never   118
## 3    Female   Q12_1   Refused     9
## 4    Female   Q12_1 Sometimes   603
## 5    Female  Q12_10    Always   540
## 6    Female  Q12_10     Never   275
## 7    Female  Q12_10   Refused     9
## 8    Female  Q12_10 Sometimes   273
## 9    Female  Q12_11    Always   223
## 10   Female  Q12_11     Never   419
## ..      ...     ...       ...   ...
```
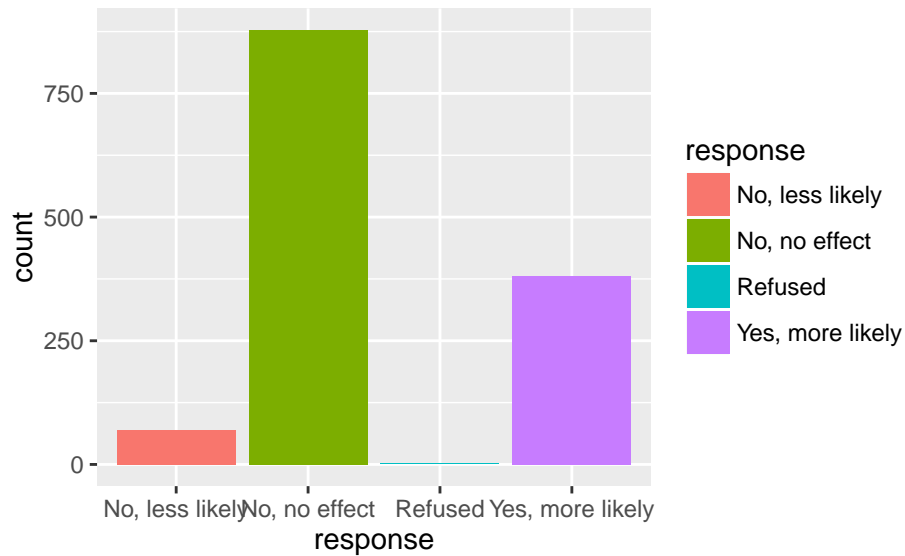
Q14. How much do you pay to get an influenza vaccine?

```
##                 Q14
##   $0           :970
##   $30 to $60   : 54
##   Don_t know   : 80
##   Less than $30:222
##   More than $60:  4
##   Refused      :  1
##   NA's         :837
```
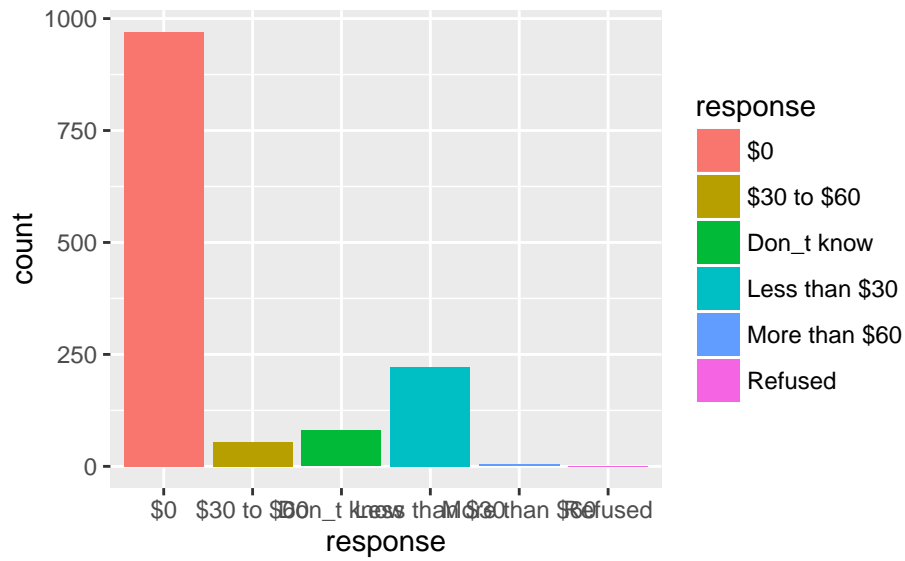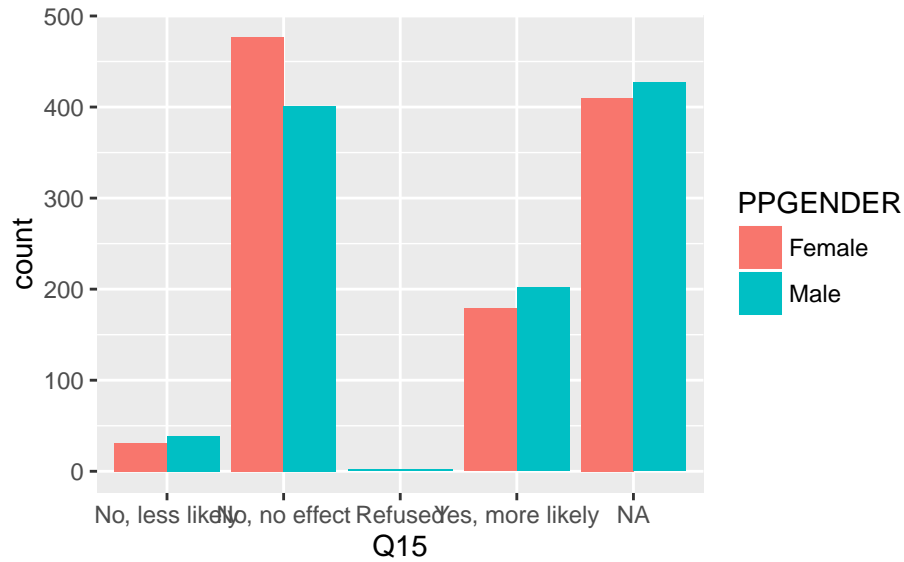
Q15. Are you more likely to get a vaccine if others around you get a vaccine?

```
##                     Q15
##   No, less likely : 70
##   No, no effect   :878
##   Refused         :  2
##   Yes, more likely:381
##   NA's            :837
```
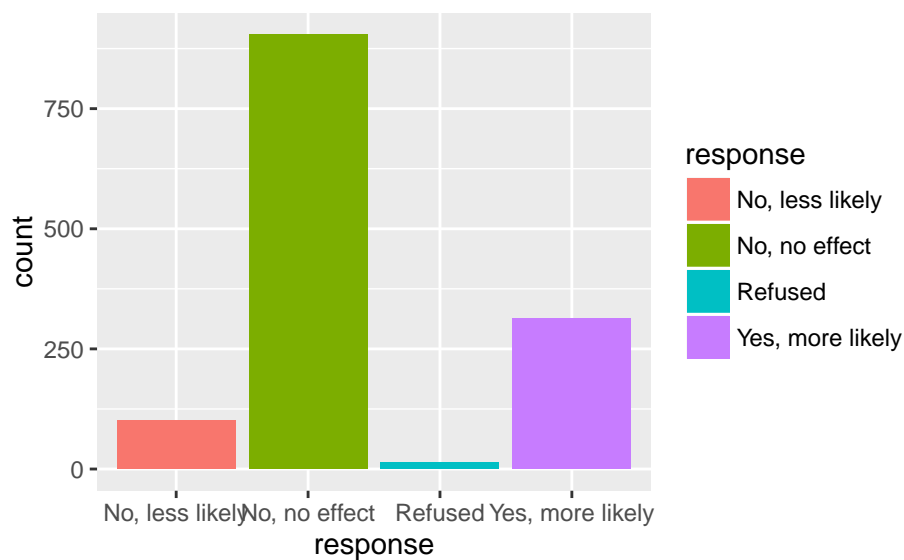


```
## Source: local data frame [9 x 3]
## Groups: Q15 [?]
##
##                  Q15 PPGENDER count
##               (fctr)   (fctr) (int)
## 1  No, less likely     Female    31
## 2  No, less likely       Male    39
```

```
## 3     No, no effect    Female    477
## 4     No, no effect      Male    401
## 5          Refused       Male      2
## 6 Yes, more likely    Female    179
## 7 Yes, more likely      Male    202
## 8                NA    Female    410
## 9                NA      Male    427
```


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

```
##                    Q16
##   No, less likely :101
##   No, no effect   :904
##   Refused         : 13
##   Yes, more likely:313
##   NA's            :837
```
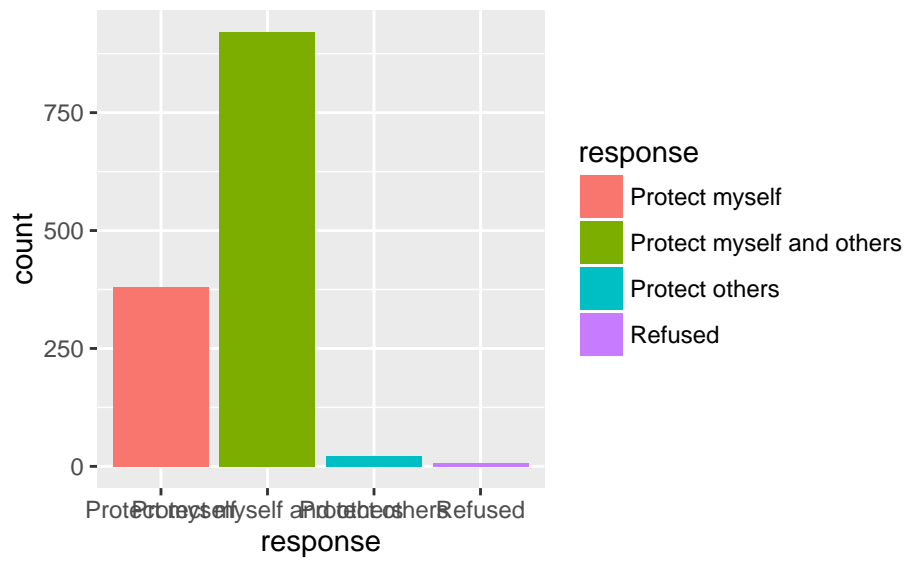
```
## Source: local data frame [10 x 3]
## Groups: Q16 [?]
##
##                 Q16 PPGENDER count
##               (fctr)  (fctr)  (int)
## 1   No, less likely   Female    43
## 2   No, less likely     Male    58
## 3     No, no effect   Female   472
## 4     No, no effect     Male   432
## 5           Refused   Female    10
## 6           Refused     Male     3
## 7  Yes, more likely   Female   162
## 8  Yes, more likely     Male   151
## 9                NA   Female   410
## 10               NA     Male   427
```
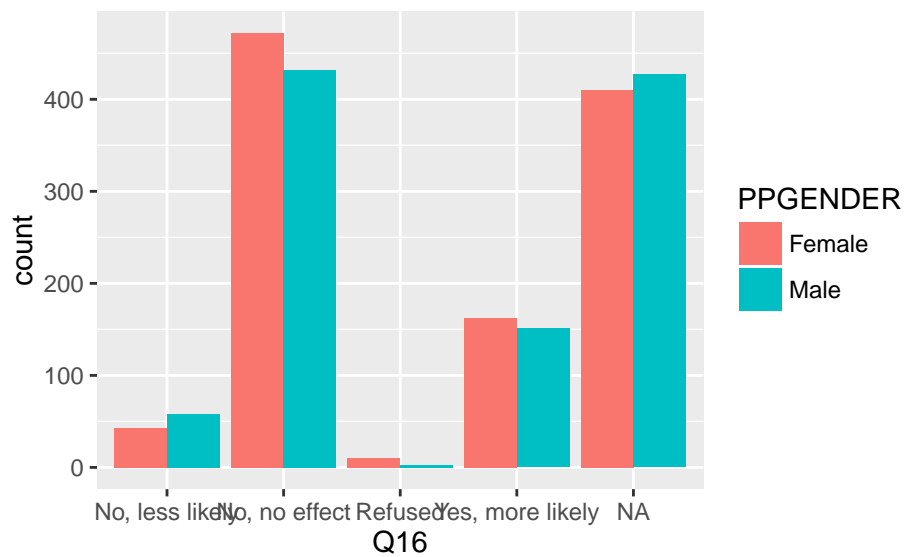

Q17. Do you get a vaccine to protect yourself, protect others, or protect yourself and others?

```
##                          Q17
##  Protect myself            :381
##  Protect myself and others:921
##  Protect others           : 22
##  Refused                  :  7
##  NA's                     :837
```

```
## Source: local data frame [10 x 3]
## Groups: Q17 [?]
##
##                          Q17 PPGENDER count
##                       (fctr)   (fctr)  (int)
## 1            Protect myself   Female    175
## 2            Protect myself     Male    206
## 3  Protect myself and others  Female    500
## 4  Protect myself and others    Male    421
## 5            Protect others   Female      9
## 6            Protect others     Male     13
## 7                   Refused   Female      3
## 8                   Refused     Male      4
## 9                        NA   Female    410
## 10                       NA     Male    427
```
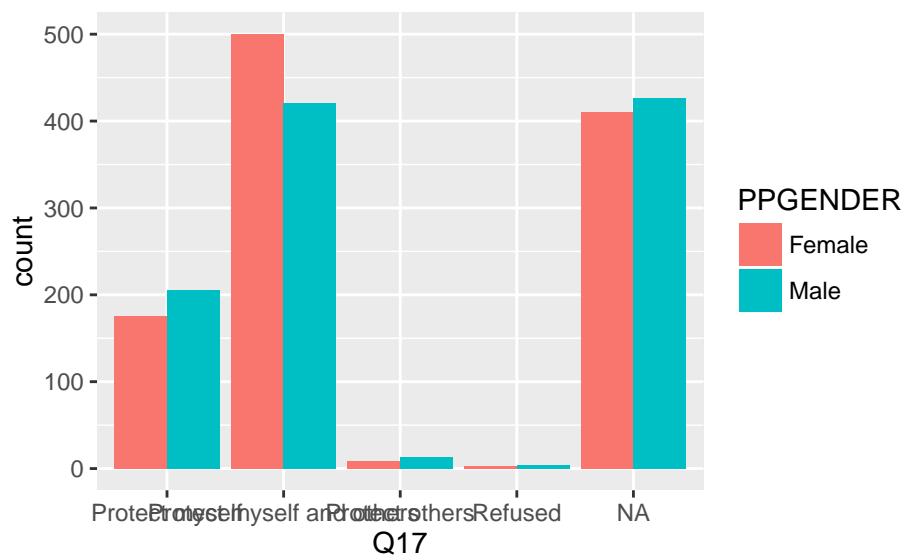
**Q18. What are the reasons you would not get an influenza vaccine?**
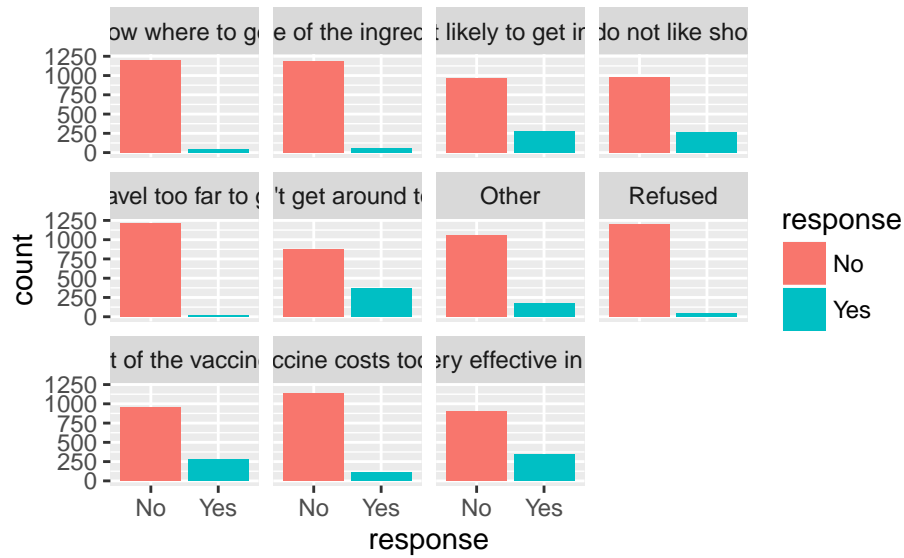

```
##  The vaccine costs too much
##  No  :1132
##  Yes : 110
##  NA's: 926
##
##
##
##
##  The vaccine is not very effective in preventing influenza
##  No  :903
##  Yes :339
##  NA's:926
##
##
##
##
##  I am not likely to get influenza Do not know where to get vaccine
##  No  :964                         No  :1199
##  Yes :278                         Yes :   43
##  NA's:926                         NA's: 926
##
##
##
##
##  The side effect of the vaccine are too risky
##  No  :958
##  Yes :284
##  NA's:926
##
##
##
##
##  I am allergic to some of the ingredients in the vaccine
```

```
##   No  :1184
##   Yes :  58
##   NA's: 926
##
##
##
##
##   I do not like shots I just don't get around to doing it
##   No  :976             No  :878
##   Yes :266             Yes :364
##   NA's:926             NA's:926
##
##
##
##
##   I have to travel too far to get vaccine  Other      Refused
##   No  :1216                                No  :1064  No  :1200
##   Yes :  26                                Yes :  178 Yes :  42
##   NA's: 926                                NA's: 926  NA's: 926
##
##
##
##
##                                                        Other text
##                                                              :1991
##   no need                                               :   3
##   70's swine flu vacc                                   :   1
##   Always get sick when I get the shot                   :   1
##   because                                               :   1
##   because i get treatments to lower and over active immune system.:   1
##   (Other)                                               : 170


## Source: local data frame [23,848 x 3]
## Groups: PPGENDER, option, response [66]
##
##    PPGENDER option response
##      (fctr) (chr)    (chr)
## 1   Female  Q18_1       NA
## 2     Male  Q18_1       NA
## 3   Female  Q18_1       NA
## 4     Male  Q18_1       No
## 5     Male  Q18_1       NA
## 6     Male  Q18_1       No
## 7   Female  Q18_1       No
## 8     Male  Q18_1       NA
## 9   Female  Q18_1       No
## 10    Male  Q18_1       No
## ..      ...    ...      ...
```
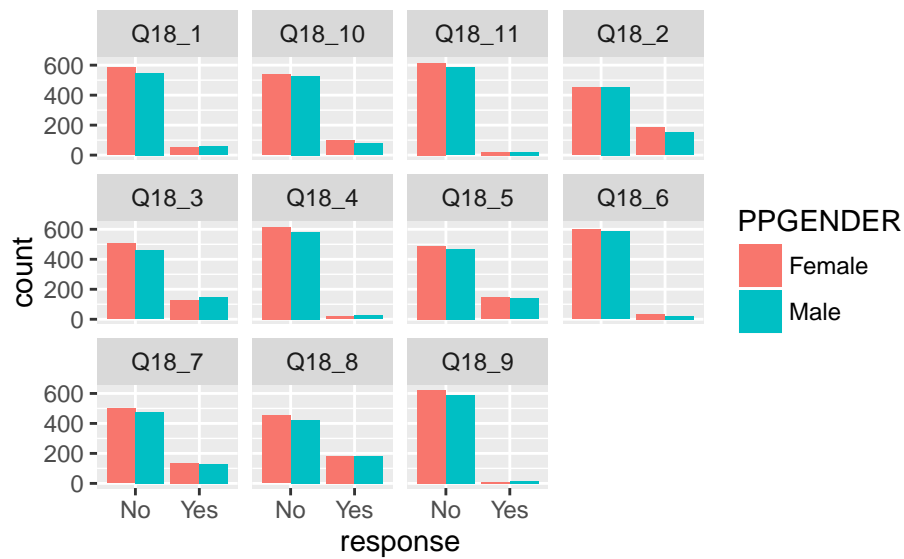
```
## Source: local data frame [66 x 4]
## Groups: PPGENDER, option [?]
##
##    PPGENDER option response count
##      (fctr)  (chr)    (chr) (int)
## 1    Female  Q18_1       No   584
## 2    Female  Q18_1      Yes    51
## 3    Female  Q18_1       NA   462
## 4    Female Q18_10       No   537
## 5    Female Q18_10      Yes    98
## 6    Female Q18_10       NA   462
## 7    Female Q18_11       No   614
## 8    Female Q18_11      Yes    21
## 9    Female Q18_11       NA   462
## 10   Female  Q18_2       No   449
## ..      ...    ...      ...   ...
```

Q19. Do you have health insurance?

```
##       Q19
##  No     : 154
##  Refused:  20
##  Yes    :1994
```
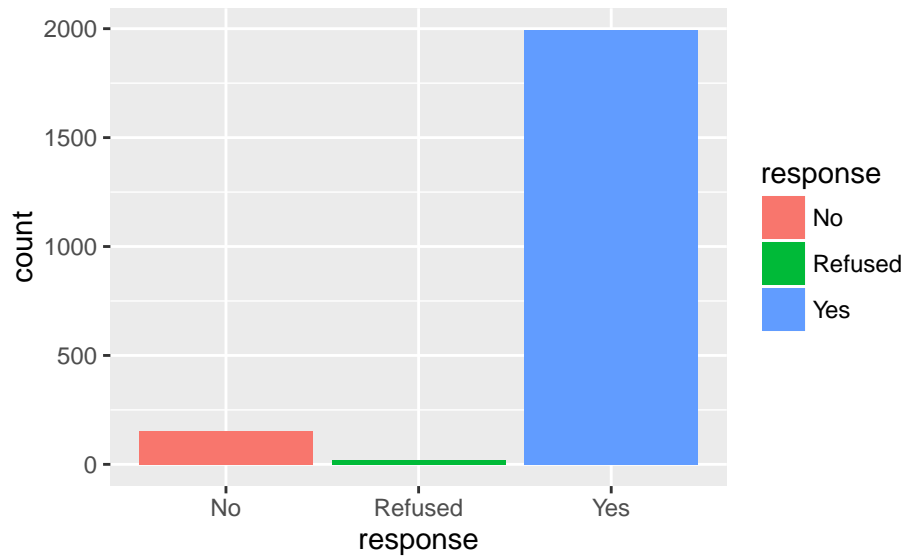
```
## Source: local data frame [6 x 3]
## Groups: Q19 [?]
##
##       Q19 PPGENDER count
##    (fctr)  (fctr) (int)
## 1      No  Female    60
## 2      No    Male    94
## 3 Refused  Female     4
## 4 Refused    Male    16
## 5     Yes  Female  1033
## 6     Yes    Male   961
```
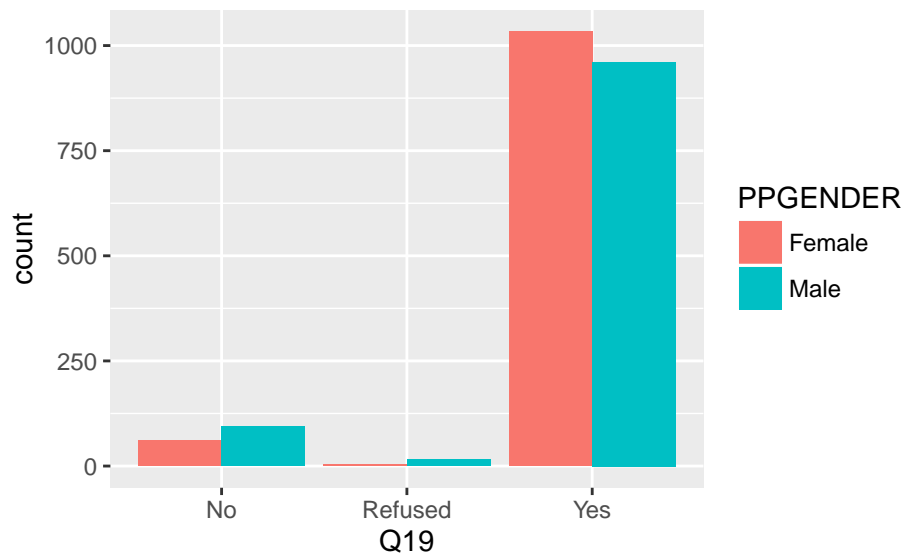

Q20. How effective do you think the influenza vaccine is in protecting people from becoming sick with influenza?

```
##                                        Q20
```

```
##  Don_t know                 :228
##  It varies from season to season:433
##  Not effective              :144
##  Refused                    : 19
##  Somewhat effective         :961
##  Very effective             :383
```
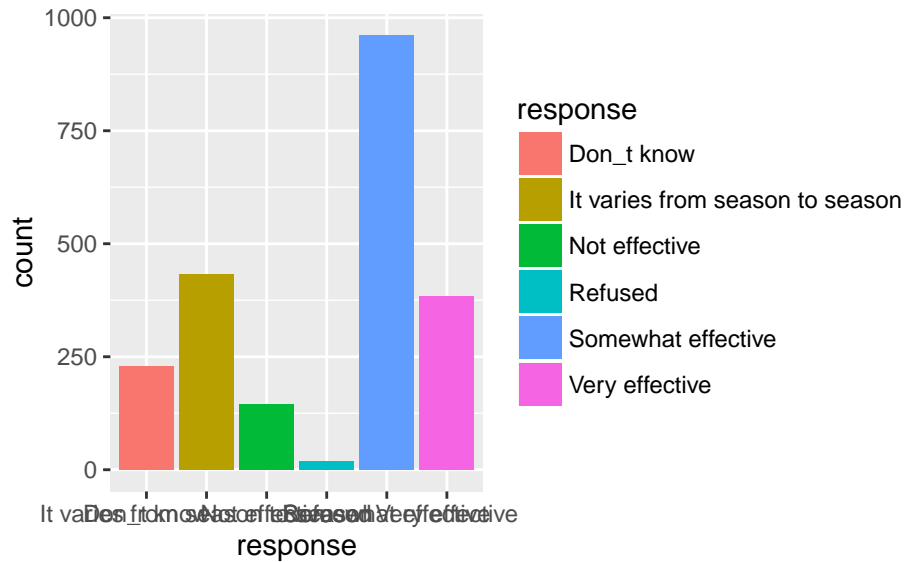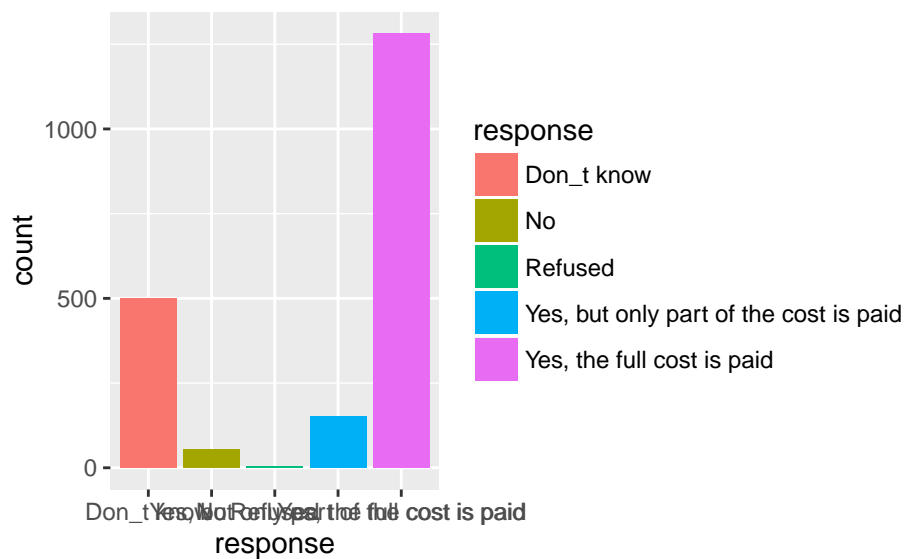


```
## Source: local data frame [12 x 3]
## Groups: Q20 [?]
##
##                                 Q20 PPGENDER count
##                              (fctr)   (fctr) (int)
## 1                        Don_t know   Female   110
## 2                        Don_t know     Male   118
## 3   It varies from season to season   Female   243
## 4   It varies from season to season     Male   190
## 5                     Not effective   Female    73
## 6                     Not effective     Male    71
## 7                           Refused   Female     2
## 8                           Refused     Male    17
## 9                Somewhat effective   Female   464
## 10               Somewhat effective     Male   497
## 11                   Very effective   Female   205
## 12                   Very effective     Male   178
```
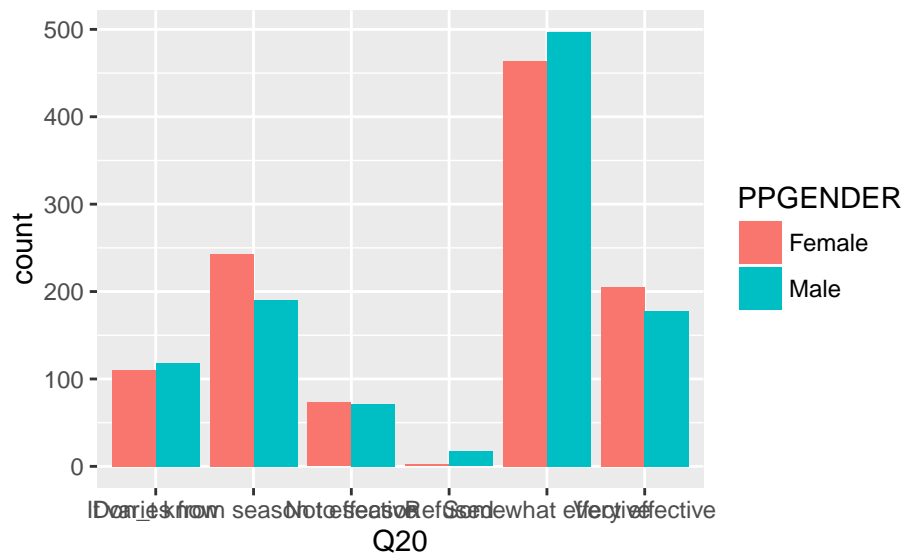
Q21. Are influenza vaccines covered by your health insurance?

```
##                                        Q21
##   Don_t know                           : 500
##   No                                   :  55
##   Refused                              :   4
##   Yes, but only part of the cost is paid: 153
##   Yes, the full cost is paid           :1282
##   NA's                                 : 174
```



```
## Source: local data frame [12 x 3]
## Groups: Q21 [?]
##
##                                  Q21 PPGENDER count
##                               (fctr)   (fctr) (int)
## 1                         Don_t know   Female   271
```

```
## 2                                    Don_t know     Male    229
## 3                                            No   Female     31
## 4                                            No     Male     24
## 5                                       Refused   Female      1
## 6                                       Refused     Male      3
## 7  Yes, but only part of the cost is paid   Female     60
## 8  Yes, but only part of the cost is paid     Male     93
## 9            Yes, the full cost is paid   Female    670
## 10           Yes, the full cost is paid     Male    612
## 11                                          NA   Female     64
## 12                                          NA     Male    110
```
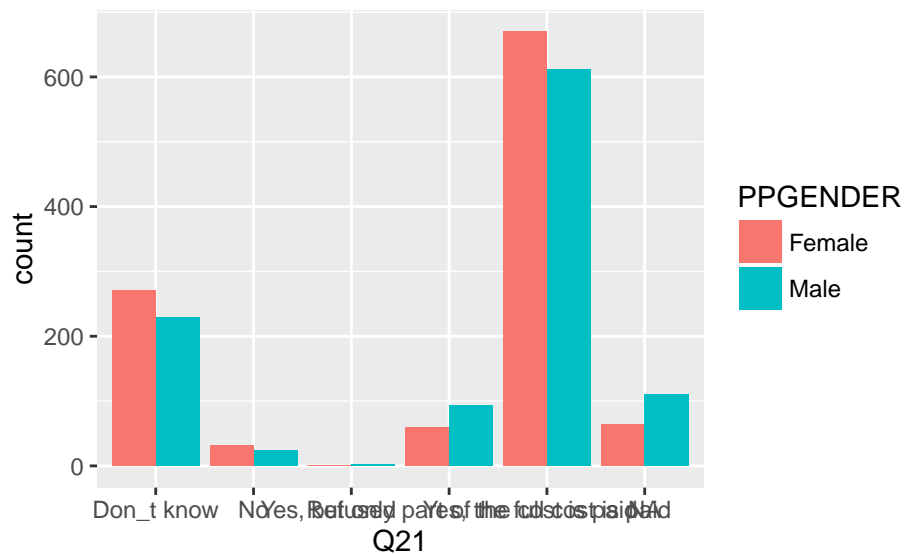

Q22. Do you do any of the following when you have influenza symptoms?
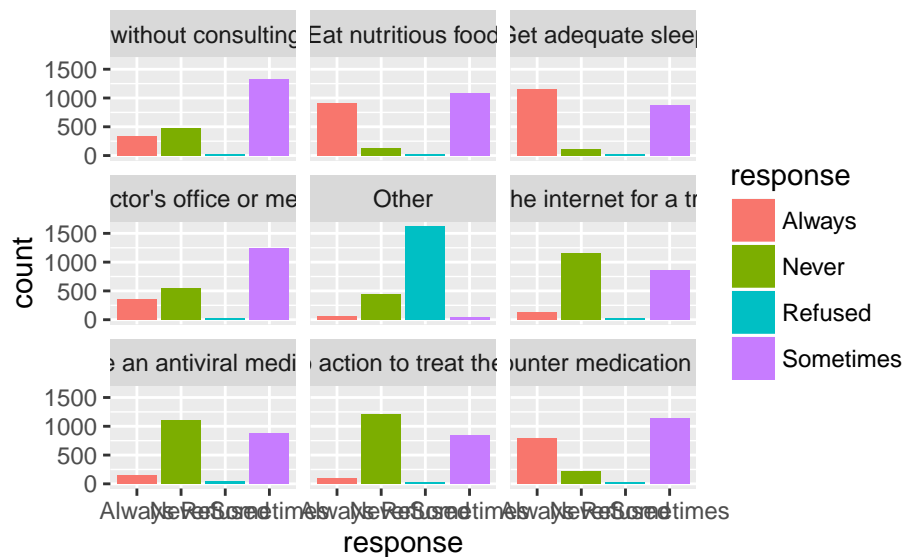

```
##  Go to a doctor's office or medical clinic
##  Always   : 349
```

```
## Never    : 552
## Refused  :  32
## Sometimes:1235
##
##
##
## Decide on treatment without consulting a health practitioner
## Always   : 335
## Never    : 473
## Refused  :  31
## Sometimes:1329
##
##
##
## Search the internet for a treatment Get adequate sleep
## Always   : 126                       Always   :1147
## Never    :1148                       Never    : 115
## Refused  :  33                       Refused  :  31
## Sometimes: 861                       Sometimes: 875
##
##
##
## Eat nutritious food Take-over-counter medication for symptoms
## Always   : 909     Always   : 796
## Never    : 135     Never    : 210
## Refused  :  33     Refused  :  32
## Sometimes:1091     Sometimes:1130
##
##
##
## Take an antiviral medicine Take no action to treat the illness
## Always   : 153            Always   :  96
## Never    :1103            Never    :1199
## Refused  :  35            Refused  :  34
## Sometimes: 877            Sometimes: 839
##
##
##
##        Other                         Other text
## Always   :  54                                 :2046
## Never    : 448   none                  :   6
## Refused  :1628   dont know             :   2
## Sometimes:  38   drink lots of fluids  :   2
##                  eat chicken noodle soup:  2
##                  n/a                   :   2
##                  (Other)               : 108


## Source: local data frame [19,512 x 3]
## Groups: PPGENDER, option, response [72]
##
##    PPGENDER option  response
##      (fctr) (chr)     (chr)
## 1    Female  Q22_1 Sometimes
## 2      Male  Q22_1   Refused
```

```
## 3    Female   Q22_1    Always
## 4      Male   Q22_1 Sometimes
## 5      Male   Q22_1 Sometimes
## 6      Male   Q22_1    Never
## 7    Female   Q22_1 Sometimes
## 8      Male   Q22_1    Never
## 9    Female   Q22_1    Never
## 10     Male   Q22_1    Never
## ..      ...     ...      ...
```
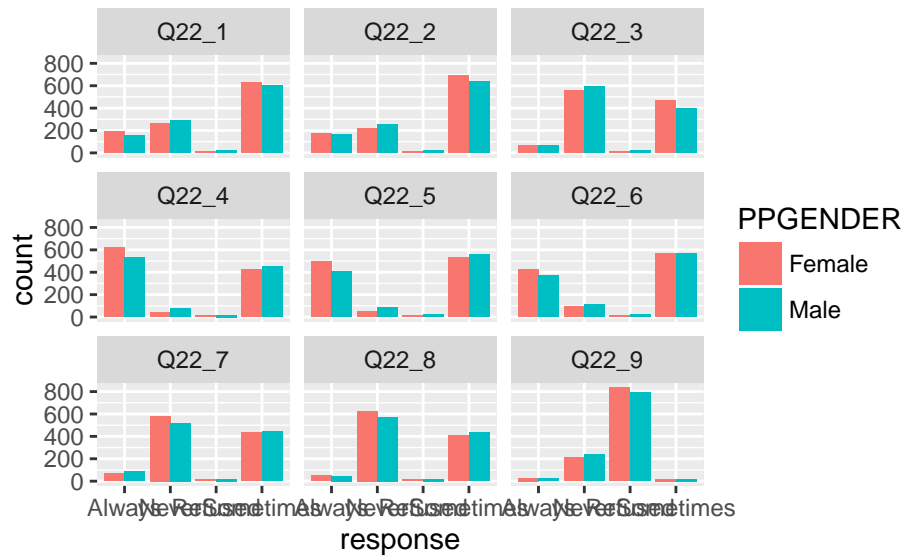


```
## Source: local data frame [72 x 4]
## Groups: PPGENDER, option [?]
##
##    PPGENDER option  response count
##      (fctr)  (chr)    (chr) (int)
## 1    Female  Q22_1    Always   189
## 2    Female  Q22_1    Never   265
## 3    Female  Q22_1   Refused    13
## 4    Female  Q22_1 Sometimes   630
## 5    Female  Q22_2    Always   171
## 6    Female  Q22_2    Never   220
## 7    Female  Q22_2   Refused    12
## 8    Female  Q22_2 Sometimes   694
## 9    Female  Q22_3    Always    63
## 10   Female  Q22_3    Never   554
## ..      ...     ...      ...   ...
```

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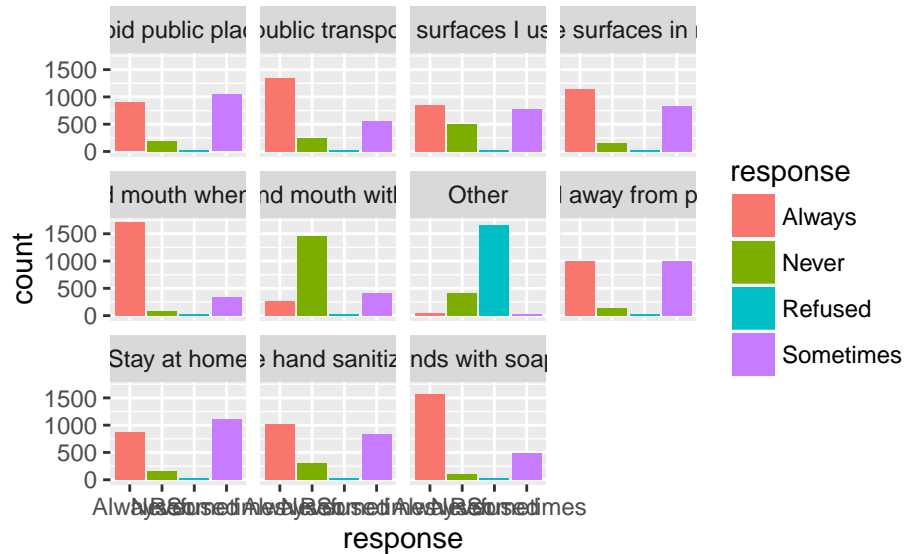

```
## Stand away from people Avoid public places Avoid public transportation
## Always   :1006       Always   : 897      Always   :1342
## Never    : 135       Never    : 196      Never    : 245
## Refused  :  31       Refused  :  31      Refused  :  31
## Sometimes: 996       Sometimes:1044      Sometimes: 550
##
##
##
##     Stay at home  Wash my hands with soap more often Use hand sanitizers
## Always   : 869   Always   :1559                     Always   :1014
## Never    : 163   Never    :  92                     Never    : 299
## Refused  :  30   Refused  :  29                     Refused  :  30
## Sometimes:1106   Sometimes: 488                     Sometimes: 825
##
##
##
## Clean the surfaces in my home Clean the surfaces I use at work
## Always   :1151                Always   :856
## Never    : 153                Never    :508
## Refused  :  32                Refused  : 32
## Sometimes: 832                Sometimes:772
##
##
##
## Cover my nose and mouth with a surgical mask
## Always   : 267
## Never    :1463
## Refused  :  29
## Sometimes: 409
##
##
##
```

```
## Cover my nose and mouth when I sneeze or cough        Other
## Always   :1717                                 Always   :  54
## Never    :  81                                 Never    : 421
## Refused  :  29                                 Refused  :1665
## Sometimes: 341                                 Sometimes:  28
##
##
##
##        Other text
##             :2078
##  none       :   6
##  stay in bed:   3
##  dont know  :   2
##  na         :   2
##  never had  :   2
##  (Other)    :  75


## Source: local data frame [23,848 x 3]
## Groups: PPGENDER, option, response [88]
##
##    PPGENDER option  response
##      (fctr)  (chr)     (chr)
## 1    Female  Q23_1 Sometimes
## 2      Male  Q23_1   Refused
## 3    Female  Q23_1    Always
## 4      Male  Q23_1 Sometimes
## 5      Male  Q23_1    Always
## 6      Male  Q23_1 Sometimes
## 7    Female  Q23_1 Sometimes
## 8      Male  Q23_1 Sometimes
## 9    Female  Q23_1    Always
## 10     Male  Q23_1    Always
## ..     ...     ...      ...
```
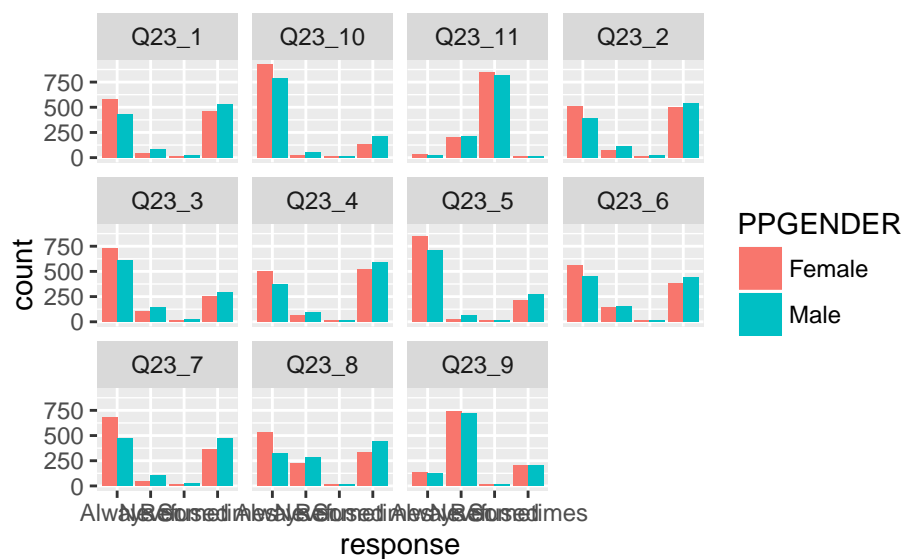


```
## Source: local data frame [88 x 4]
```

```
## Groups: PPGENDER, option [?]
##
##     PPGENDER option   response count
##       (fctr)  (chr)      (chr) (int)
## 1    Female  Q23_1     Always   579
## 2    Female  Q23_1      Never    46
## 3    Female  Q23_1    Refused    11
## 4    Female  Q23_1  Sometimes   461
## 5    Female Q23_10     Always   930
## 6    Female Q23_10      Never    25
## 7    Female Q23_10    Refused    10
## 8    Female Q23_10  Sometimes   132
## 9    Female Q23_11     Always    32
## 10   Female Q23_11      Never   203
## ..      ...    ...        ...   ...
```

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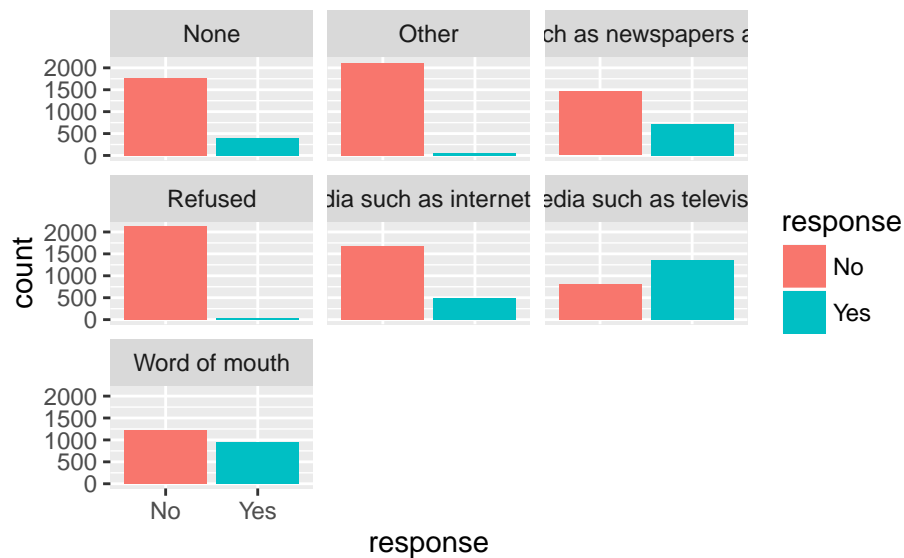

```
## Print media such as newspapers and magazines
## No :1460
## Yes: 708
##
##
##
##
##
## Traditional media such as television and radio
## No : 811
## Yes:1357
##
##
##
##
##
```

```
##  Social media such as internet and blogs Word of mouth  None
##  No :1680                                 No :1213      No :1764
##  Yes: 488                                 Yes: 955      Yes: 404
##
##
##
##
##
##  Other        Refused           Other text
##  No :2114   No :2138                  :2114
##  Yes:  54   Yes:  30   CDC        :   2
##                        doctor     :   2
##                        Internet   :   2
##                        Online news:   2
##                        work       :   2
##                        (Other)    :  44
```

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?

```
##  Stand away from people Avoid public places Avoid public transportation
##  Always   : 649         Always   : 648      Always   :1221
##  Never    : 217         Never    : 270      Never    : 268
##  Refused  :  34         Refused  :  33      Refused  :  36
##  Sometimes:1268         Sometimes:1217      Sometimes: 643
##
##
##
##     Stay at home  Wash my hands with soap more often Use hand sanitizers
##  Always   : 484   Always   :1477                     Always   :1077
##  Never    : 429   Never    :  99                     Never    : 257
##  Refused  :  33   Refused  :  38                     Refused  :  35
##  Sometimes:1222   Sometimes: 554                     Sometimes: 799
##
##
##
##  Clean the surfaces in my home Clean the surfaces I use at work
##  Always   :1116                Always   :902
##  Never    : 160                Never    :464
##  Refused  :  35                Refused  : 36
##  Sometimes: 857                Sometimes:766
##
##
##
##  Cover my nose and mouth with a surgical mask
##  Always   : 343
##  Never    :1286
##  Refused  :  34
##  Sometimes: 505
##
##
##
##  Cover my nose and mouth when I sneeze or cough       Other
```
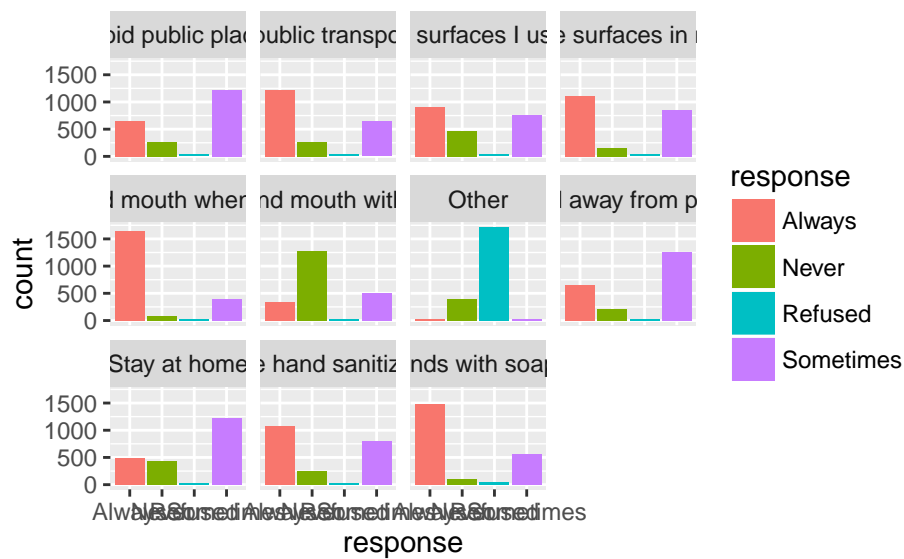
```
## Always   :1643            Always   :  32
## Never    :  90            Never    : 393
## Refused  :  36            Refused  :1722
## Sometimes: 399            Sometimes:  21
## 
## 
## 
##       Other text
##           :2100
## none    :   9
## nothing :   3
## n/a     :   2
## stay home:  2
## -       :   1
## (Other) :  51
```


Q26. Does your household have children?

```
##        Q26
##  No     :1570
##  Refused:  22
##  Yes    : 576
```
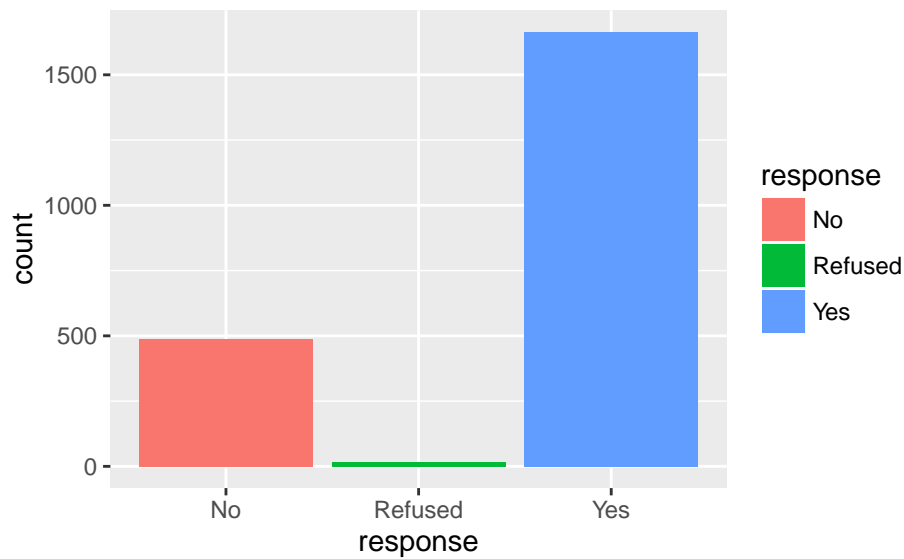
Q27. What actions do you take when a child in your household has influenza symptoms?

```
##  Keep the child away from the others in the residence
##  Always   : 198
##  Never    :  90
##  Refused  :   3
##  Sometimes: 285
##  NA's     :1592
##
##
##  Keep the child out of school/daycare
##  Always   : 377
##  Never    :  46
##  Refused  :   4
##  Sometimes: 149
##  NA's     :1592
##
##
##  Stop child's social activities like play dates     Other
##  Always   : 388                              Always   :  12
##  Never    :  41                              Never    :  93
##  Refused  :   3                              Refused  : 459
##  Sometimes: 144                              Sometimes:  12
##  NA's     :1592                              NA's     :1592
##
##
##                                                                Other text
##                                                                   :2147
##  Consult with the child's doctors.                            :   1
##  crawling on floor                                            :   1
##  Depending on symptoms id have him wear a mask to help us not get it:   1
##  doctor visit                                                 :   1
##  give supplements & herbs                                     :   1
##  (Other)                                                      :  16
```
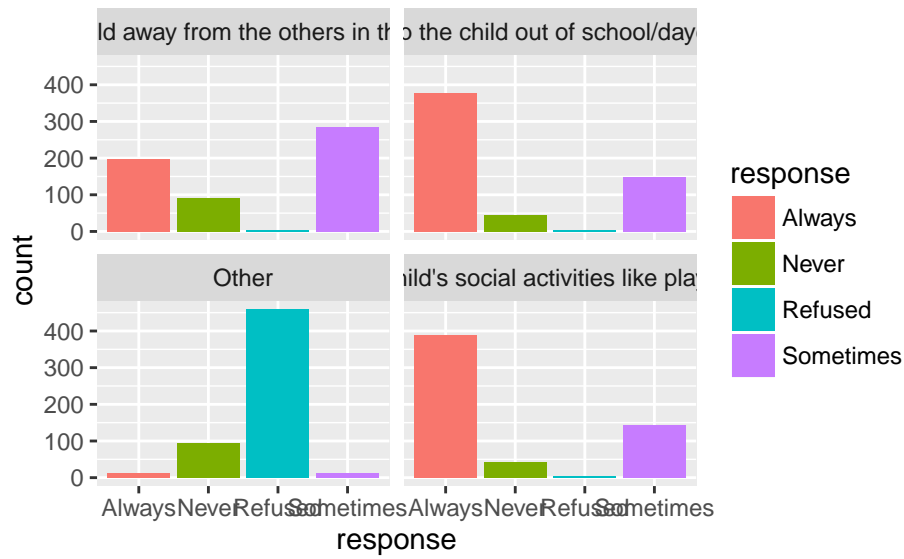
```
## Source: local data frame [8,672 x 3]
## Groups: PPGENDER, option, response [40]
##
##    PPGENDER option  response
##      (fctr)  (chr)     (chr)
## 1    Female  Q27_1 Sometimes
## 2      Male  Q27_1        NA
## 3    Female  Q27_1    Always
## 4      Male  Q27_1     Never
## 5      Male  Q27_1        NA
## 6      Male  Q27_1     Never
## 7    Female  Q27_1        NA
## 8      Male  Q27_1        NA
## 9    Female  Q27_1        NA
## 10     Male  Q27_1        NA
## ..      ...    ...       ...
```
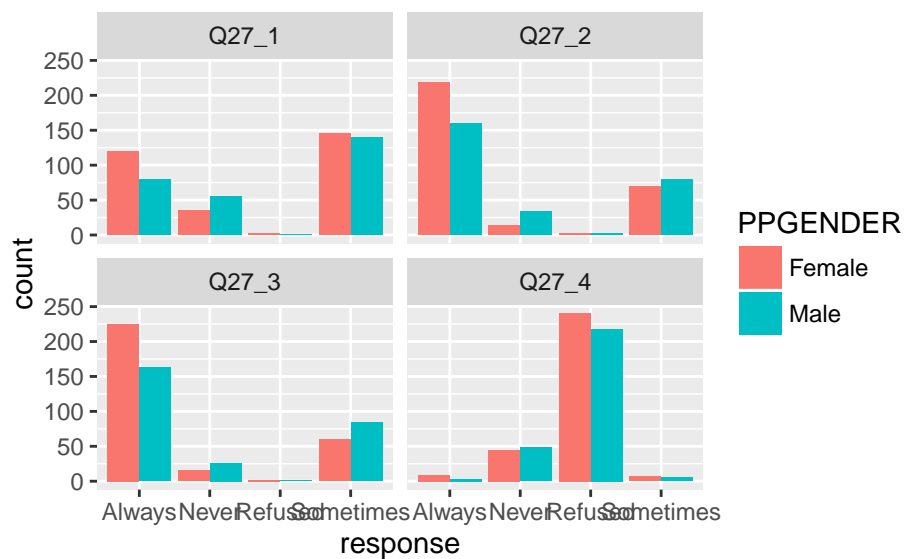


```
## Source: local data frame [40 x 4]
```

```
## Groups: PPGENDER, option [?]
##
##    PPGENDER option   response count
##      (fctr)  (chr)      (chr) (int)
## 1    Female   Q27_1    Always   119
## 2    Female   Q27_1     Never    35
## 3    Female   Q27_1   Refused     2
## 4    Female   Q27_1 Sometimes   146
## 5    Female   Q27_1        NA   795
## 6    Female   Q27_2    Always   218
## 7    Female   Q27_2     Never    13
## 8    Female   Q27_2   Refused     2
## 9    Female   Q27_2 Sometimes    69
## 10   Female   Q27_2        NA   795
## ..      ...     ...       ...   ...
```

Q28. Are you a single parent?

```
##    Q28
##  No  : 490
##  Yes :  86
##  NA's:1592
```
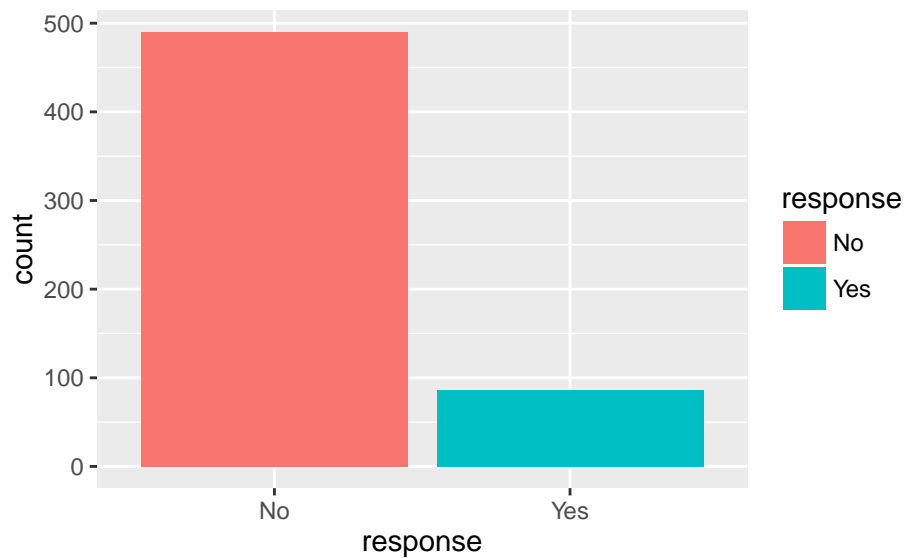


```
## Source: local data frame [6 x 3]
## Groups: Q28 [?]
##
##      Q28 PPGENDER count
##   (fctr)   (fctr) (int)
## 1    No    Female   243
## 2    No      Male   247
## 3   Yes    Female    59
## 4   Yes      Male    27
## 5    NA    Female   795
## 6    NA      Male   797
```
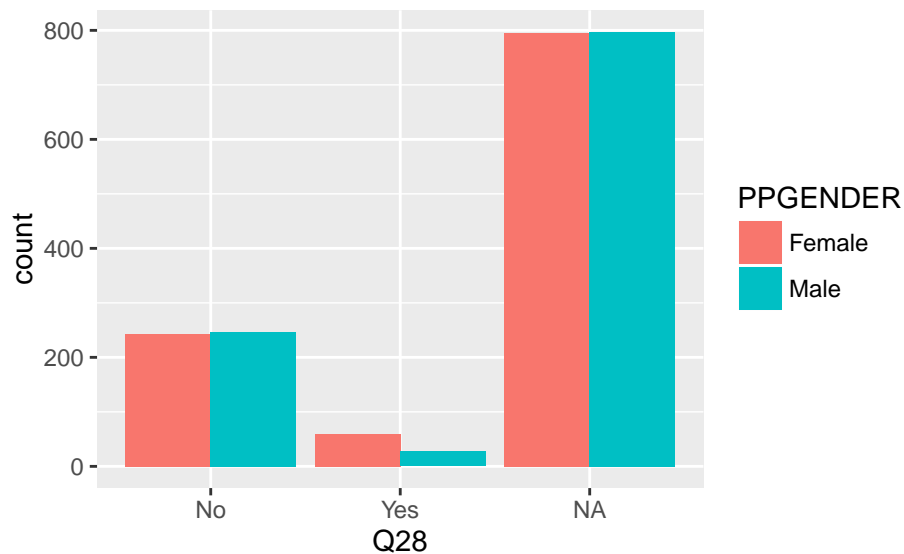
Q29. How do you care for a sick child?

```
##  A parent brings the child to work A parent stays home
##  Always   :   7                     Always   : 266
##  Never    : 438                     Never    :  27
##  Refused  :   4                     Refused  :   4
##  Sometimes:  41                     Sometimes: 193
##  NA's     :1678                     NA's     :1678
##
##
##  Another adult stays home Send the child to school sick
##  Always   :  68          Always   :   1
##  Never    : 202          Never    : 414
##  Refused  :   4          Refused  :   5
##  Sometimes: 216          Sometimes:  70
##  NA's     :1678          NA's     :1678
##
##
##  Take the child to a relative or friends       Other
##  Always   :   8                     Always   :   4
##  Never    : 292                     Never    :  76
##  Refused  :   4                     Refused  : 404
##  Sometimes: 186                     Sometimes:   6
##  NA's     :1678                     NA's     :1678
##
##
##                                                                       Other text
##                                                                          :2157
##  Because of proper diets and physical training my family stays healthy the year round:    1
##  Child stays home alone                                               :    1
##  child stays home alone, old enough to take care of himself           :    1
##  drive to school                                                      :    1
##  Have the student sleep more and work less (on school stuff).         :    1
##  (Other)                                                              :    6
```

39
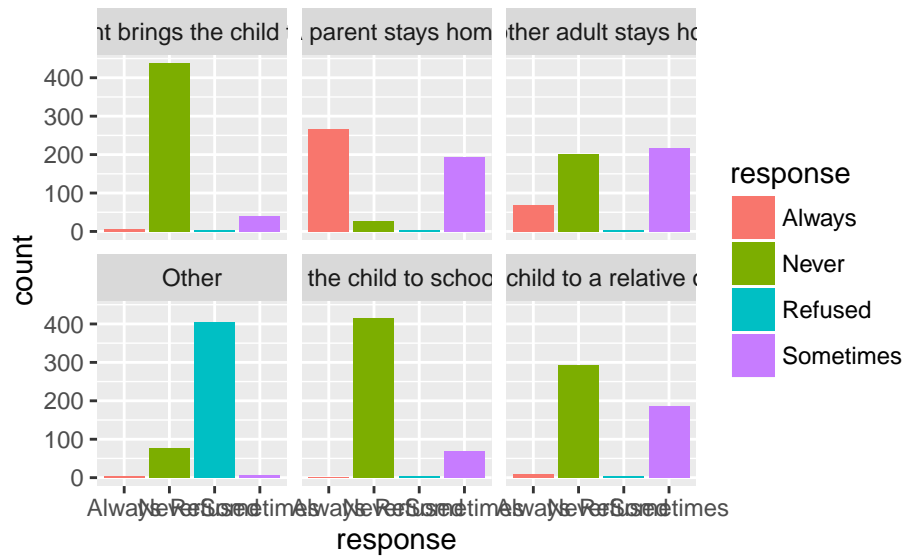
Q30. How do you care for a sick child?

```
##  I bring the child to work    I stay home    Another adult stays home
##  Always   :    4          Always   : 34     Always   :   9
##  Never    : 77             Never    : 10     Never    :  25
##  Sometimes:    5           Sometimes: 42     Sometimes:  52
##  NA's     :2082            NA's     :2082    NA's     :2082
##
##  Send the child to school sick Take the child to a relative or friends
##  Always   :    3              Always   :    7
##  Never    : 60                Never    : 33
##  Sometimes: 23                Sometimes: 46
##  NA's     :2082               NA's     :2082
##
##        Other                             Other text
##  Always   :    1                                  :2165
##  Never    : 14    adult child                 :    1
##  Refused  : 68    Hes old enough to stay alone:    1
##  Sometimes:    3  my children are grown      :    1
##  NA's     :2082
```
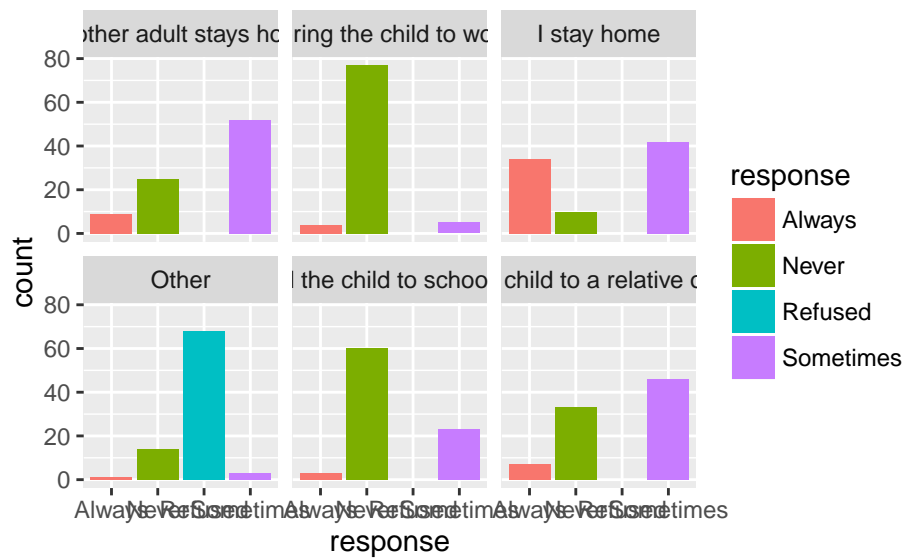
Q31. How many hours of screen time (time spent watching television, a computer, smartphone, iPad, etc.) do you spend each day on average when you are not sick? Enter 0 if none

```
##        Q31           Q31_Codes
##   Min.   : 0.000   Refused:  52
##   1st Qu.: 2.000   NA's   :2116
##   Median : 4.000
##   Mean   : 4.868
##   3rd Qu.: 6.000
##   Max.   :24.000
##   NA's   :52
```
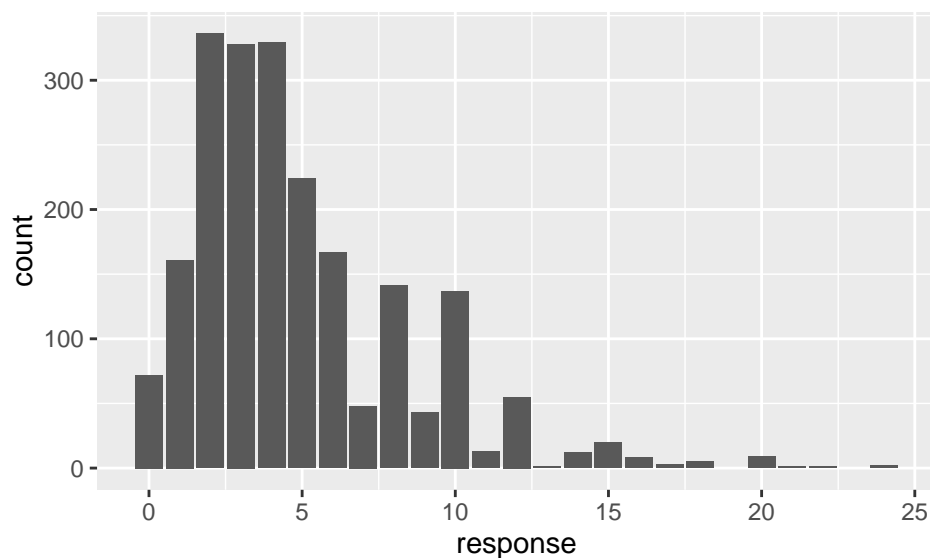


```
## Source: local data frame [43 x 3]
## Groups: Q31 [?]
##
##      Q31 PPGENDER count
```

```
##    (int)   (fctr) (int)
## 1      0   Female    33
## 2      0     Male    39
## 3      1   Female    77
## 4      1     Male    84
## 5      2   Female   184
## 6      2     Male   152
## 7      3   Female   172
## 8      3     Male   156
## 9      4   Female   154
## 10     4     Male   175
## ..    ...      ...   ...
```
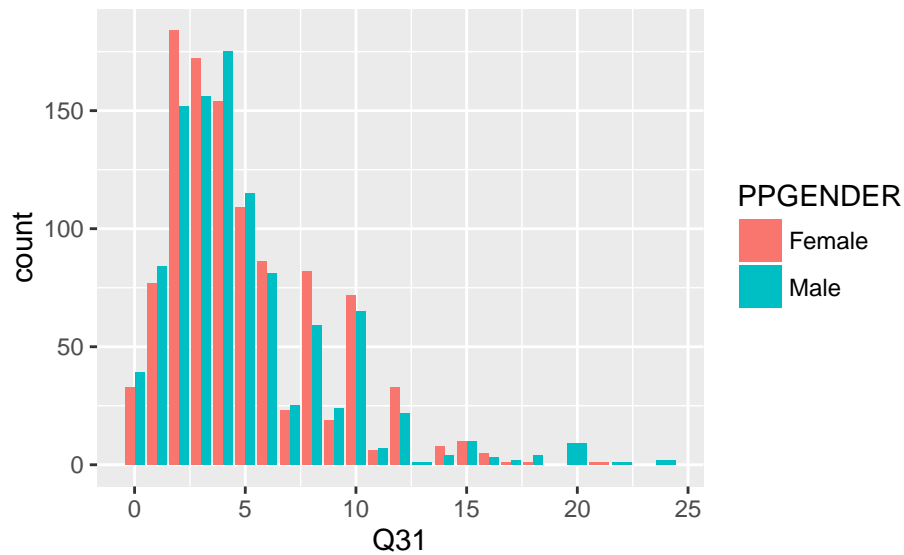

Q32. How many hours of screen time do you spend each day on average when you are sick? Enter 0 if none

```
##        Q32              Q32_Codes
##   Min.   : 0.000    Refused:  61
##   1st Qu.: 1.000    NA's   :2107
##   Median : 4.000
##   Mean   : 4.267
##   3rd Qu.: 6.000
##   Max.   :24.000
##   NA's   :61
```
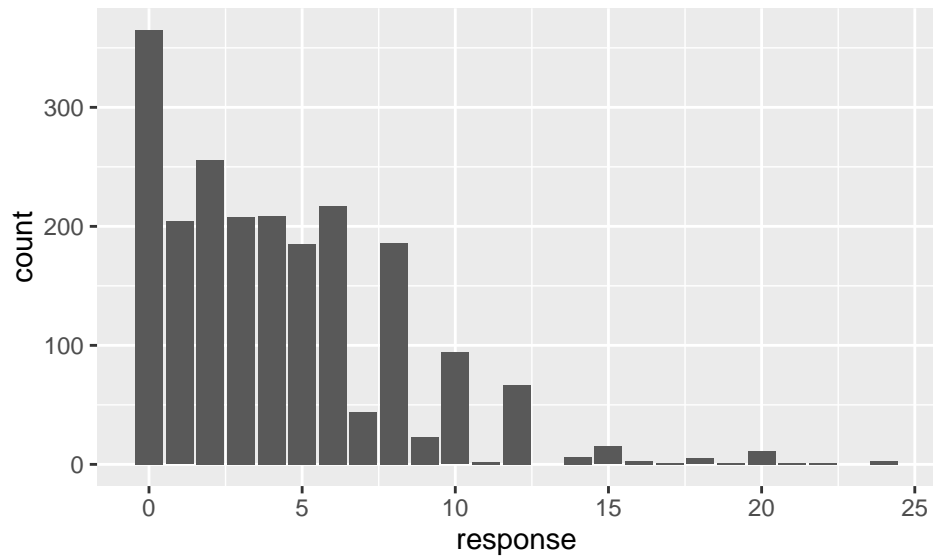
```
## Source: local data frame [43 x 3]
## Groups: Q32 [?]
##
##    Q32 PPGENDER count
##   (int)  (fctr) (int)
## 1    0  Female   199
## 2    0    Male   166
## 3    1  Female    94
## 4    1    Male   110
## 5    2  Female   135
## 6    2    Male   121
## 7    3  Female   101
## 8    3    Male   107
## 9    4  Female   109
## 10   4    Male   100
## ..  ...     ...   ...
```


43
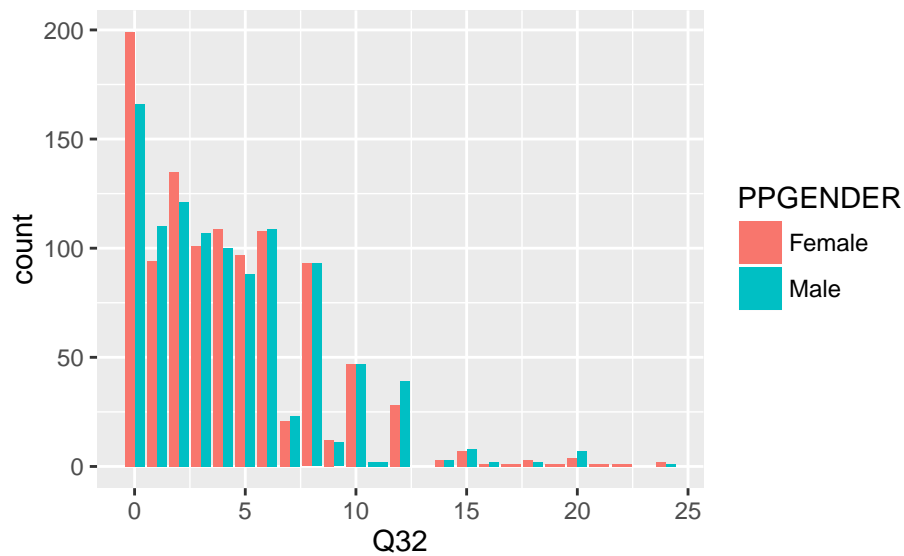
Q33. How many people, including yourself, reside in your household?

```
##       Q33           Q33_Codes
##  Min.   : 1.00   Refused:   28
##  1st Qu.: 2.00   NA's    :2140
##  Median : 2.00
##  Mean   : 2.58
##  3rd Qu.: 3.00
##  Max.   :14.00
##  NA's   :28
```
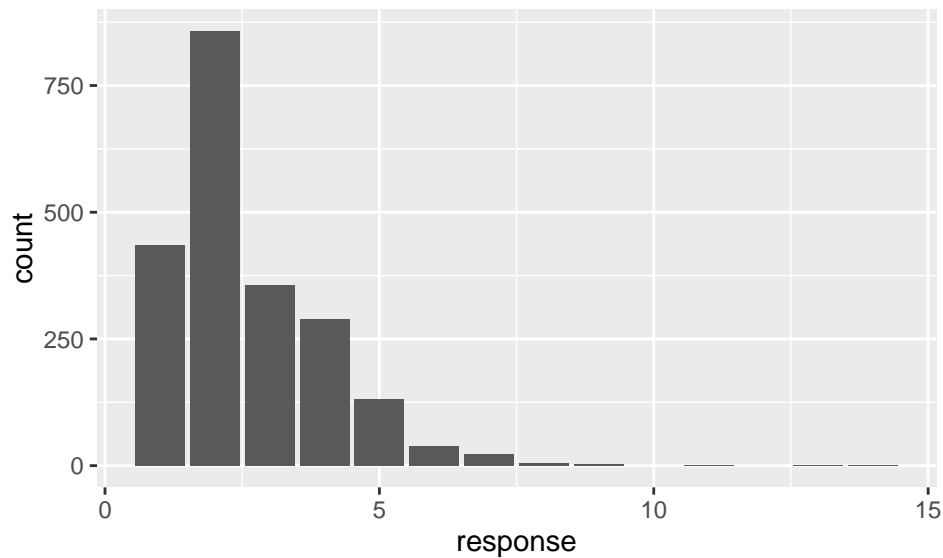


```
## Source: local data frame [23 x 3]
## Groups: Q33 [?]
##
##       Q33 PPGENDER count
##    (int)   (fctr) (int)
## 1      1   Female   220
## 2      1     Male   215
## 3      2   Female   433
## 4      2     Male   424
## 5      3   Female   190
## 6      3     Male   166
## 7      4   Female   148
## 8      4     Male   141
## 9      5   Female    62
## 10     5     Male    69
## ..   ...      ...   ...
```
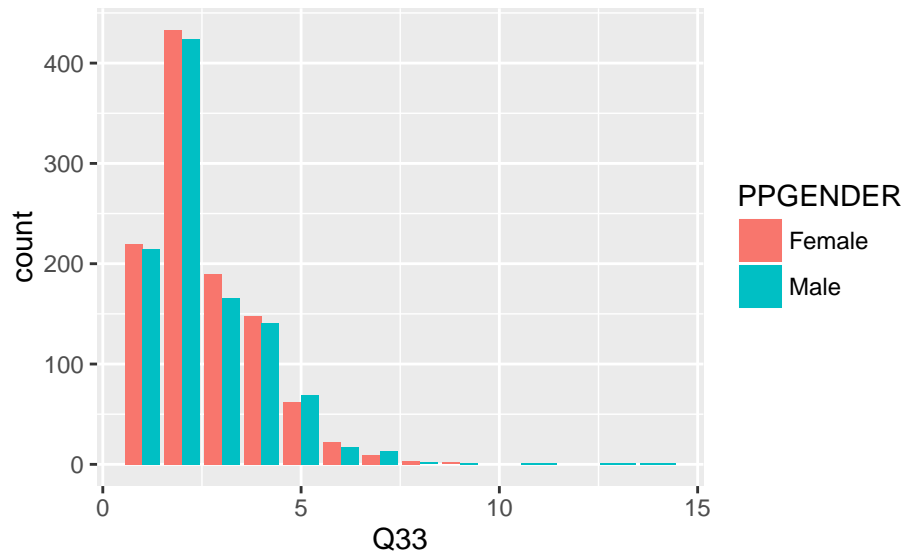
Household members

```
##      Q35              Q36                Q36_Codes           Q37
##  Female :799   Min.    :0.000   Don_t know:  61   Min.    :0.000
##  Male   :859   1st Qu.:0.000   Refused   :   5   1st Qu.:0.000
##  Refused:  5   Median :4.000   NA's      :2102   Median :2.000
##  NA's   :505   Mean   :2.873                     Mean    :2.098
##               3rd Qu.:5.000                     3rd Qu.:3.000
##               Max.   :7.000                     Max.    :7.000
##               NA's   :571                       NA's    :663
##      Q37_Codes          Q38                Q38_Codes
##  Don_t know: 143   Min.    :0.0000   Don_t know:  58
##  Refused   :  15   1st Qu.:0.0000   Refused   :  19
##  NA's      :2010   Median :0.0000   NA's      :2091
##                   Mean   :0.3909
##                   3rd Qu.:0.0000
##                   Max.   :7.0000
##                   NA's   :582
##                         Q39               Q40                Q41
##  Don_t know              :  84   1 to 2 times :1025   Never     :807
##  Less than once per year:222   3 to 5 times : 271   Once      :400
##  More than once per year:593   Never        : 226   2 times   :191
##  Never                  :100   Don_t know   :  87   Don_t know:158
##  Once per year          :656   6 to 10 times:  32   3 times   : 60
##  Refused                :   8   (Other)      :  22   (Other)   : 47
##  NA's                   :505   NA's         : 505   NA's      :505
##              Q42
##  Don_t know   :166
##  No, never    :567
##  Refused      :  6
##  Yes, always  :661
##  Yes, sometimes:263
##  NA's         :505
##
```

```
##       Q43              Q44               Q44_Codes          Q45
## Female : 388   Min.   :0.000   Don_t know: 40   Min.   :0.000
## Male   : 431   1st Qu.:1.000   Refused   :  3   1st Qu.:1.000
## Refused:   9   Median :5.000   NA's      :2125   Median :2.000
## NA's   :1340   Mean   :3.669                    Mean   :2.395
##               3rd Qu.:5.000                    3rd Qu.:4.000
##               Max.   :7.000                    Max.   :7.000
##               NA's   :1383                     NA's   :1419
##       Q45_Codes          Q46               Q46_Codes
## Don_t know: 70   Min.   :0.0000   Don_t know: 42
## Refused   :  9   1st Qu.:0.0000   Refused   :  9
## NA's      :2089   Median :0.0000   NA's      :2117
##               Mean   :0.5727
##               3rd Qu.:0.0000
##               Max.   :7.0000
##               NA's   :1391
##                        Q47                    Q48               Q49
## Don_t know            :  55   1 to 2 times : 490   Never    : 403
## Less than once per year: 125   3 to 5 times : 153   Once     : 183
## More than once per year: 232   Never        :  83   Don_t know: 93
## Never                 :  59   Don_t know   :  66   2 times  :  91
## Once per year         : 353   6 to 10 times:  25   3 times  :  32
## Refused               :   4   (Other)      :  11   (Other)  :  26
## NA's                  :1340   NA's         :1340   NA's     :1340
##            Q50
## Don_t know    : 100
## No, never     : 317
## Refused       :   4
## Yes, always   : 275
## Yes, sometimes: 132
## NA's          :1340
##
```

HHM1

Q35. **What is the gender of this member of the household? Remember, this relates to HHM1_Name who is HHM1_AGE years old.**
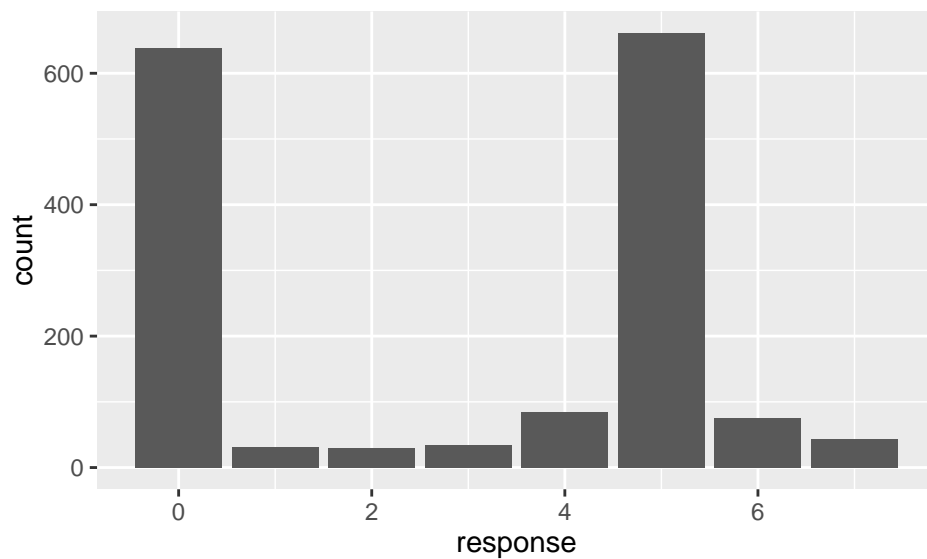
```
##       Q35
## Female :799
## Male   :859
## Refused:  5
## NA's   :505
```
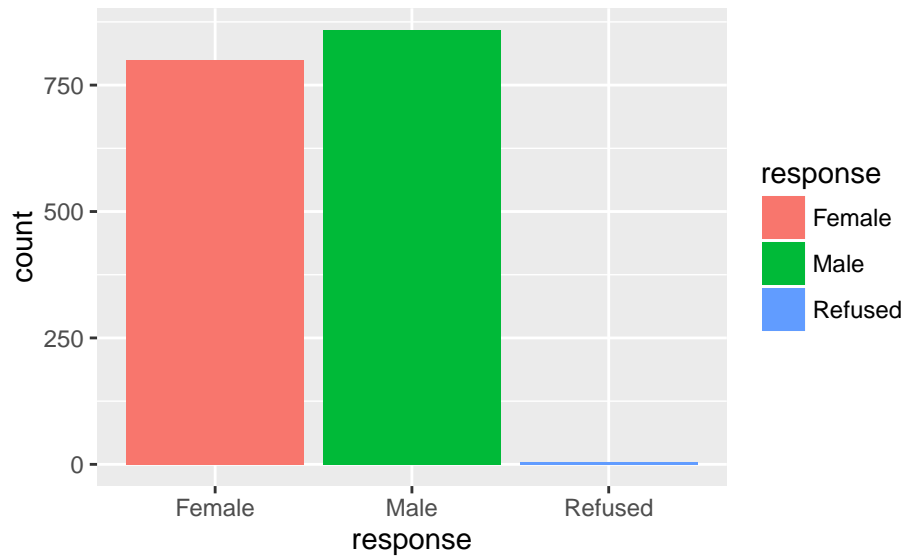
Q36. On average, how many days per week does this member of your household work or attend day care or school outside of your home?

```
##       Q36                Q36_Codes
##   Min.   :0.000    Don_t know:  61
##   1st Qu.:0.000    Refused   :   5
##   Median :4.000    NA's      :2102
##   Mean   :2.873
##   3rd Qu.:5.000
##   Max.   :7.000
##   NA's   :571
```
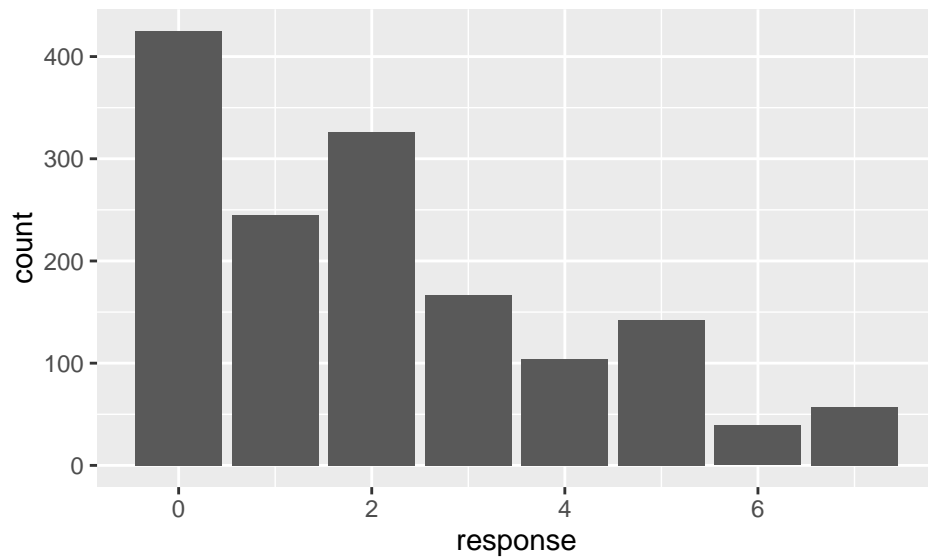

Q37. On average, how many days per week does this member of your household participate in social activities outside of your home?

```
##       Q37                Q37_Codes
```

```
##  Min.   :0.000    Don_t know: 143
##  1st Qu.:0.000    Refused   :  15
##  Median :2.000    NA's      :2010
##  Mean   :2.098
##  3rd Qu.:3.000
##  Max.   :7.000
##  NA's   :663
```


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

```
##       Q38              Q38_Codes
##  Min.   :0.0000    Don_t know:  58
##  1st Qu.:0.0000    Refused   :  19
##  Median :0.0000    NA's      :2091
##  Mean   :0.3909
##  3rd Qu.:0.0000
##  Max.   :7.0000
##  NA's   :582
```
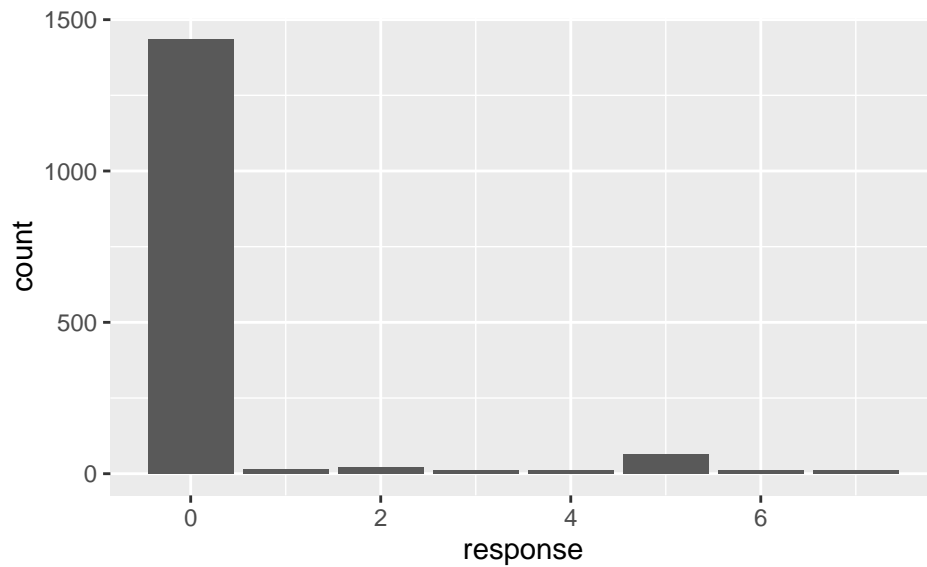
Q39. How frequently does this member of your household visit a doctor's office for wellness appointments?

```
##                        Q39
##  Don_t know           : 84
##  Less than once per year:222
##  More than once per year:593
##  Never                :100
##  Once per year        :656
##  Refused              :  8
##  NA's                 :505
```
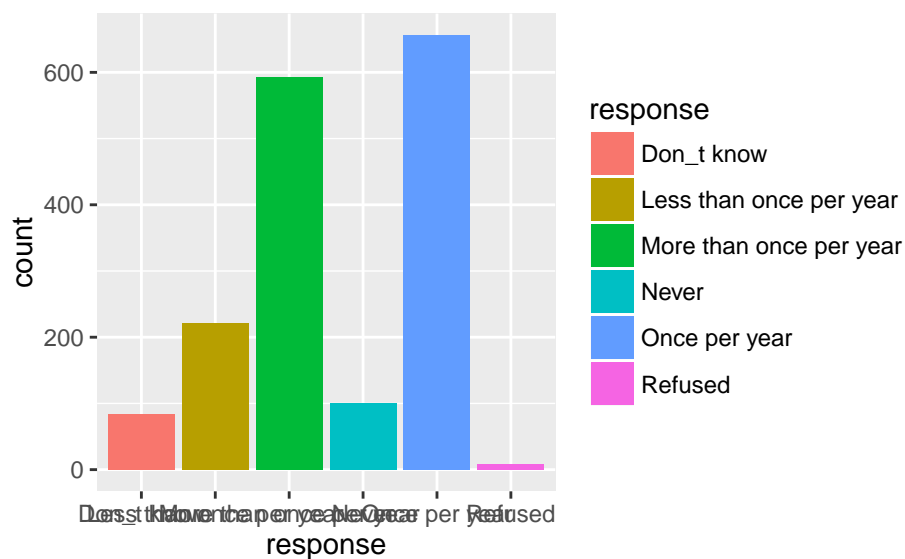

Q40. How frequently does this member of the household get sick in a typical year?

```
##              Q40
```

```
##  1 to 2 times :1025
##  3 to 5 times : 271
##  Never        : 226
##  Don_t know   :  87
##  6 to 10 times:  32
##  (Other)      :  22
##  NA's         : 505
```
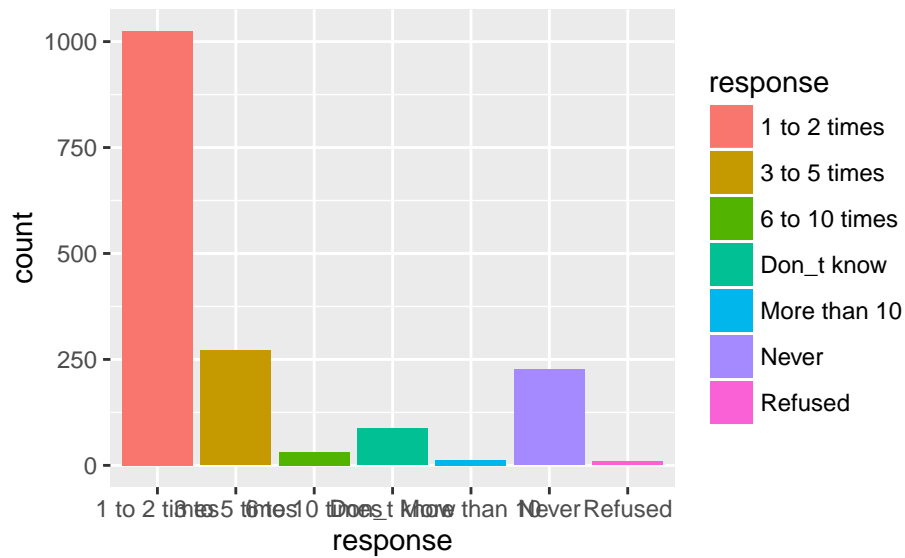

Q41. How many times has this member of your household had influenza or another respiratory illness in the last two years?

```
##            Q41
##  Never      :807
##  Once       :400
##  2 times    :191
##  Don_t know:158
##  3 times    : 60
##  (Other)    : 47
##  NA's       :505
```
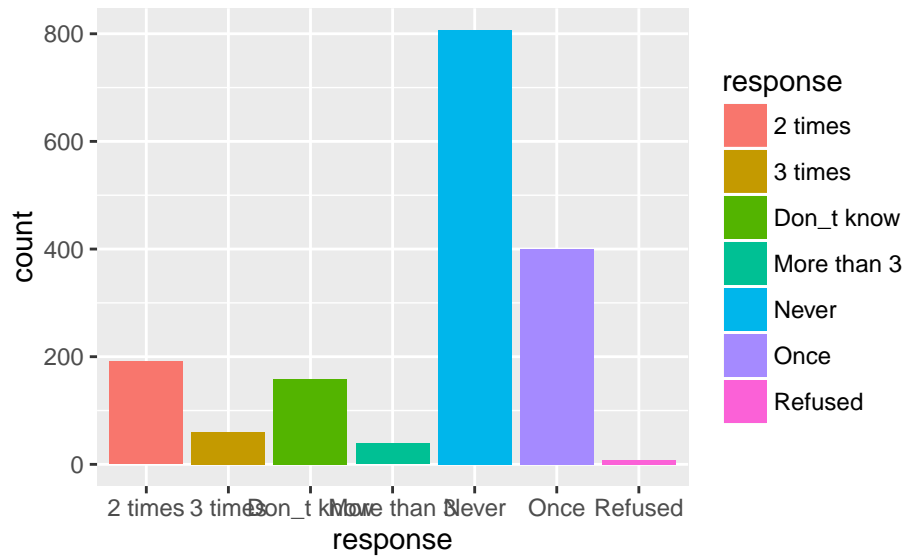
Q42. Does this member of your household get an annual influenza vaccine?

```
##                Q42
##  Don_t know    :166
##  No, never     :567
##  Refused       :  6
##  Yes, always   :661
##  Yes, sometimes:263
##  NA's          :505
```
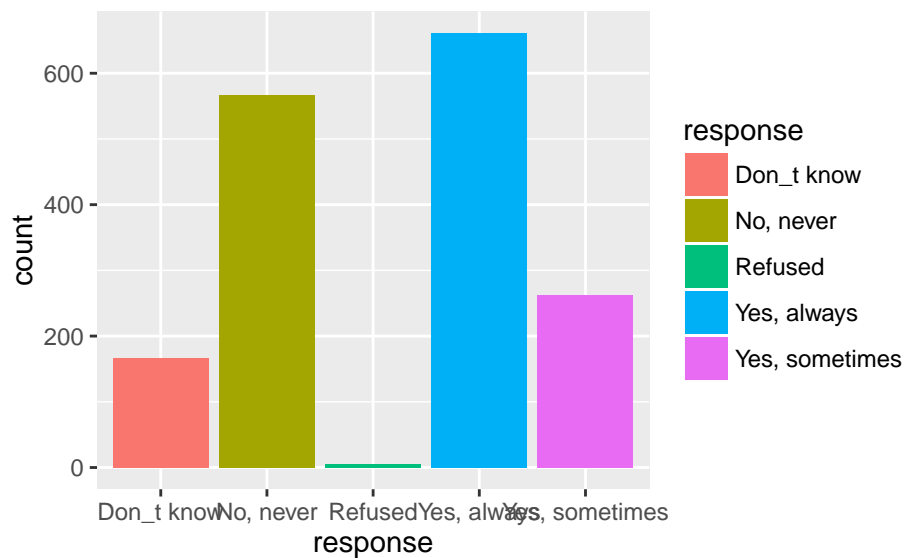

HHM2

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

```
##         Q43
##  Female : 388
##  Male   : 431
##  Refused:   9
##  NA's   :1340
```
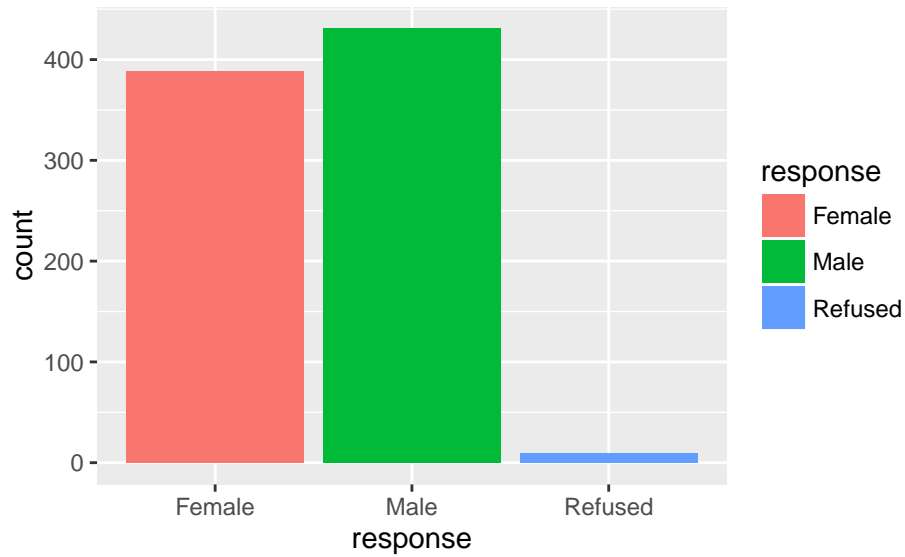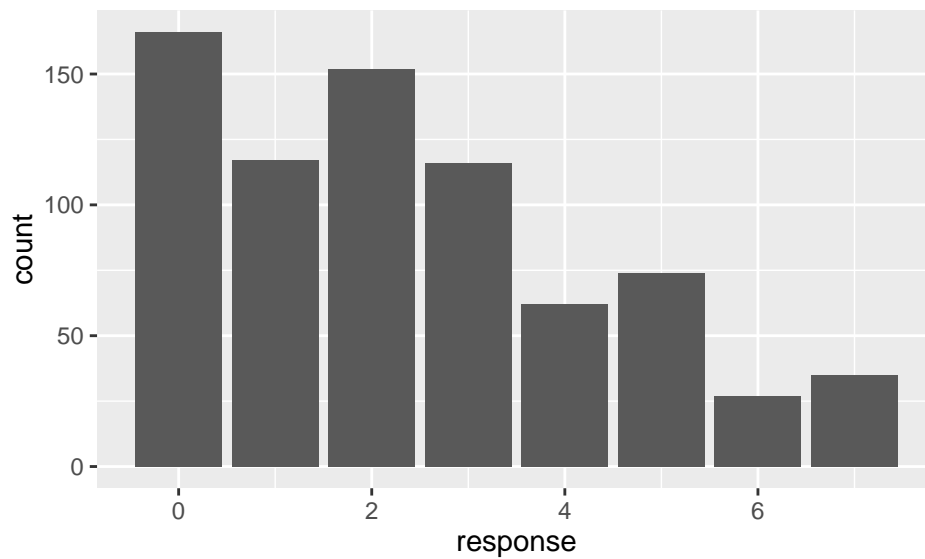

Q44. On average, how many days per week does this member of your household work or attend day care or school outside of your home?

```
##        Q44              Q44_Codes
##  Min.   :0.000   Don_t know:  40
##  1st Qu.:1.000   Refused   :   3
##  Median :5.000   NA's      :2125
##  Mean   :3.669
##  3rd Qu.:5.000
##  Max.   :7.000
##  NA's   :1383
```
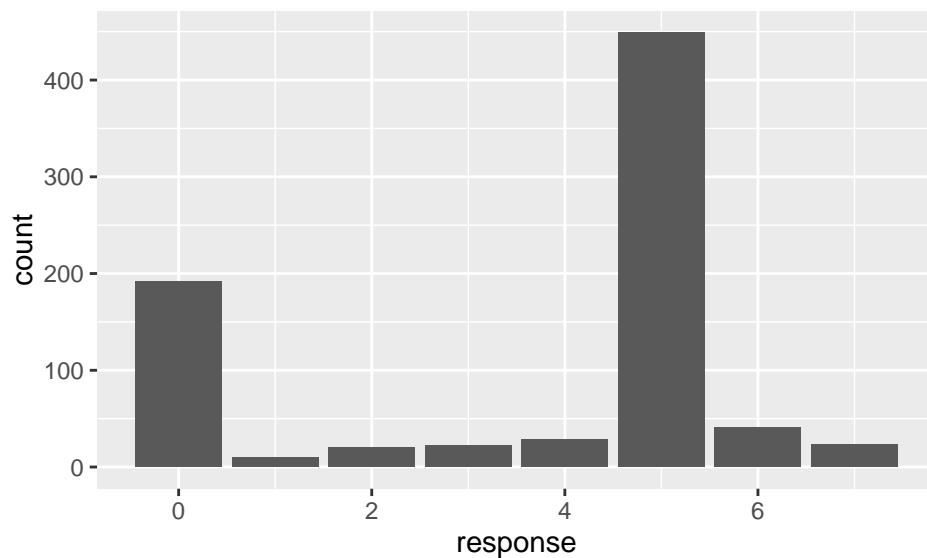
Q45. On average, how many days per week does this member of your household participate in social activities outside of your home?

```
##       Q45              Q45_Codes
##  Min.   :0.000   Don_t know:  70
##  1st Qu.:1.000   Refused   :   9
##  Median :2.000   NA's      :2089
##  Mean   :2.395
##  3rd Qu.:4.000
##  Max.   :7.000
##  NA's   :1419
```


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

```
##       Q46               Q46_Codes
##  Min.   :0.0000   Don_t know:  42
##  1st Qu.:0.0000   Refused   :   9
##  Median :0.0000   NA's      :2117
##  Mean   :0.5727
##  3rd Qu.:0.0000
##  Max.   :7.0000
##  NA's   :1391
```
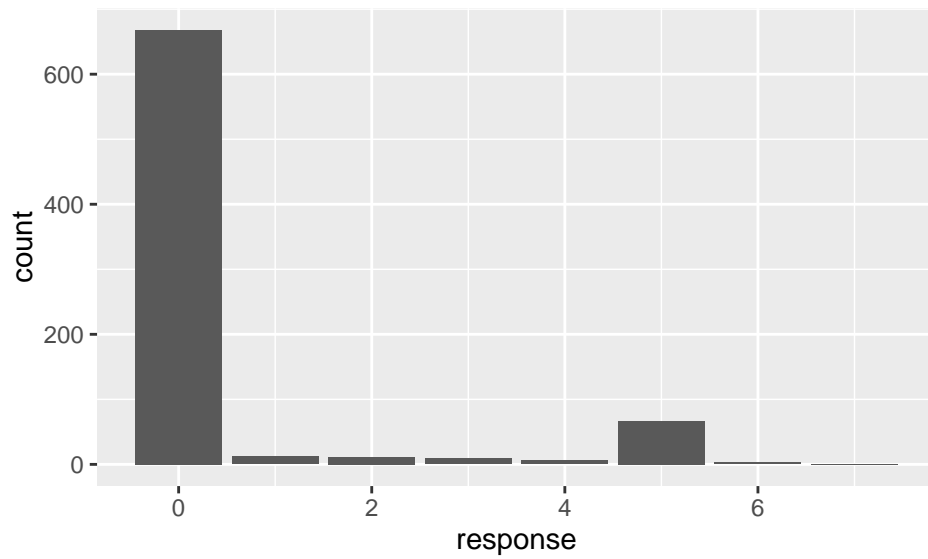
Q47. How frequently does this member of your household visit a doctor's office for wellness appointments?

```
##                          Q47
##   Don_t know          :   55
##   Less than once per year: 125
##   More than once per year: 232
##   Never               :   59
##   Once per year       :  353
##   Refused             :    4
##   NA's                :1340
```
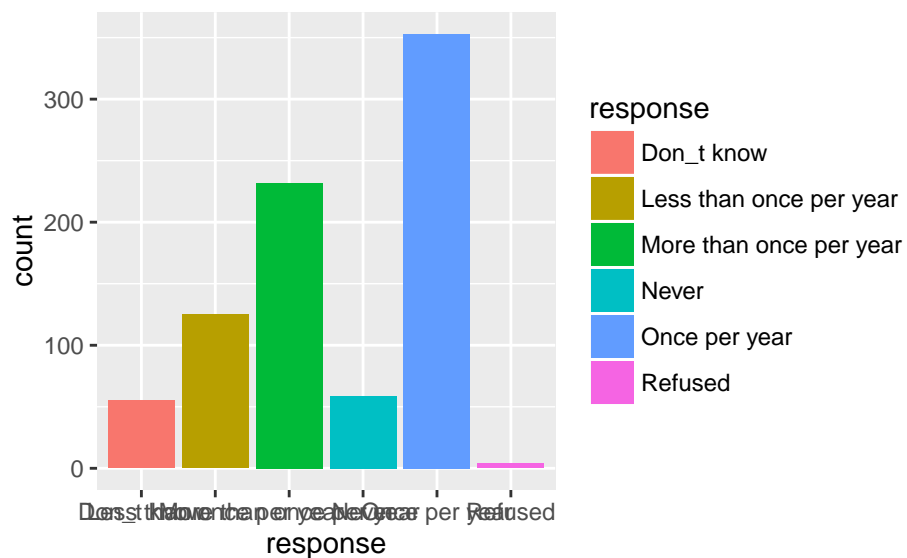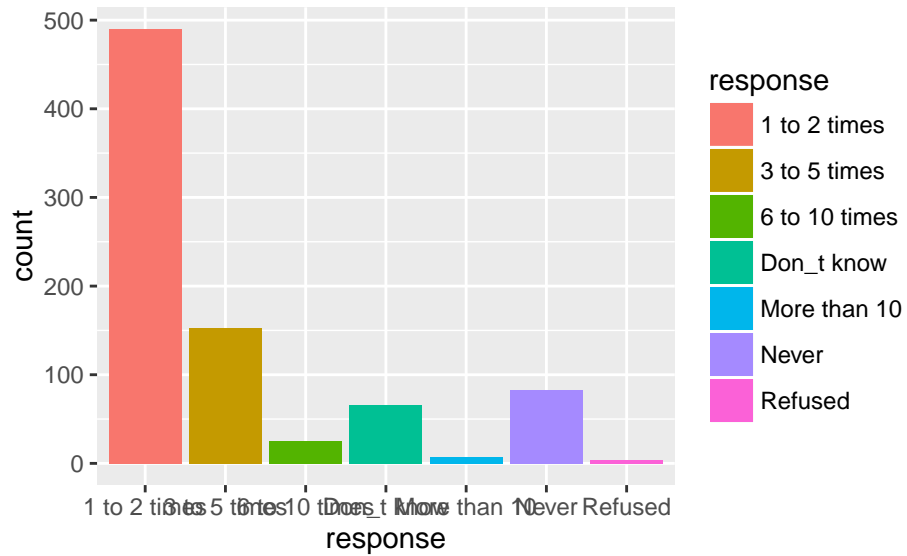

Q48. How frequently does this member of the household get sick in a typical year?
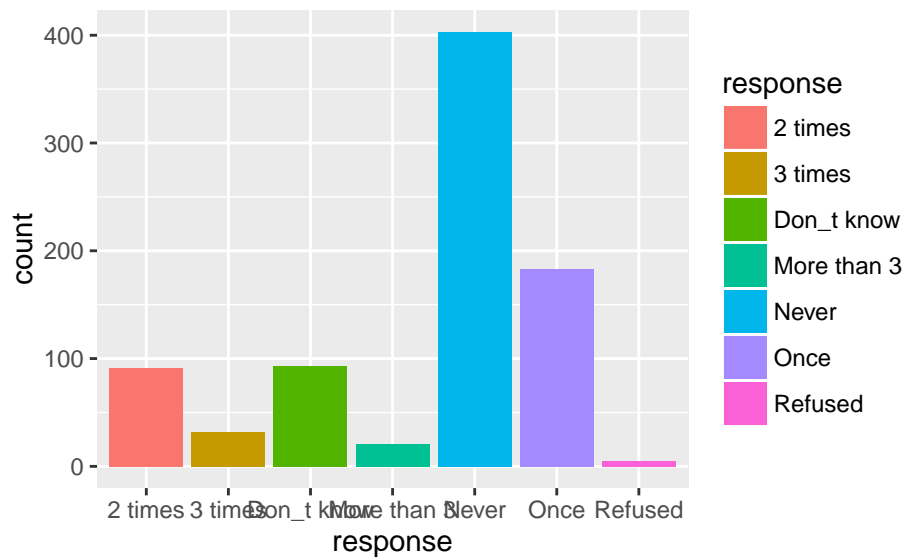
```
##               Q48
```

```
##  1 to 2 times : 490
##  3 to 5 times : 153
##  Never        :  83
##  Don_t know   :  66
##  6 to 10 times:  25
##  (Other)      :  11
##  NA's         :1340
```
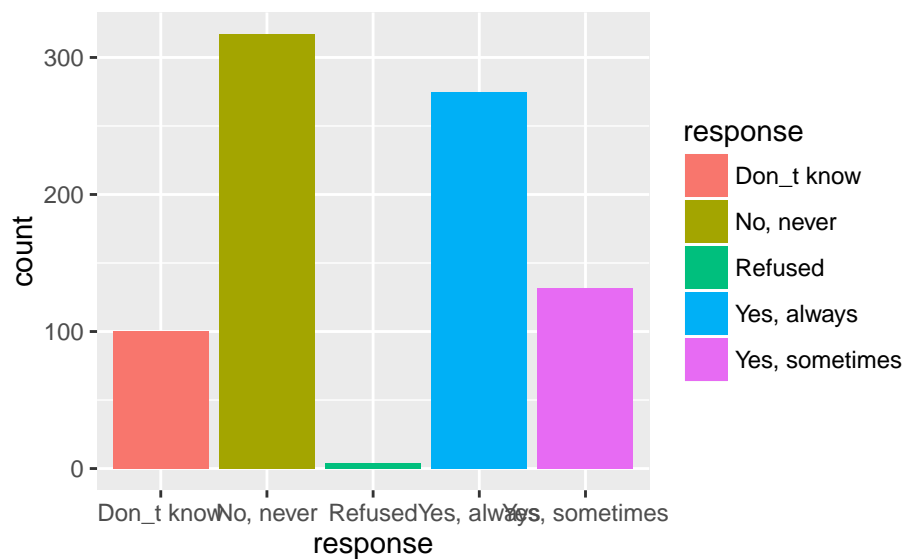

Q49. How many times has this member of your household had influenza or another respiratory illness in the last two years?

```
##            Q49
##  Never      : 403
##  Once       : 183
##  Don_t know :  93
##  2 times    :  91
##  3 times    :  32
##  (Other)    :  26
##  NA's       :1340
```

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

```
##                  Q50
##   Don_t know    : 100
##   No, never     : 317
##   Refused       :   4
##   Yes, always   : 275
##   Yes, sometimes: 132
##   NA's          :1340
```


Working analysis

```
#' Q1 vs. Q13 table
#' Knowing influenza is different from stomach flu; vs. getting the flu vaccine
```

```
a = with(data, table(Q1, Q13))
print(a)
```

```
##           Q13
## Q1         No, never Refused Yes, every year Yes, some years
##    No            260       4             143              81
##    Refused         2      10               4               0
##    Yes            557       4             761             342
```

```
summary(a)
```

```
## Number of cases in table: 2168
## Number of factors: 2
## Test for independence of all factors:
##   Chisq = 813.4, df = 6, p-value = 1.981e-172
##   Chi-squared approximation may be incorrect
```

to-do:

- need to remove NA's
- ggplot(q7) + geom_bar(aes(x = option, fill = response), position = "dodge")
- ggplot(data = data) + geom_bar(mapping = aes(x = Q1)) + stat_sum()