Executive Report – Global COVID-19 Analysis Dashboard (2020–2025)

This analytics project presents a data-driven exploration of the COVID-19 pandemic across more than 200 countries, using visual storytelling and interactive filtering to reveal key public health patterns. Spanning January 2020 to May 2025, the report integrates WHO region classifications and temporal dimensions to uncover trends in case volume, mortality, and geographic distribution.

Key Insights:

- A total of **778 million cases** and **7.1 million deaths** were recorded globally.
- The **highest daily case rate** (4.7M) occurred in early 2022, while **peak deaths** (17.4K/day) were seen in early 2021.
- The **United States** reported the largest impact, with over **100M cases** and **1M deaths**.
- **Europe** and the **Western Pacific** experienced the highest case burdens, while the **Americas** led in cumulative deaths.

Temporal & Regional Trends:

- **2022** marked the peak in global transmission, driven by highly infectious variants.
- **2021** saw the highest global mortality, coinciding with delayed vaccine equity.
- Sub-Saharan Africa and Southeast Asia reported lower figures, potentially reflecting under-testing, younger populations, or limited reporting infrastructure.
- Daily trends charts clearly show pandemic waves, particularly:
  - ➢ Early 2020 (first wave),
  - ➢ Early/mid 2021 (Delta variant),
  - ➢ Early 2022 (Omicron wave).

Dashboard Functionality:

- Interactive filters by **year**, **region**, and **country** allow users to isolate patterns at multiple scales.
- Time-series visualizations illustrate pandemic waves aligned with known variant outbreaks (e.g., Delta and Omicron).
- Dynamic charts facilitate comparative analysis and support exploratory storytelling.

Application:

Designed for public health analysts, decision-makers, and researchers, this dashboard demonstrates the practical application of data visualization in global health contexts. It emphasizes clarity, usability, and analytical depth key competencies in modern data science and business intelligence roles.