Waiting Times

2022-11-09

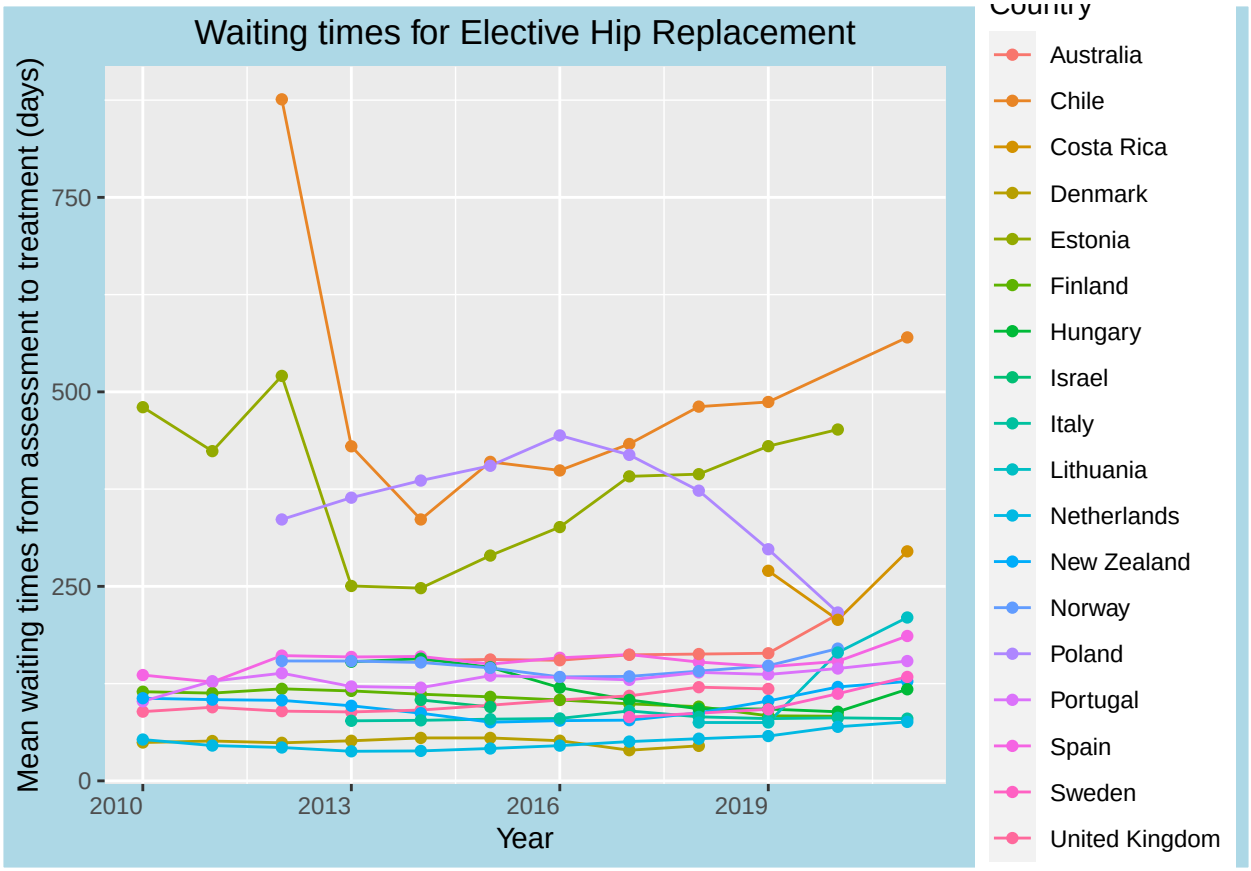
R Markdown

```
library(tidyverse)
library(prettydoc)
library(rmdformats)
library(gapminder)
library(knitr)
library(kableExtra)
library(maps)
library(viridis)
library(stringr)
library(rworldmap)
```

```
# Reading in data
Orig_healthutil_raw <- read_csv("OECDhealthutil.csv")
Orig_medicalgraduates_raw <- read_csv("OECDMedGrads.csv")
Orig_doctors_raw <- read_csv("OECDDoctors.csv")
```

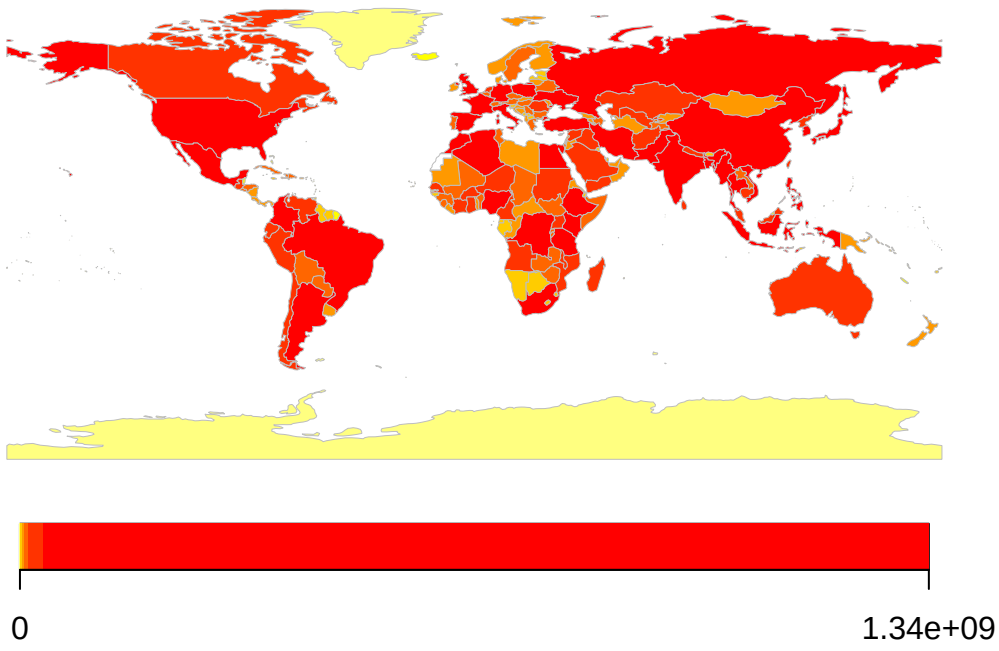
```
# Simplifying variable names in utilisation dataset
Orig_healthutil_raw <- Orig_healthutil_raw %>%
    mutate(Variable = str_replace(Variable, "Hip replacement (total and partial, including the revision
        "Hip Replacement"))
```

```
# Plot of Hip Replacement waiting times per country
Orig_healthutil_raw %>%
    select(Variable, Measure, Country, Year, Value) %>%
    filter(Measure == "Waiting times from specialist assessment to treatment: Mean (days)",
        Variable == "Hip replacement (total and partial, including the revision of hip replacement)") %
    ggplot(aes(x = Year, y = Value, group = Country, color = Country)) +
    geom_line() + geom_point() + labs(title = "Waiting times for Elective Hip Replacement",
    y = "Mean waiting times from assessment to treatment (days)") +
    theme(plot.title = element_text(hjust = 0.5), axis.text.x = element_text(angle = 0,
        vjust = 1, hjust = 1), plot.background = element_rect(fill = "lightblue"))
```




```
# Wrangling data for doctors and graduates and combining to
# single dataset
Orig_medicalgraduates_raw <- Orig_medicalgraduates_raw %>%
    mutate(graduatesper1000 = Value/100)

joinedgraduatesanddoctors <- full_join(Orig_medicalgraduates_raw,
    Orig_doctors_raw, by = c("LOCATION"))

joinedgraduatesanddoctors <- joinedgraduatesanddoctors %>%
    mutate(Doctors_and_Graduates_per_1000 = graduatesper1000 +
        Value.y) %>%
    filter(TIME.y == "2020")

doctors_2020_map <- joinedgraduatesanddoctors %>%
    select(LOCATION, Doctors_and_Graduates_per_1000)

mapworld <- countryExData %>%
    full_join(doctors_2020_map, by = c(ISO3V10 = "LOCATION"))
```

```
# World Map
mapCountryData()
```

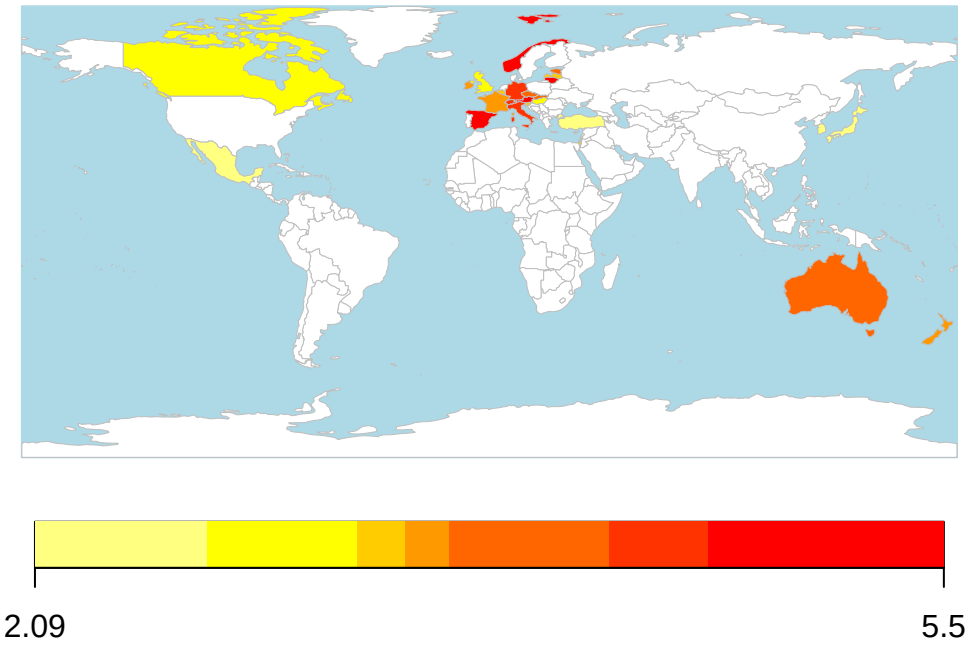



```
data("mapworld", envir = environment(), package = "rworldmap")
sPDF <- joinCountryData2Map(mapworld, joinCode = "ISO3", nameJoinColumn = "ISO3V10")
```

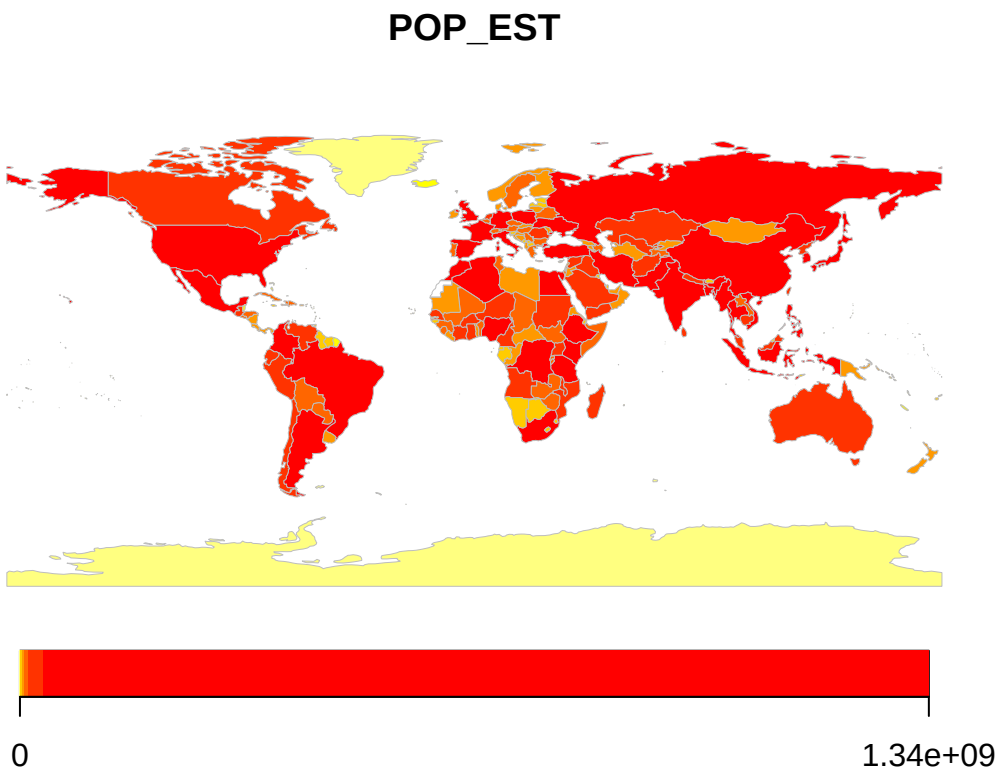
```
## 1062 codes from your data successfully matched countries in the map
## 0 codes from your data failed to match with a country code in the map
## 94 codes from the map weren't represented in your data
```

```
mapCountryData(sPDF, nameColumnToPlot = "Doctors_and_Graduates_per_1000",
    mapTitle = "Doctors and Medical Graduates per 1000 of Population in 2020",
    oceanCol = "lightblue", missingCountryCol = "white")
```

Doctors and Medical Graduates per 1000 of Population in 2020




```
# Europe Map
mapCountryData()
```

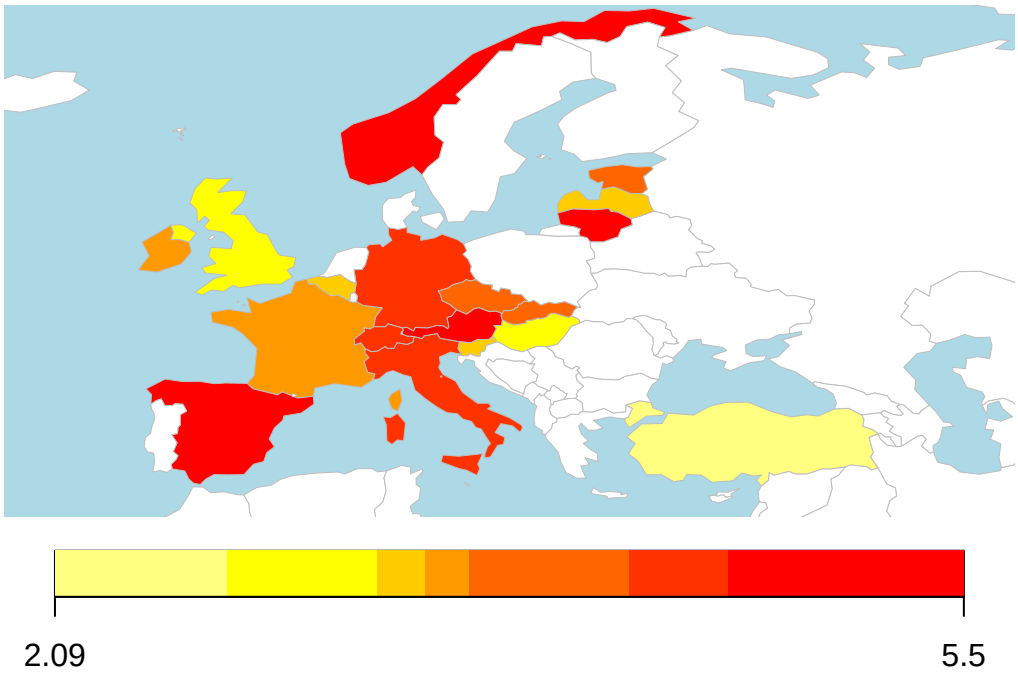



```
data("mapworld", envir = environment(), package = "rworldmap")
sPDF <- joinCountryData2Map(mapworld, joinCode = "ISO3", nameJoinColumn = "ISO3V10")
```

```
## 1062 codes from your data successfully matched countries in the map
## 0 codes from your data failed to match with a country code in the map
## 94 codes from the map weren't represented in your data
```

```
mapCountryData(sPDF, nameColumnToPlot = "Doctors_and_Graduates_per_1000",
    mapTitle = "Doctors and Medical Graduates per 1000 of Population in 2020",
    oceanCol = "lightblue", missingCountryCol = "white", mapRegion = "Europe")
```

Doctors and Medical Graduates per 1000 of Population in 2020




```
# Producing Comparison Table
HIP_OECD_data <- Orig_healthutil_raw %>%
    filter(Year == "2020", Measure == "Waiting times from specialist assessment to treatment: Mean (days
        Variable == "Hip replacement (total and partial, including the revision of hip replacement)")

joinedfortablehip <- full_join(HIP_OECD_data, doctors_2020_map,
    by = c(COU = "LOCATION"))

joinedfortablehip %>%
    dplyr::arrange(-Value) %>%
    select(Country, Doctors_and_Graduates_per_1000, Value) %>%
    filter(Value != "NA") %>%
    filter(Doctors_and_Graduates_per_1000 != "NA") %>%
    group_by(Country) %>%
    select(c(1, 2, 3)) %>%
    knitr::kable(caption = "Hip Replacements waiting time against total doctors and medical graduates in
        digits = c(0, 1, 0), col.names = c("Country", "Doctors & Medical Graduates per 1000",
            "Waiting times for Hip Procedures Mean days")) %>%
    kable_classic_2()
```

Table 1: Hip Replacements waiting time against total doctors and medical graduates in 2020

Country	Doctors & Medical Graduates per 1000	Waiting times for Hip Procedures Mean days
Estonia	3.7	452
Estonia	3.7	452
Estonia	3.7	452
Estonia	3.7	452
Estonia	3.7	452
Estonia	3.6	452
Estonia	3.7	452
Estonia	3.6	452
Estonia	3.6	452
Estonia	3.6	452
Estonia	3.6	452
Estonia	3.6	452
Estonia	3.6	452
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Estonia	3.6	452
Estonia	3.6	452
Estonia	3.6	452
Estonia	3.6	452
Estonia	3.6	452
Estonia	3.6	452
Australia	4.0	214
Australia	4.0	214
Australia	4.0	214
Australia	4.0	214
Australia	4.0	214
Australia	4.0	214
Australia	4.0	214
Australia	4.0	214
Australia	4.0	214
Australia	4.0	214
Australia	4.0	214
Australia	4.0	214
Australia	4.0	214