Mappeoppgave 2

```
library(tidyverse)
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.1 --

## v ggplot2 3.3.5     v purrr   0.3.4
## v tibble  3.1.6     v dplyr   1.0.7
## v tidyr   1.1.4     v stringr 1.4.0
## v readr   2.1.1     v forcats 0.5.1

## Warning: package 'tibble' was built under R version 4.1.2

## Warning: package 'tidyr' was built under R version 4.1.2

## Warning: package 'readr' was built under R version 4.1.2

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

```
library(jsonlite)
```

```
## Warning: package 'jsonlite' was built under R version 4.1.2

##
## Attaching package: 'jsonlite'

## The following object is masked from 'package:purrr':
##
##     flatten
```

```
library(ggrepel)
```

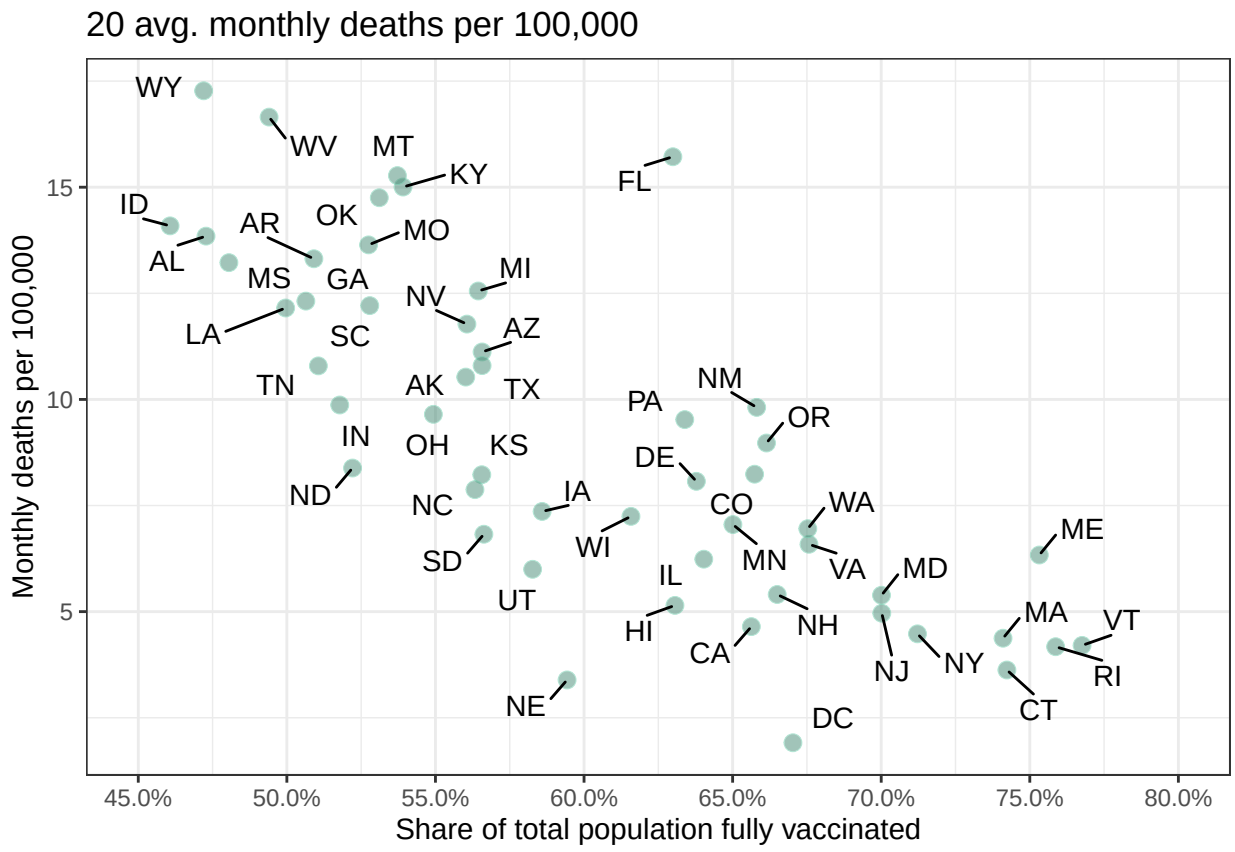
```
## Warning: package 'ggrepel' was built under R version 4.1.2
```

Oppgave 1

```
data <- fromJSON("https://static01.nyt.com/newsgraphics/2021/12/20/us-coronavirus-deaths-2021/ff0adde21

data$name <- state.abb[match(data$name, state.name)]
data[is.na(data)] <- "DC"

data %>%
  ggplot(aes(x=fully_vaccinated_pct_of_pop, y=deaths_per_100k, label = name)) +
  geom_point(size = 3, shape = 21, col="aquamarine3", fill = "aquamarine4", stroke = 0.2, alpha = 0.5) +
  geom_text_repel(aes(label = name),
                                        box.padding = unit(0.45, "lines")) +
  scale_x_continuous(labels = scales::percent, limits=c(0.45, 0.80), breaks=seq(0.45, 0.80, by = 0.05)) +
  labs(title="20 avg. monthly deaths per 100,000",
       x ="Share of total population fully vaccinated",
       y = "Monthly deaths per 100,000") +
  theme_bw()
```



Oppgave 2

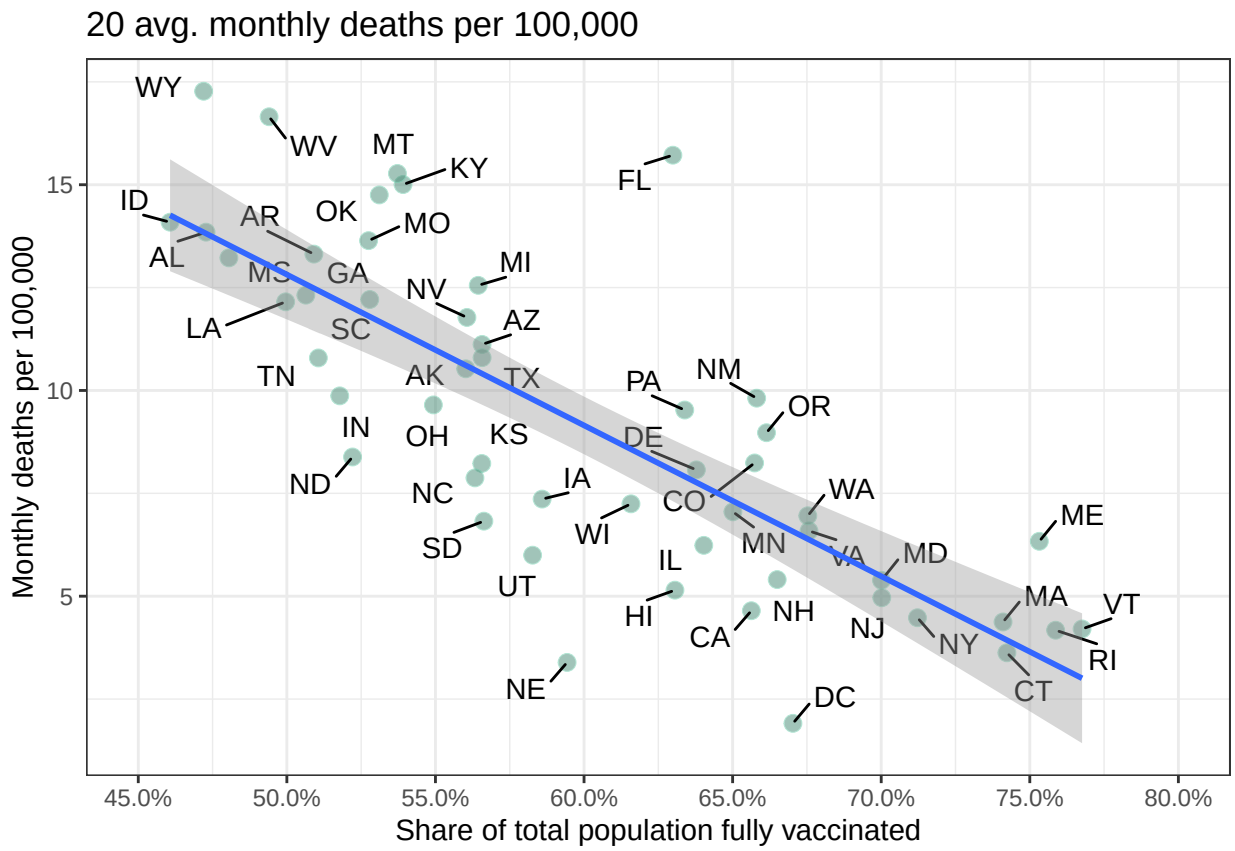
```
lm(deaths_per_100k ~ fully_vaccinated_pct_of_pop, data = data)
```

```
##
## Call:
## lm(formula = deaths_per_100k ~ fully_vaccinated_pct_of_pop, data = data)
```

```
##
## Coefficients:
##                  (Intercept)  fully_vaccinated_pct_of_pop
##                        31.15                       -36.66
```

```
data %>%
  ggplot(aes(x=fully_vaccinated_pct_of_pop, y=deaths_per_100k, label = name)) +
  geom_point(size = 3, shape = 21, col="aquamarine3", fill = "aquamarine4", stroke = 0.2, alpha = 0.5) +
  geom_text_repel(aes(label = name), box.padding = unit(0.45, "lines")) +
  geom_smooth(method = lm) +
  scale_x_continuous(labels = scales::percent, limits=c(0.45, 0.80), breaks=seq(0.45, 0.80, by = 0.05)) +
  labs(title="20 avg. monthly deaths per 100,000",
       x ="Share of total population fully vaccinated",
       y = "Monthly deaths per 100,000") +
  theme_bw()
```

```
## `geom_smooth()` using formula 'y ~ x'
```



Den blå linjen viser regresjonen i figuren, det er en tydelig sammenheng mellom den prosentvise vaksinerte andelen av befolkningen og månedlige dødsfall per 100 000. Antall dødsfall synker samtidig som den prosentvise andelen vaksinerte øker. Det grå området viser koeffisienten for regresjonsmodellen.