EPI Info CDC

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Contents

Libraries Used

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

```
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 29 March as this data may not be completely reported

```
cdc <- cdc %>%                                                    # update with g
     filter(Date < as.Date("2020-03-30"))
```

Visualize

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

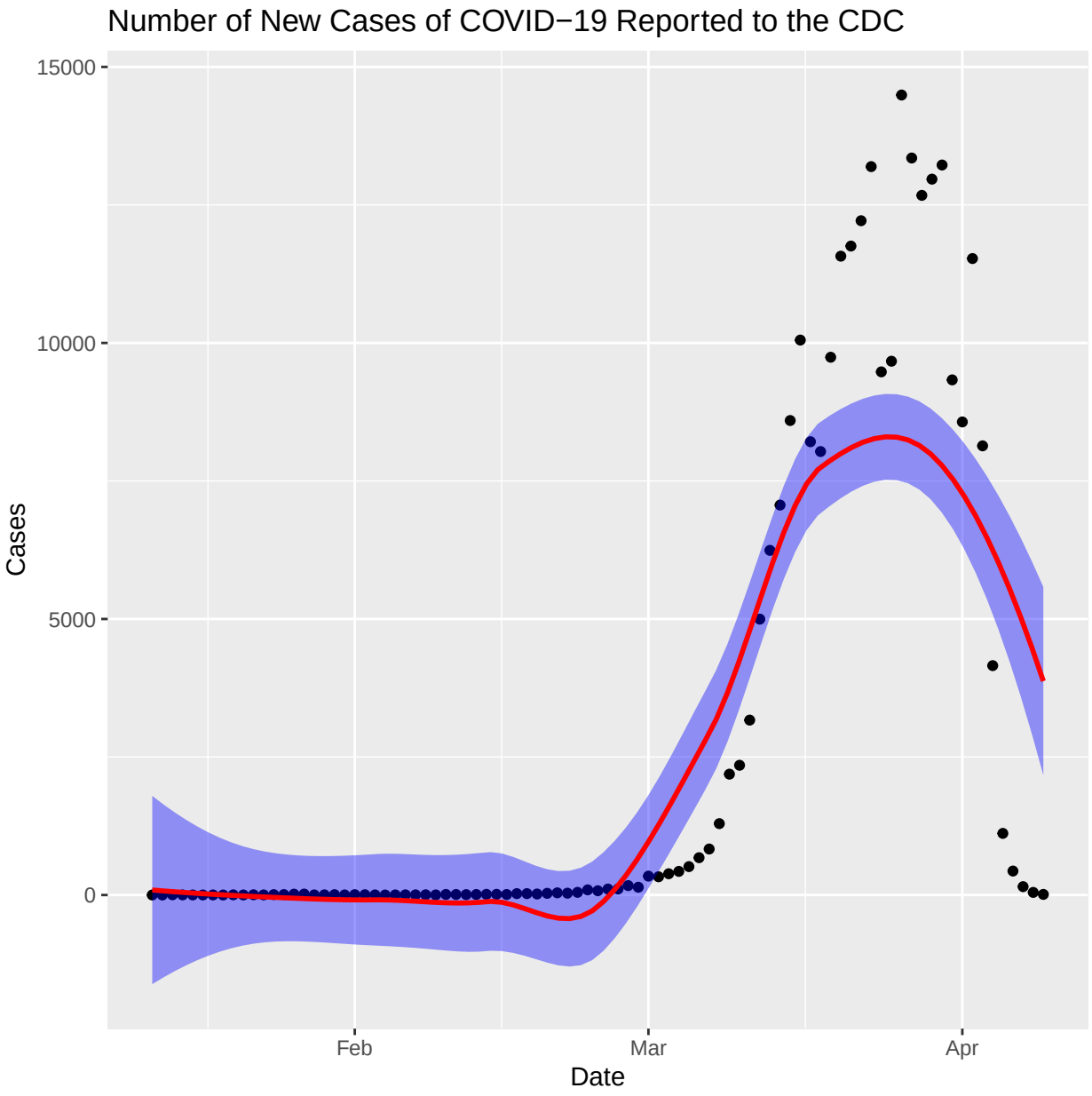

Figure 1: Epi curve 1

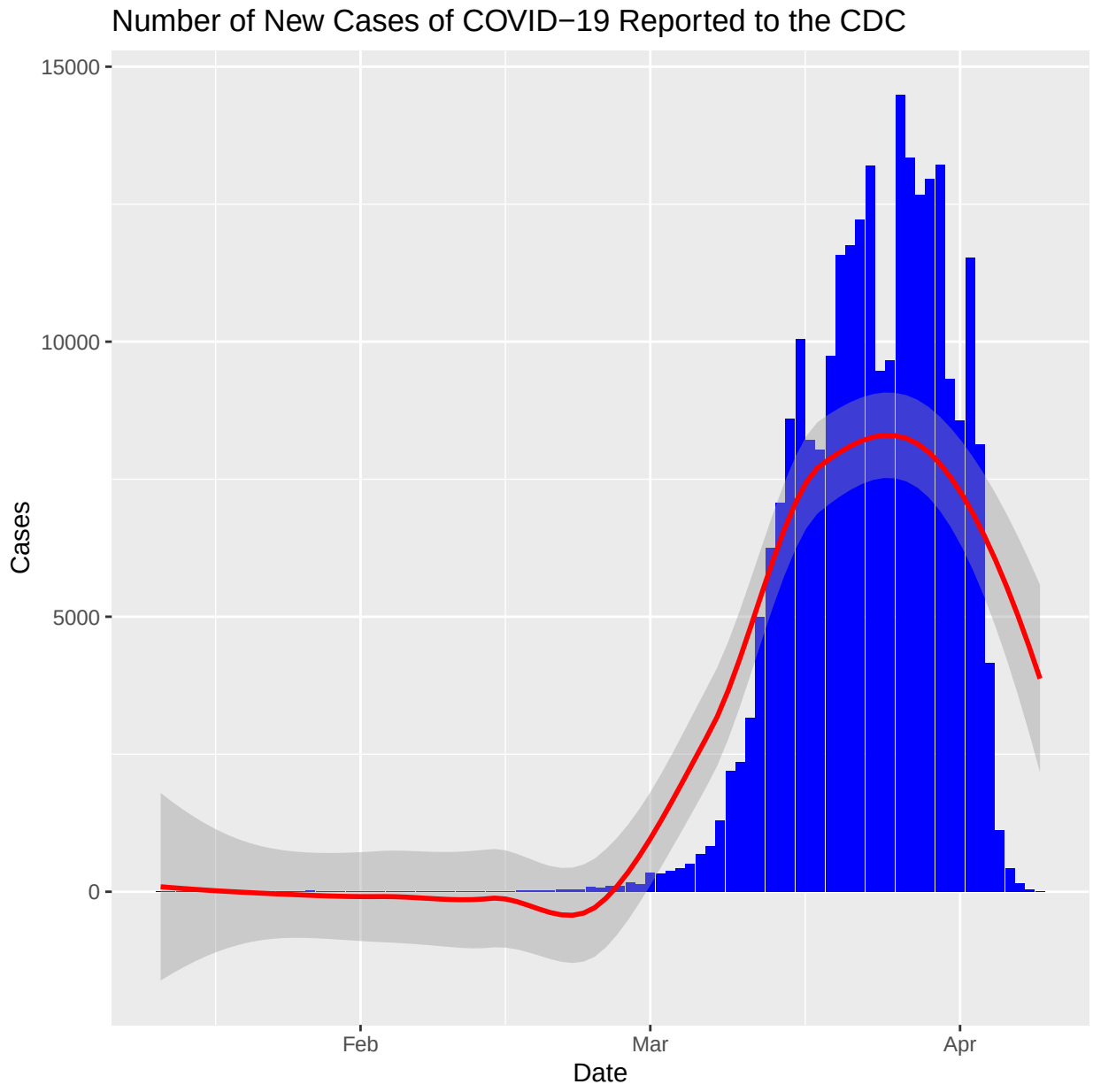

Figure 2: Epi curve 2, traditional

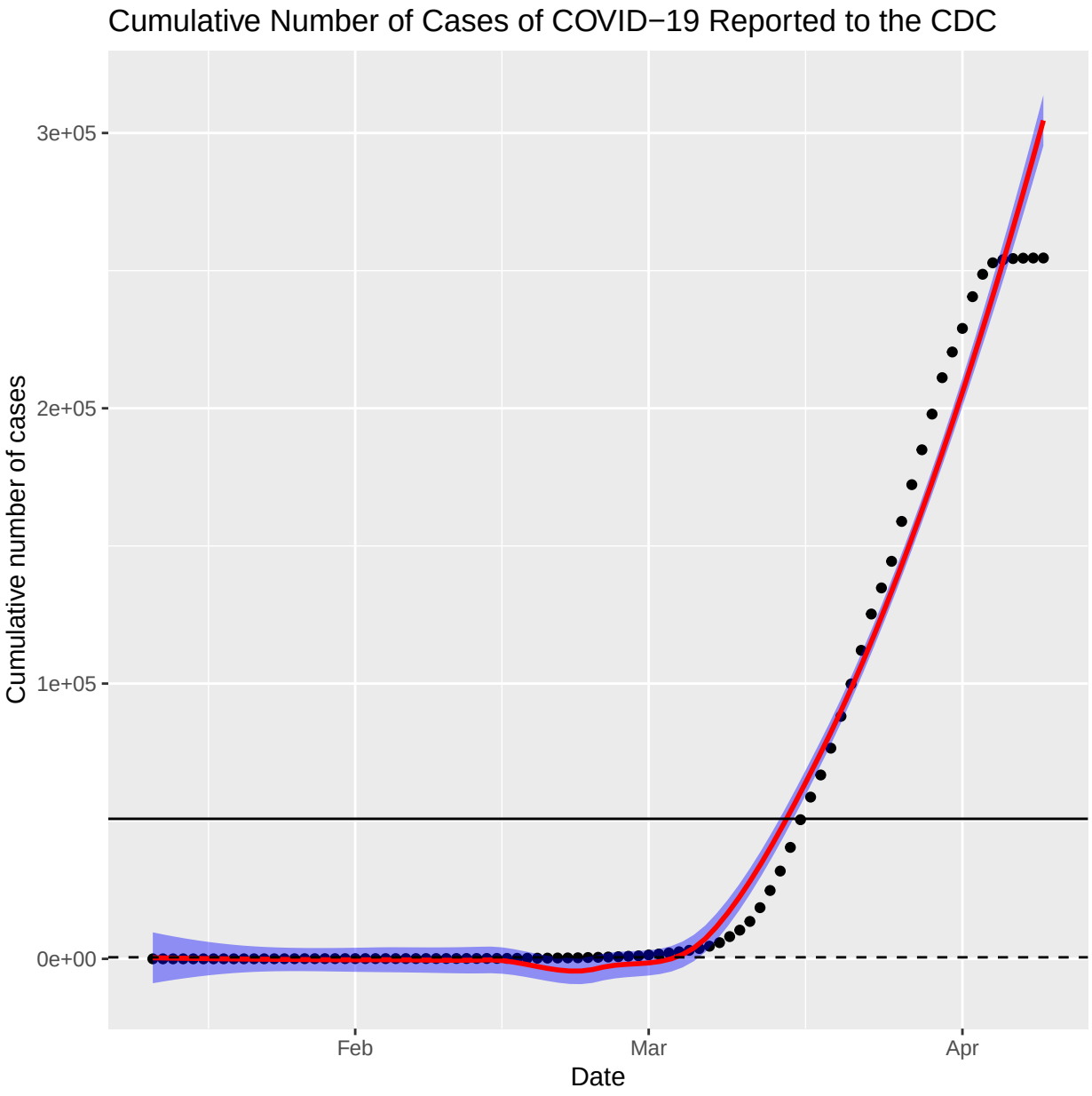

Figure 3: Cumulative cases

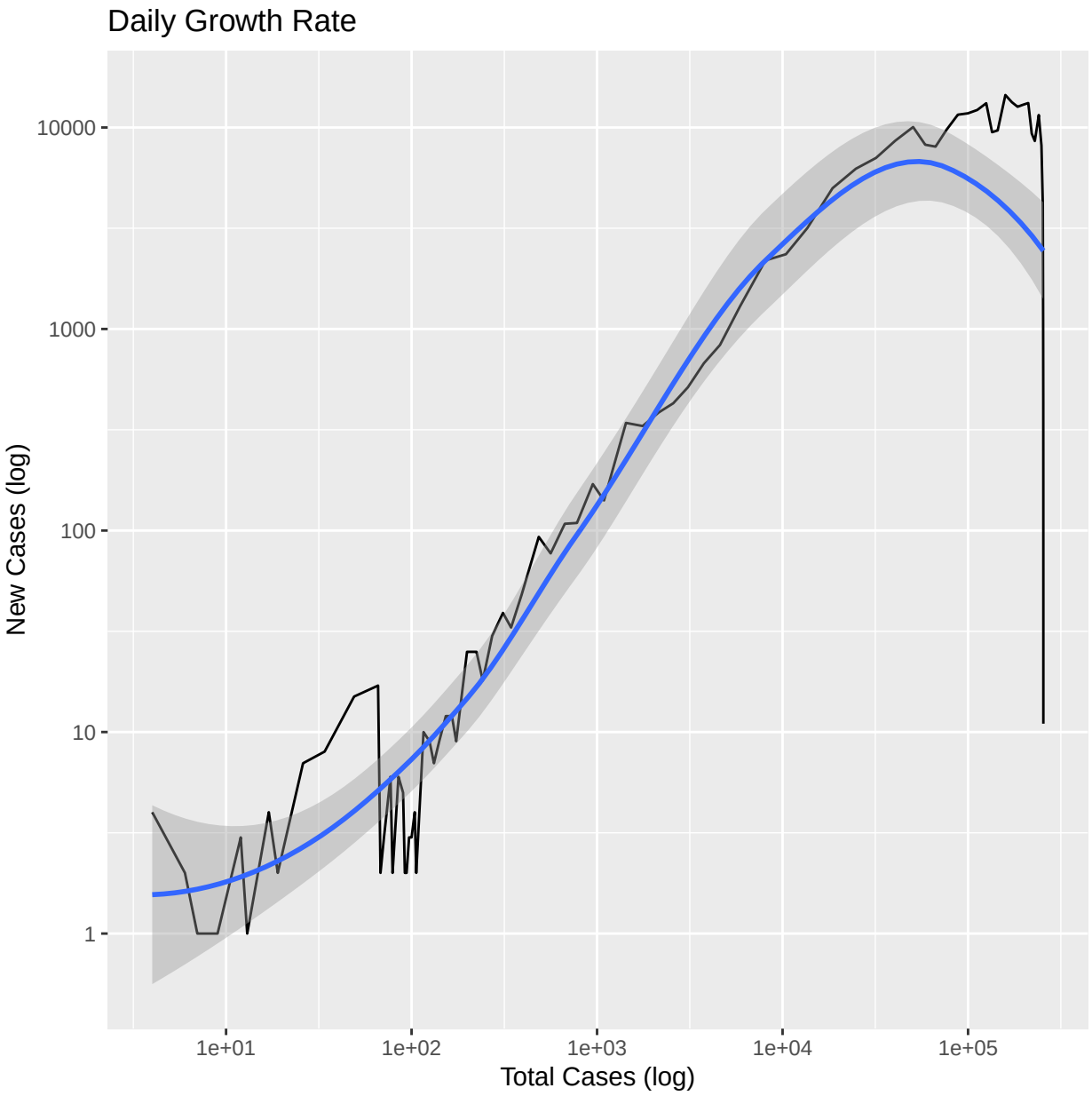

Figure 4: Growth Rate

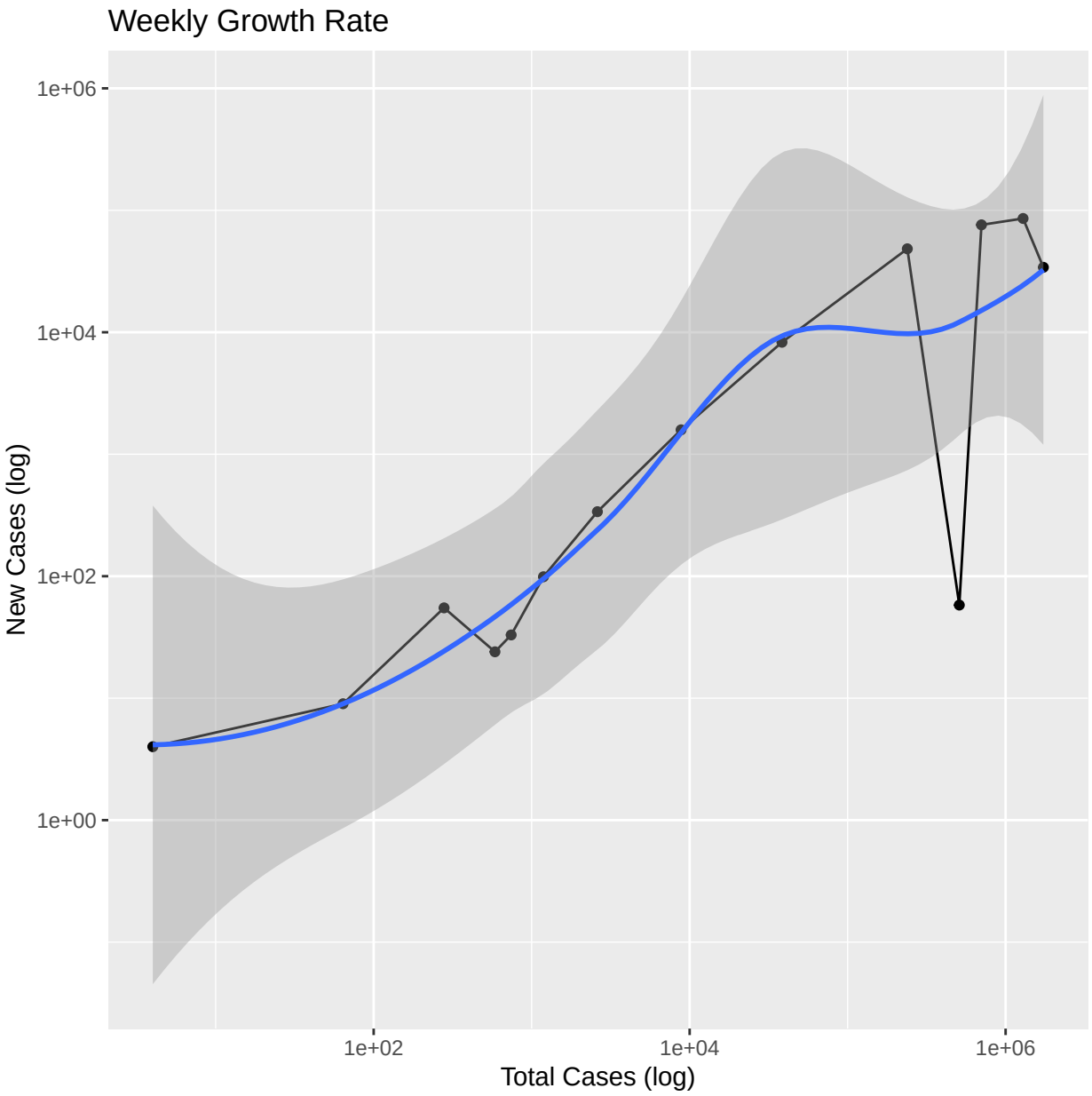

Figure 5: weekly growth rate

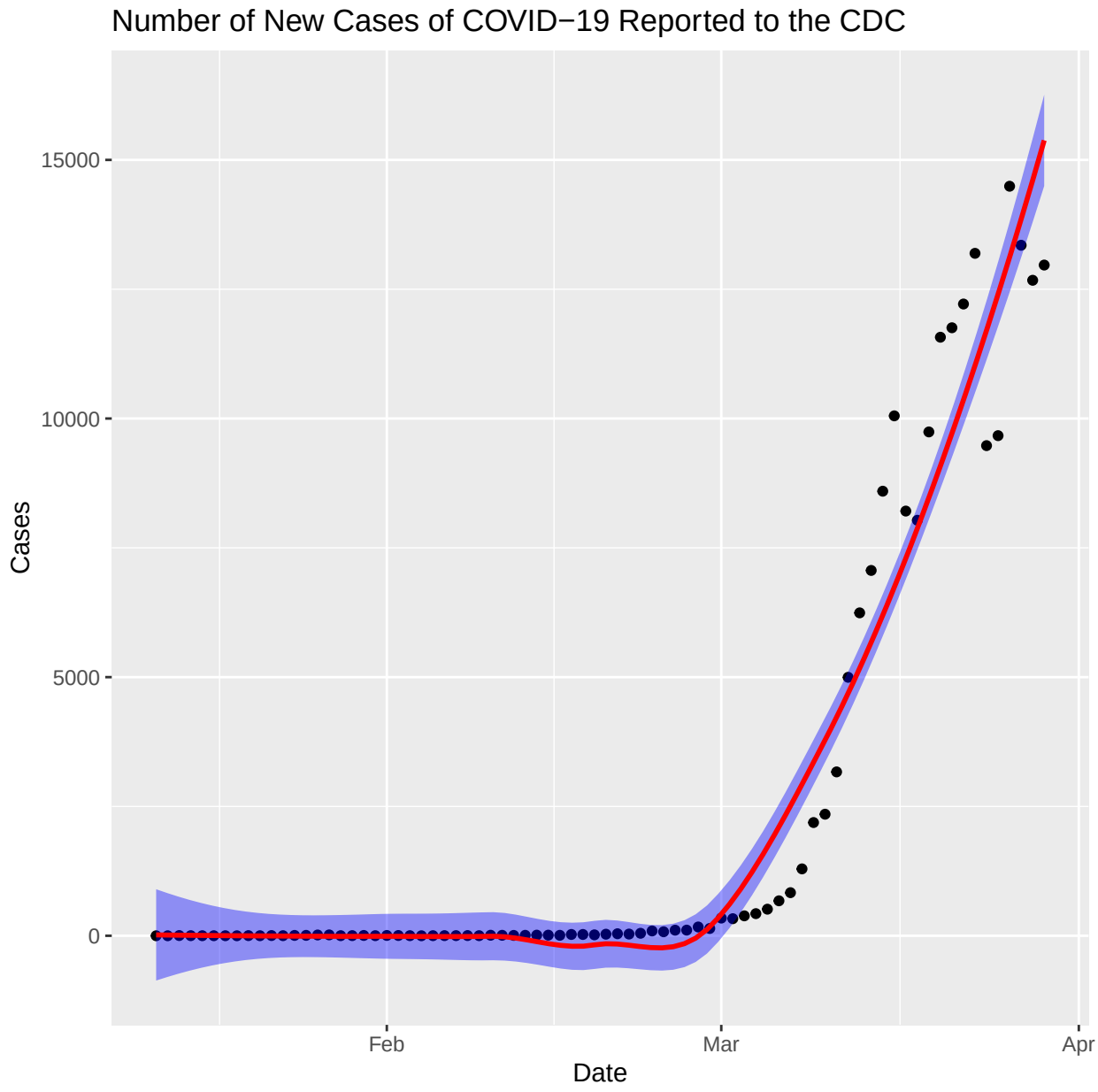

Figure 6: stable Epi curve

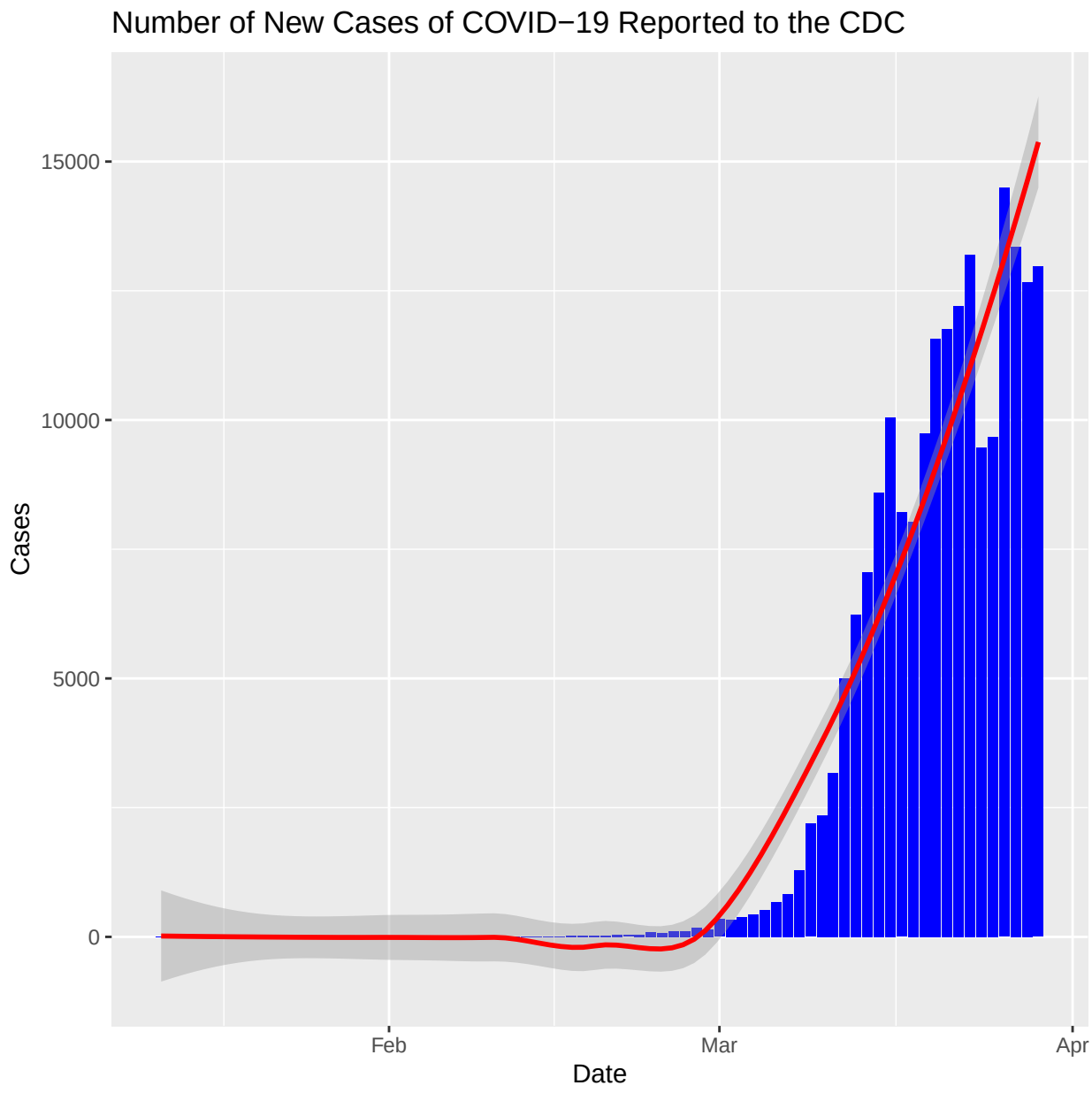

Figure 7: stable Epi curve, traditional

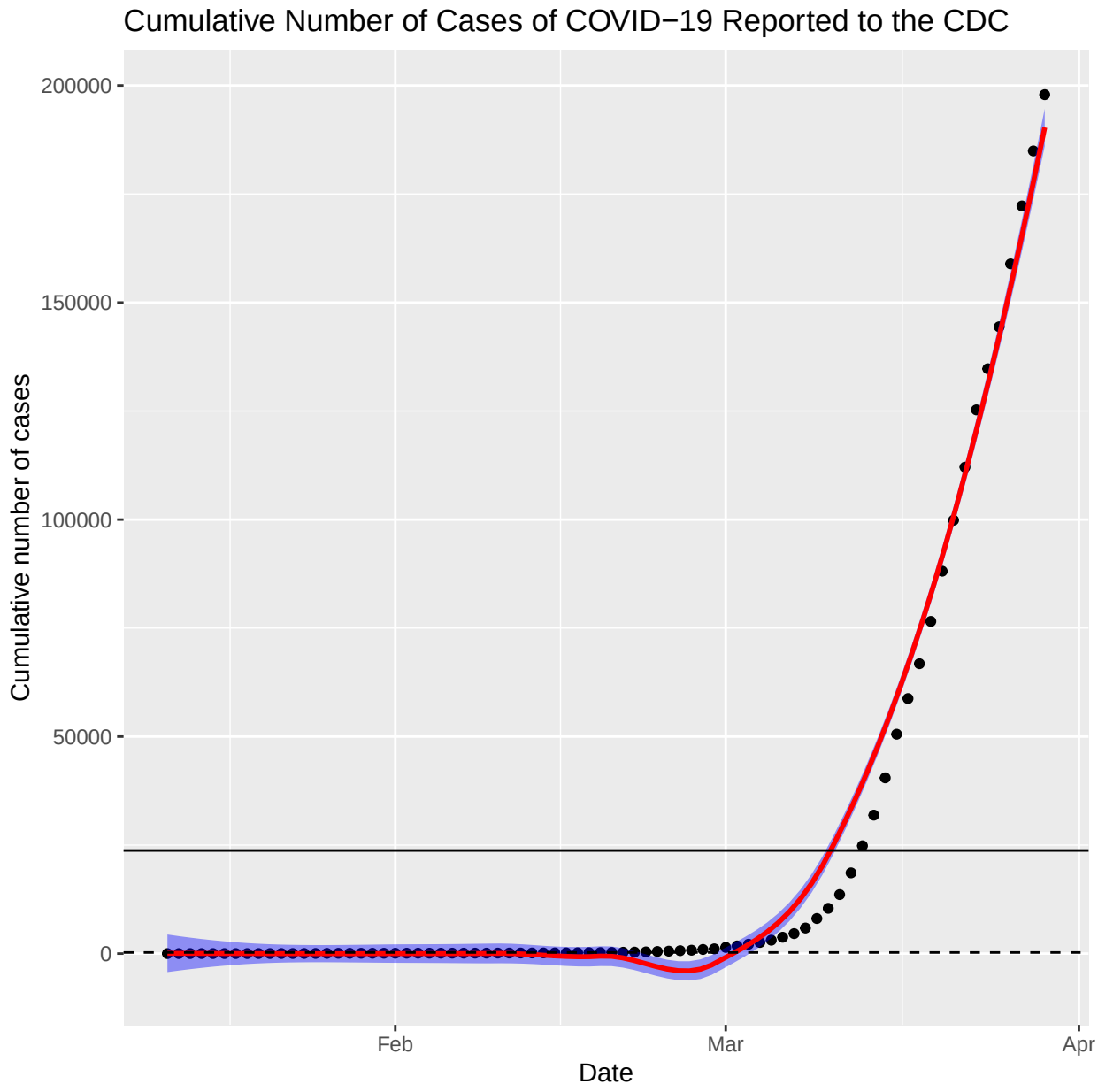

Figure 8: stable Cumulative cases

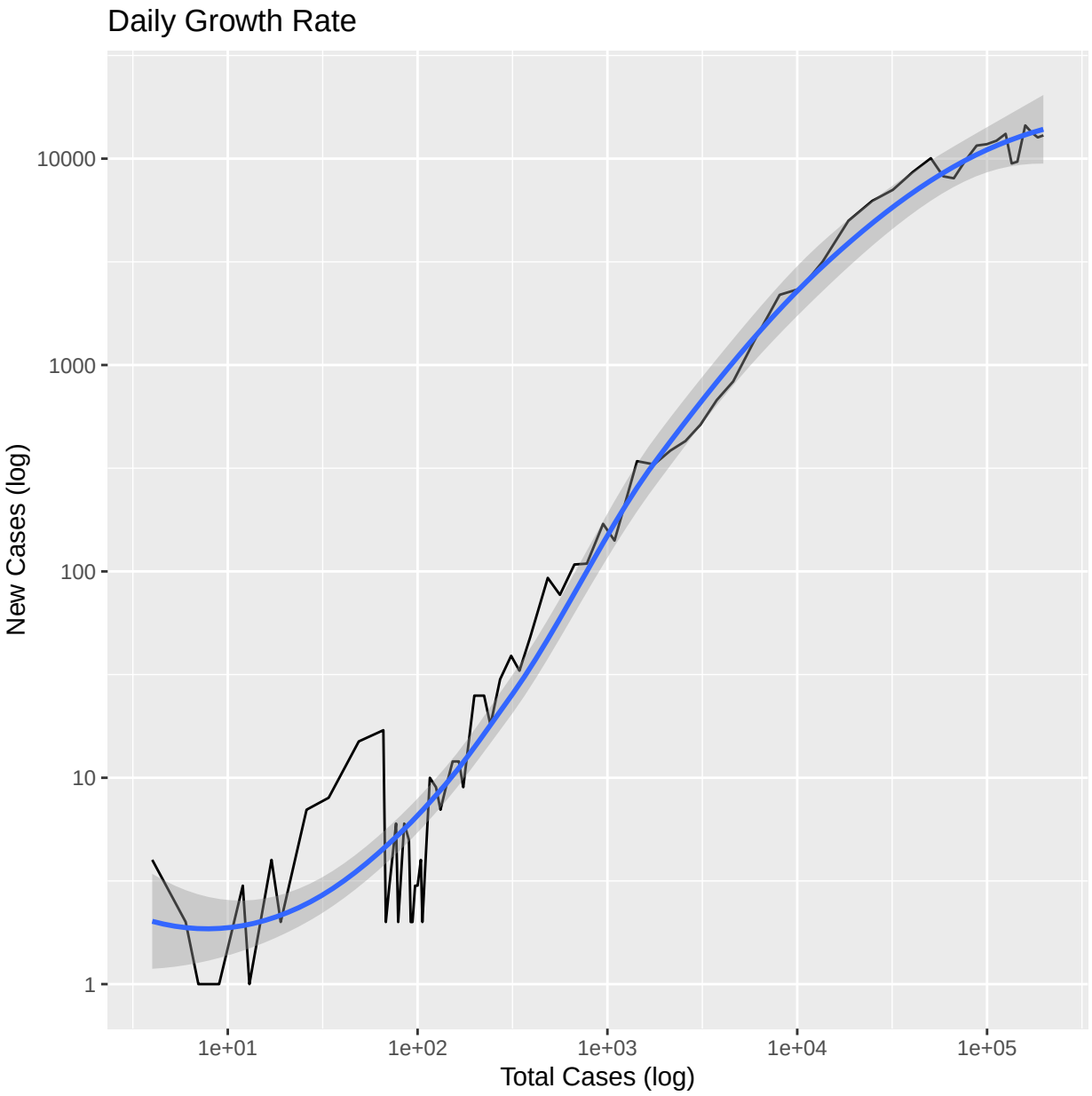

Figure 9: stable Growth Rate

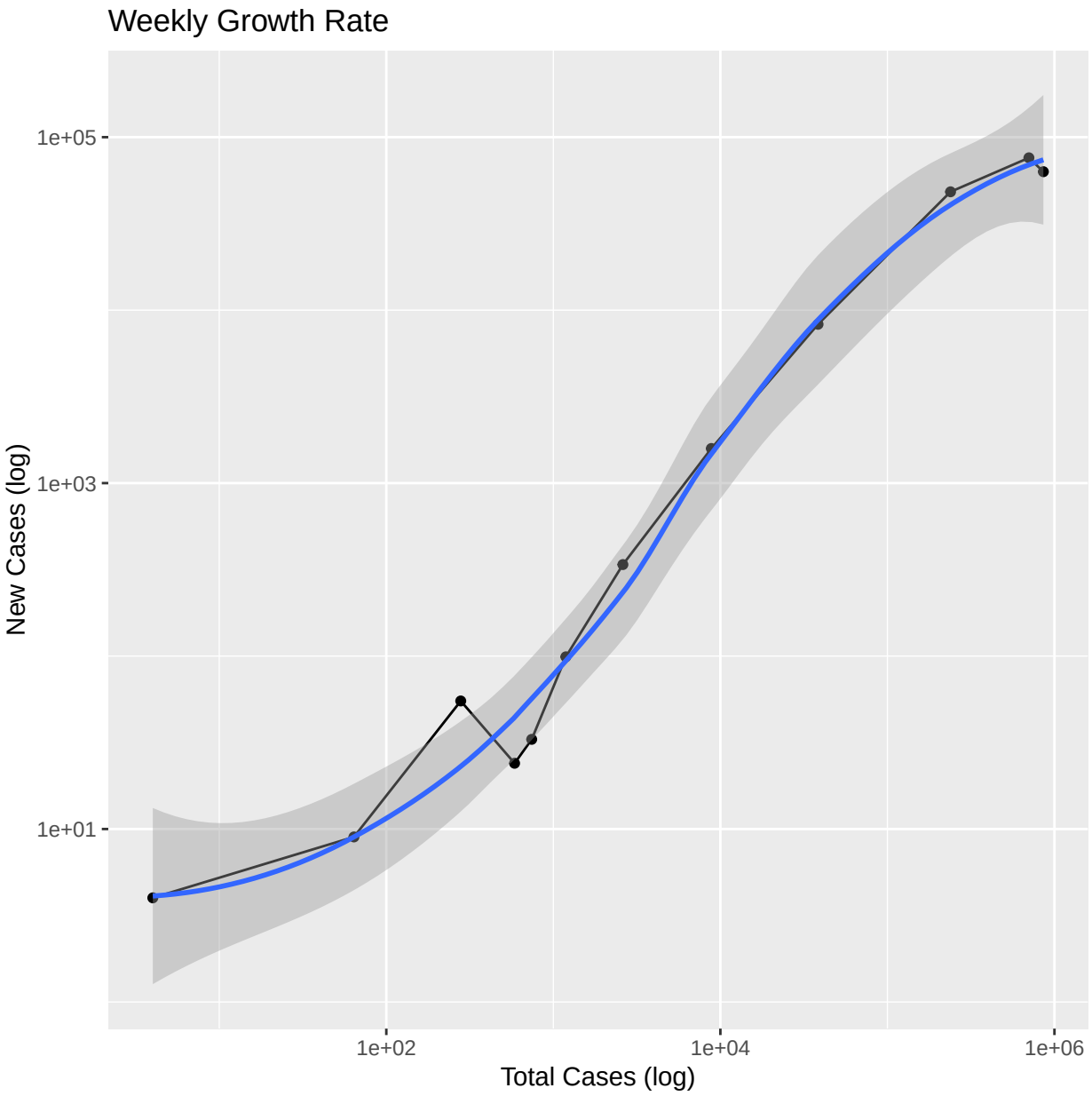

Figure 10: stable weekly growth rate