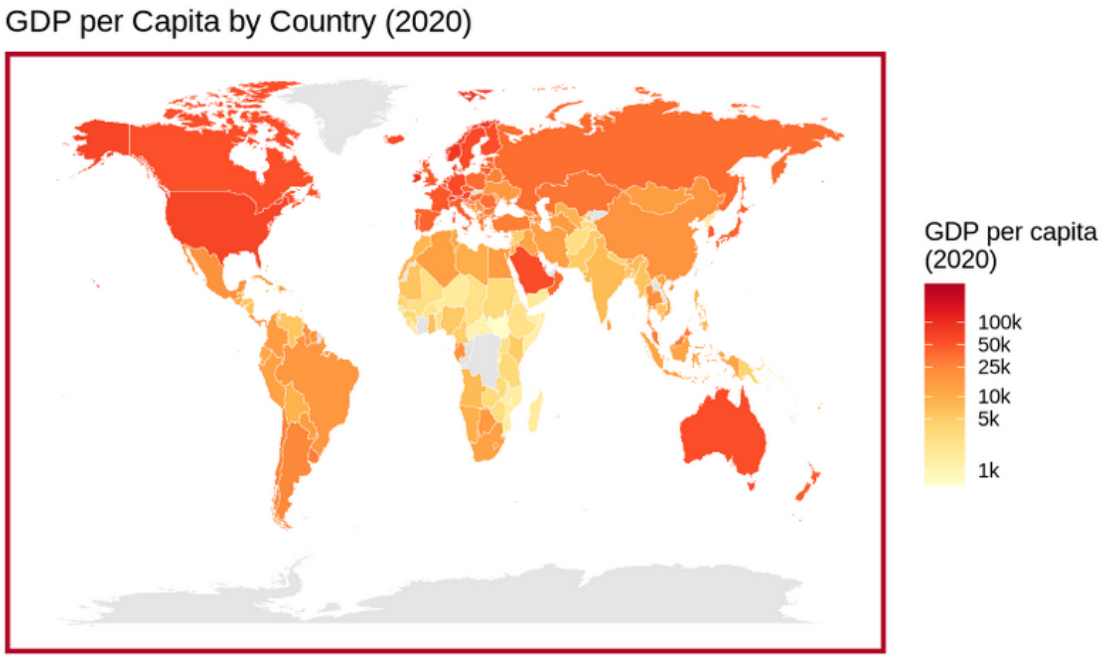
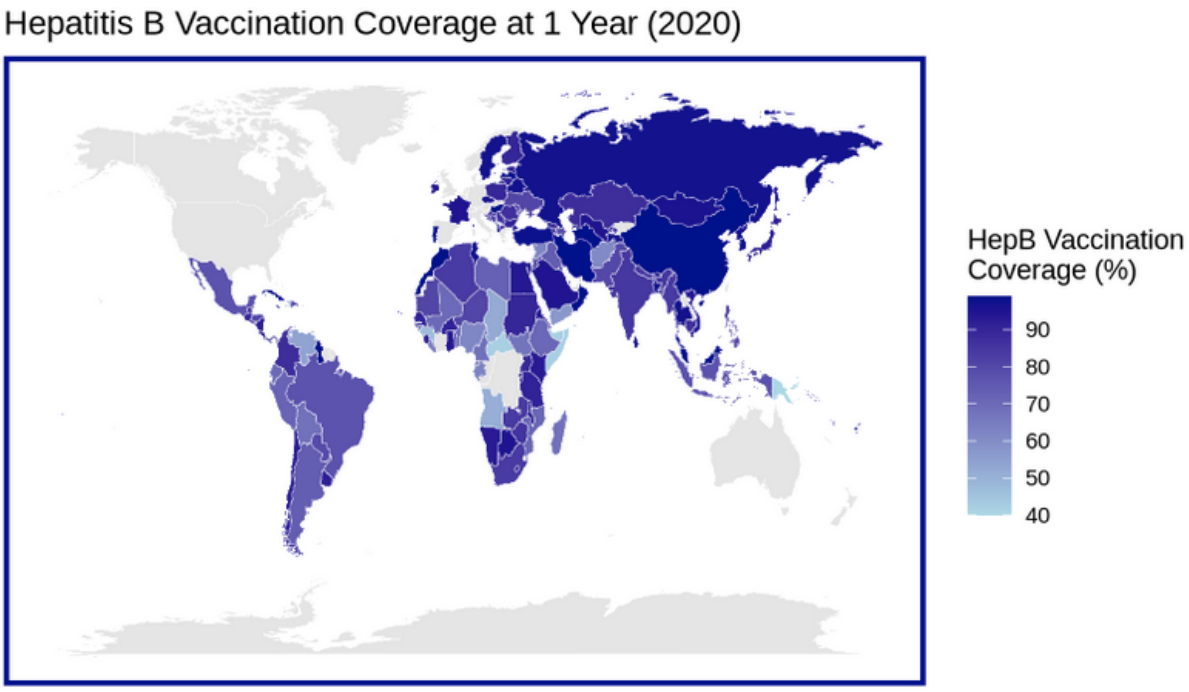
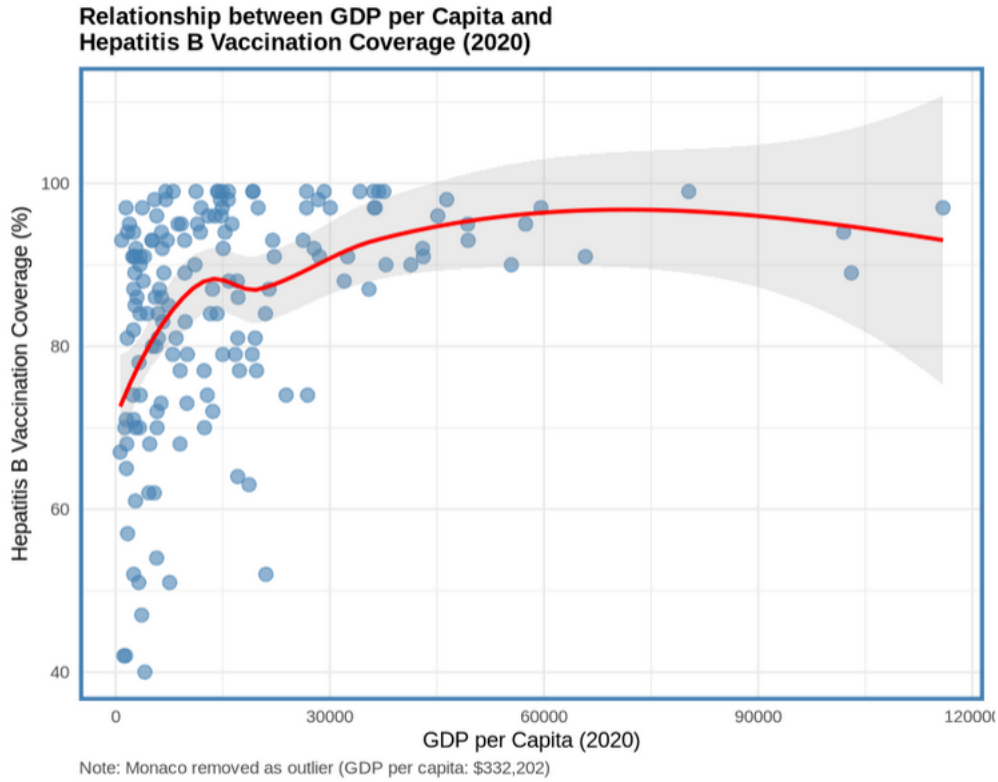
Relation between GDP and Hepatitis B Vaccination at birth

Pilar Ustero Alonso, 25, January 2025







Key findings:

- **Vaccination coverage is generally high across all income levels**: The median vaccination coverage is 89%, with most countries achieving between 78% and 95% coverage regardless of GDP.
- **Diminishing returns at higher GDP levels**: The LOESS curve shows that vaccination coverage increases more steeply at lower GDP levels and plateaus at higher GDP levels. This suggests that even lower-income countries have been able to achieve relatively high vaccination rates, likely due to international health initiatives and vaccine programs.
- **High variability at lower GDP levels**: Countries with lower GDP show more variation in vaccination coverage (ranging from 40% to 99%), while wealthier nations consistently maintain high coverage rates (typically above 85%).
- **Success of global health initiatives**: The relatively weak correlation suggests that factors beyond national wealth - such as WHO vaccination programs, GAVI support, and public health infrastructure - play crucial roles in achieving high vaccination coverage, even in resource-limited settings.

The relationship between GDP per capita and Hepatitis B vaccination coverage in 2020 shows a **weak positive correlation** (r = 0.346). In order to calculate the correlation, Monaco has been excluded. Monaco is an outlier concerning the GDP. Monaco is a tiny, extremely wealthy city-state known for having one of the highest GDP per capita figures in the world due to its status as a tax haven and concentration of high-net-worth individuals. It's GDP per capita is $332,201.78 (more than 10x higher than most countries).

Add Your Reflection

I've used Julius for this work. The overall process has been amazingly easy, specially with the instructiones we received. Thr course it's a good opportunity to learn new AI tools, and to awake our curiosity, to explore further.

Anyhow, there are some concerns:

1. It's unfortunate that many applications have a suscription fee, instead of pay-per-used. For people who are not using them in a regular way, it's not an effective system.

2. For harder tasks, it will be difficult to identify the mistakes.

3. All this AI tools creates some uneasyness. I wondering how can we relly in all the scientific papers which are published every year, if people are using this tools, with no "expertise" behind.