

working

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Working analysis

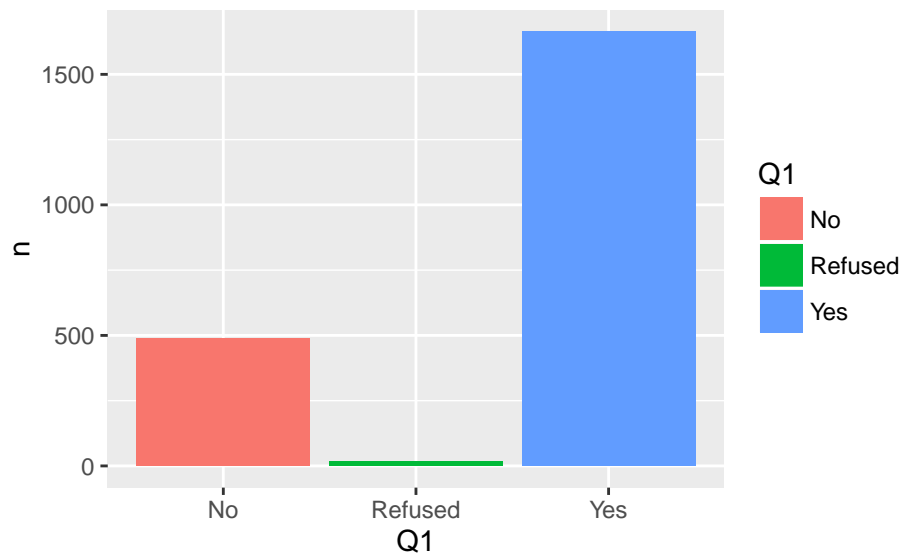
Survey questions

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

```
# all  
with(data, table(Q1))
```

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

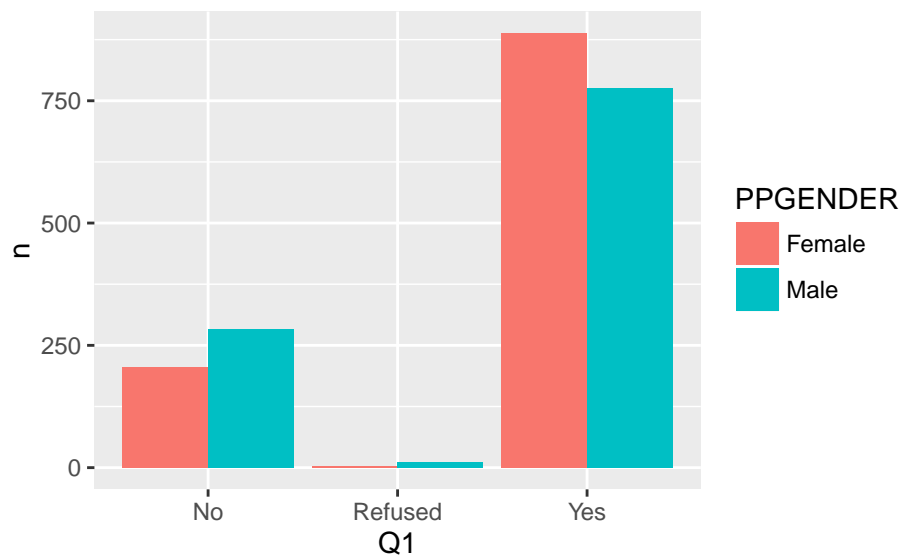
```
q1 <- data %>%  
  group_by(Q1) %>%  
  count(Q1)  
ggplot(q1, aes(x = Q1, y = n, fill = Q1)) + geom_bar(stat = 'identity')
```



```
# by gender  
with(data, table(Q1, PPGENDER))
```

```
##          PPGENDER
## Q1        Female Male
## No         205  283
## Refused      4   12
## Yes        888  776
```

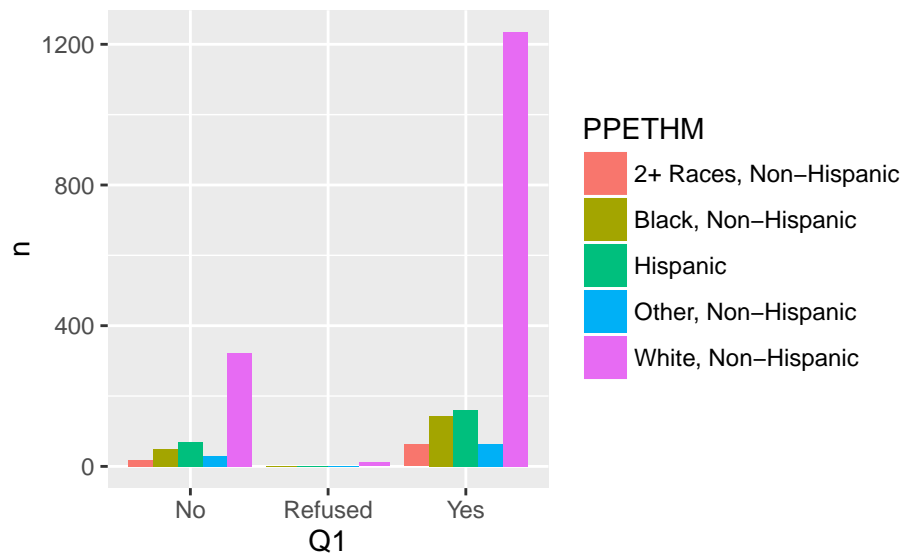
```
q1 <- data %>%
  group_by(Q1, PPGENDER) %>%
  count(Q1, PPGENDER)
ggplot(q1, aes(x = Q1, y = n, fill = PPGENDER)) +
  geom_bar(stat = 'identity', position = position_dodge())
```



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

```
##          PPETHM
## Q1      2+ Races, Non-Hispanic Black, Non-Hispanic Hispanic
## No                18                50                69
## Refused            0                 2                 2
## Yes               62              143              161
##          PPETHM
## Q1      Other, Non-Hispanic White, Non-Hispanic
## No                29              322
## Refused            1               11
## Yes               63             1235
```

```
q1 <- data %>%
  group_by(Q1, PPETHM) %>%
  count(Q1, PPETHM)
ggplot(q1, aes(x = Q1, y = n, fill = PPETHM)) +
  geom_bar(stat = 'identity', position = position_dodge())
```

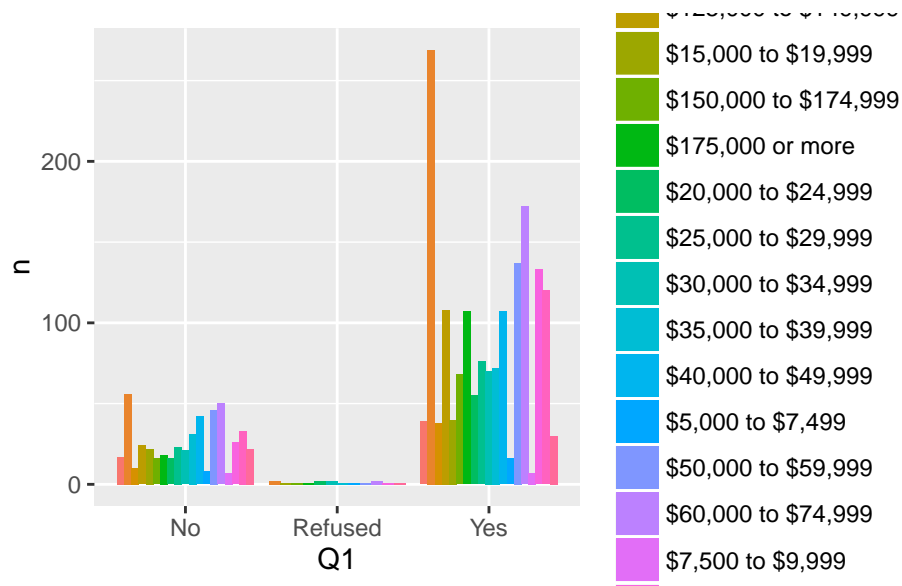


```
# by income
with(data, table(Q1, PPINCIMP))
```

```
##          PPINCIMP
## Q1      $10,000 to $12,499 $100,000 to $124,999 $12,500 to $14,999
## No                17                56                10
## Refused            0                 2                 0
## Yes               39              269              38
##          PPINCIMP
## Q1      $125,000 to $149,999 $15,000 to $19,999 $150,000 to $174,999
## No                24                22                16
## Refused            0                 1                 1
## Yes              108                40                68
##          PPINCIMP
## Q1      $175,000 or more $20,000 to $24,999 $25,000 to $29,999
## No                18                16                23
## Refused            1                 2                 0
## Yes              107                55                76
##          PPINCIMP
## Q1      $30,000 to $34,999 $35,000 to $39,999 $40,000 to $49,999
## No                21                31                42
## Refused            2                 1                 0
## Yes               70                72              107
##          PPINCIMP
## Q1      $5,000 to $7,499 $50,000 to $59,999 $60,000 to $74,999
## No                 8                46                50
## Refused            1                 1                 2
## Yes               16              137              172
##          PPINCIMP
## Q1      $7,500 to $9,999 $75,000 to $84,999 $85,000 to $99,999
## No                 7                26                33
## Refused            0                 1                 0
## Yes                 7              133              120
##          PPINCIMP
## Q1      Less than $5,000
## No                22
```

```
## Refused 1
## Yes 30
```

```
q1 <- data %>%
  group_by(Q1, PPINCIMP) %>%
  count(Q1, PPINCIMP)
ggplot(q1, aes(x = Q1, y = n, fill = PPINCIMP)) +
  geom_bar(stat = 'identity', position = position_dodge())
```

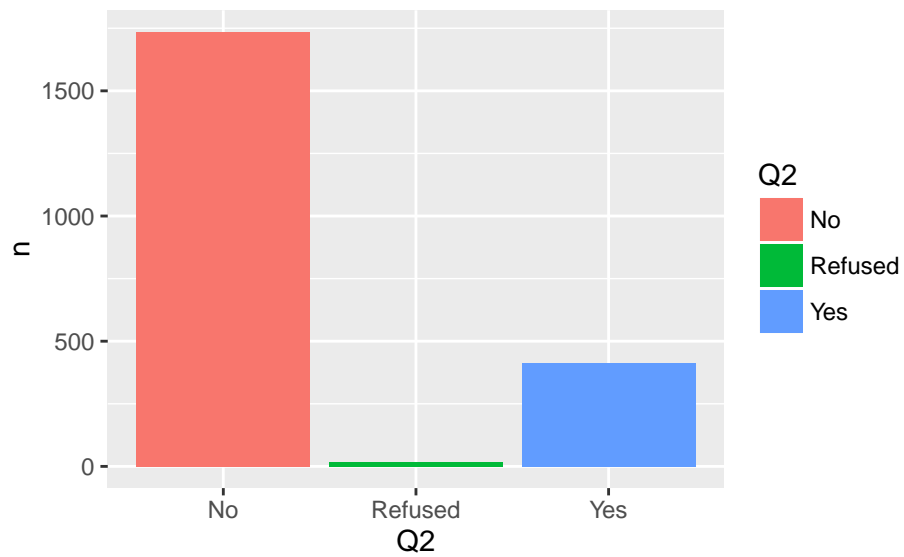


Q2. Have you had an illness with influenza like symptoms since August 2015?

```
# all
with(data, table(Q2))
```

```
## Q2
## No Refused Yes
## 1735 19 414
```

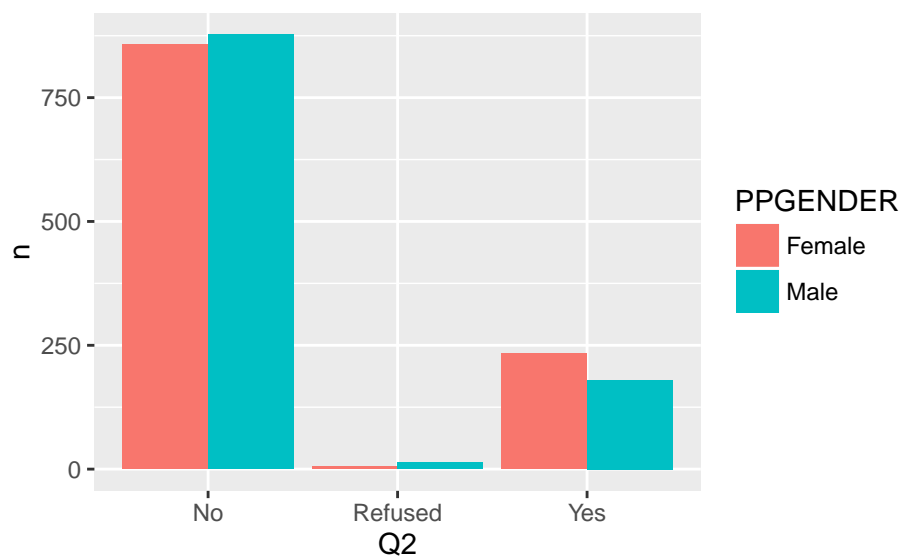
```
q2 <- data %>%
  group_by(Q2) %>%
  count(Q2)
ggplot(q2, aes(x = Q2, y = n, fill = Q2)) + geom_bar(stat = 'identity')
```



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

```
##          PPGENDER
## Q2      Female Male
##  No          858  877
##  Refused         5   14
##  Yes          234  180
```

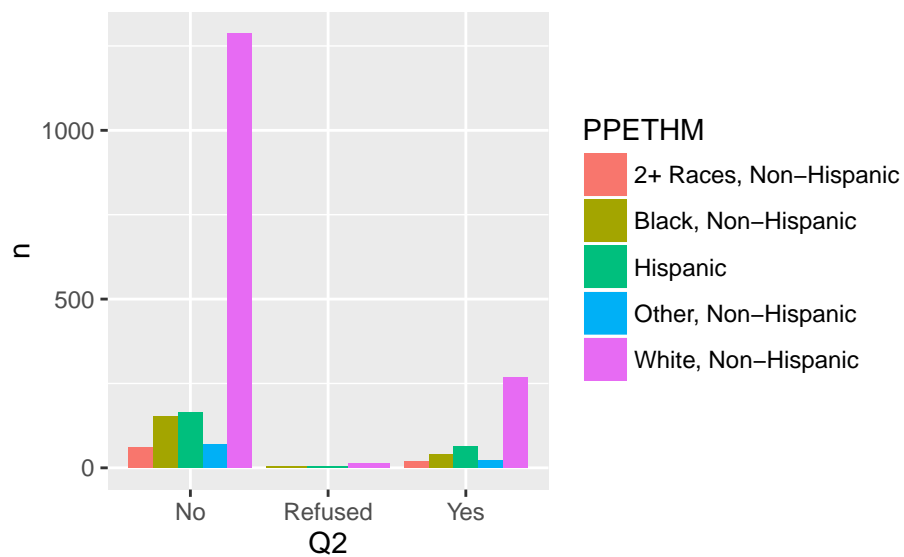
```
q2 <- data %>%
  group_by(Q2, PPGENDER) %>%
  count(Q2, PPGENDER)
ggplot(q2, aes(x = Q2, y = n, fill = PPGENDER)) +
  geom_bar(stat = 'identity', position = position_dodge())
```



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

```
##          PPETHM
## Q2          2+ Races, Non-Hispanic Black, Non-Hispanic Hispanic
## No              61              152              164
## Refused          0               4               3
## Yes             19              39              65
##          PPETHM
## Q2          Other, Non-Hispanic White, Non-Hispanic
## No              71             1287
## Refused          0              12
## Yes             22             269
```

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

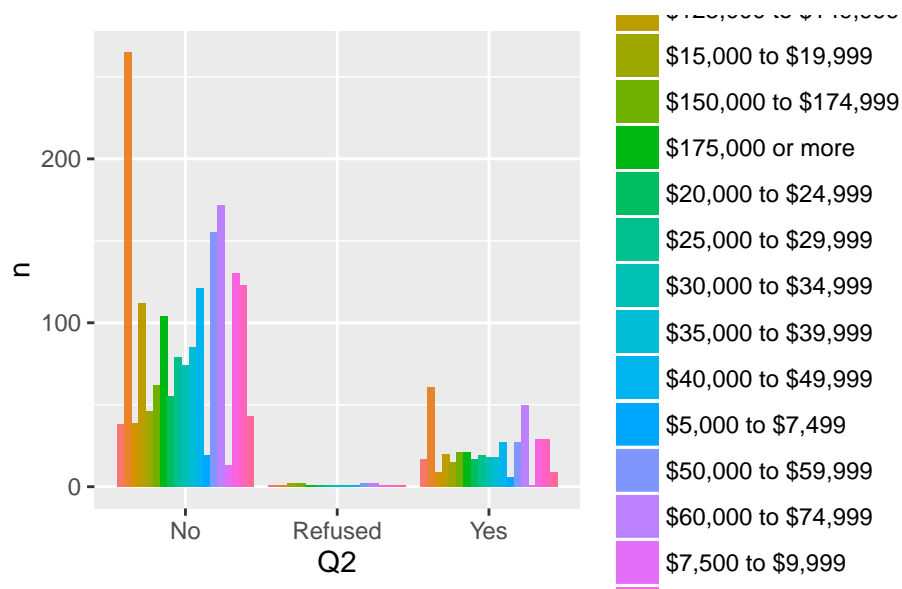


```
# by income
with(data, table(Q2, PPINCIMP))
```

```
##          PPINCIMP
## Q2          $10,000 to $12,499 $100,000 to $124,999 $12,500 to $14,999
## No              38              265              39
## Refused          1               1               0
## Yes             17              61              9
##          PPINCIMP
## Q2          $125,000 to $149,999 $15,000 to $19,999 $150,000 to $174,999
## No              112              46              62
## Refused          0               2               2
## Yes             20              15              21
##          PPINCIMP
```

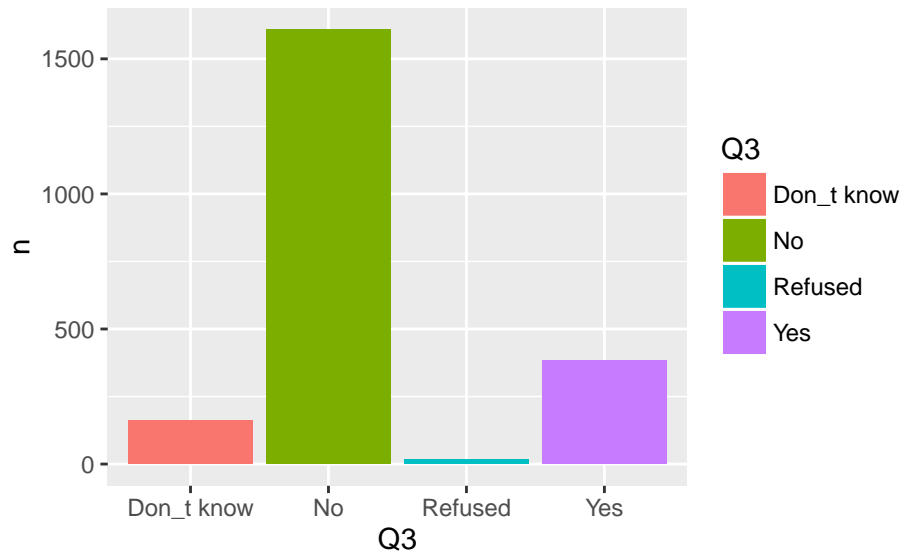
```
## Q2          $175,000 or more $20,000 to $24,999 $25,000 to $29,999
## No          104                55                79
## Refused     1                  1                  1
## Yes         21                 17                 19
## PPINCIMP
## Q2          $30,000 to $34,999 $35,000 to $39,999 $40,000 to $49,999
## No          74                 85                121
## Refused     1                  1                  1
## Yes         18                 18                 27
## PPINCIMP
## Q2          $5,000 to $7,499 $50,000 to $59,999 $60,000 to $74,999
## No          19                 155               172
## Refused     0                  2                  2
## Yes         6                  27                50
## PPINCIMP
## Q2          $7,500 to $9,999 $75,000 to $84,999 $85,000 to $99,999
## No          13                 130               123
## Refused     0                  1                  1
## Yes         1                  29                29
## PPINCIMP
## Q2          Less than $5,000
## No          43
## Refused     1
## Yes         9
```

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

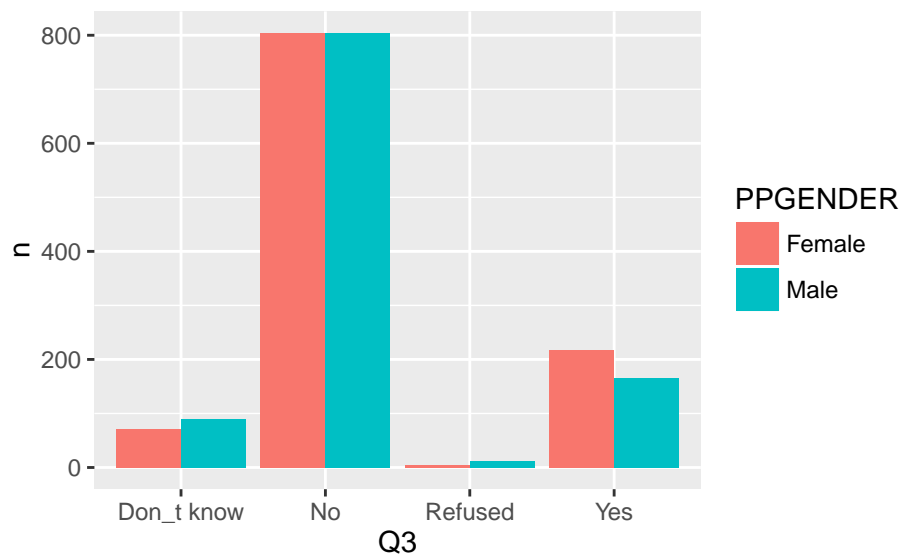


Q3. Has any other person in your household had an illness with influenza like symptoms since August 2015?

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

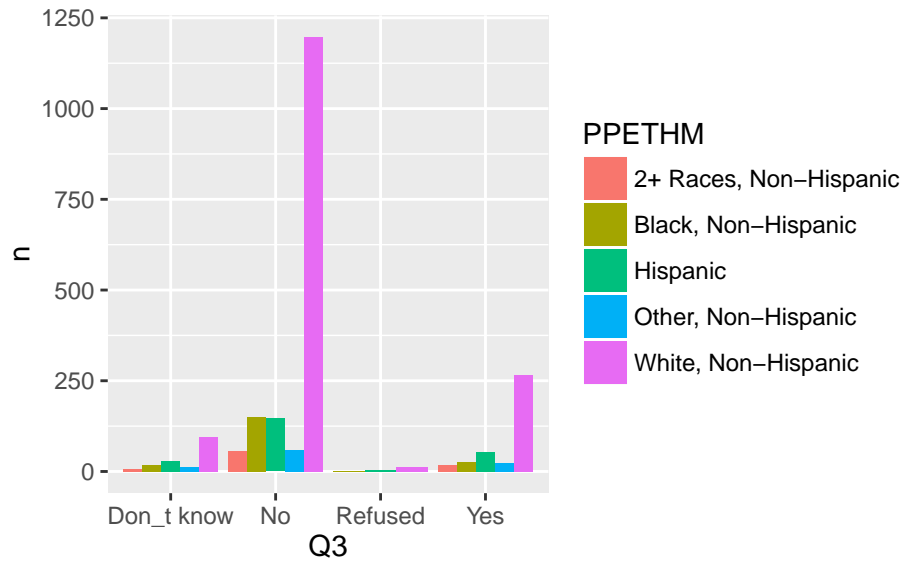


```
## PPGENDER
## Q3      Female Male
## Don_t know      72  89
## No              804 804
## Refused          4  12
## Yes             217 166
```



```
## PPEHNM
## Q3      2+ Races, Non-Hispanic Black, Non-Hispanic Hispanic
## Don_t know      6      19      30
```


##	No	57	149	146
##	Refused	0	2	3
##	Yes	17	25	53
##	PPETHM			
##	Q3	Other, Non-Hispanic	White, Non-Hispanic	
##	Don_t know	11	95	
##	No	59	1197	
##	Refused	0	11	
##	Yes	23	265	

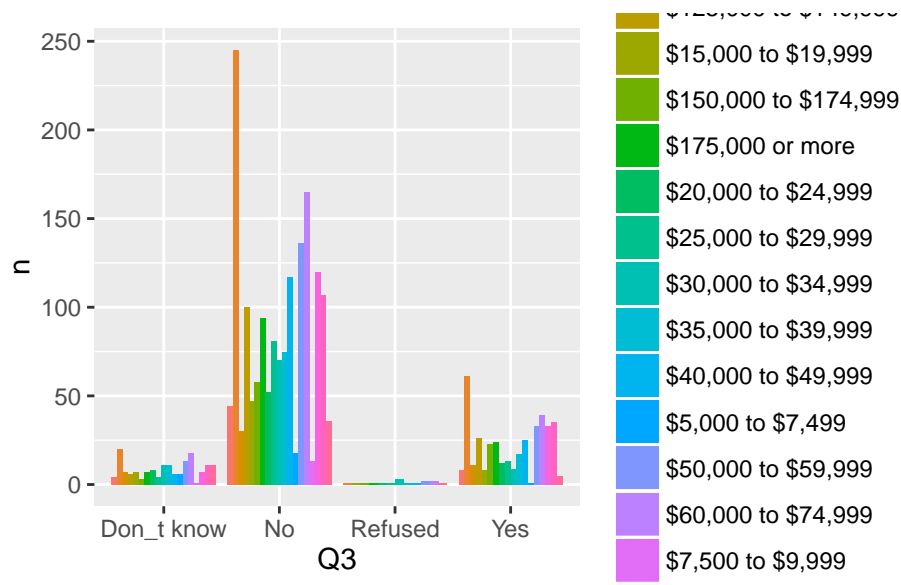


##	PPINCIMP			
##	Q3	\$10,000 to \$12,499	\$100,000 to \$124,999	\$12,500 to \$14,999
##	Don_t know	4	20	7
##	No	44	245	30
##	Refused	0	1	0
##	Yes	8	61	11
##	PPINCIMP			
##	Q3	\$125,000 to \$149,999	\$15,000 to \$19,999	\$150,000 to \$174,999
##	Don_t know	6	7	3
##	No	100	47	58
##	Refused	0	1	1
##	Yes	26	8	23
##	PPINCIMP			
##	Q3	\$175,000 or more	\$20,000 to \$24,999	\$25,000 to \$29,999
##	Don_t know	7	8	4
##	No	94	52	81
##	Refused	1	1	1
##	Yes	24	12	13
##	PPINCIMP			
##	Q3	\$30,000 to \$34,999	\$35,000 to \$39,999	\$40,000 to \$49,999
##	Don_t know	11	11	6
##	No	70	75	117
##	Refused	3	1	1
##	Yes	9	17	25
##	PPINCIMP			

```

## Q3          $5,000 to $7,499 $50,000 to $59,999 $60,000 to $74,999
## Don_t know          6          13          18
## No                  18         136         165
## Refused             0           2           2
## Yes                 1          33          39
##          PPINCIMP
## Q3          $7,500 to $9,999 $75,000 to $84,999 $85,000 to $99,999
## Don_t know          1           7          11
## No                  13         120         107
## Refused             0           0           0
## Yes                 0          33          35
##          PPINCIMP
## Q3          Less than $5,000
## Don_t know          11
## No                  36
## Refused             1
## Yes                 5

```

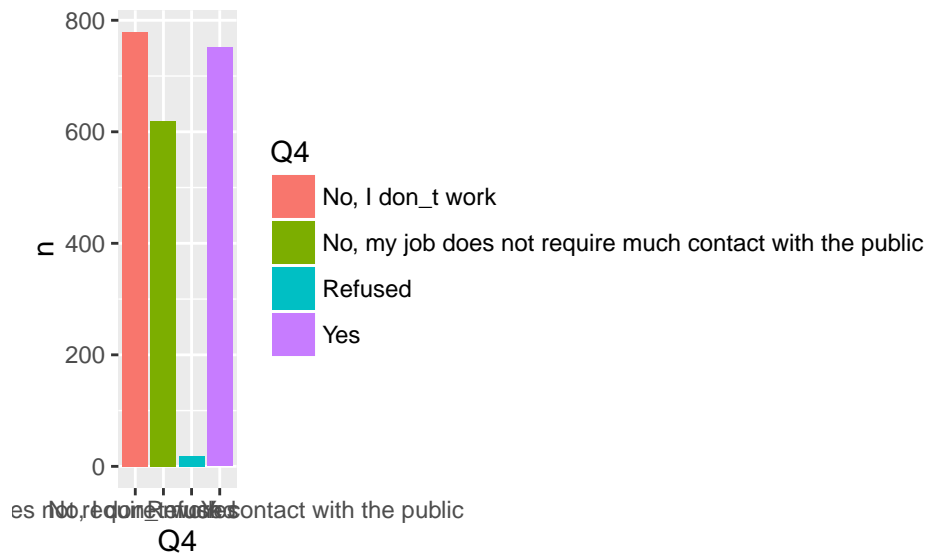


Q4. Does your job require you to have a lot of contact with the public?

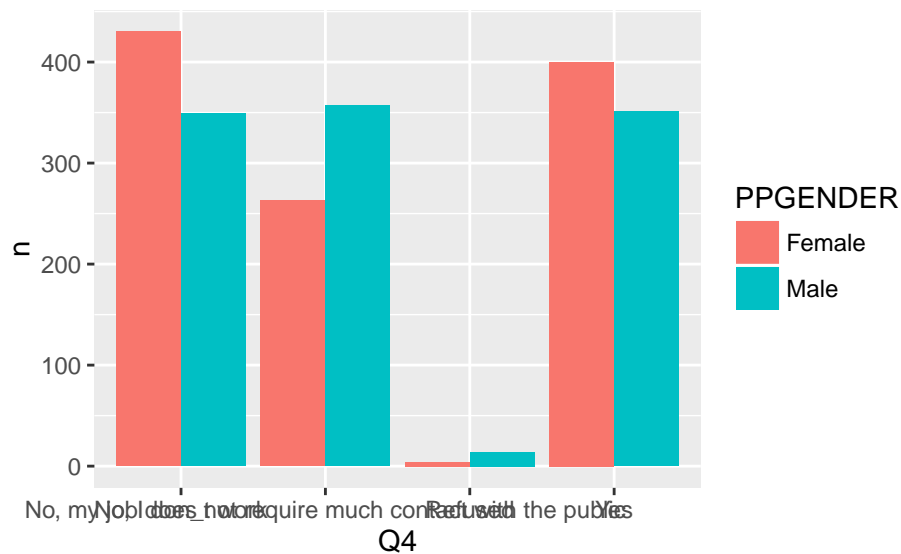
```

## Q4
##          No, I don_t work
##          779
## No, my job does not require much contact with the public
##          620
##          Refused
##          18
##          Yes
##          751

```

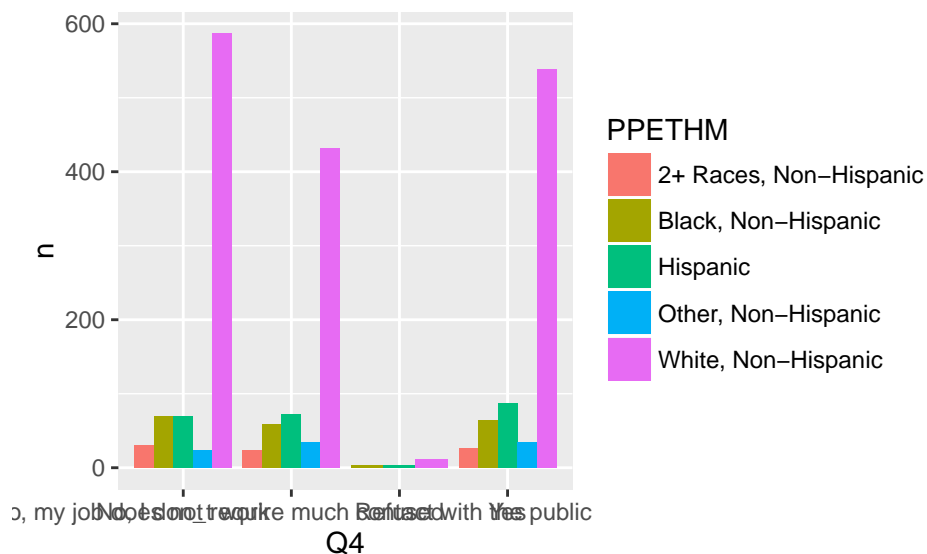


		PPGENDER	
		Female	Male
##	Q4		
##	No, I don't work	430	349
##	No, my job does not require much contact with the public	263	357
##	Refused	4	14
##	Yes	400	351



		PPETHM	
		2+ Races, Non-Hispanic	
##	Q4		
##	No, I don't work		30
##	No, my job does not require much contact with the public		23
##	Refused		0
##	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

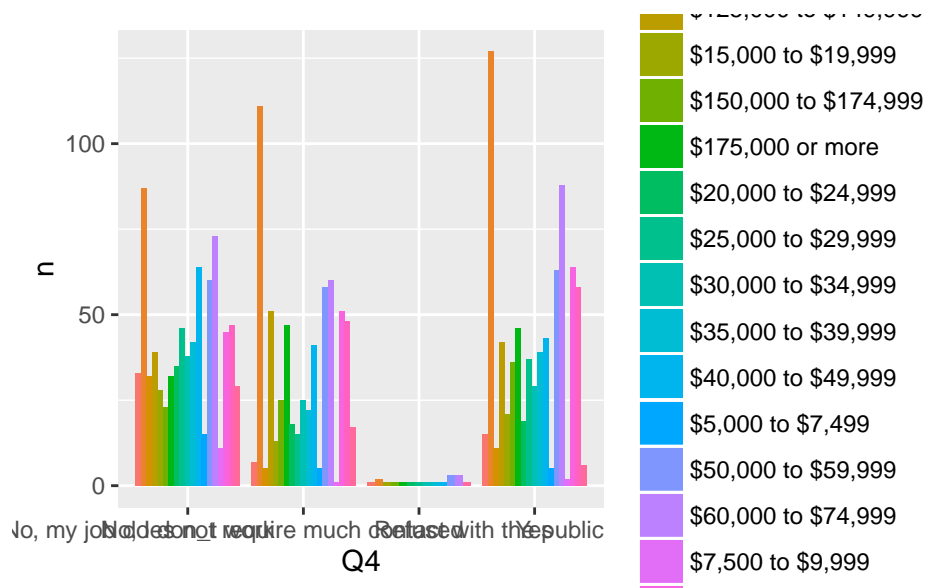
##	Refused	3
##	Yes	64
##		
##	Q4	PPETHM
##	No, I don_t work	Hispanic
##	No, my job does not require much contact with the public	69
##	Refused	72
##	Yes	4
##		87
##		PPETHM
##	Q4	Other, Non-Hispanic
##	No, I don_t work	24
##	No, my job does not require much contact with the public	34
##	Refused	0
##	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
##	Refused	11
##	Yes	538



##		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
##	Refused	1
##	Yes	15
##		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
##	Refused	2
##	Yes	127
##		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
##	Refused	0
##	Yes	11
##		
	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
##	Refused	0
##	Yes	42
##		
	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
##	Refused	1
##	Yes	21
##		
	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
##	Refused	1
##	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
##	Refused	1
##	Yes	46
##		
	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
##	Refused	1
##	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
##	Refused	1
##	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
##	Refused	1
##	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
##	Refused	1
##	Yes	39
##		
	PPINCIMP	
## Q4	\$40,000 to \$49,999	
##	No, I don_t work	64

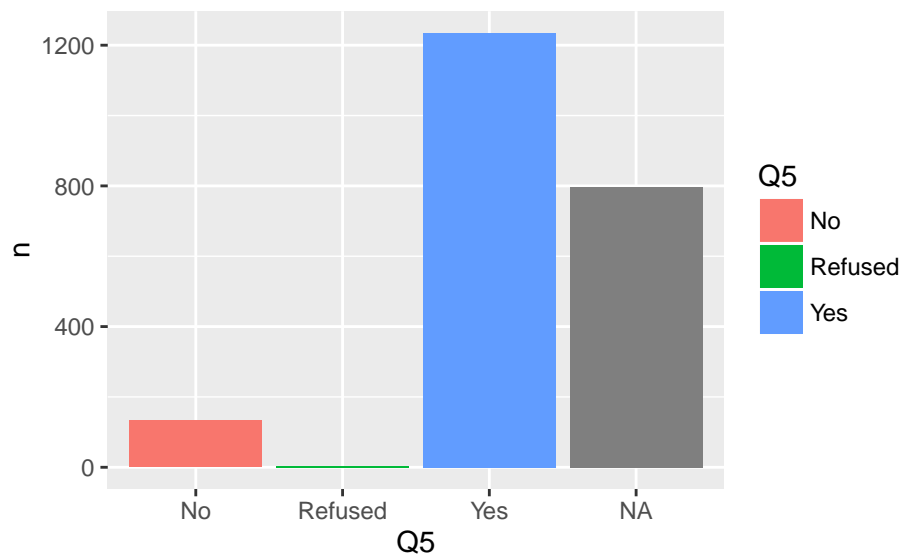
##	No, my job does not require much contact with the public	41
##	Refused	1
##	Yes	43
##	PPINCIMP	
##	Q4	\$5,000 to \$7,499
##	No, I don_t work	15
##	No, my job does not require much contact with the public	5
##	Refused	0
##	Yes	5
##	PPINCIMP	
##	Q4	\$50,000 to \$59,999
##	No, I don_t work	60
##	No, my job does not require much contact with the public	58
##	Refused	3
##	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
##	Refused	3
##	Yes	88
##	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
##	Refused	0
##	Yes	2
##	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
##	Refused	0
##	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
##	Refused	0
##	Yes	58
##	PPINCIMP	
##	Q4	Less than \$5,000
##	No, I don_t work	29
##	No, my job does not require much contact with the public	17
##	Refused	1
##	Yes	6



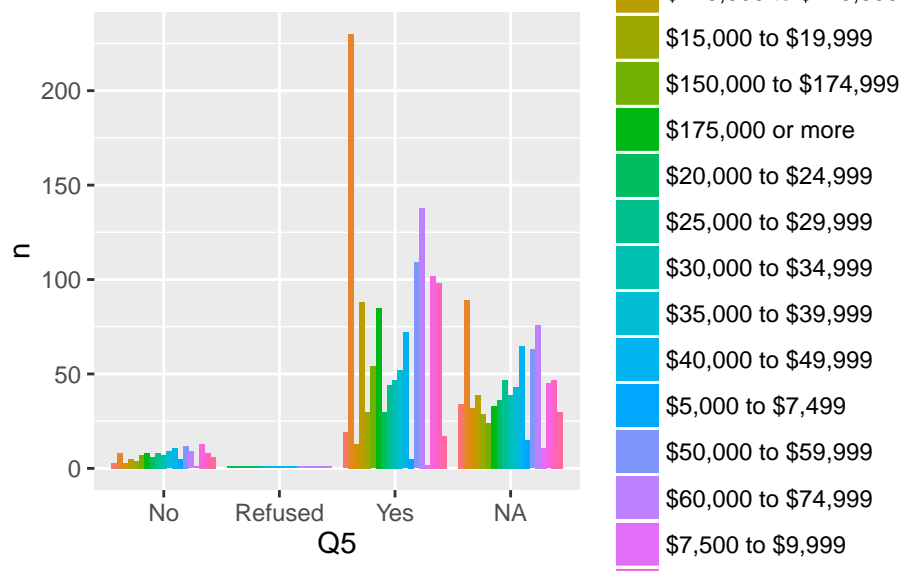
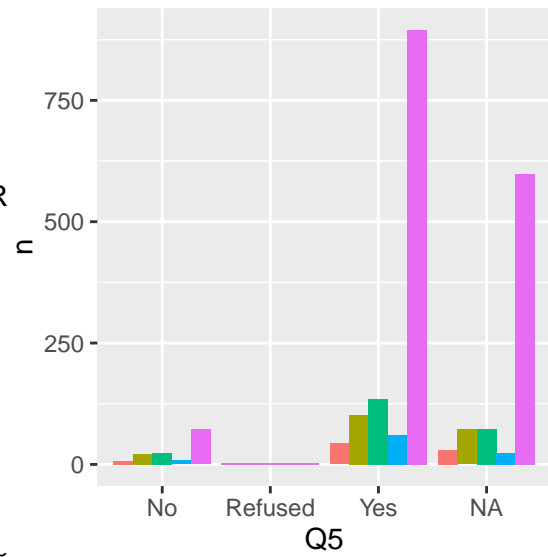
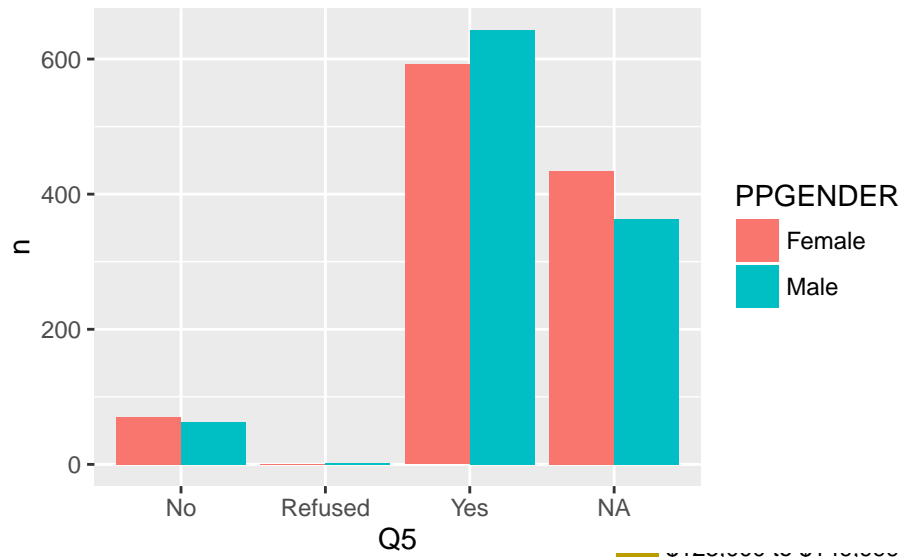
Q5. Do you have a car that you can use to travel to work?

Q5

##	No	Refused	Yes
##	133	3	1235

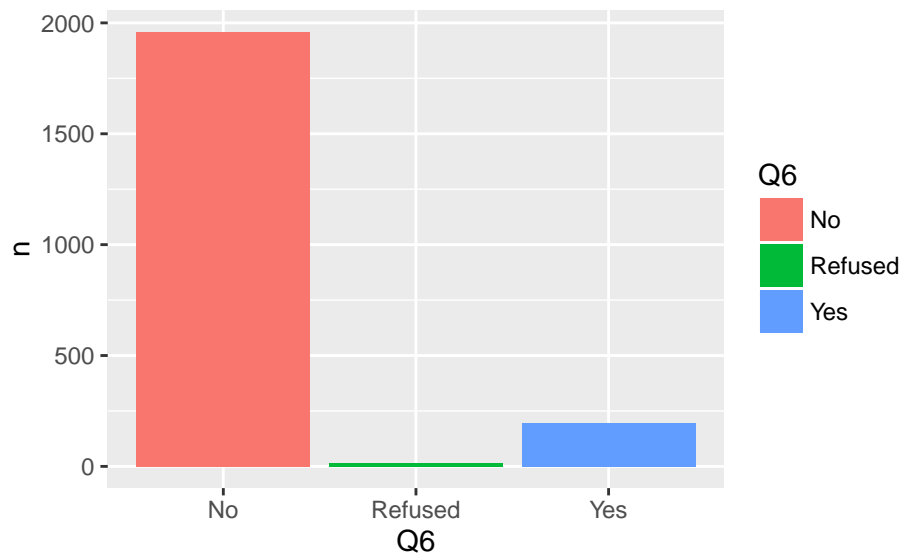


##	Q5
##	PPGENDER No Refused Yes
##	Female 70 1 592
##	Male 63 2 643

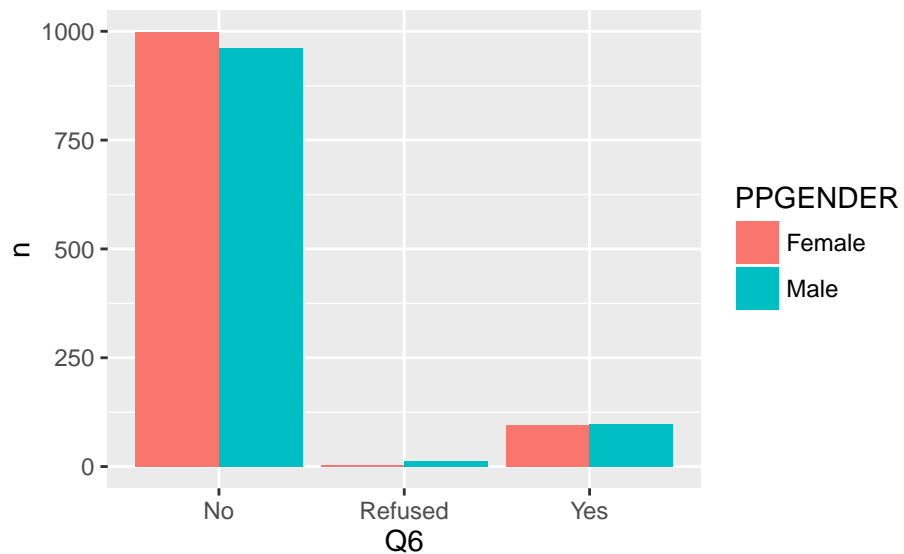


Q6. Do you regularly use public transportation?

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

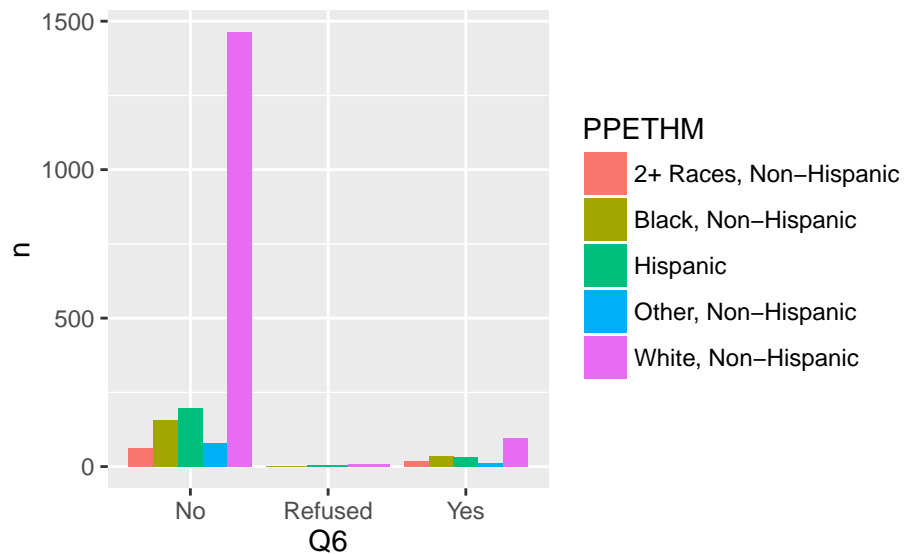



```
## Source: local data frame [6 x 3]
## Groups: Q6 [?]
##
##      Q6 PPGENDER      n
##   (fctr)  (fctr) (int)
## 1     No   Female  998
## 2     No   Male   961
## 3 Refused Female    3
## 4 Refused Male    12
## 5     Yes Female   96
## 6     Yes Male    98
```

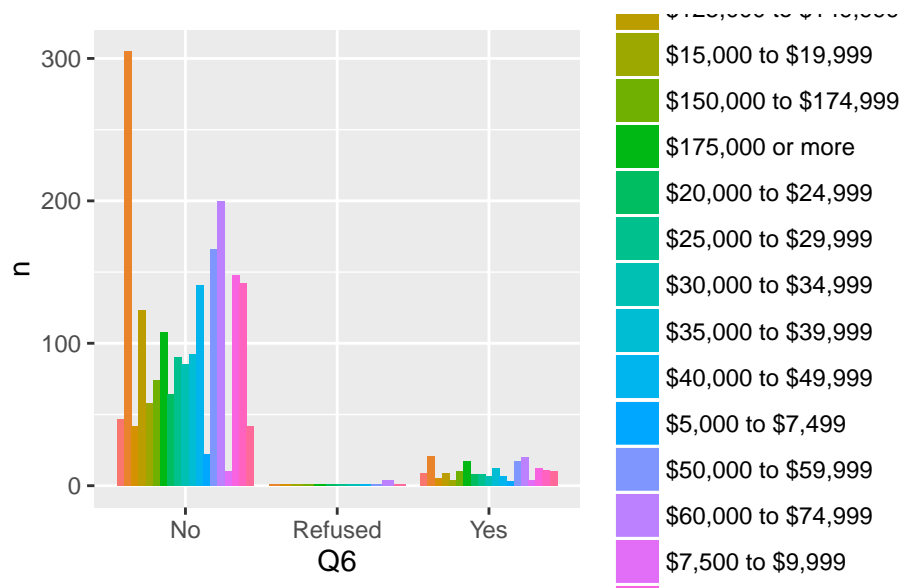


```
## Source: local data frame [13 x 3]
## Groups: Q6 [?]
##
##      Q6      PPETHM      n
##   (fctr)  (fctr) (int)
## 1     No   Female   998
## 2     No   Male   961
## 3 Refused Female    3
## 4 Refused Male    12
## 5     Yes Female   96
## 6     Yes Male    98
```

```
## 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 Refused   Black, Non-Hispanic     1
## 7 Refused           Hispanic     4
## 8 Refused   White, Non-Hispanic    10
## 9      Yes 2+ Races, Non-Hispanic    18
## 10     Yes   Black, Non-Hispanic    36
## 11     Yes           Hispanic    32
## 12     Yes   Other, Non-Hispanic    13
## 13     Yes   White, Non-Hispanic    95
```

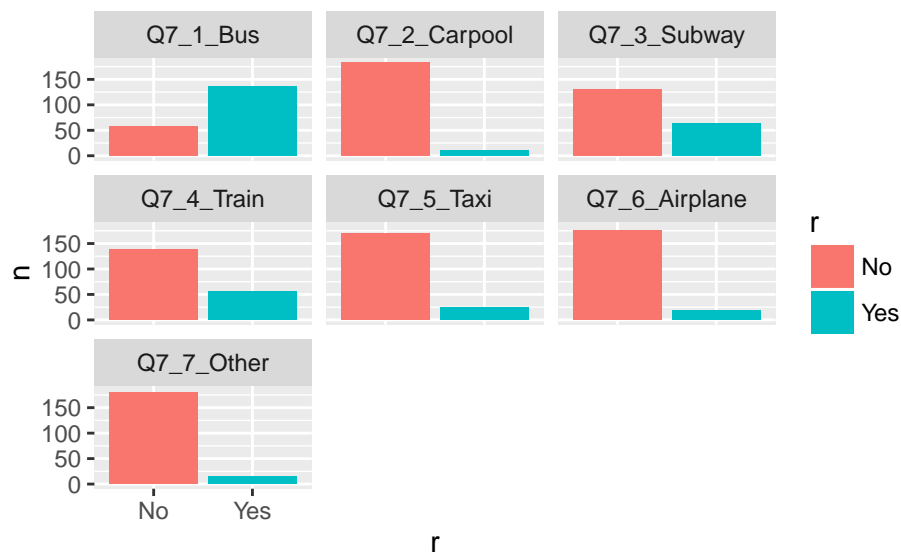


```
## Source: local data frame [50 x 3]
## Groups: Q6 [?]
##
##      Q6      PPINCIMP      n
## (fctr)      (fctr) (int)
## 1      No $10,000 to $12,499  47
## 2      No $100,000 to $124,999 305
## 3      No $12,500 to $14,999  42
## 4      No $125,000 to $149,999 123
## 5      No $15,000 to $19,999  58
## 6      No $150,000 to $174,999 74
## 7      No $175,000 or more  108
## 8      No $20,000 to $24,999  64
## 9      No $25,000 to $29,999  90
## 10     No $30,000 to $34,999  85
## ..     ...           ...   ...
```



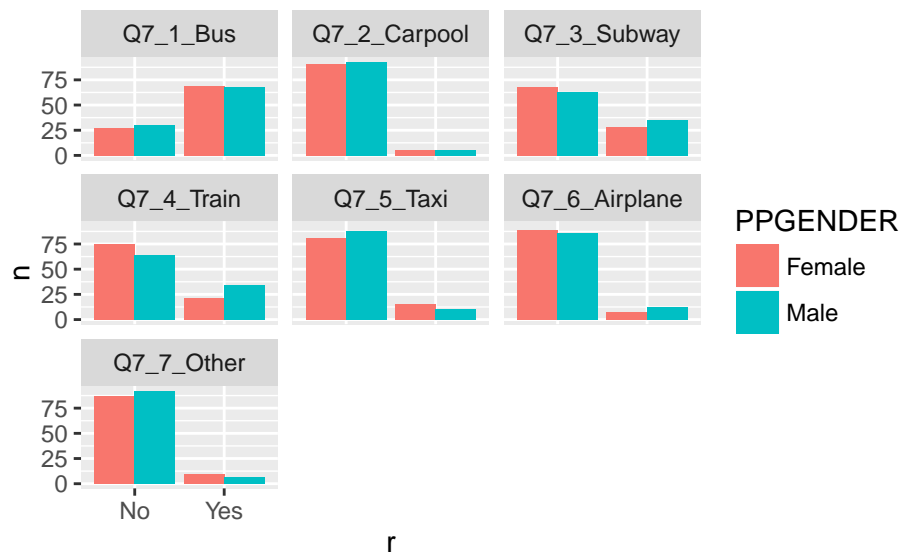
Q7. What types of public transportation do you regularly use?

##	q	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

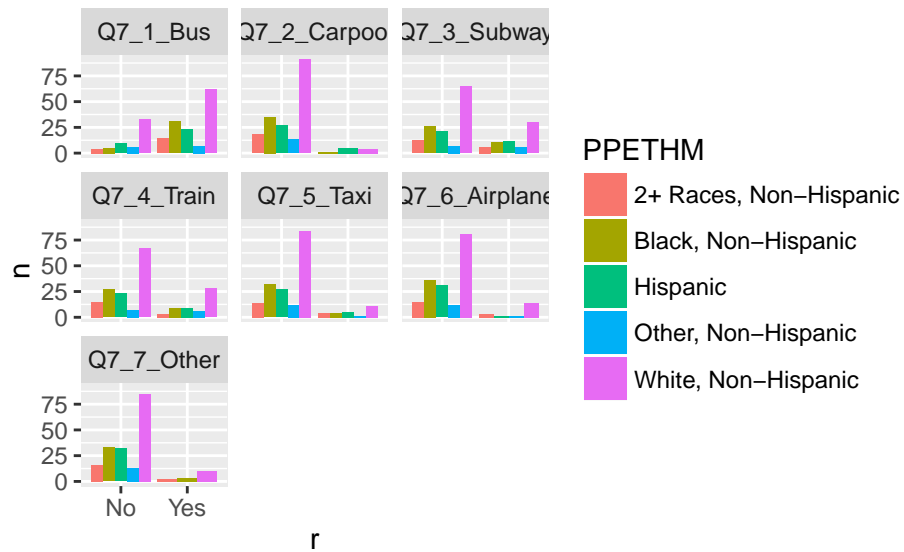


```
## Source: local data frame [42 x 4]
## Groups: PPGENDER, q [?]
##
```

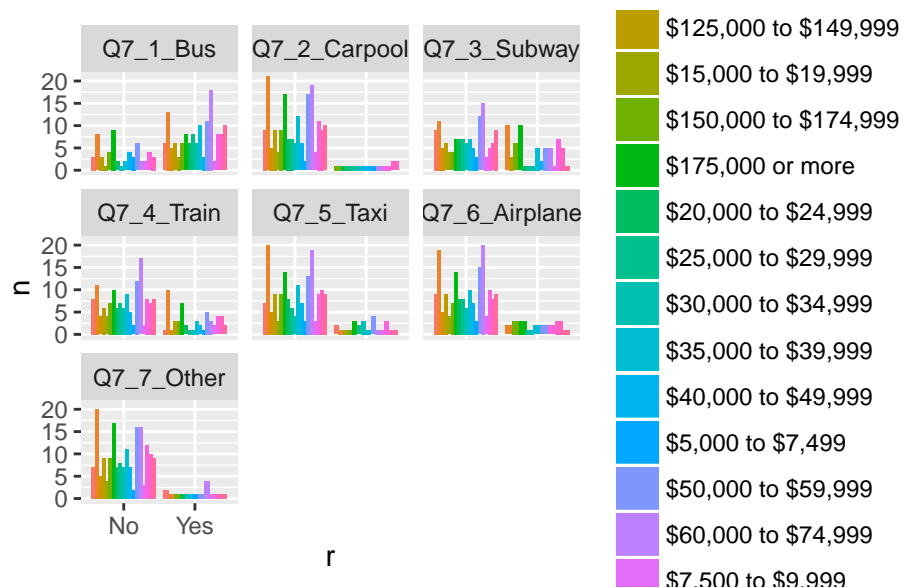
```
##      PPGENDER      q      r      n
##      (fctr)      (chr) (chr) (int)
## 1   Female      Q7_1_Bus   No    27
## 2   Female      Q7_1_Bus   Yes   69
## 3   Female      Q7_1_Bus   NA  1001
## 4   Female Q7_2_Carpool   No    91
## 5   Female Q7_2_Carpool   Yes    5
## 6   Female Q7_2_Carpool   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
## ..      ...      ...      ...
```



```
## Source: local data frame [100 x 4]
## Groups: PPETHM, q [?]
##
##      PPETHM      q      r      n
##      (fctr)      (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
## ..      ...      ...      ...
```



```
## Source: local data frame [357 x 4]
## Groups: PPINCIMP, q [?]
##
##           PPINCIMP           q      r      n
##           (fctr)       (chr) (chr) (int)
## 1  $10,000 to $12,499   Q7_1_Bus   No      3
## 2  $10,000 to $12,499   Q7_1_Bus   Yes     6
## 3  $10,000 to $12,499   Q7_1_Bus   NA    47
## 4  $10,000 to $12,499  Q7_2_Carpool   No     9
## 5  $10,000 to $12,499  Q7_2_Carpool   NA    47
## 6  $10,000 to $12,499  Q7_3_Subway   No     9
## 7  $10,000 to $12,499  Q7_3_Subway   NA    47
## 8  $10,000 to $12,499  Q7_4_Train   No     8
## 9  $10,000 to $12,499  Q7_4_Train   Yes     1
## 10 $10,000 to $12,499  Q7_4_Train   NA    47
## ..           ...           ...     ...     ...
```



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

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

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

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

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

Q13. Do you get the flu vaccine?

Q14. How much do you pay to get an influenza vaccine?

```
with(data, summary(Q14))
```

```
##           $0      $30 to $60  Don_t know Less than $30 More than $60
##           970           54           80           222           4
##      Refused           NA's
##           1           837
```

```
# by gender
```

```
with(data, by(Q14, PPGENDER, summary))
```

```
## PPGENDER: Female
##           $0      $30 to $60  Don_t know Less than $30 More than $60
##           514           28           41           101           2
##      Refused           NA's
##           1           410
## -----
## PPGENDER: Male
##           $0      $30 to $60  Don_t know Less than $30 More than $60
##           456           26           39           121           2
##      Refused           NA's
##           0           427
```

Q15. Are you more likely to get a vaccine if others around you get a vaccine?

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

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

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

Q19. Do you have health insurance?

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

Q21. Are influenza vaccines covered by your health insurance?

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

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

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

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?

Q26. Does your household have children?

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

Q28. Are you a single parent?

Q29. How do you care for a sick child?

Q30. How do you care for a sick child?

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

```
with(data, 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
```

```
# by gender
```

```
with(data, 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

```
with(data, 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
```

```
# by gender
```

```
with(data, 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?

```
with(data, 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
```

```
# by ethnicity
```

```
with(data, 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
```