

# Joel\_IVRS\_Script

Harun

June 6, 2022

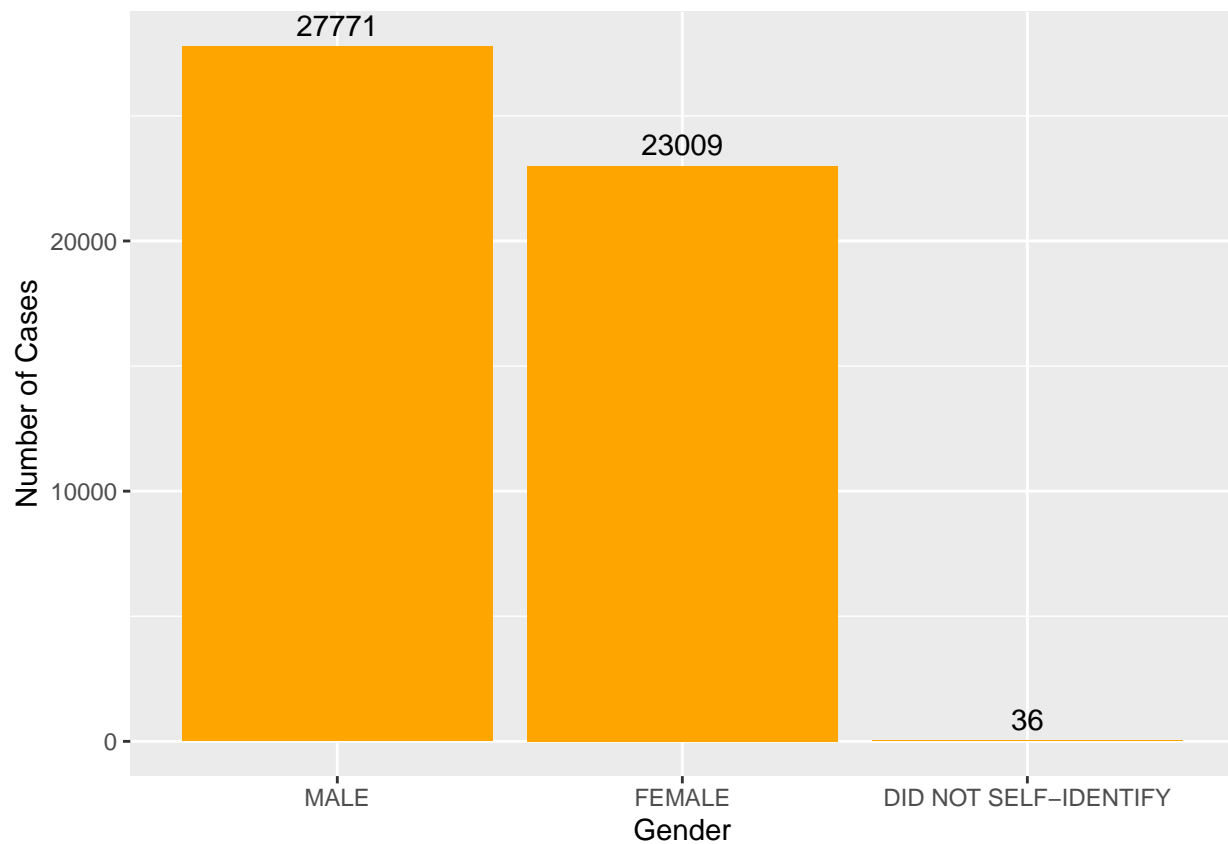
## Exploration of the Iowa Vocational Rehabilitation Services (IVRS) Data

This data comes from the [data.iowa.gov](https://data.iowa.gov) website and provides information on closed cases where the individual received services from IVRS. This data includes cases closed after October 1, 2008.

### Number of Cases by Gender

This section looks at the number of cases for each gender.

From this graph we can see that there were more cases for men although it can be noted that the number of cases for women isn't too far off from the total of men's cases.

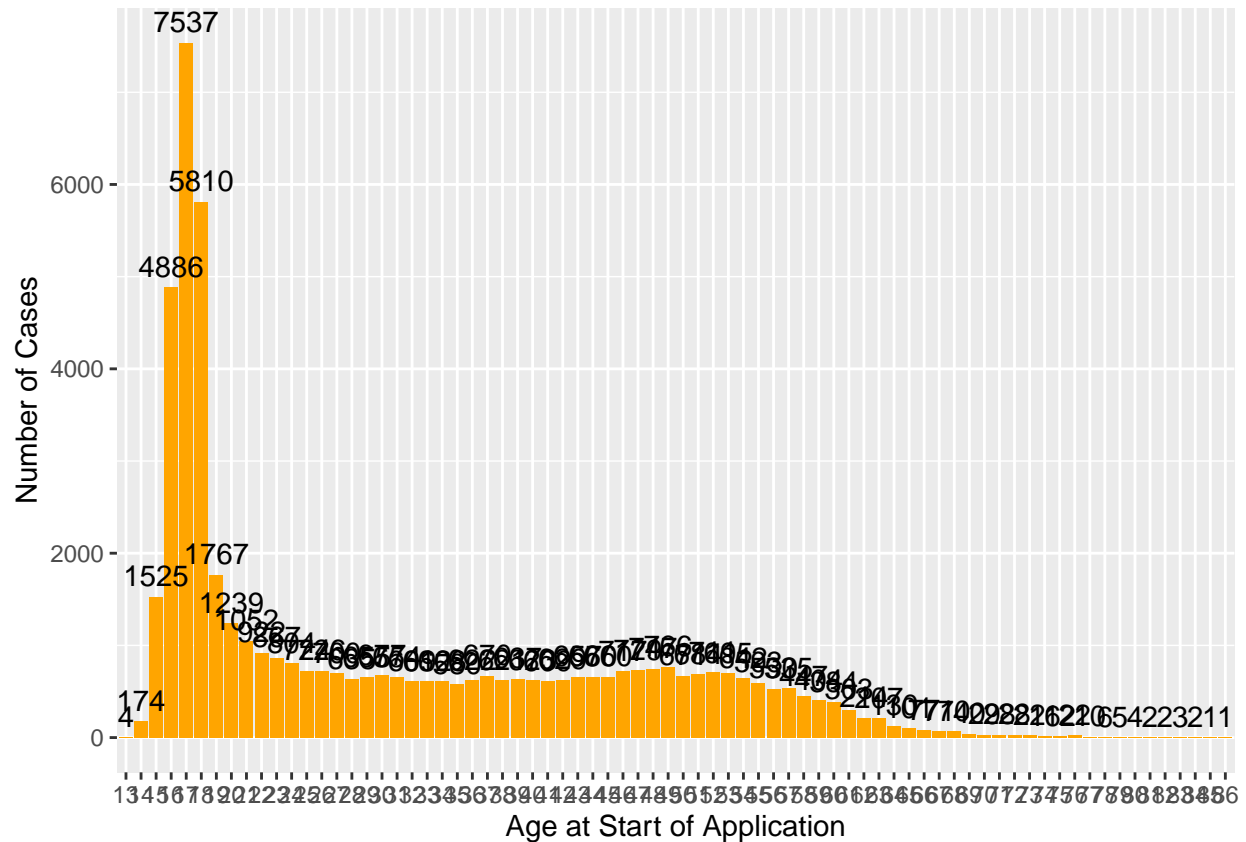


## Number of Cases by Age

### Age at Start of Application

This section looks at the number of cases by the age of the client when the case was started.

Initially I put the data into a bar graph but it is difficult to read the various ages and the bar labels are crowded.



I then looked at a table of the data sorted by the number of cases which was more helpful.

From this table we can see that the majority of cases were from those in their mid teen to mid twenties (as could be seen in the bar graph).

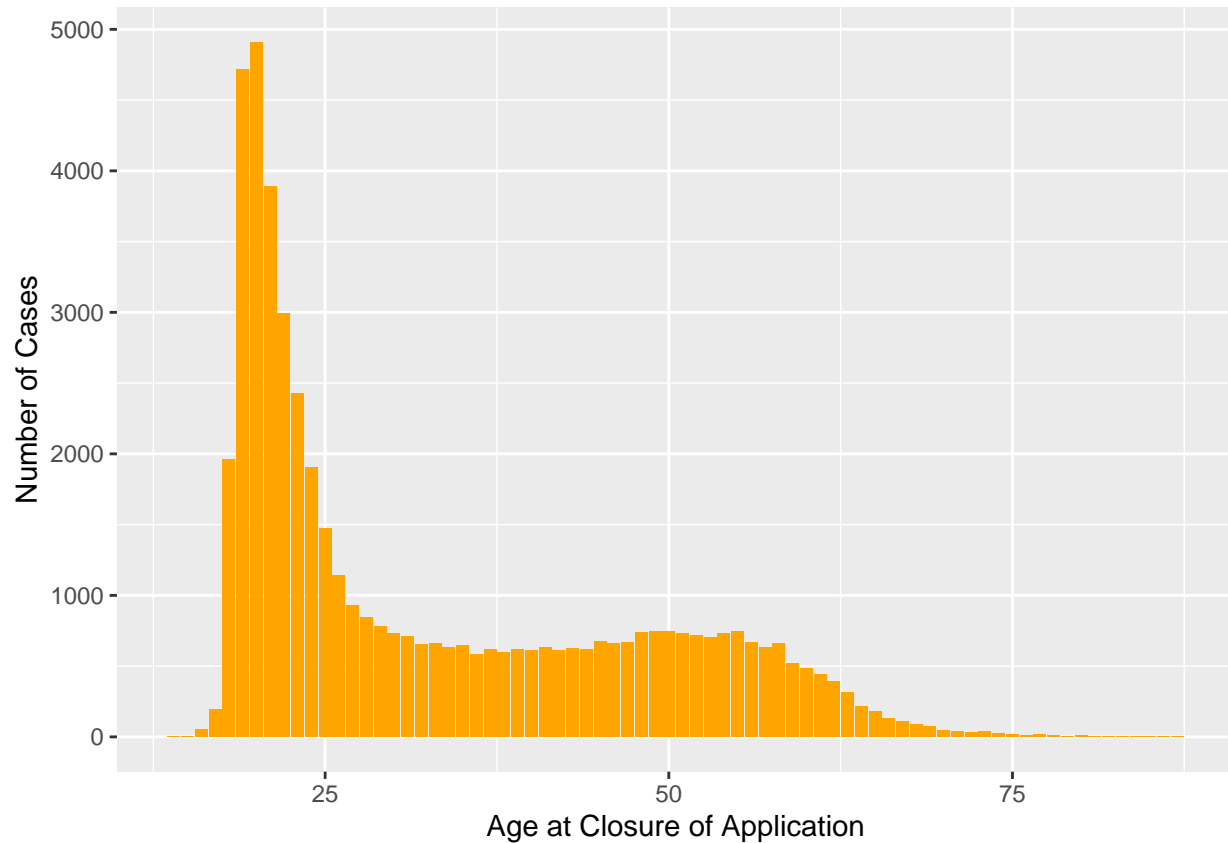
```
## # A tibble: 74 x 2
## # Groups:   Age.at.Application [74]
##   Age.at.Application Total.Cases
##   <int>          <int>
## 1         17         7537
## 2         18         5810
## 3         16         4886
## 4         19         1767
## 5         15         1525
## 6         20         1239
## 7         21         1052
## 8         22          922
## 9         23          867
## 10        24          804
```

```
## # ... with 64 more rows
```

## Age at Closure of Application

This section looks at the number of cases by the age of the client when the case was closed.

As before I put the data into a bar graph but again it is difficult to read the various ages and the bar labels are crowded. We do however see the same trend as before of the majority of those with closed cases are in their mid teen to mid twenties.



I then looked at a table of the data sorted by the number of cases.

From this table we can see that the majority of cases were actually from those in their late teen to late twenties.

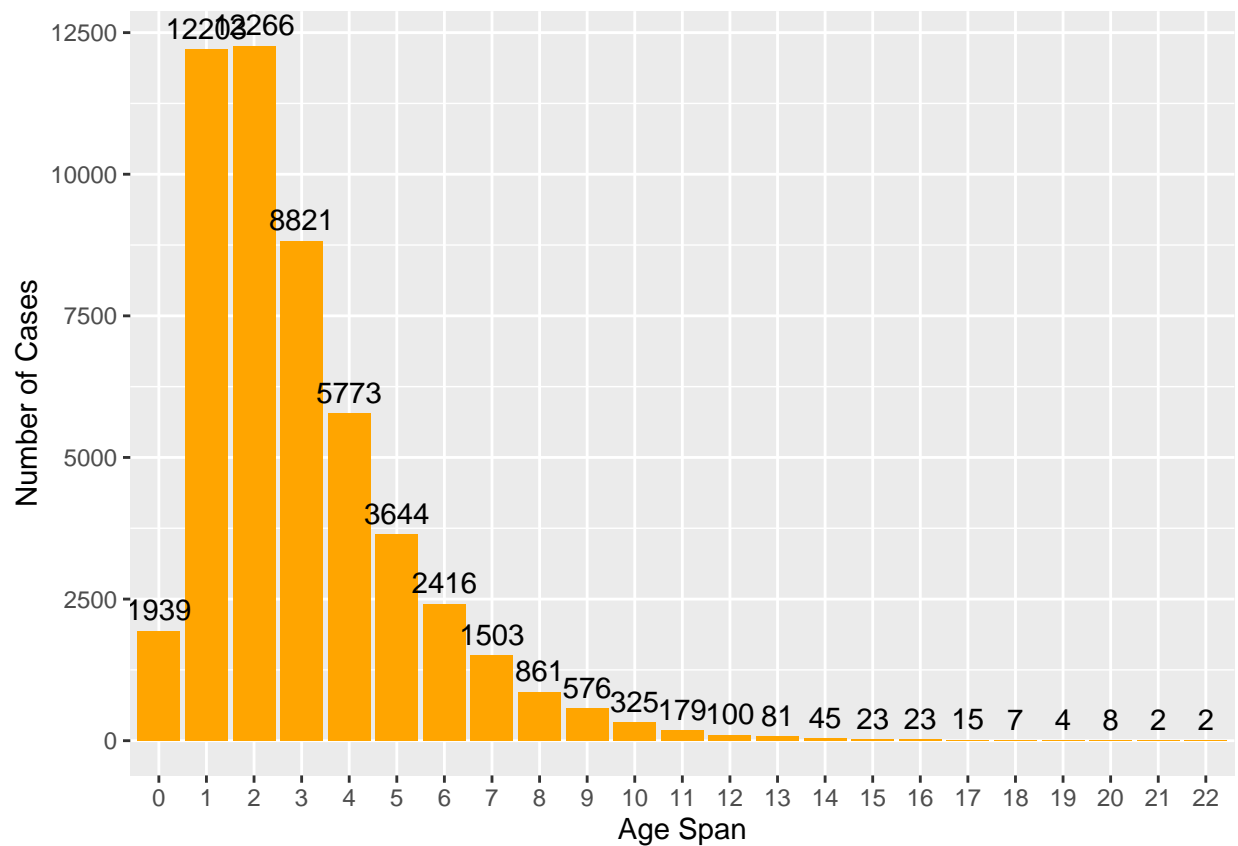
```
## # A tibble: 74 x 2
## # Groups:   Age.at.Closure [74]
##   Age.at.Closure Total.Cases
##         <int>         <int>
## 1             20          4910
## 2             19          4716
## 3             21          3891
## 4             22          2990
## 5             23          2427
## 6             18          1962
## 7             24          1907
## 8             25          1472
```

```
## 9          26      1140
## 10         27      930
## # ... with 64 more rows
```

## Age Span of Clients

I then looked at the age span of the cases by subtracting the persons age at the end of their case from their age at the start of the case.

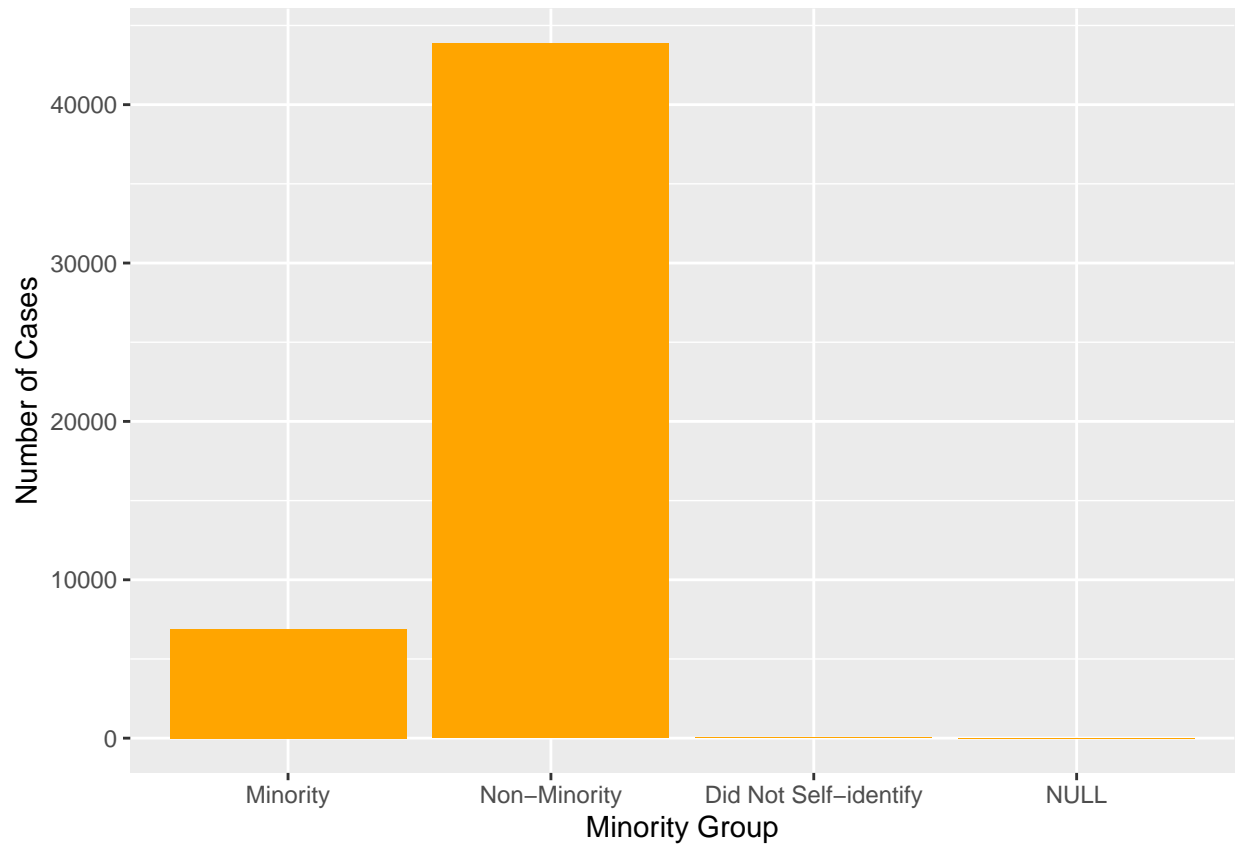
We can see that the majority of the cases were only open for 1 - 3 years. This makes sense since from our previous graphs it appeared that those in the majority age range for their case start age were in the majority for their case closed age.



## Minority Groups

This section looks at the minority groups.

We can see that most of the cases were non-minority clients.

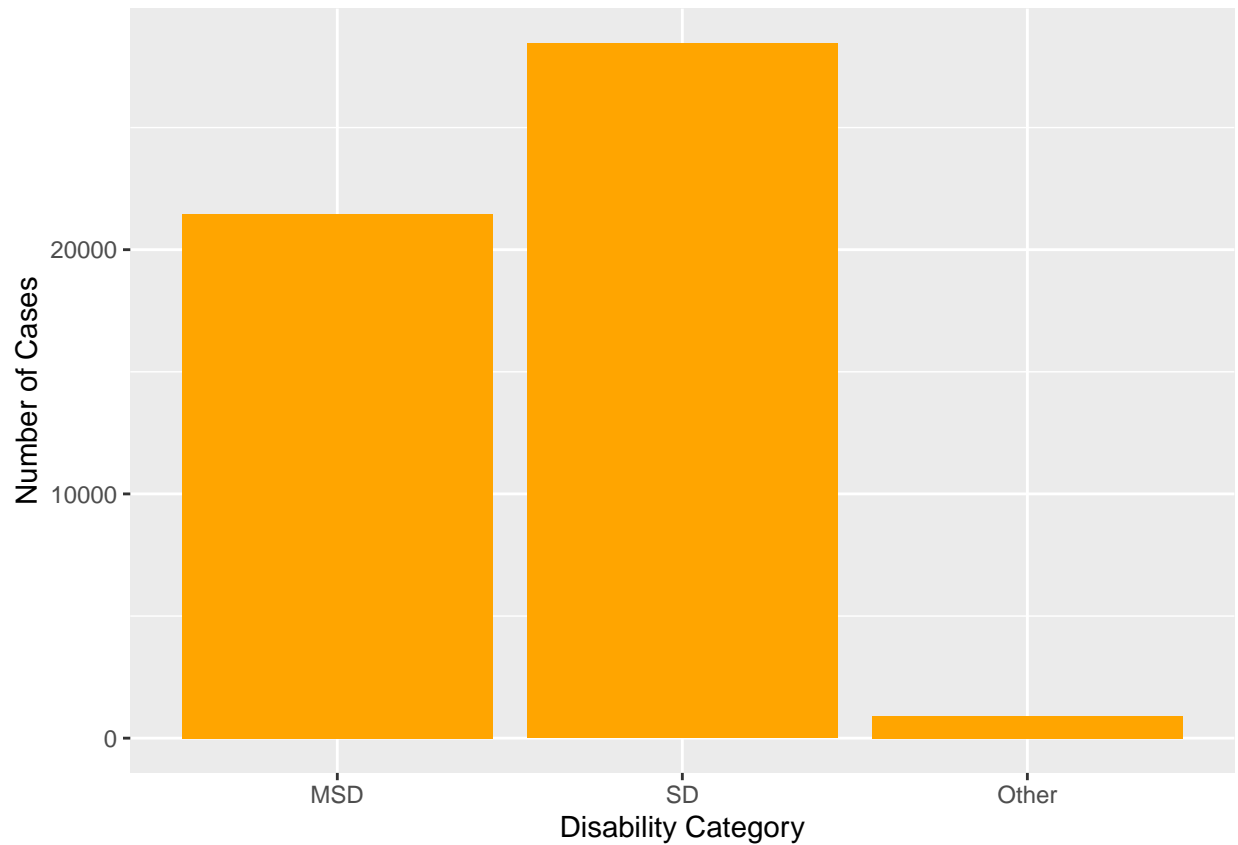


## Disability Groups and Types

This section looks at the disability groups and types. Please note that SD stands for Significantly Disabled and MSD stands for Most Significantly Disabled.

### Disability Group

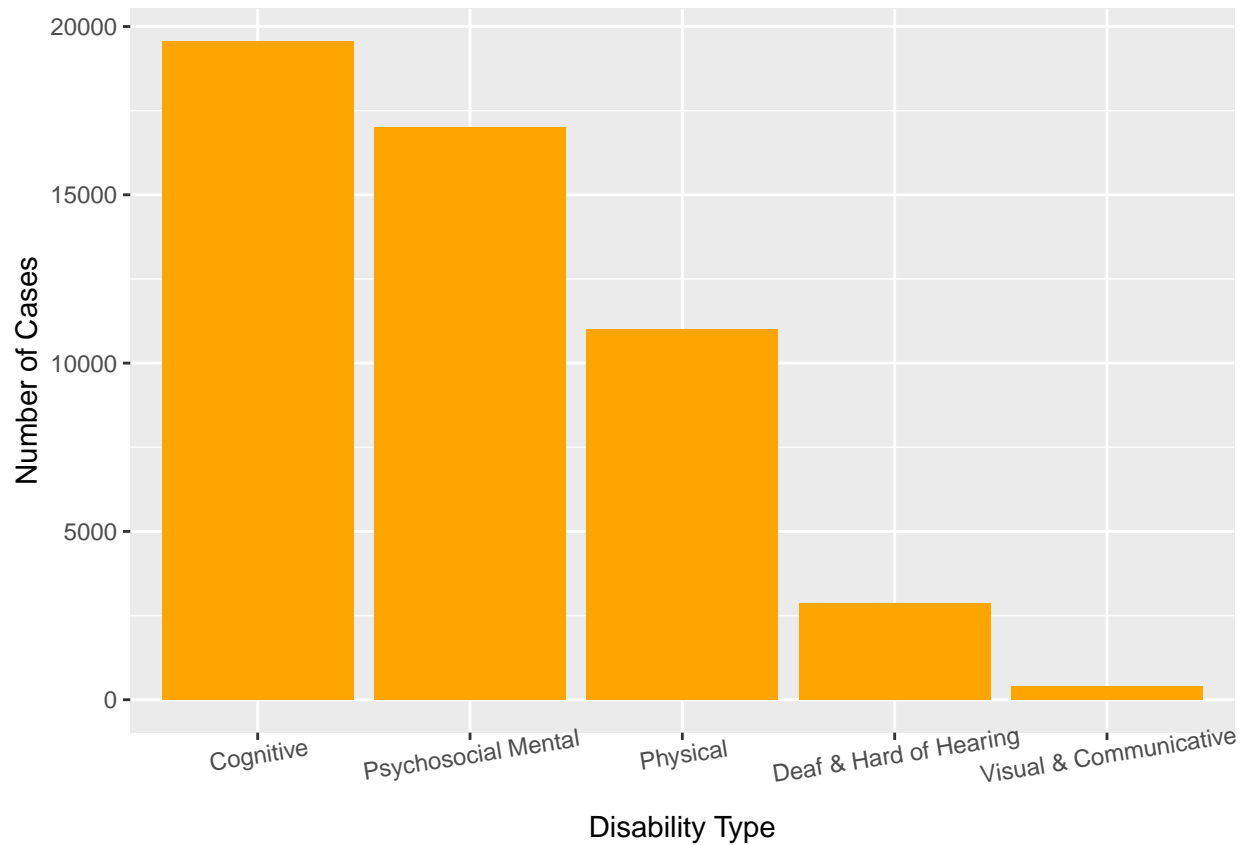
We can see that most of the cases were those who were SD were higher than those who were MSD.



### ### Disability Type

This section looks at disability by type.

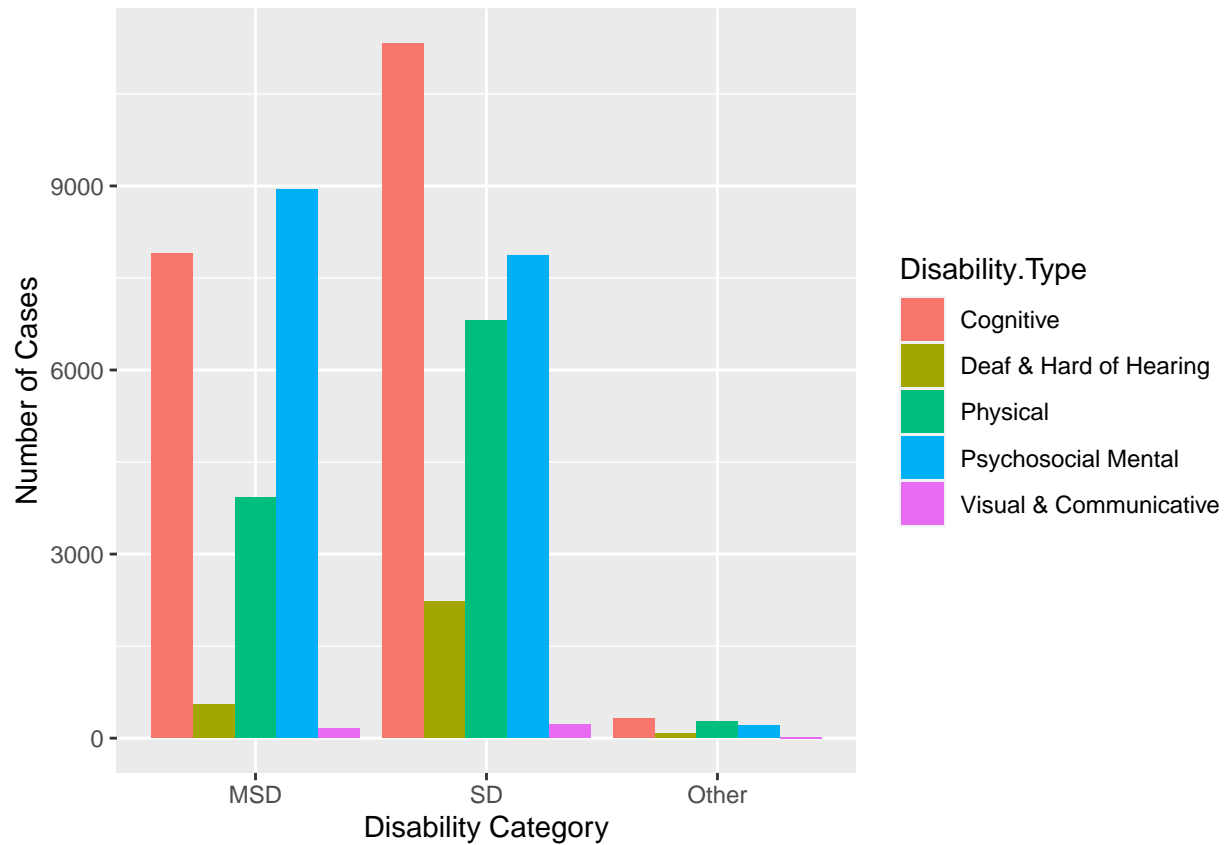
We can see that those with a cognitive disability had the most number of closed cases with those having a psychosocial mental disability being second.



### Disability by Group and Type

This section looks at both group and type of disability.

We can see that those with a cognitive disability had the most number of closed cases among all groups and those having a psychosocial mental disability being second as was found in the last graph.

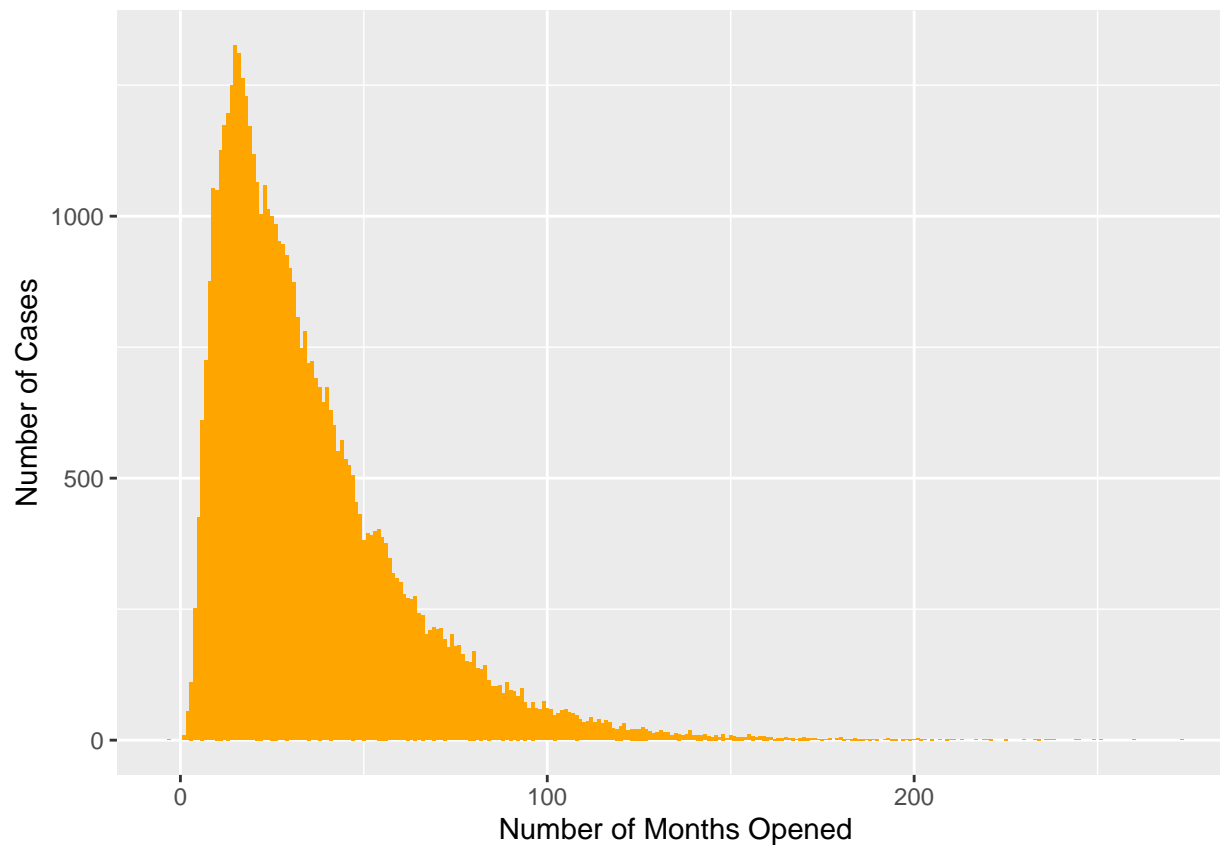


## Monthly Cases

This section looks at how long the closed cases were opened.

I created a bar chart to view this data, however there are a large number of data points and it is difficult to see specifics. We can see that the majority of cases were opened between about 10 - 50 months (about 1 - 5 years).





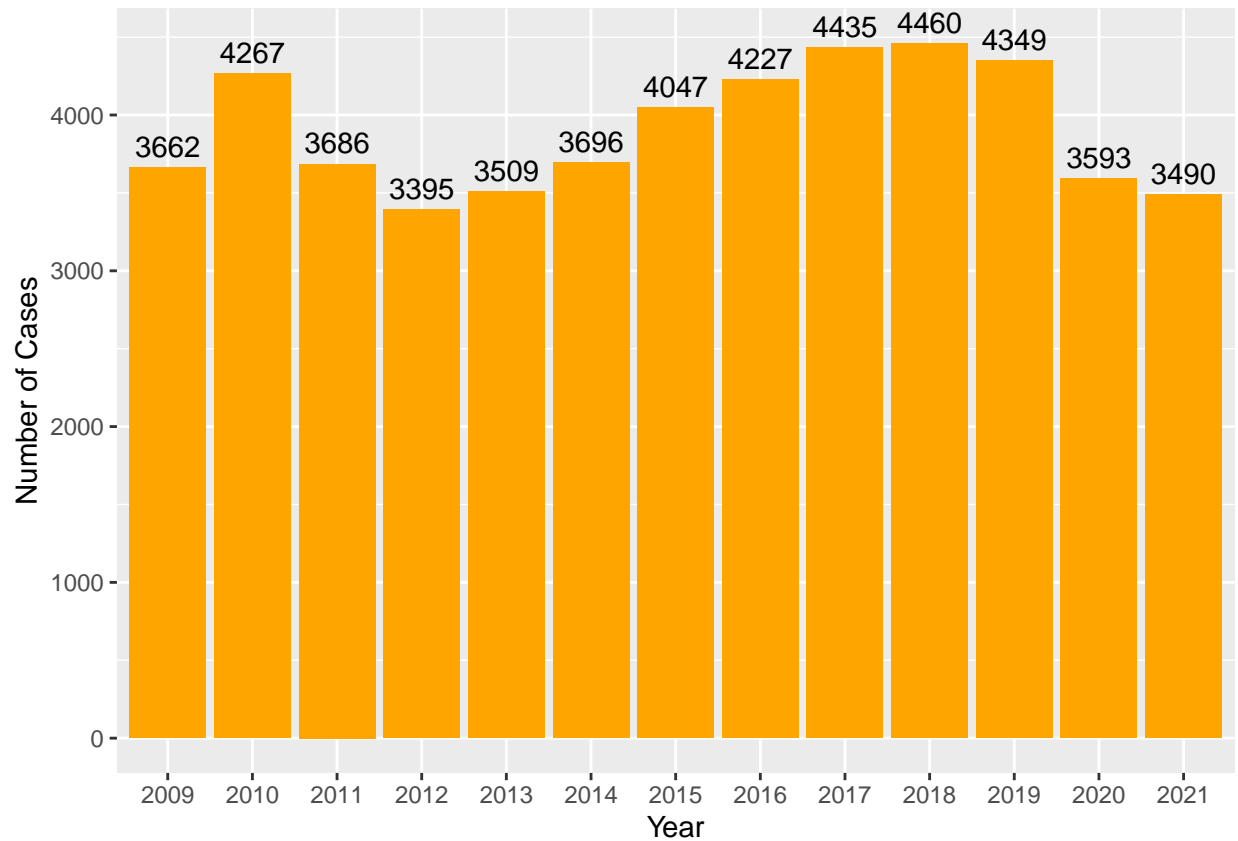
Creating a sorted table shows that most of the cases were opened for about  $1 \frac{1}{2}$  - 2 years.

```
## # A tibble: 224 x 2
## # Groups:   Months.Case.Open [224]
##   Months.Case.Open Total.Cases
##   <int>         <int>
## 1         15         1326
## 2         16         1310
## 3         17         1263
## 4         14         1249
## 5         18         1228
## 6         13         1197
## 7         12         1173
## 8         19         1171
## 9         11         1126
## 10        20         1118
## # ... with 214 more rows
```

## Yearly Cases

This section looks at how many cases were closed each year.

We can see that the number of closed cases has remained relatively the same over the course of the data sets history.

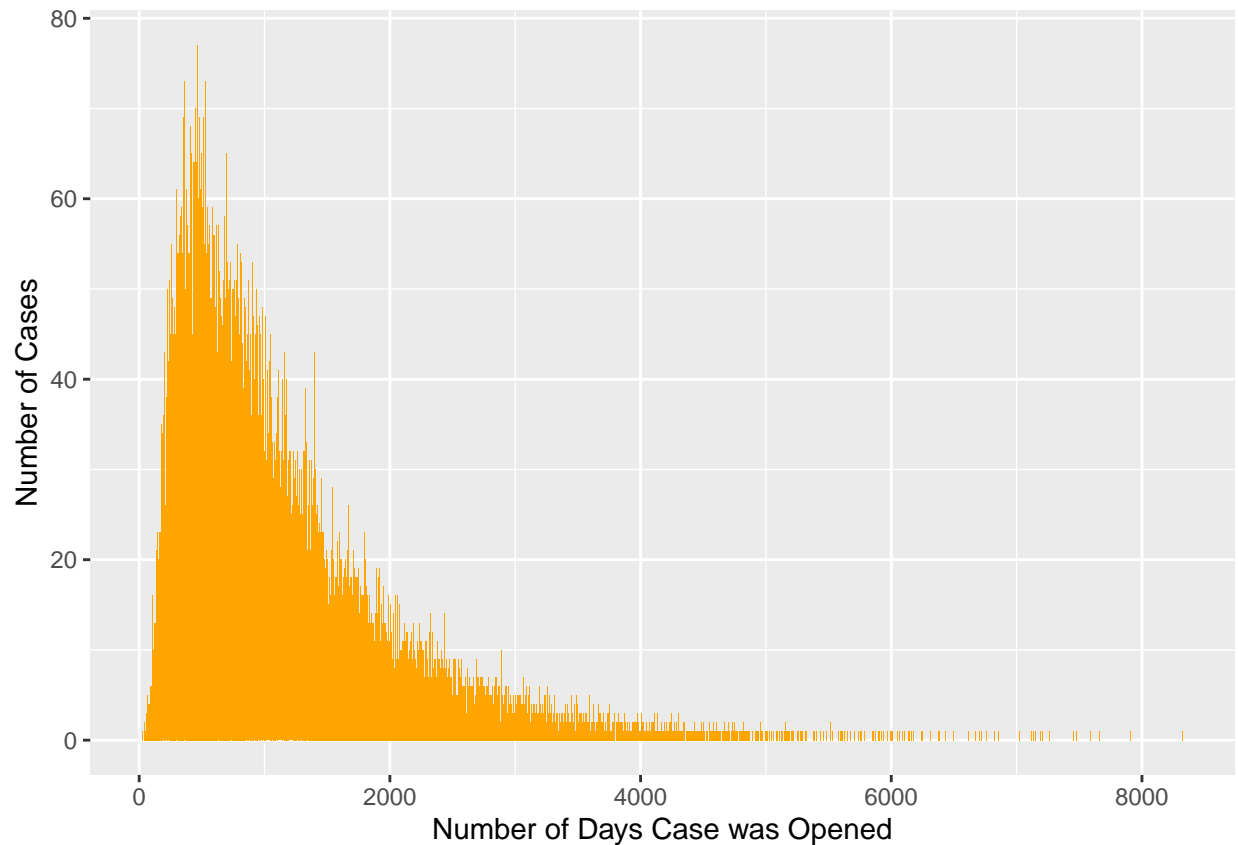


## Date Span

This section looks at the span of the cases by start date of application to date of closure.

A bar graph is somewhat helpful however it is difficult to see specifics. It appears that the majority of the cases are opened between 0 - 1000 days (about 0 - 32 months or about 0 - 3 years)

`## Don't know how to automatically pick scale for object of type difftime. Defaulting to continuous.`



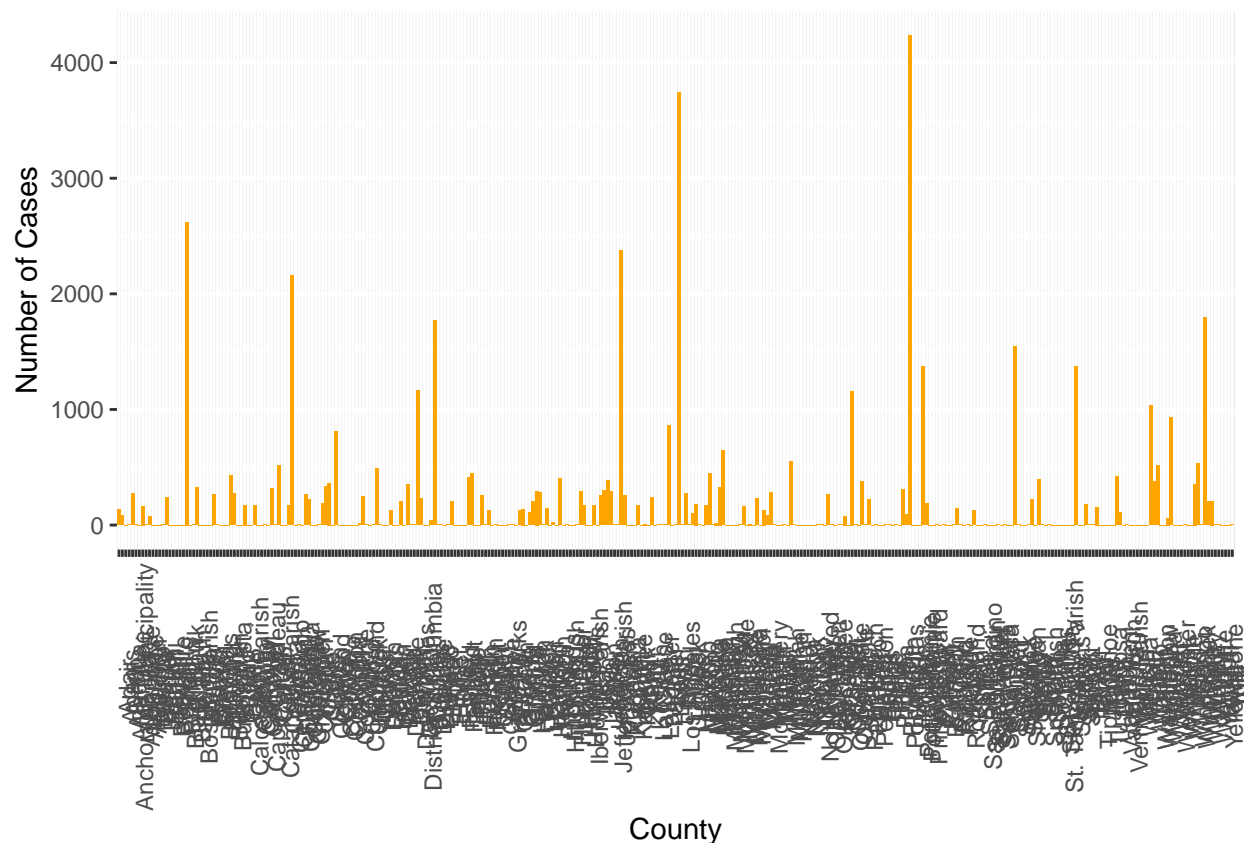
Looking at a table we can see the highest number of total cases is 462 days which is about  $1 \frac{1}{4}$  years which is close to the range we found from looking at the months a case was open.

```
## # A tibble: 3,927 x 2
## # Groups:   date.span [3,927]
##   date.span Total.Cases
##   <drtn>         <int>
## 1 462 days          77
## 2 364 days          73
## 3 525 days          73
## 4 448 days          70
## 5 350 days          69
## 6 483 days          69
## 7 511 days          69
## 8 406 days          68
## 9 532 days          67
## 10 420 days         65
## # ... with 3,917 more rows
```

## Cases by Client County

This section looks at the clients for each case by county they are from.

Initially I attempted to make a bar chart hoping it would hold all of Iowa's 99 counties. However I learned that there are many counties in the data set outside of Iowa which made it almost impossible to view the data in a bar graph format.



I then opted to make a table showing the number of closed cases for each county sorted by those with the highest number of cases.

From this table we can see that Polk and Linn counties have the most closed cases. A quick **Google search** showed from the 2020 American Community Survey (ACS) data that the counties with the highest population were Polk and Linn so this data aligns with what we would expect.

```
## # A tibble: 329 x 2
## # Groups:   Client.County [329]
##   Client.County Total.Cases
##   <chr>          <int>
## 1 Polk           4238
## 2 Linn           3744
## 3 Black Hawk     2622
## 4 Johnson        2374
## 5 Cerro Gordo    2158
## 6 Woodbury       1794
## 7 Dubuque        1772
## 8 Scott          1542
## 9 Story          1374
## 10 Pottawattamie 1369
## # ... with 319 more rows
```

## Cases by Office Area

This section looks at the number of closed cases by the office area.

We can see that the Des Moines (026) office has the most number of closed cases.

