Covid19_Impact_on_Hospitals_visualization.R

corn

2022-01-22

```
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

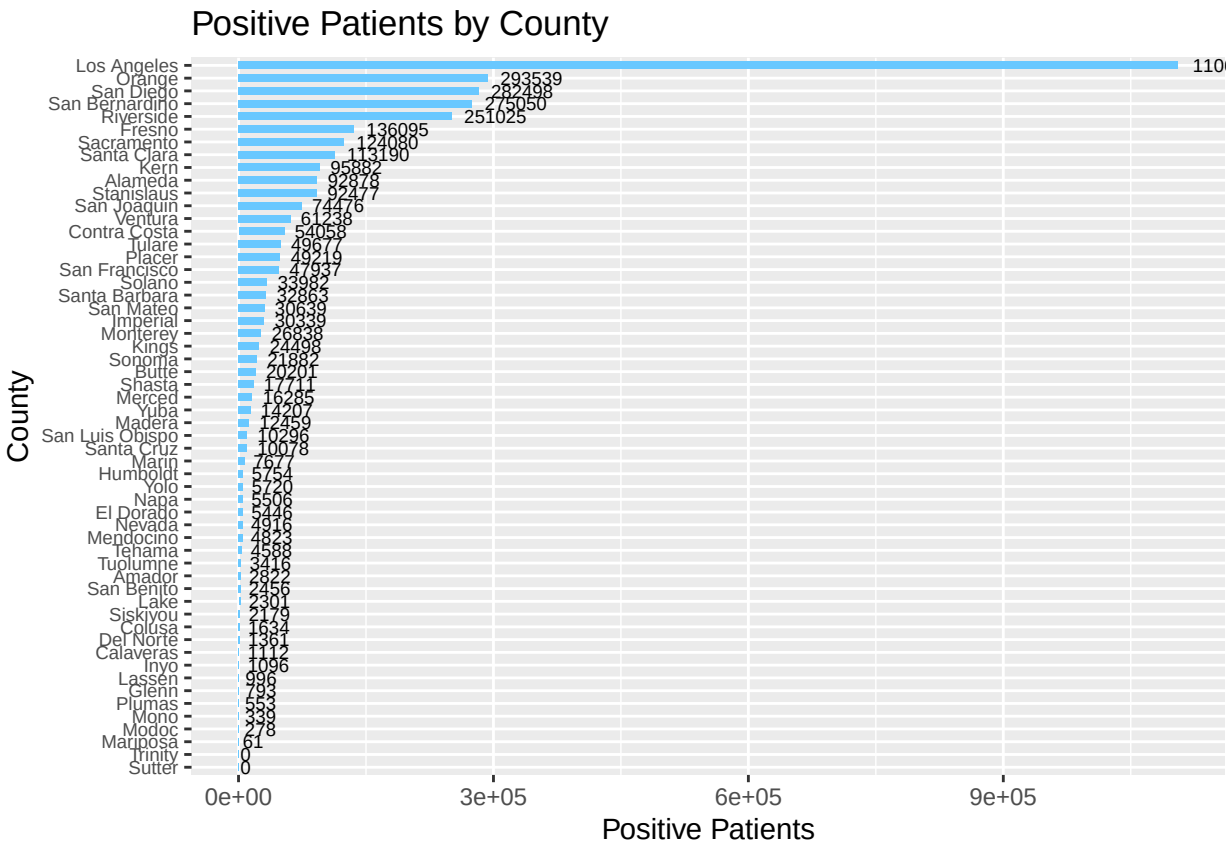
```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

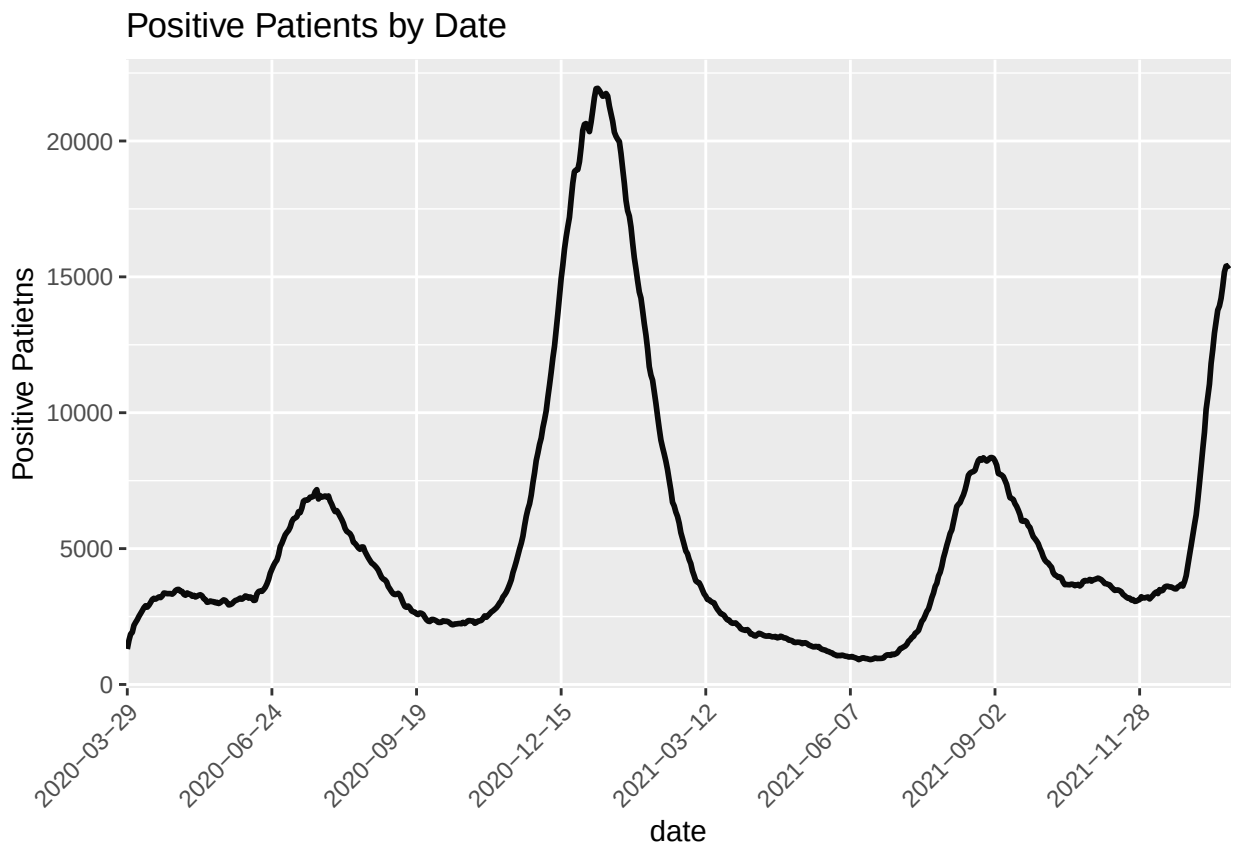
```
library(ggplot2)
library(scales)

setwd("C:/Users/dongj/Desktop/Covid_Cal/The_impact_on_hospitals_in_the_CA")

data <- read.csv("./dataset/covid19hospitalbycounty_012122.csv")
data_v1 <- read.csv("./dataset/covid19hospitalbycounty_012122.csv")

positive_patients_by_county<- aggregate(hospitalized_covid_confirmed_patients ~ county,
                                        data_v1,sum)

positive_patients_by_date<- aggregate(hospitalized_covid_confirmed_patients ~ todays_date,
                                        data_v1,sum)

suspected_patients_by_county<- aggregate(hospitalized_suspected_covid_patients ~ county,
                                        data_v1,sum)

suspected_patients_by_date<- aggregate(hospitalized_suspected_covid_patients ~ todays_date,
                                       data_v1,sum)


icu_positive_patients_by_county<- aggregate(icu_covid_confirmed_patients ~ county,
                                        data_v1,sum)

icu_positive_patients_by_date<- aggregate(icu_covid_confirmed_patients ~ todays_date,
                                       data_v1,sum)
```

```r
icu_suspected_patients_by_county<- aggregate(icu_suspected_covid_patients ~ county,
                                        data_v1,sum)

icu_suspected_patients_by_date<- aggregate(icu_suspected_covid_patients ~ todays_date,
                                      data_v1,sum)

icu_available_beds_by_county<- aggregate(icu_available_beds ~ county,
                                         data_v1,sum)

icu_available_beds_by_date<- aggregate(icu_available_beds ~ todays_date,
                                       data_v1,sum)
```

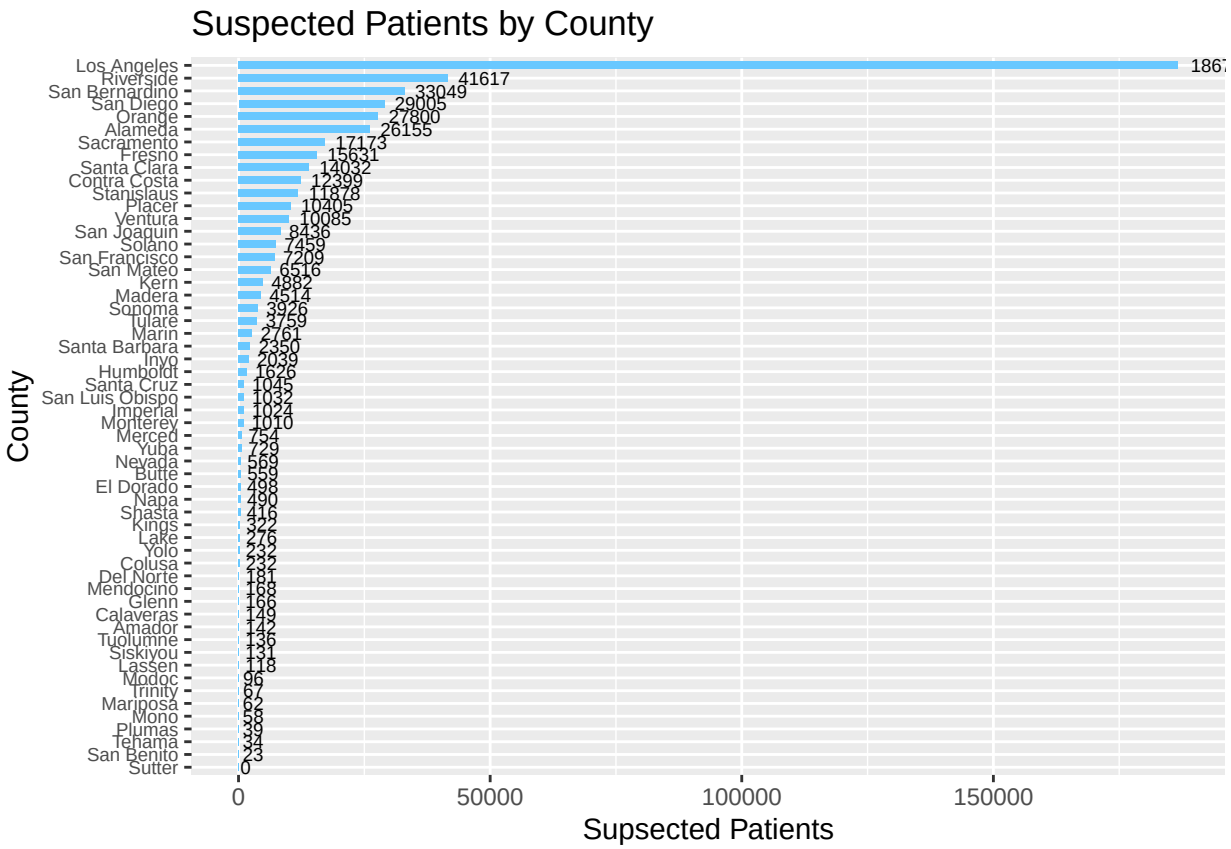
```r
positive_patients_by_county_graph <- ggplot(data=positive_patients_by_county,
                                      aes(x = hospitalized_covid_confirmed_patients,
                                          y = reorder(county,
                                                      hospitalized_covid_confirmed_patients,
                                                      sum))
                                    )+
                                    geom_bar(stat = "identity",
                                             width=.6,
                                             position = position_dodge(width = 0.5),
                                             fill = "#69c8ff")+
                                    labs(
                                      title="Positive Patients by County",
                                      x = "Positive Patients",
                                      y = "County"
                                    )+
                                    theme(axis.text.y = element_text(size = 7)) +
                                    geom_text(aes(label= hospitalized_covid_confirmed_patients),
                                              hjust = -0.2,
                                              size = 2.5,
                                              position = position_dodge(width = 1),
                                              inherit.aes = TRUE)
options(repr.plot.width = 14, repr.plot.height = 8)
positive_patients_by_county_graph
```



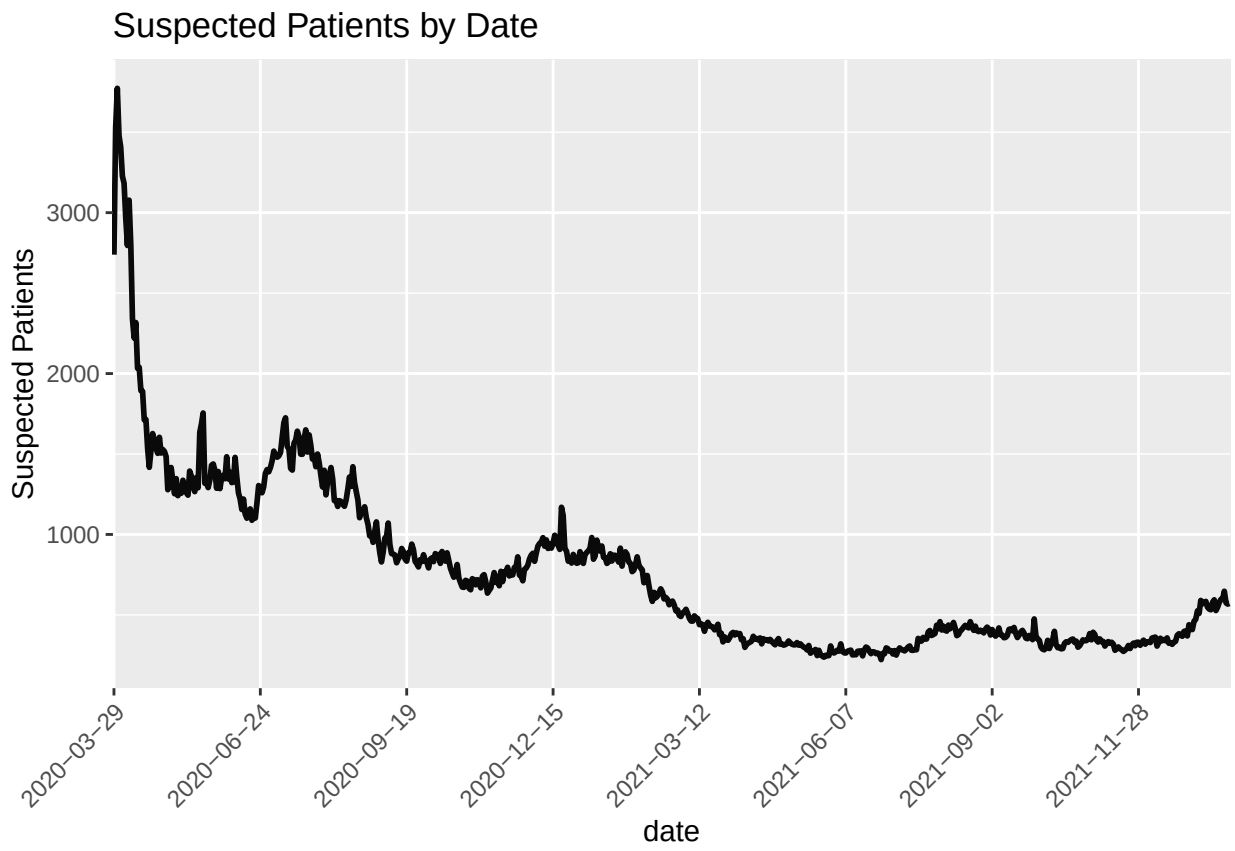

```
positive_patients_by_date_graph <-ggplot(data =positive_patients_by_date)+
                                  geom_line(aes(x=todays_date,
                                                y=hospitalized_covid_confirmed_patients,
                                                group= 1),
                                            col = "#0a0a0a",
                                            size =1)+
                                  scale_x_discrete(breaks = function(x) x[seq(1, length(x), by = 3*29)])+
                                  labs(
                                    title="Positive Patients by Date",
                                    x = "date",
                                    y = "Positive Patietns"
                                  )+
                                  theme(axis.text.x = element_text(angle = 45, vjust = 1, hjust = 1))
positive_patients_by_date_graph
```



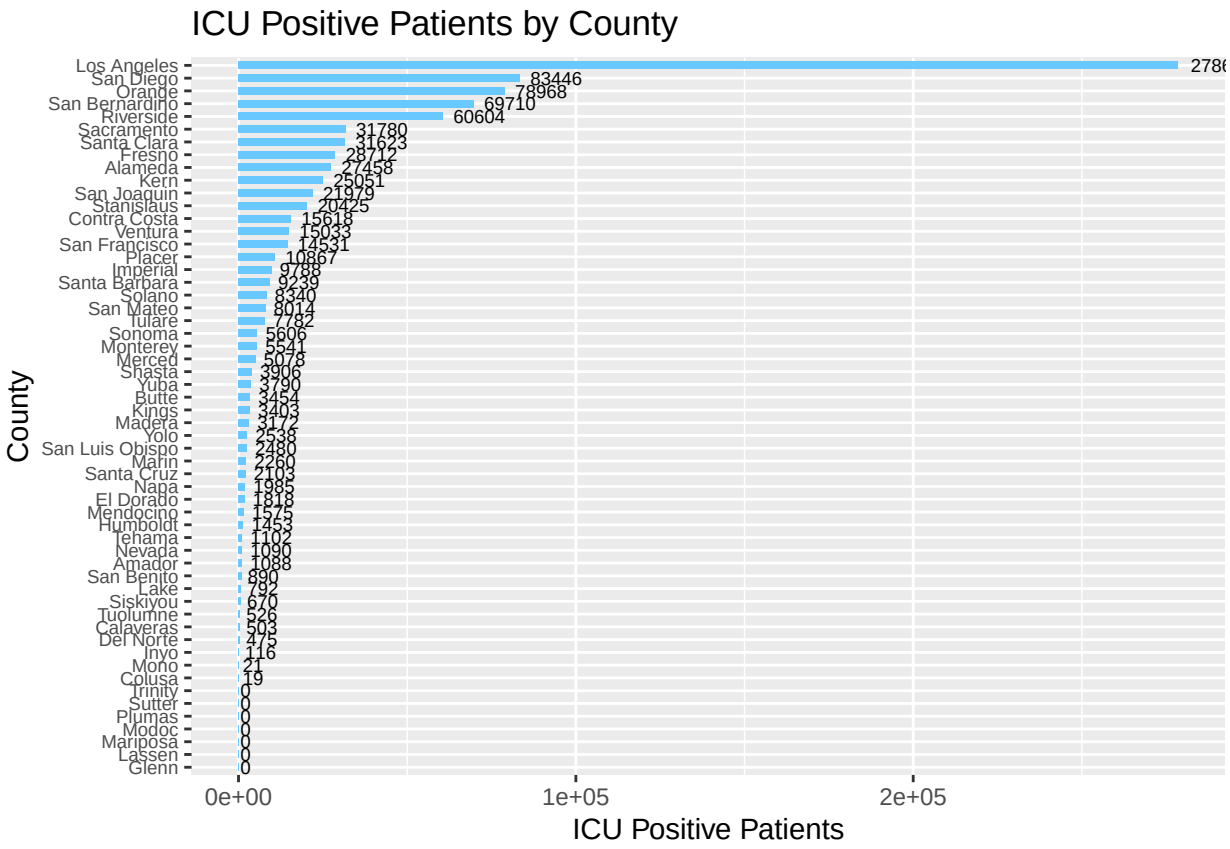

```
suspected_patients_by_county_graph <- ggplot(data=suspected_patients_by_county,
                                             aes(x = hospitalized_suspected_covid_patients,
                                                 y = reorder(county,
                                                             hospitalized_suspected_covid_patients,
                                                             sum))
                                            )+
                                            geom_bar(stat = "identity",
                                                     width=.6,
                                                     position = position_dodge(width = 0.5),
                                                     fill = "#69c8ff")+
                                            labs(
                                              title="Suspected Patients by County",
                                              x = "Supsected Patients",
                                              y = "County"
                                            )+
                                            theme(axis.text.y = element_text(size = 7)) +
                                            geom_text(aes(label= hospitalized_suspected_covid_patients),
                                                      hjust = -0.2,
                                                      size = 2.5,
                                                      position = position_dodge(width = 1),
                                                      inherit.aes = TRUE)
options(repr.plot.width = 14, repr.plot.height = 8)
suspected_patients_by_county_graph
```



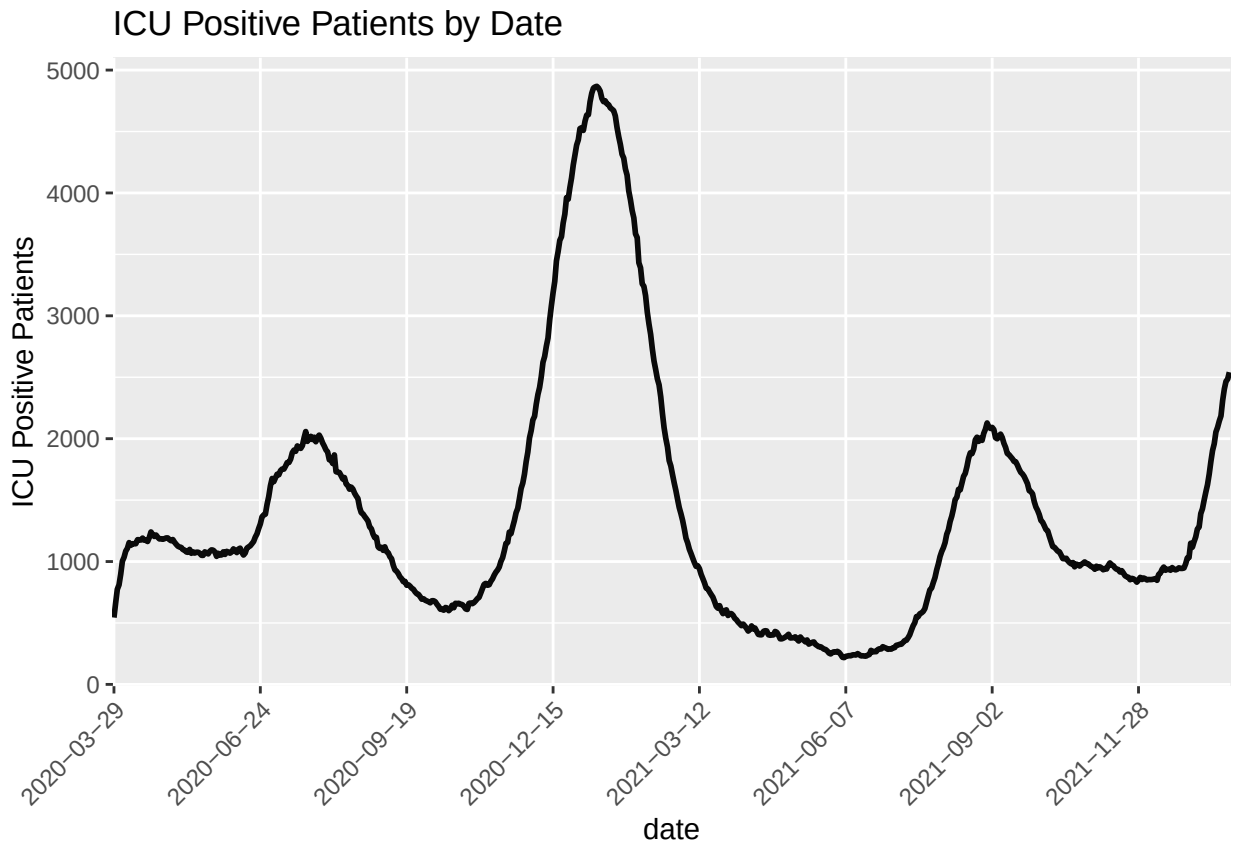

```r
suspected_patients_by_date_graph <-ggplot(data =suspected_patients_by_date)+
                                  geom_line(aes(x=todays_date,
                                                y=hospitalized_suspected_covid_patients,
                                                group= 1),
                                            col = "#0a0a0a",
                                            size =1)+
                                  scale_x_discrete(breaks = function(x) x[seq(1, length(x), by = 3*29)])+
                                  labs(
                                    title="Suspected Patients by Date",
                                    x = "date",
                                    y = "Suspected Patients"
                                  )+
                                  theme(axis.text.x = element_text(angle = 45, vjust = 1, hjust = 1))
suspected_patients_by_date_graph
```



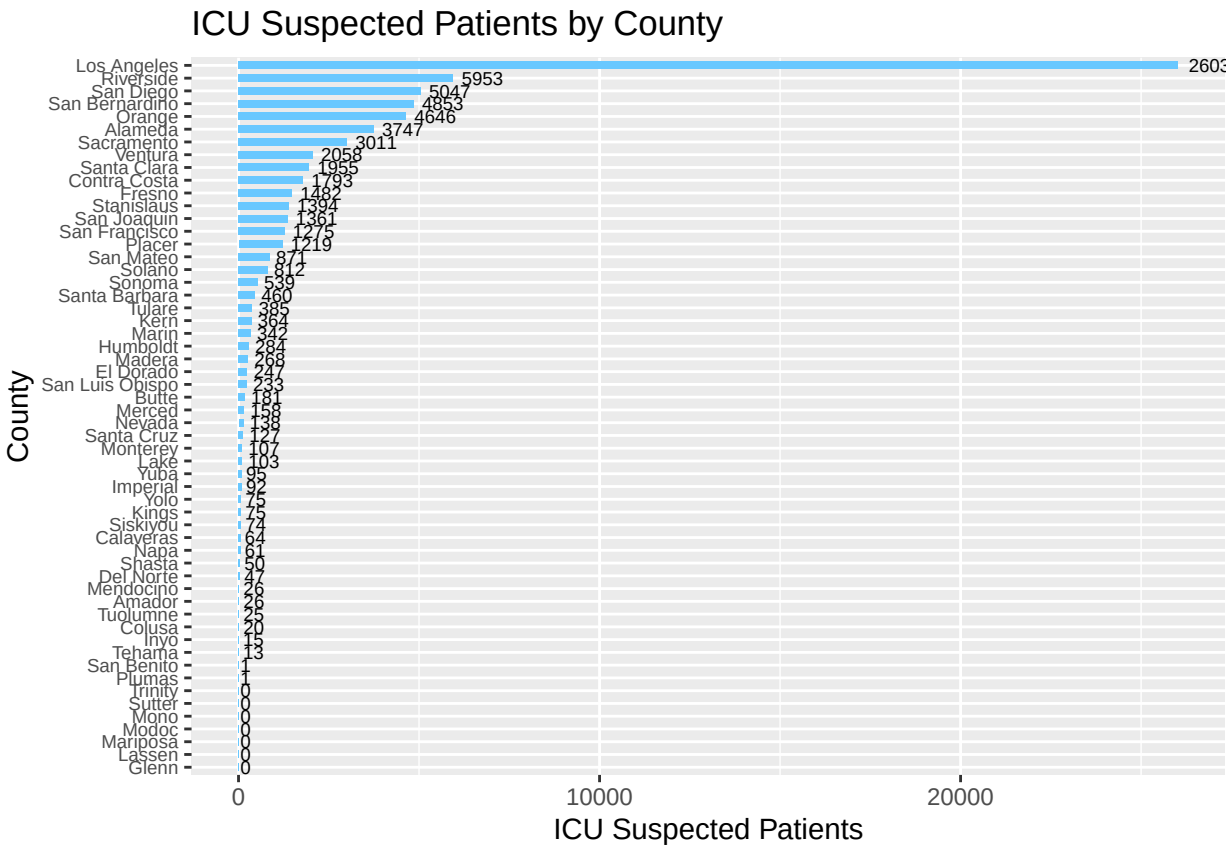

```
icu_positive_patients_by_county_graph <- ggplot(data=icu_positive_patients_by_county,
                                                aes(x = icu_covid_confirmed_patients,
                                                    y = reorder(county,
                                                                icu_covid_confirmed_patients,
                                                                sum))
                                               )+
                                               geom_bar(stat = "identity",
                                                        width=.6,
                                                        position = position_dodge(width = 0.5),
                                                        fill = "#69c8ff")+
                                               labs(
                                                 title="ICU Positive Patients by County",
                                                 x = "ICU Positive Patients",
                                                 y = "County"
                                               )+
                                               theme(axis.text.y = element_text(size = 7)) +
                                               geom_text(aes(label= icu_covid_confirmed_patients),
                                                         hjust = -0.2,
                                                         size = 2.5,
                                                         position = position_dodge(width = 1),
                                                         inherit.aes = TRUE)
options(repr.plot.width = 14, repr.plot.height = 8)
icu_positive_patients_by_county_graph
```



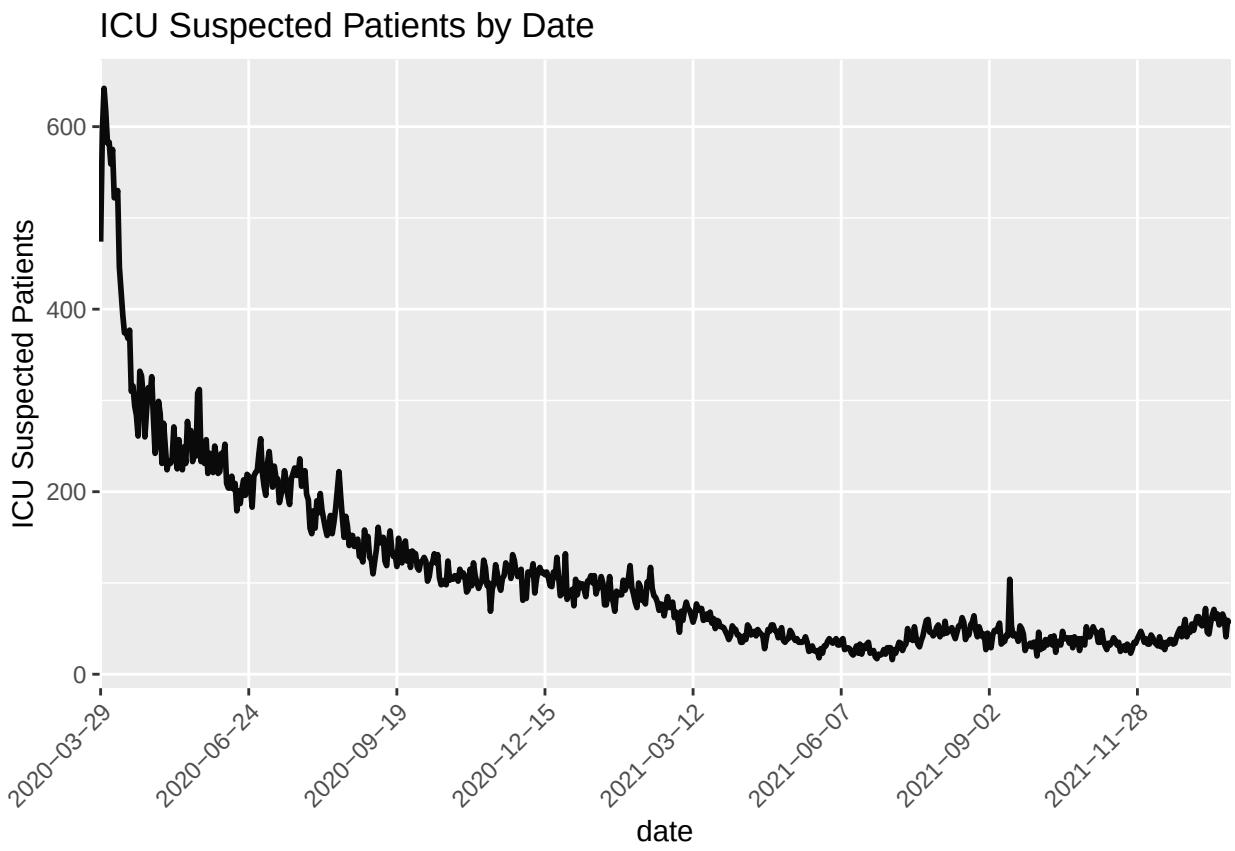

```
icu_positive_patients_by_date_graph <-ggplot(data =icu_positive_patients_by_date)+
                                      geom_line(aes(x=todays_date,
                                                    y=icu_covid_confirmed_patients,
                                                    group= 1),
                                                col = "#0a0a0a",
                                                size =1)+
                                      scale_x_discrete(breaks = function(x) x[seq(1, length(x), by = 3*1
                                      labs(
                                        title="ICU Positive Patients by Date",
                                        x = "date",
                                        y = "ICU Positive Patients"
                                      )+
                                      theme(axis.text.x = element_text(angle = 45, vjust = 1, hjust = 1)
icu_positive_patients_by_date_graph
```



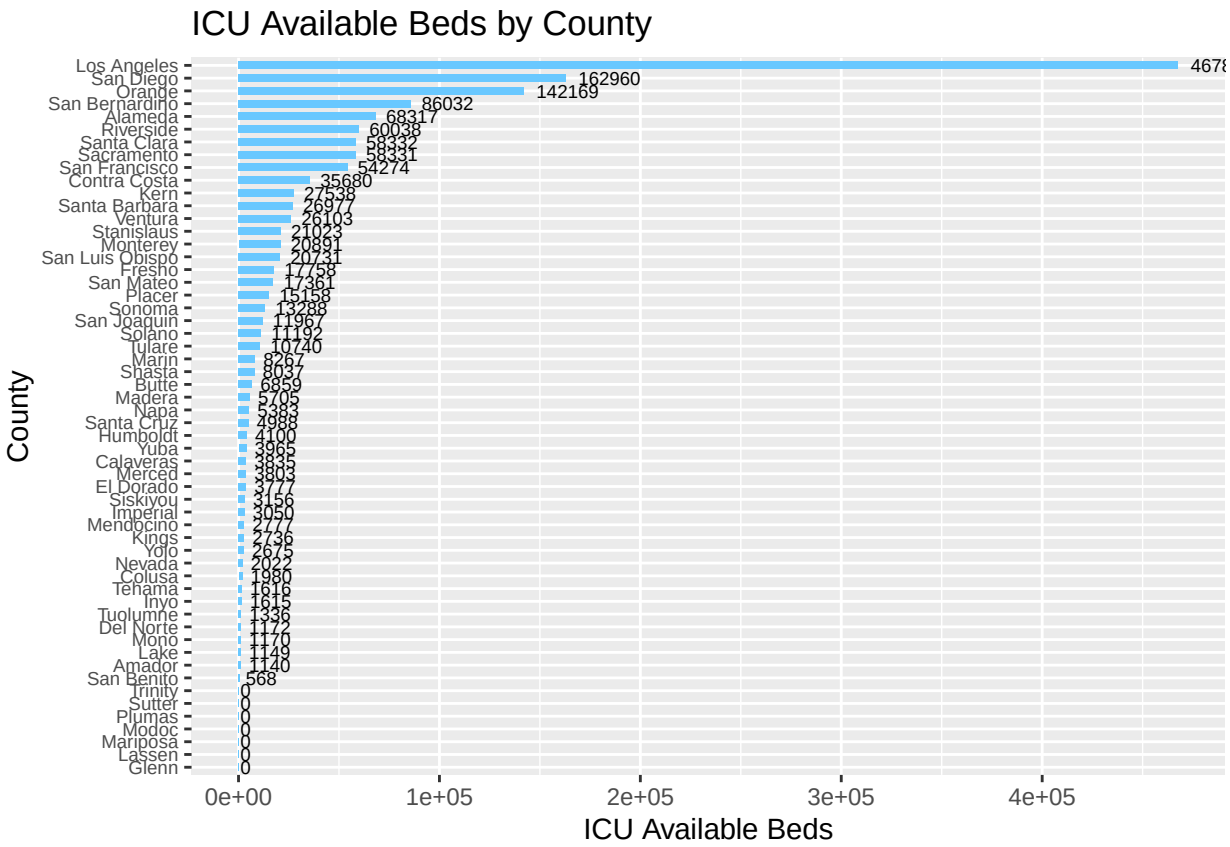

```
icu_suspected_patients_by_county_graph <- ggplot(data=icu_suspected_patients_by_county,
                                                 aes(x = icu_suspected_covid_patients,
                                                     y = reorder(county,
                                                                 icu_suspected_covid_patients,
                                                                 sum))
                                                )+
                                                geom_bar(stat = "identity",
                                                         width=.6,
                                                         position = position_dodge(width = 0.5),
                                                         fill = "#69c8ff")+
                                                labs(
                                                  title="ICU Suspected Patients by County",
                                                  x = "ICU Suspected Patients",
                                                  y = "County"
                                                )+
                                                theme(axis.text.y = element_text(size = 7)) +
                                                geom_text(aes(label= icu_suspected_covid_patients),
                                                          hjust = -0.2,
                                                          size = 2.5,
                                                          position = position_dodge(width = 1),
                                                          inherit.aes = TRUE)
options(repr.plot.width = 14, repr.plot.height = 8)
icu_suspected_patients_by_county_graph
```



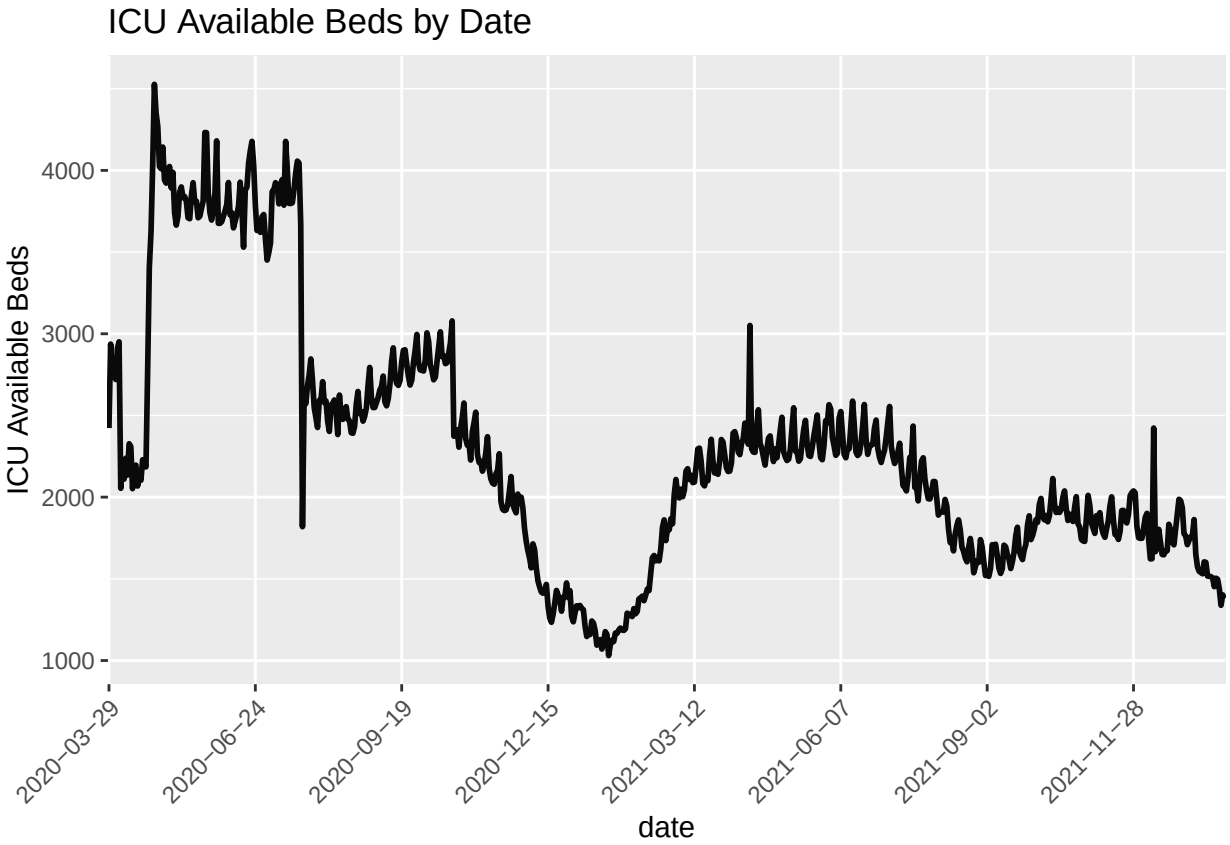

```
icu_suspected_patients_by_date_graph <-ggplot(data =icu_suspected_patients_by_date)+
                                      geom_line(aes(x=todays_date,
                                                    y=icu_suspected_covid_patients,
                                                    group= 1),
                                                col = "#0a0a0a",
                                                size =1)+
                                      scale_x_discrete(breaks = function(x) x[seq(1, length(x), by = 3*1
                                      labs(
                                        title="ICU Suspected Patients by Date",
                                        x = "date",
                                        y = "ICU Suspected Patients"
                                      )+
                                      theme(axis.text.x = element_text(angle = 45, vjust = 1, hjust = 1)
icu_suspected_patients_by_date_graph
```




```
icu_available_beds_by_county_graph <- ggplot(data=icu_available_beds_by_county,
                                             aes(x = icu_available_beds,
                                                 y = reorder(county,
                                                             icu_available_beds,
                                                             sum))
                                    )+
                                      geom_bar(stat = "identity",
                                               width=.6,
                                               position = position_dodge(width = 0.5),
                                               fill = "#69c8ff")+
                                      labs(
                                        title="ICU Available Beds by County",
                                        x = "ICU Available Beds",
                                        y = "County"
                                      )+
                                      theme(axis.text.y = element_text(size = 7)) +
                                      geom_text(aes(label= icu_available_beds),
                                                hjust = -0.2,
                                                size = 2.5,
                                                position = position_dodge(width = 1),
                                                inherit.aes = TRUE)
options(repr.plot.width = 14, repr.plot.height = 8)
icu_available_beds_by_county_graph
```




```
icu_available_beds_by_date_graph <-ggplot(data =icu_available_beds_by_date)+
                                   geom_line(aes(x=todays_date,
                                                 y=icu_available_beds,
                                                 group= 1),
                                             col = "#0a0a0a",
                                             size =1)+
                                    scale_x_discrete(breaks = function(x) x[seq(1, length(x), by = 3*29)
                                    labs(
                                      title="ICU Available Beds by Date",
                                      x = "date",
                                      y = "ICU Available Beds"
                                    )+
                                    theme(axis.text.x = element_text(angle = 45, vjust = 1, hjust = 1))
icu_available_beds_by_date_graph
```


ICU Available Beds by Date
ICU Available Beds
4000
3000
2000
1000
2020−03−29
2020−06−24
2020−09−19
2020−12−15
2021−03−12
2021−06−07
2021−09−02
2021−11−28
date