Ebola Forecasting Analysis

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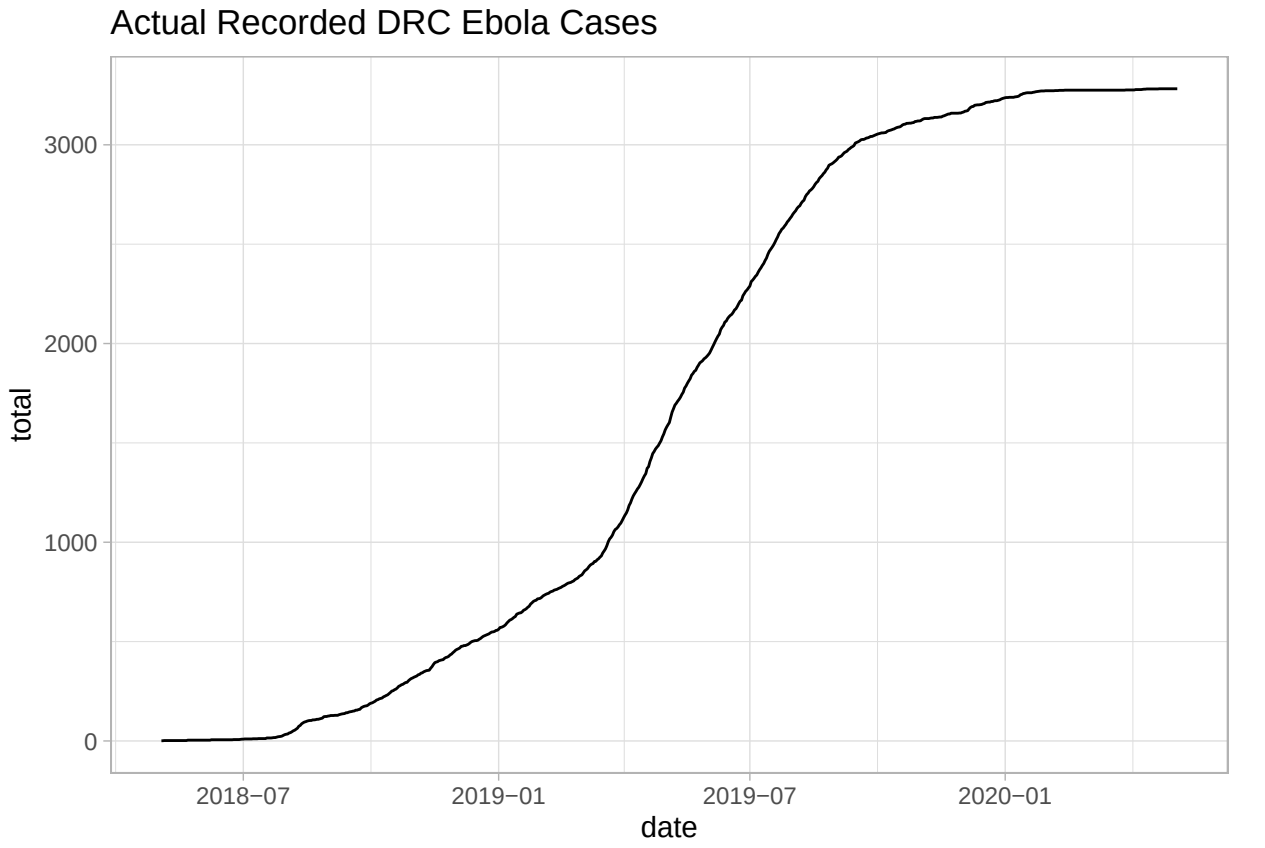
Actual Recorded DRC Ebola Cases

```
p <- ggplot(data = true,
            mapping = aes(x = date, y = total)) +
  geom_line() + theme_light() # grapho of runinng total of cases

p + labs(title = "Actual Recorded DRC Ebola Cases")
```



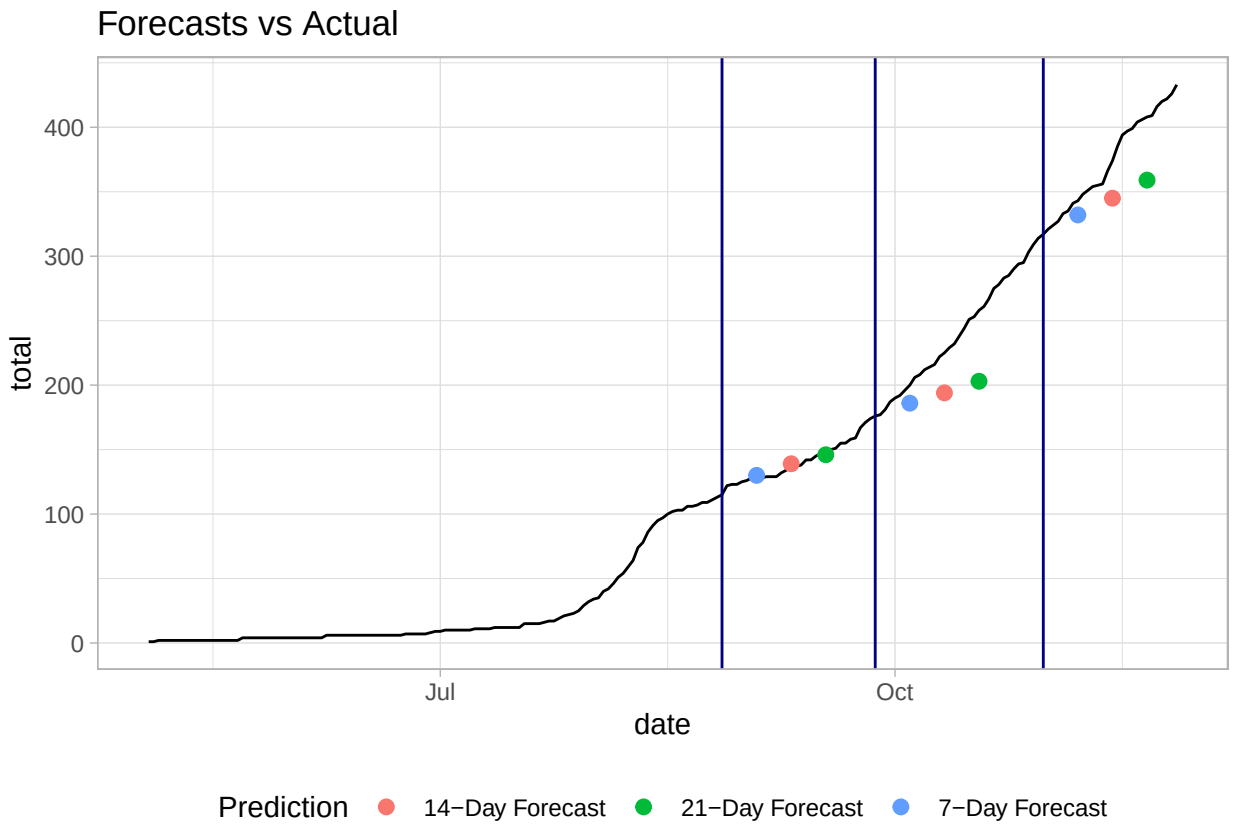

```
max(ymd("2020-09-23","2020-10-12","2019-12-30"))
```

```
## [1] "2020-10-12"
```

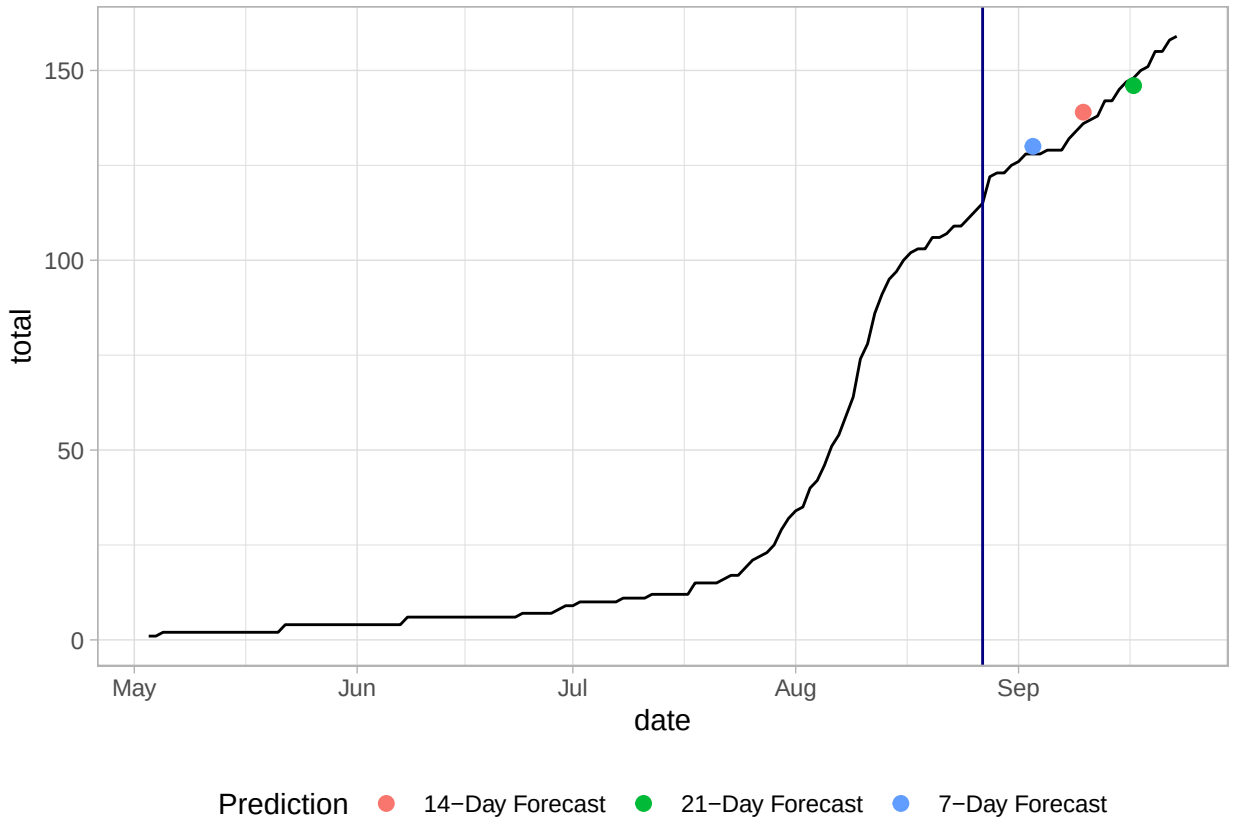
Accuracy of Hawkes Projections

Forecast Projections

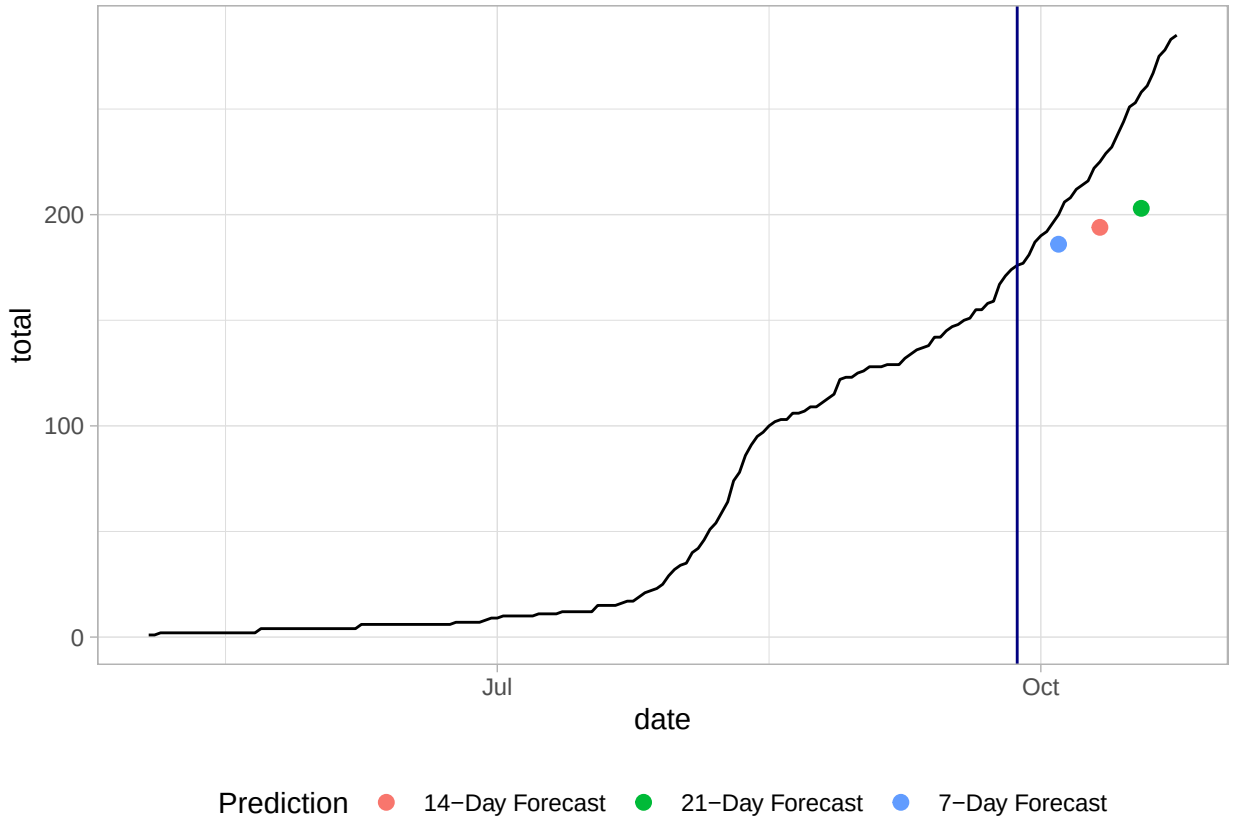
```
source("outbreak_vis.R")

dv <- c("2018-08-27","2018-09-27","2018-10-31")
mt <- cbind(c(15,24,31),c(10,18,27),c(15,28,42))
multi_forecast(dv, mt, title = "Forecasts vs Actual") #shows predicted vs actual for three forecasts
```



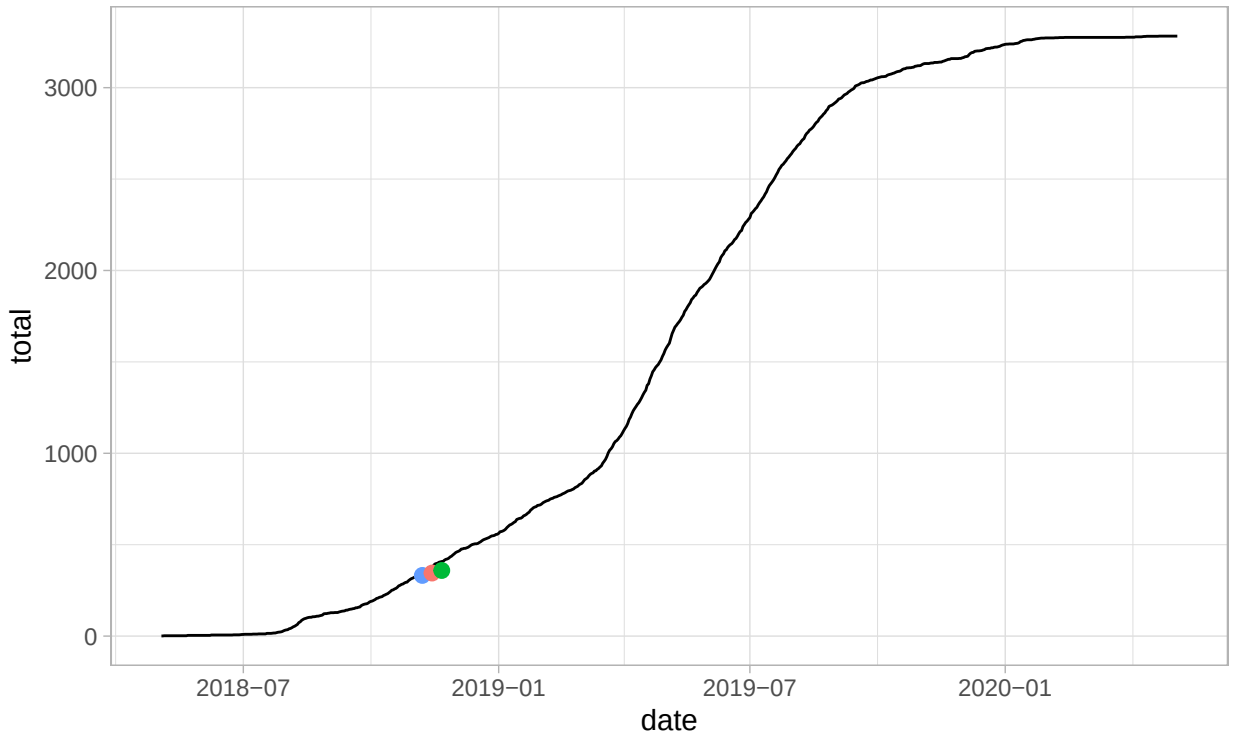

```
multi_forecast("2018-08-27",c(15,24,31)) #shows predicted vs actual for one forecast
```




```
multi_forecast("2018-09-27",c(10,18,27)) #shows predicted vs actual for one forecast
```



```
full_forecast("2018-10-31",c(15,28,42))
```




```
#shows predicted vs actual for one forecast wrt entire outbreak
```

```
add<-function(x) x + c(7,14,21)
dv<-c("2018-08-27","2018-09-27")
dv<-as.list(as.Date(dv))
l <- lapply(dv,add)
l
```

```
## [[1]]
## [1] "2018-09-03" "2018-09-10" "2018-09-17"
##
## [[2]]
## [1] "2018-10-04" "2018-10-11" "2018-10-18"
```

```
t(data.frame(l))[1,1]
```

```
## structure.c.17777..17784..17791...class....Date..
##                                      "2018-09-03"
```

```
v<-c()
for(i in 1:length(l)){
  v<-c(v,as.list(l[[i]]))
}
data.frame(t(data.frame(v)), 8)
```

```
##                                  t.data.frame.v.. X8
## structure.17777..class....Date..       2018-09-03  8
## structure.17784..class....Date..       2018-09-10  8
```

```
## structure.17791..class....Date..       2018-09-17  8
## structure.17808..class....Date..       2018-10-04  8
## structure.17815..class....Date..       2018-10-11  8
## structure.17822..class....Date..       2018-10-18  8
```