EPI Info CDC

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Contents

Libraries Used

```r
library(tidyverse)
```

```
## -- Attaching packages ----------------------------------------------------------------

## v ggplot2 3.3.0     v purrr   0.3.3
## v tibble  3.0.0     v dplyr   0.8.5
## v tidyr   1.0.2     v stringr 1.4.0
## v readr   1.3.1     v forcats 0.5.0

## -- Conflicts ------------------------------------------------------------------------- tidyv
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```r
library(lubridate)
```

```
##
## Attaching package: 'lubridate'

## The following objects are masked from 'package:dplyr':
##
##     intersect, setdiff, union

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

Load CDC data

Read CSV File

```
cdc <- read_csv(file = "./data/CDC_data.csv")
```

Clean data and calculate cumulative number of cases

```
names(cdc)[1:2] <-  c("Date",
                      "Number of new cases")
cdc$cum <- cumsum(cdc$`Number of new cases`)
cdc$Date <- as.Date(cdc$Date,
                    format = "%d-%b-%y")
cdc$`Week Number` <- week(cdc$Date)
```

Visualize all data

```
## `geom_smooth()` using method = 'loess' and formula 'y ~ x'

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```

Filter to remove incomplete reporting

remove dates on or after 4 April as this data may not be completely reported

```
cdc <- cdc %>%                                                    # update with g
     filter(Date < as.Date("2020-04-04"))
```

Visualize

```
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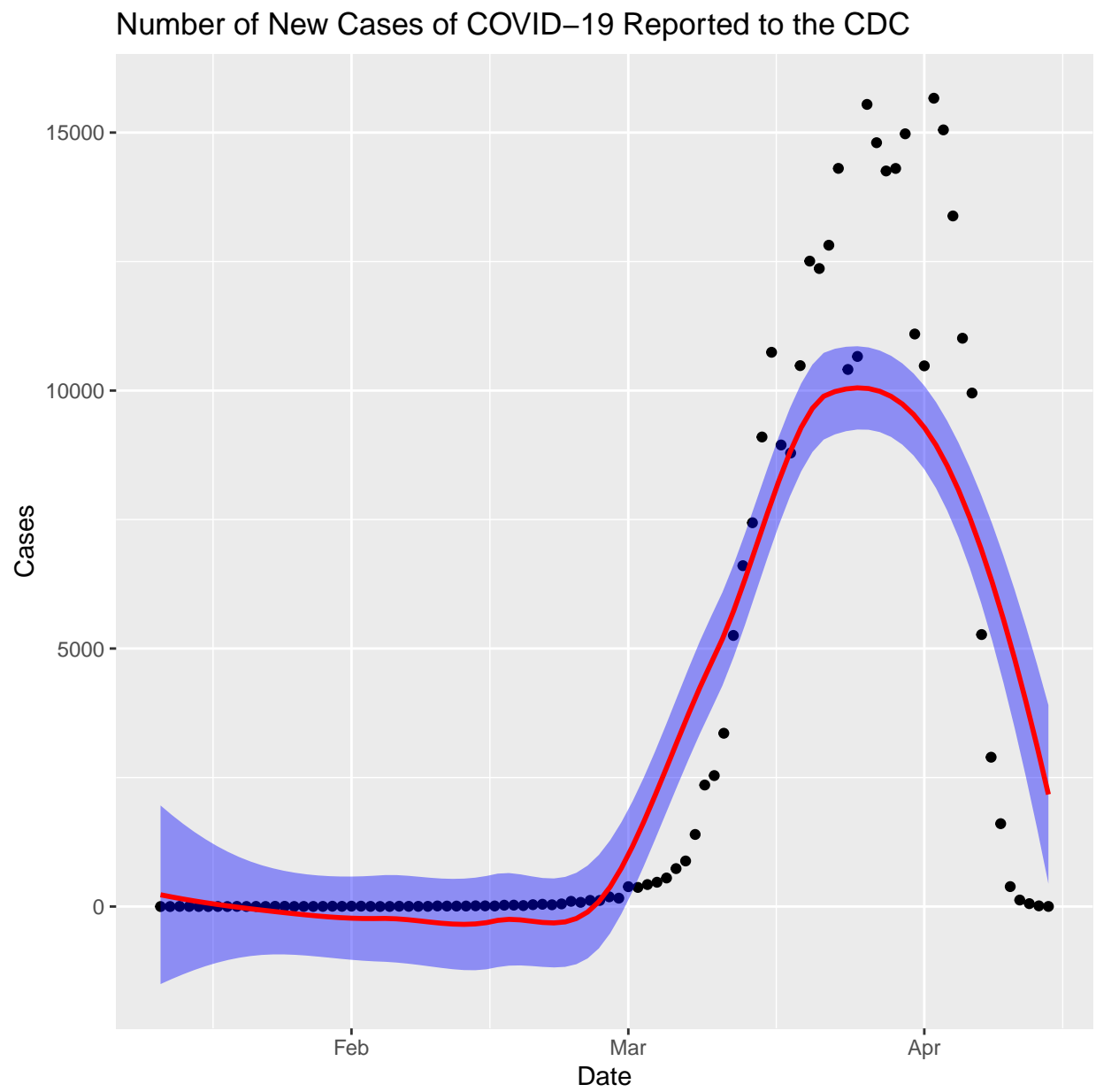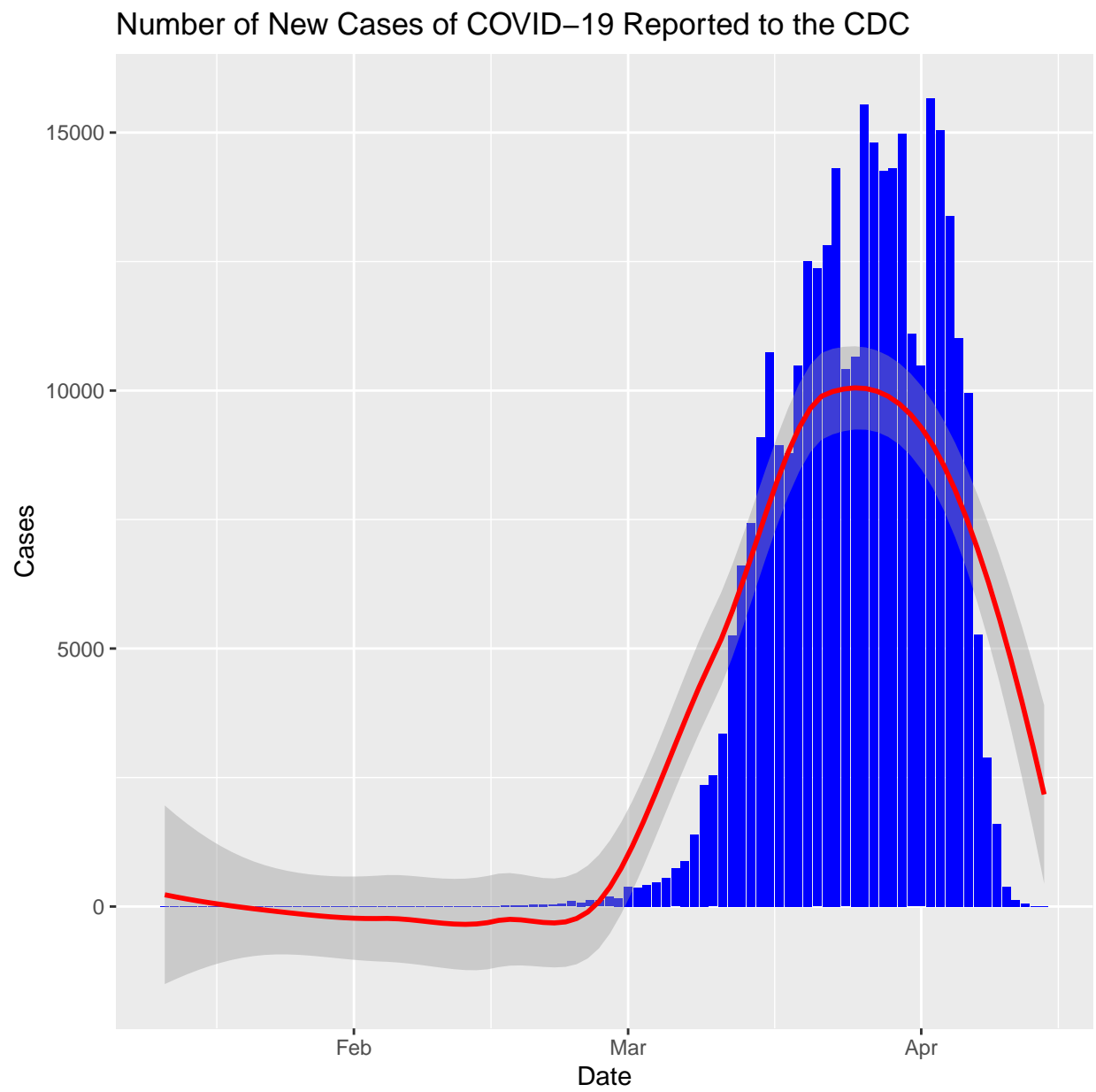
Figure 1: Epi curve 1

Figure 2: Epi curve 2, traditional

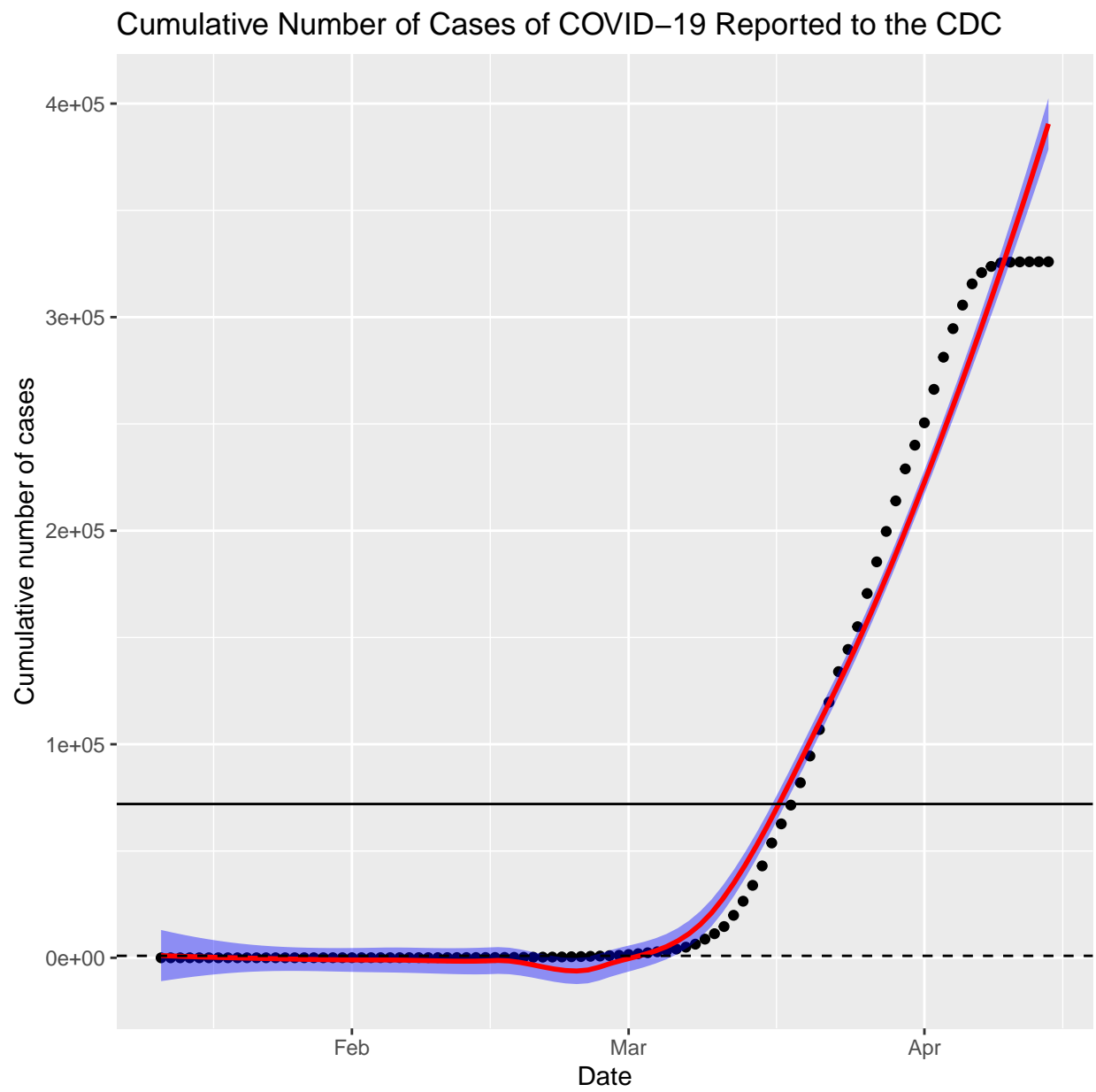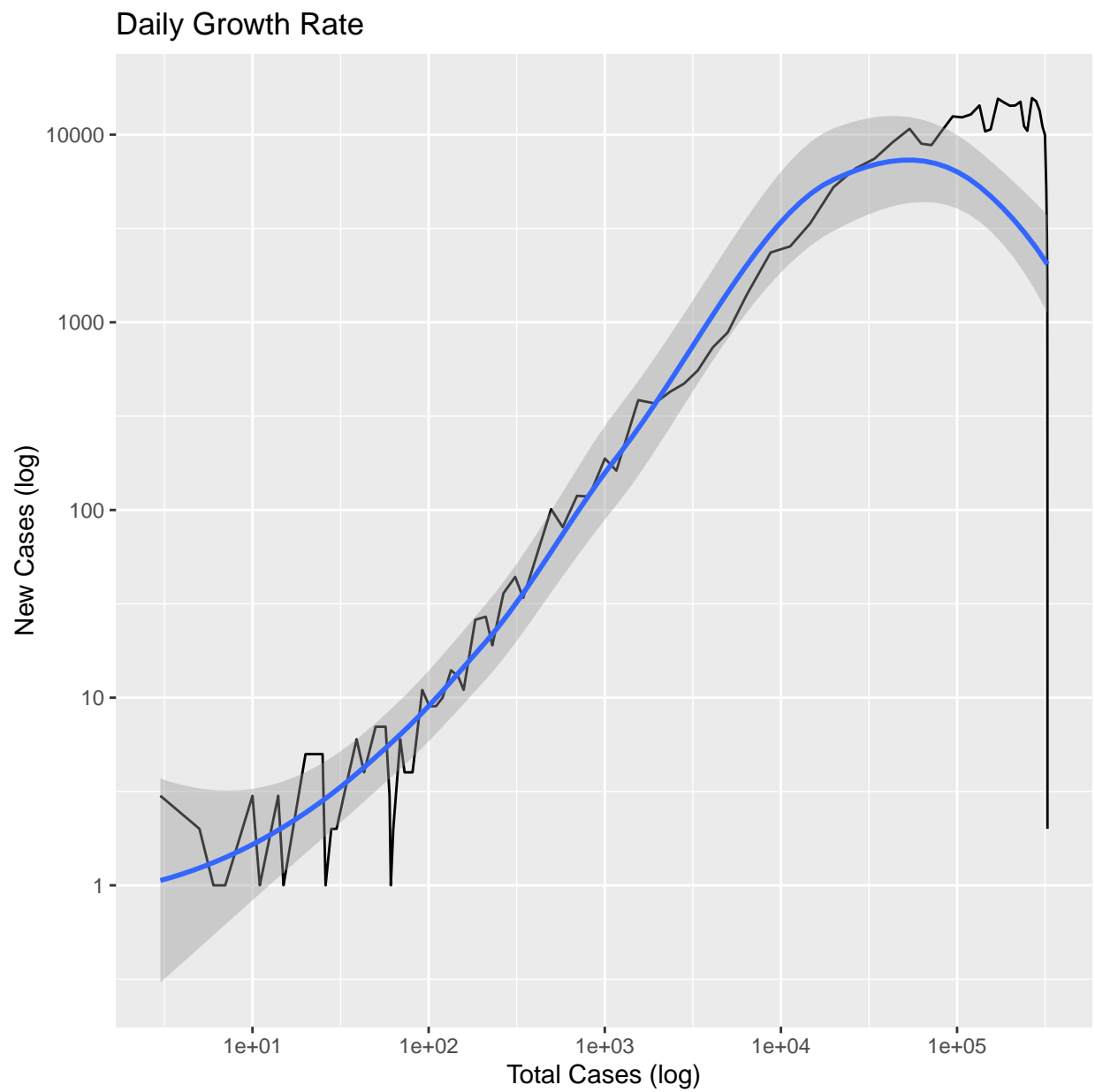# Cumulative Number of Cases of COVID−19 Reported to the CDC

Figure 3: Cumulative cases
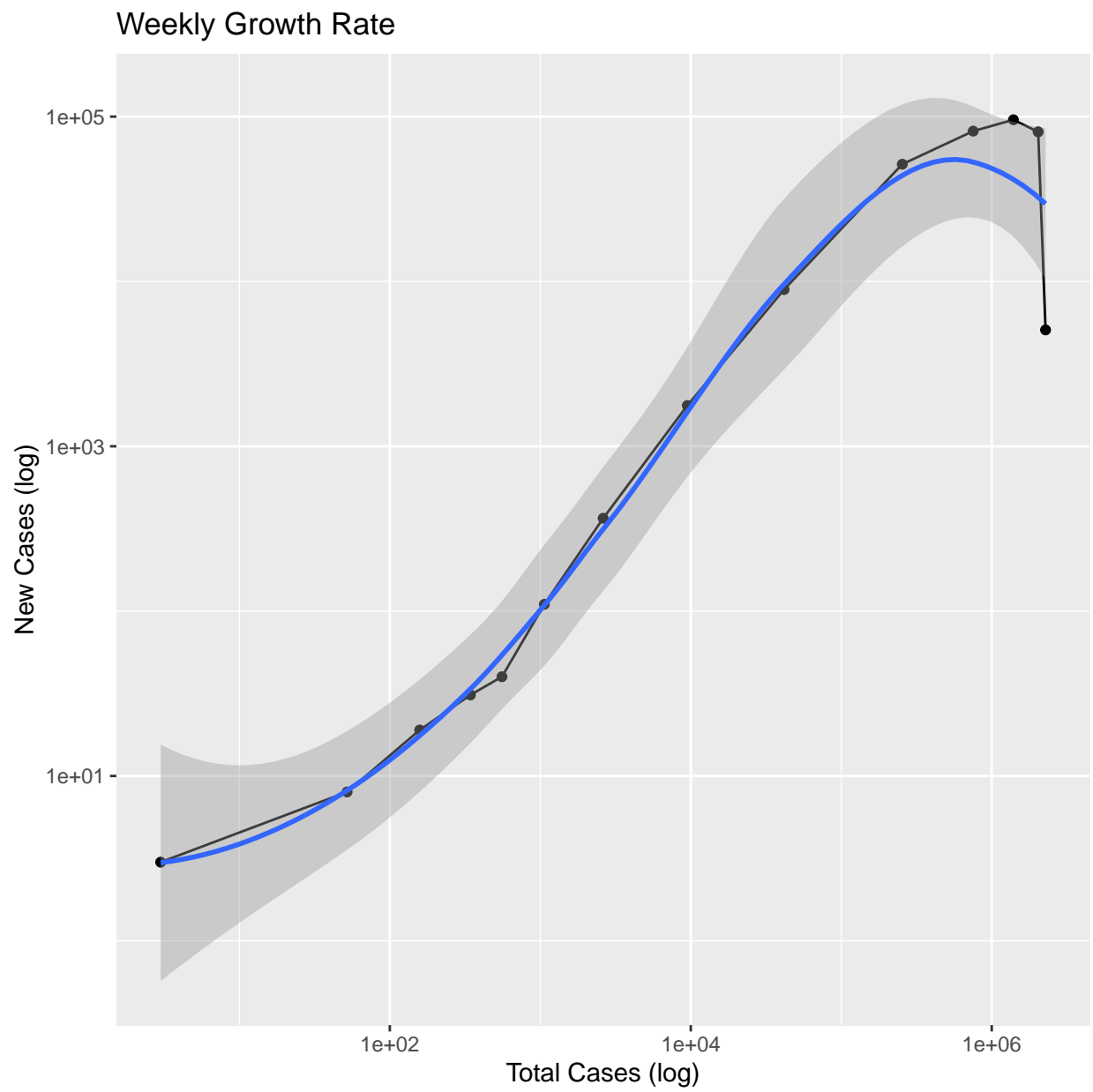
Figure 4: Growth Rate
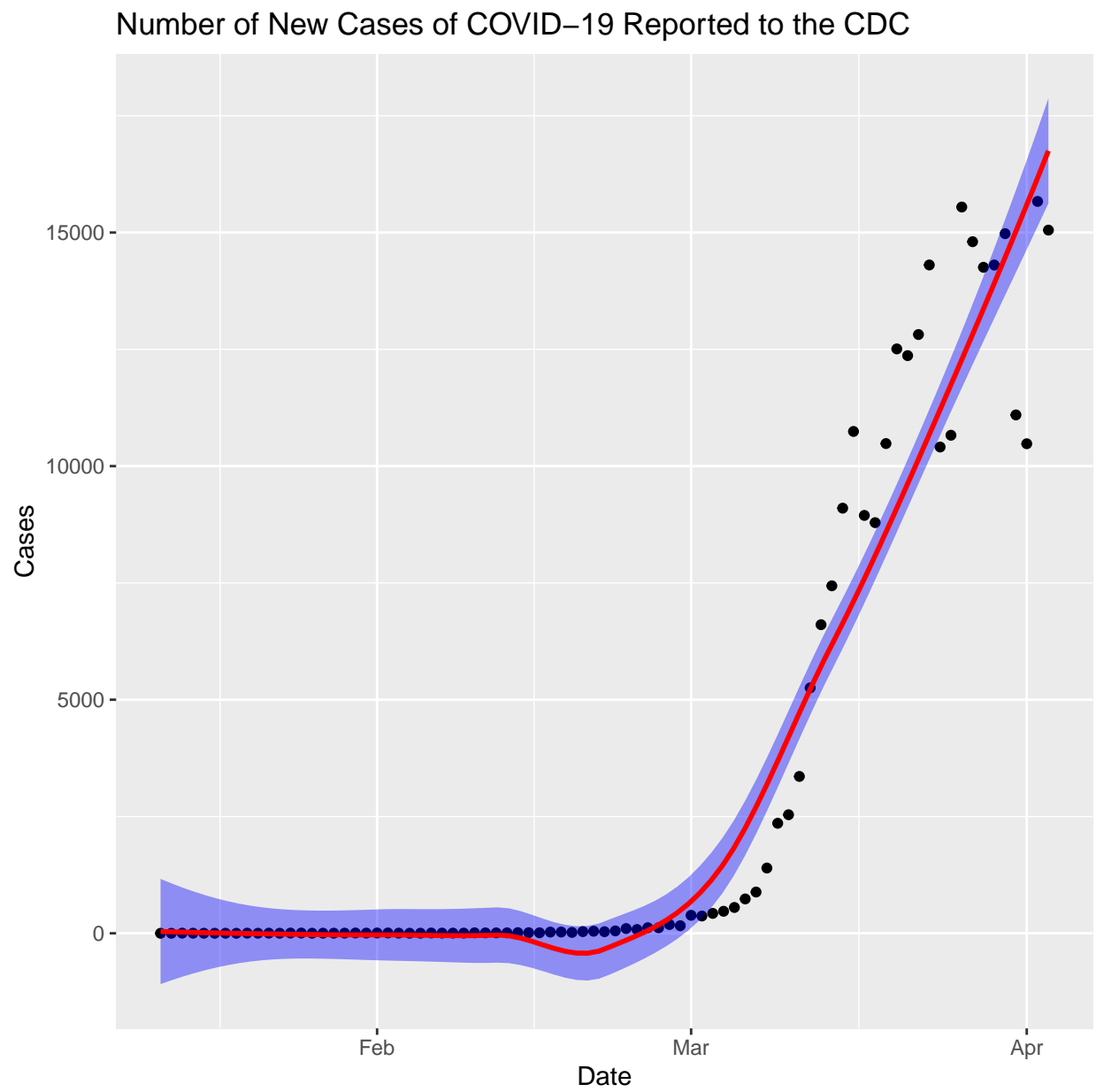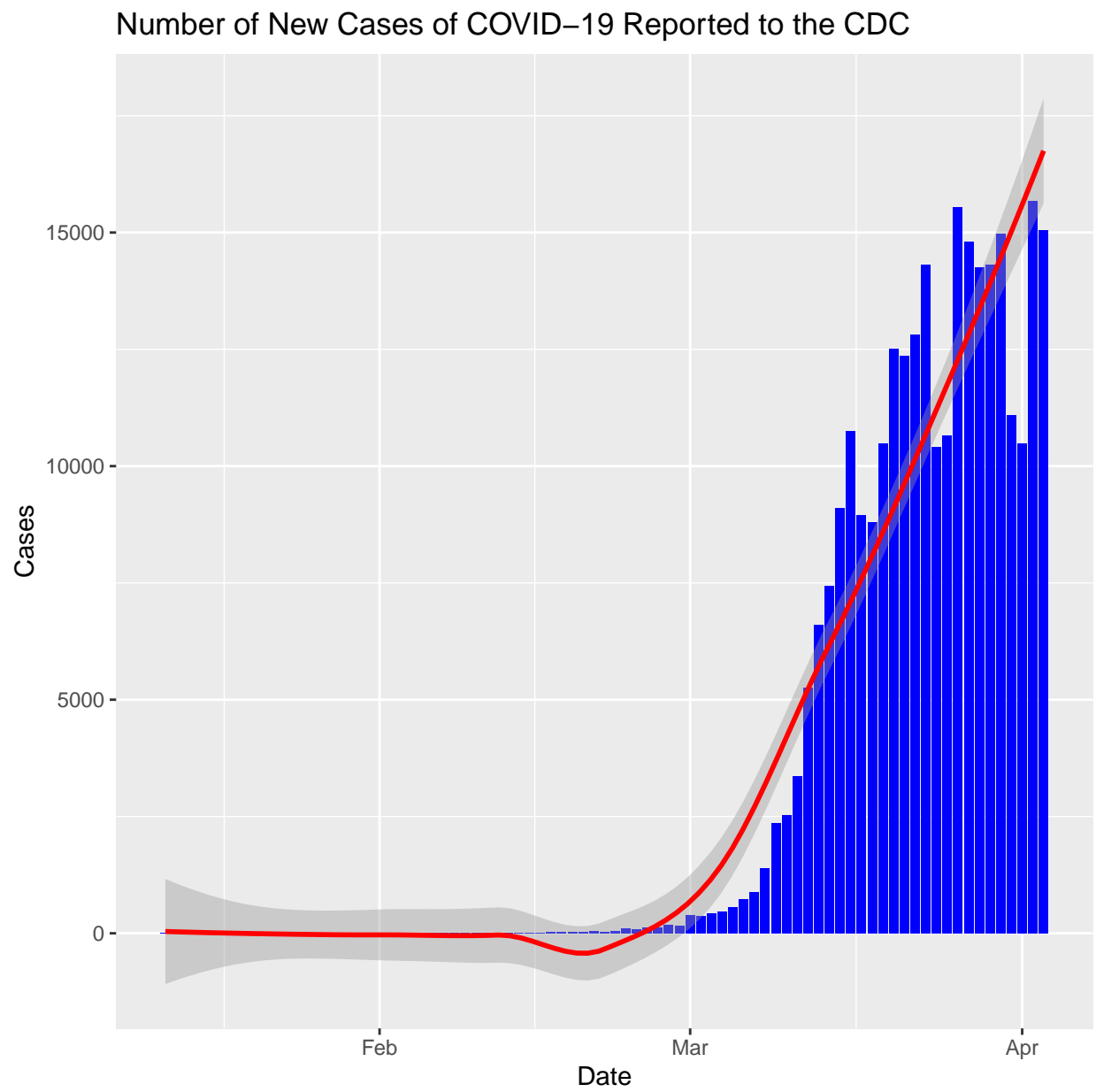
Figure 5: weekly growth rate

Figure 6: stable Epi curve

Figure 7: stable Epi curve, traditional
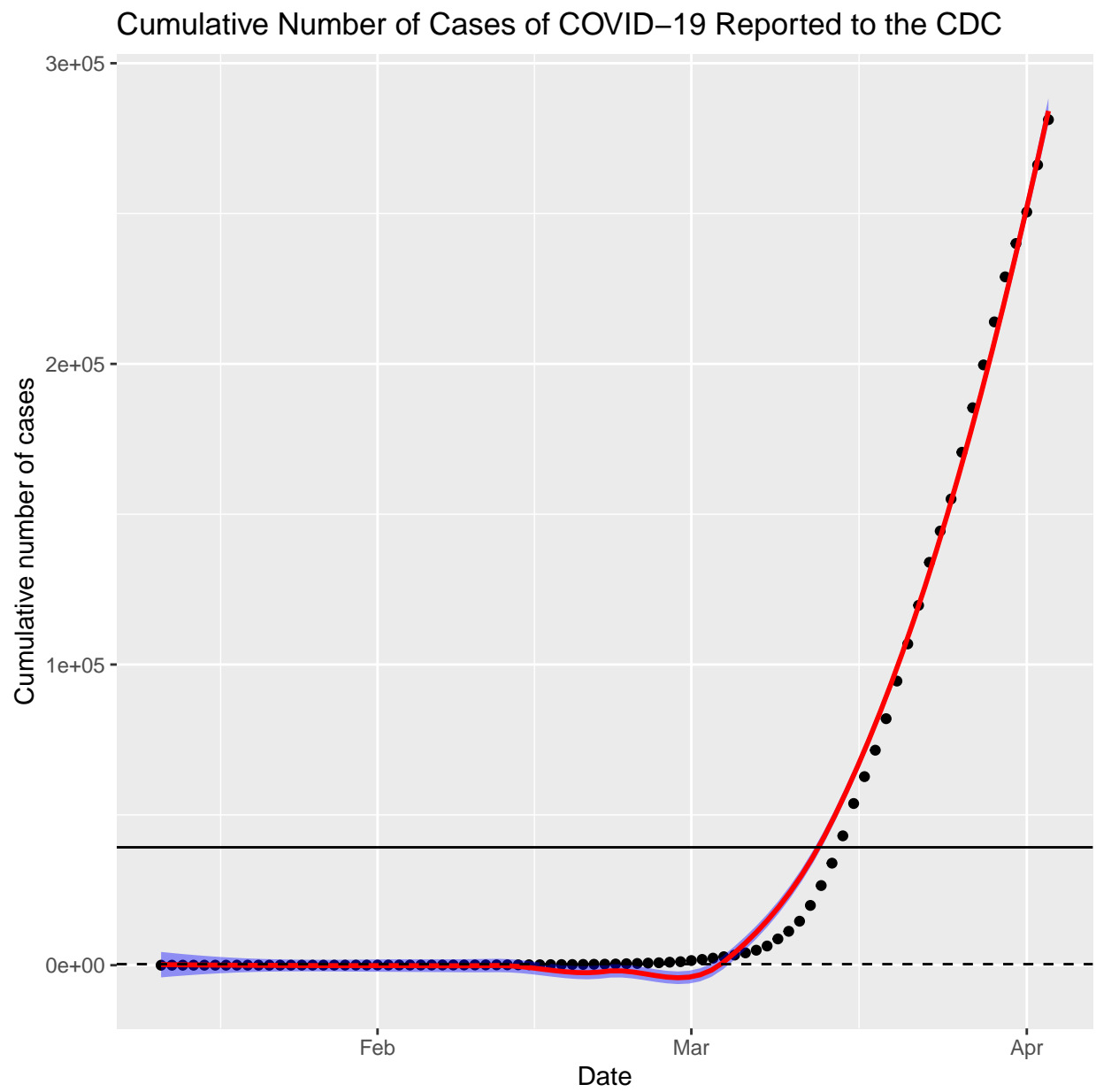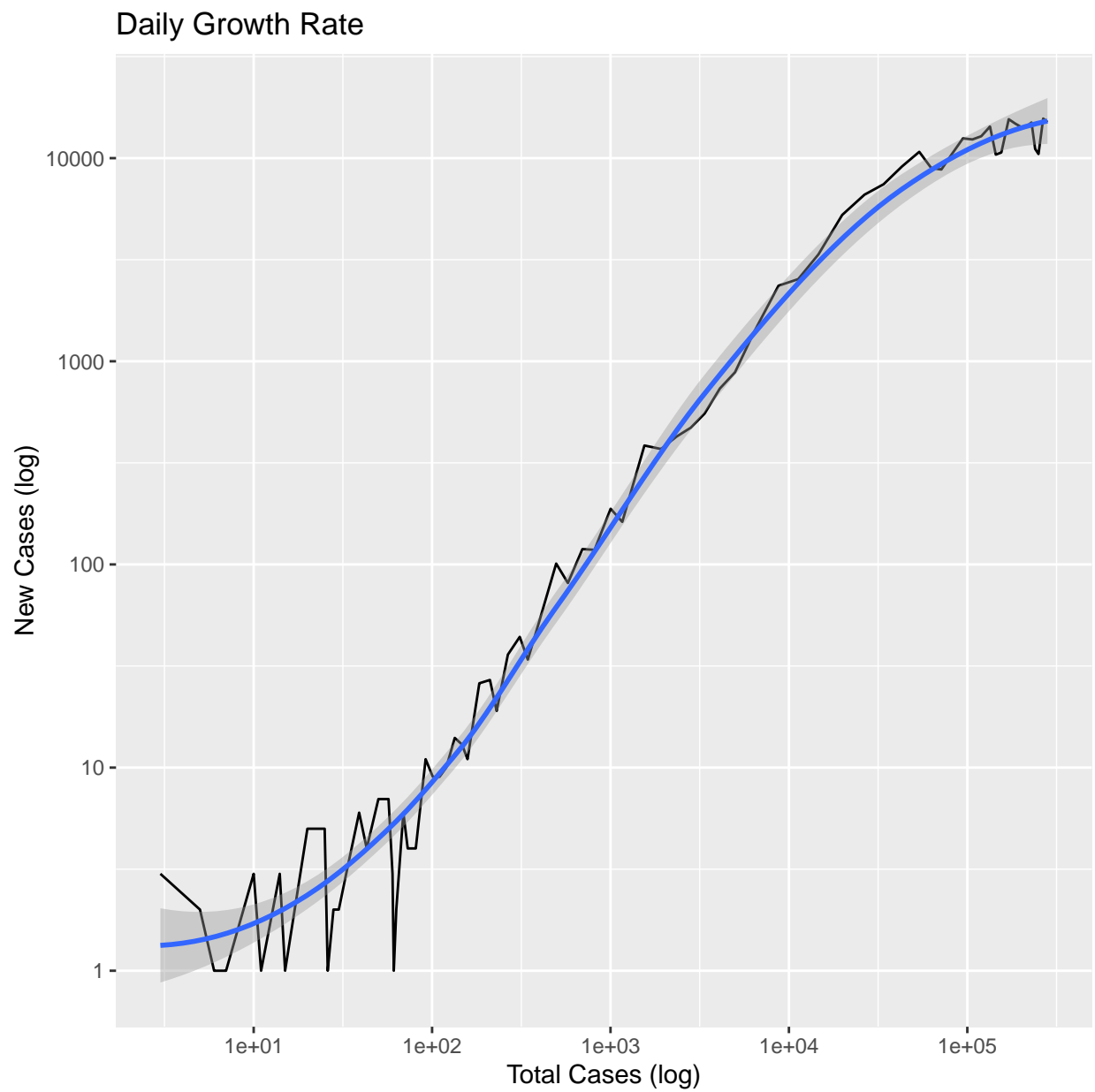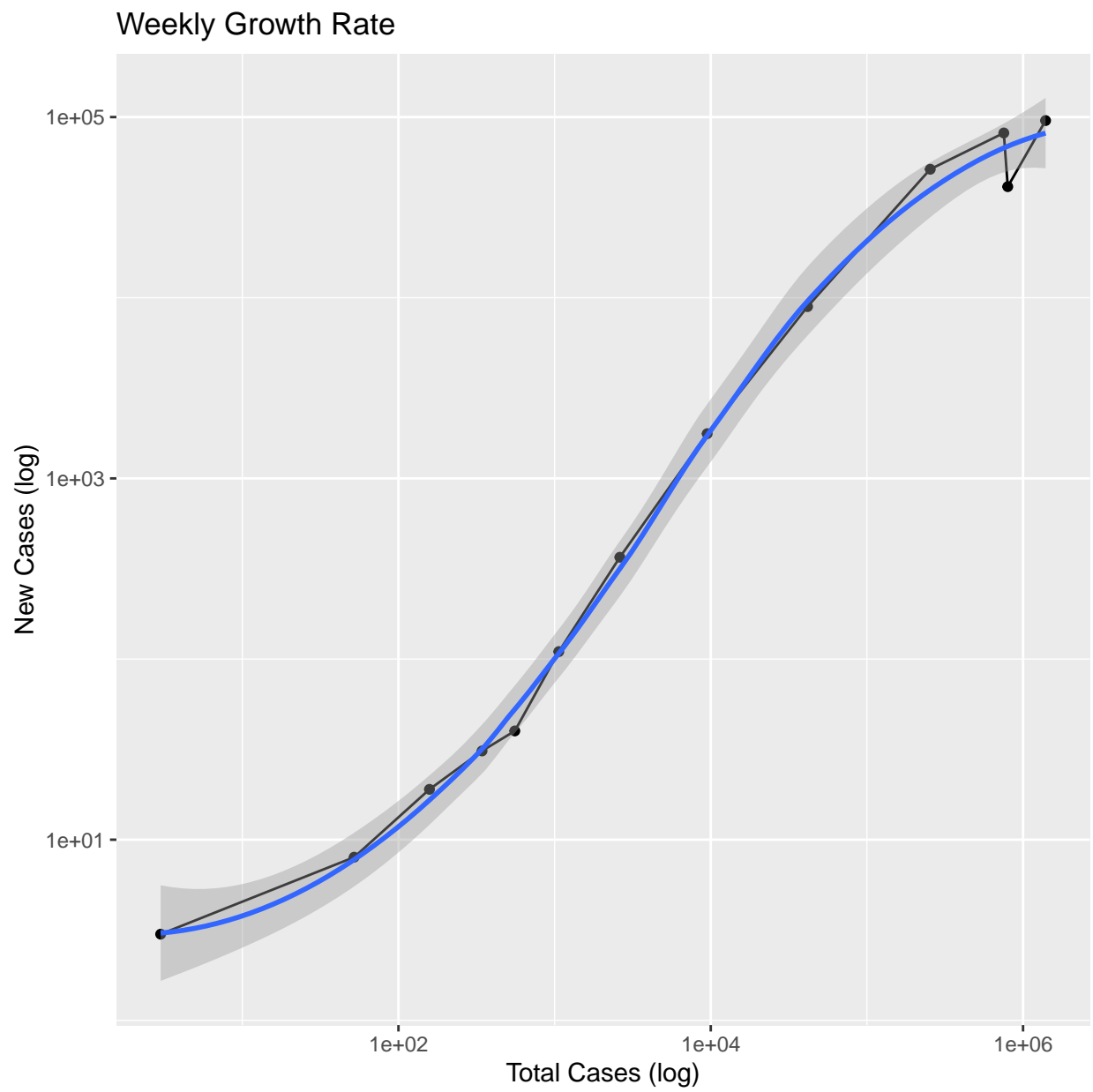
Figure 8: stable Cumulative cases

Daily Growth Rate

Figure 9: stable Growth Rate

Figure 10: stable weekly growth rate