📄 COVID-19 Global Trends Report – 2022

Author: *neville*
Date: *May 2025*
Course: Final Project – Reproducible Data Analysis

Introduction

This report provides a summary and analysis of global COVID-19 data during the calendar year 2022. The primary data source is Johns Hopkins University's CSSE repository, which tracks confirmed cases and deaths worldwide.

Findings

📊 Confirmed Cases Over Time

(Insert a line chart created from `daily_confirmed` data)

- Confirmed COVID-19 cases fluctuated globally in 2022.
- Peaks occurred in January due to Omicron variant surges.
- Decrease observed mid-year due to increasing immunity and vaccination.

⚰️ Deaths Over Time

(Insert a line chart created from `daily_deaths` data)

- Global deaths showed a downward trend.
- Despite rising cases in early 2022, fatality rates declined, possibly due to improved treatment.

Summary

In 2022, COVID-19 continued to affect populations globally, although with lower death rates compared to earlier years. Public health strategies and vaccination campaigns played a key role in mitigating severe outcomes.

Conclusion

This report demonstrates how reproducible R code can be used to summarize and visualize important global health data. The trends shown provide insights for continued pandemic monitoring and preparedness.

Code Summary (R)

```
library(tidyverse)

library(lubridate)


# Load datasets

confirmed <- read_csv("data/time_series_covid19_confirmed_global.csv")

deaths <- read_csv("data/time_series_covid19_deaths_global.csv")


# Convert to long format

confirmed_long <- confirmed %>%

  pivot_longer(cols = starts_with("1"), names_to = "date", values_to =
"confirmed") %>%

  mutate(date = mdy(date))


deaths_long <- deaths %>%

  pivot_longer(cols = starts_with("1"), names_to = "date", values_to =
"deaths") %>%

  mutate(date = mdy(date))
```

```r
# Filter 2022 only
confirmed_2022 <- confirmed_long %>% filter(year(date) == 2022)
deaths_2022 <- deaths_long %>% filter(year(date) == 2022)

# Summarize global totals per day
daily_confirmed <- confirmed_2022 %>%
  group_by(date) %>%
  summarise(total_confirmed = sum(confirmed, na.rm = TRUE))

daily_deaths <- deaths_2022 %>%
  group_by(date) %>%
  summarise(total_deaths = sum(deaths, na.rm = TRUE))
```