

COVID-19 Data Perspective

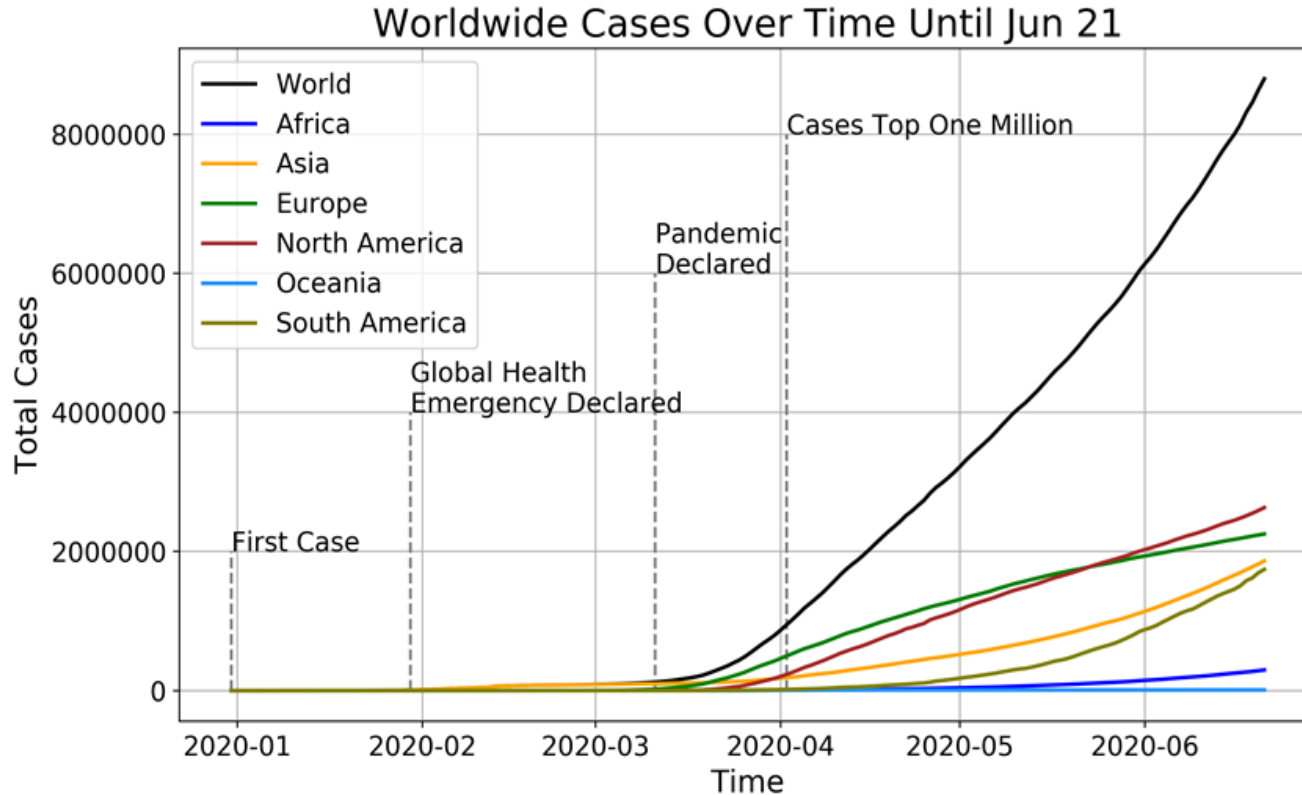
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Questions to Be Answered

- What happened in the past 6 months?
- How deadly is COVID-19 for the elderly?
- How did different countries tackle COVID-19 and what were their outcomes?
- Does school closure status, diabetes prevalence and income level have an effect on death rate?
- How does medical resources, smoking rates and population density impact death rate?

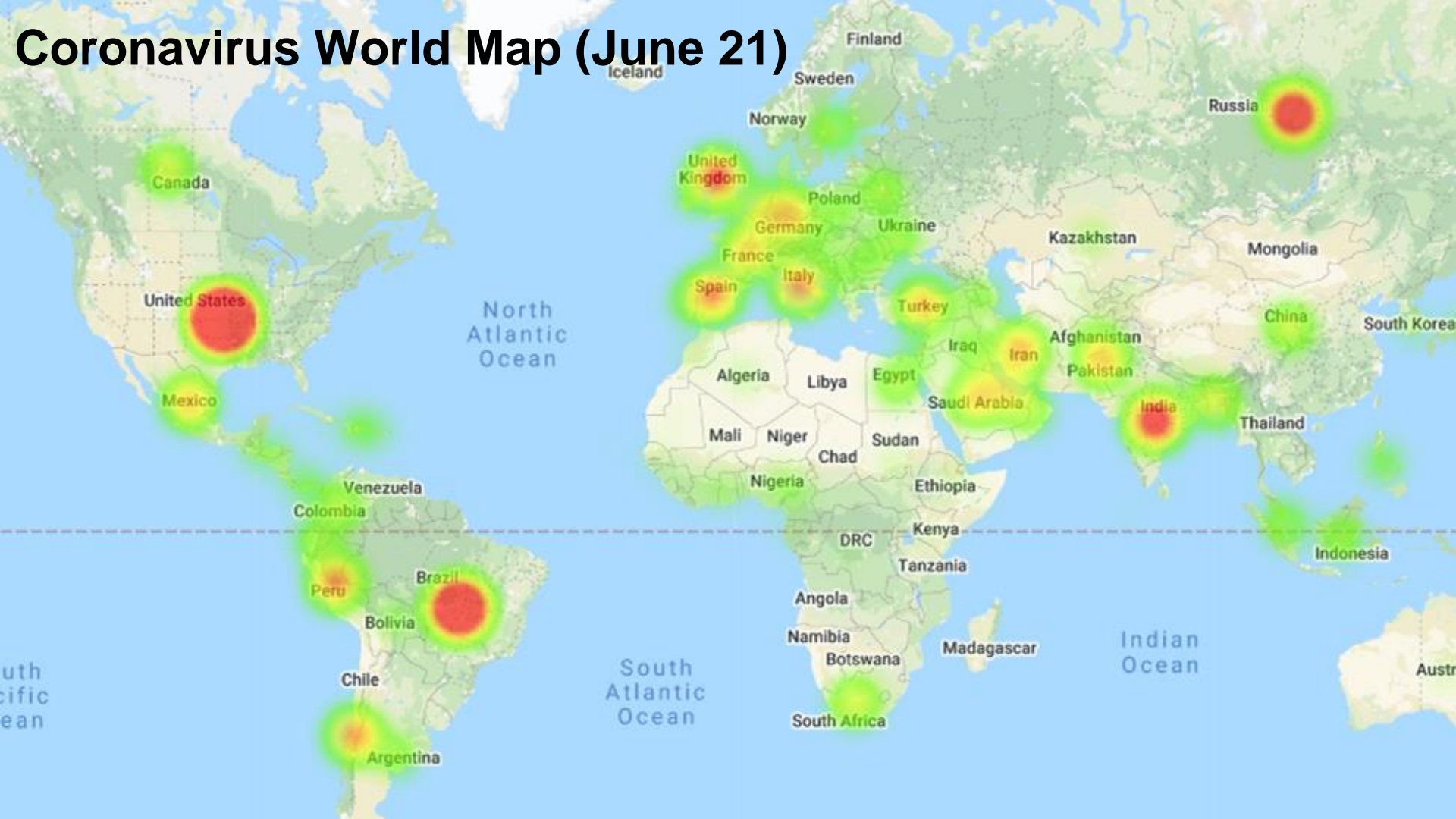
❖ *Data is up to June 21, 2020 - rapidly evolving situation*

The Global Outlook of Covid-19

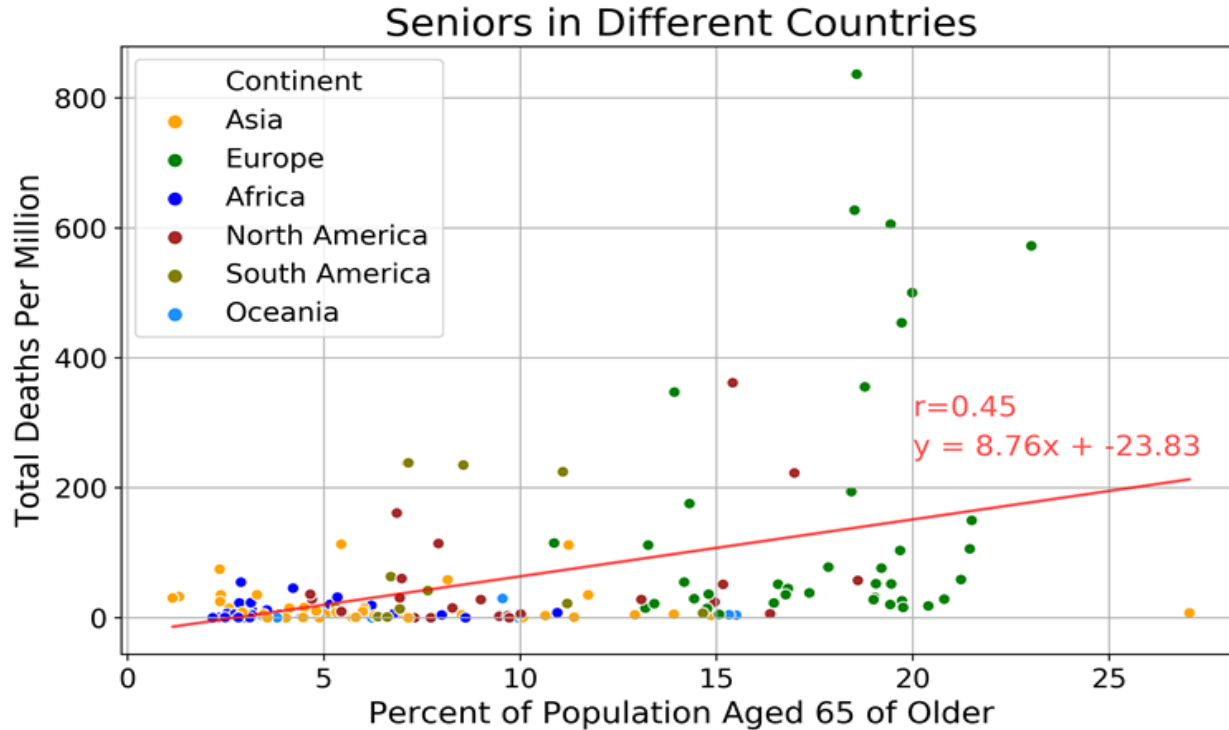


- Earlier preventive measures should be taken to slow the spread

Coronavirus World Map (June 21)

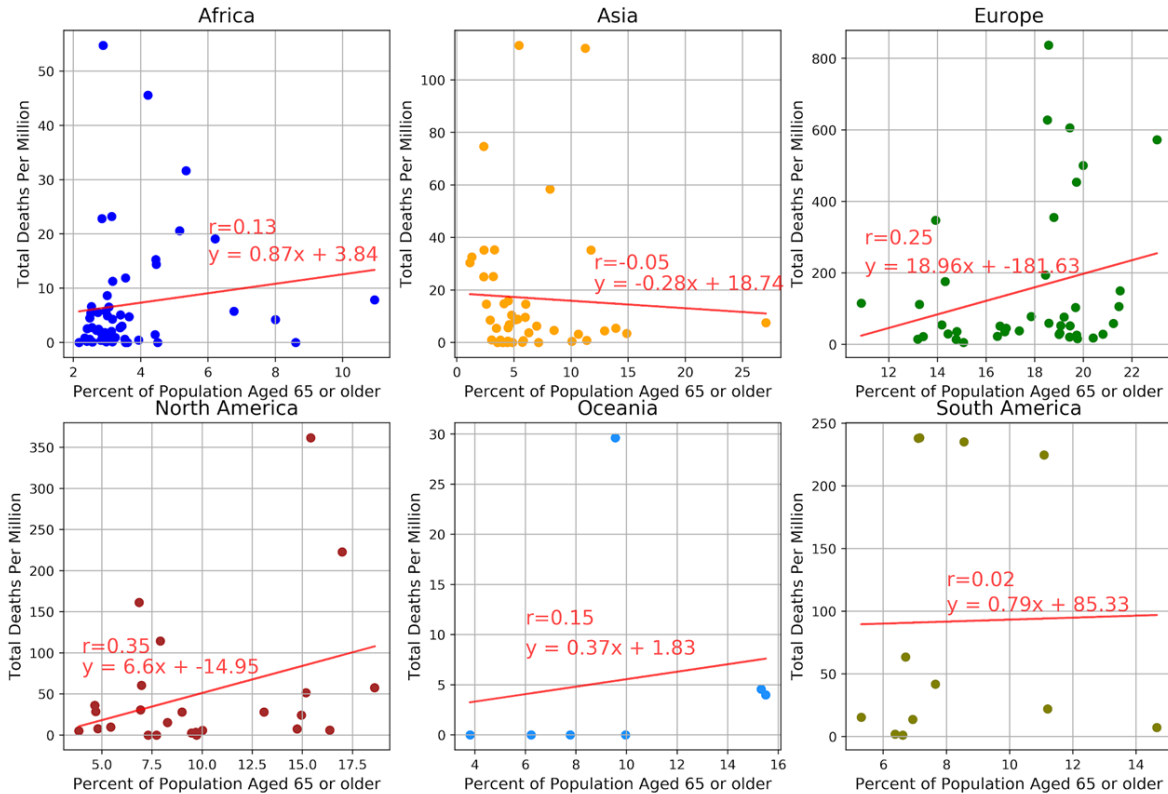


How Deadly Is COVID-19 for the Elderly?



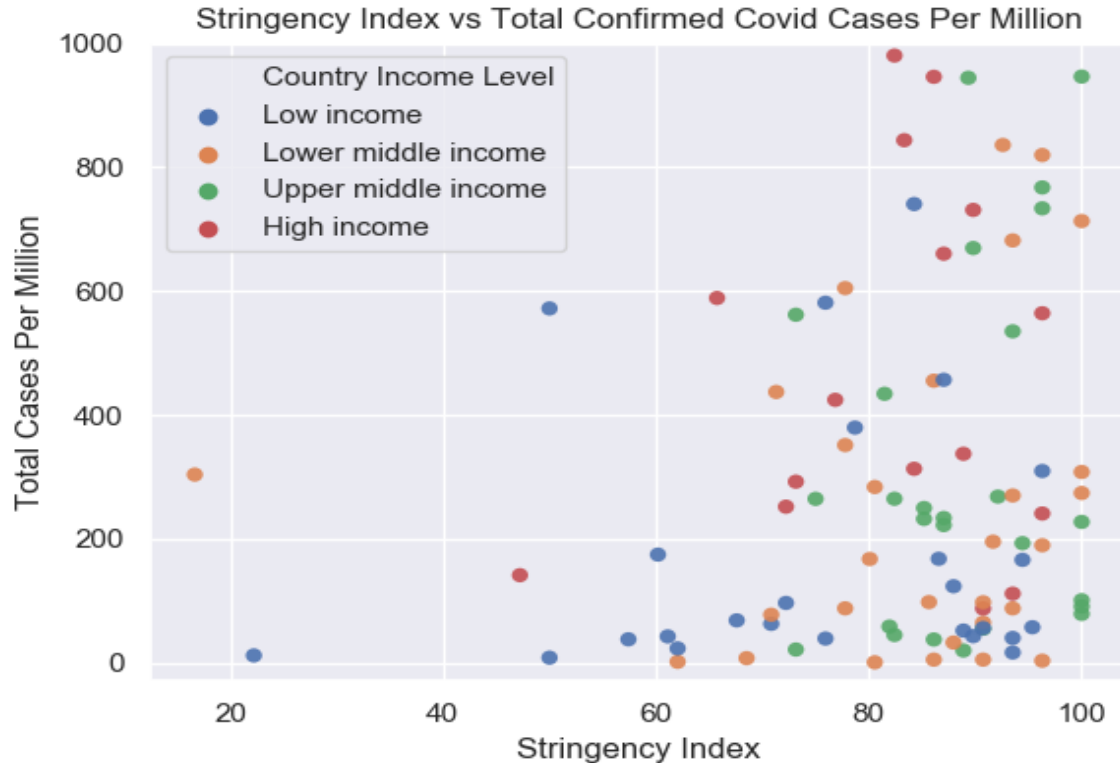
- COVID-19 is age biased
- The seniors need more protection

Breakdown by Continent

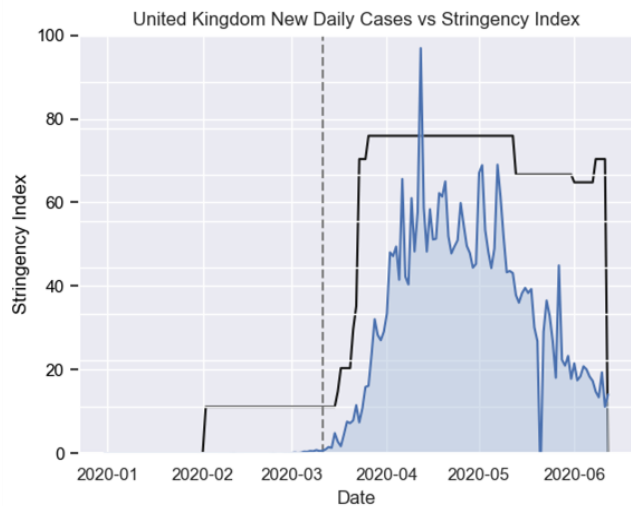


- Europe has more seniors and higher death rate

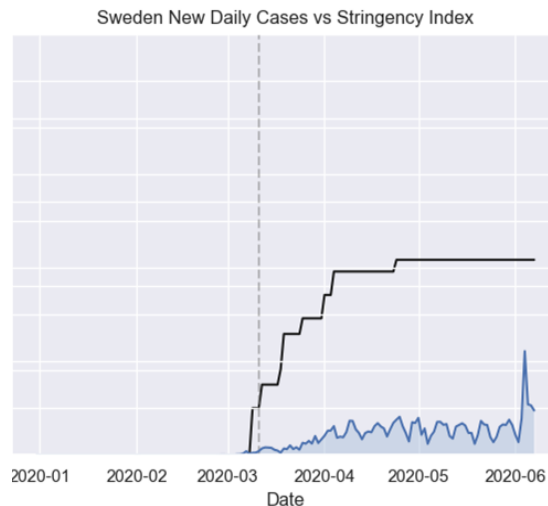
The higher the stringency score the lower the number of COVID-19 cases?



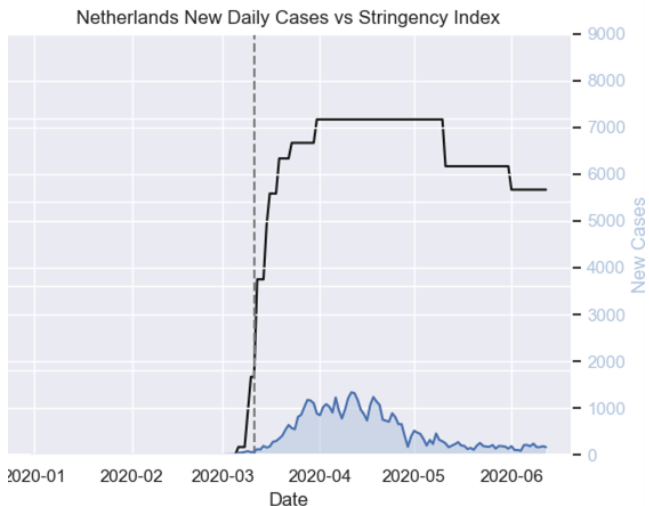
Countries who reacted relatively slow



United Kingdom

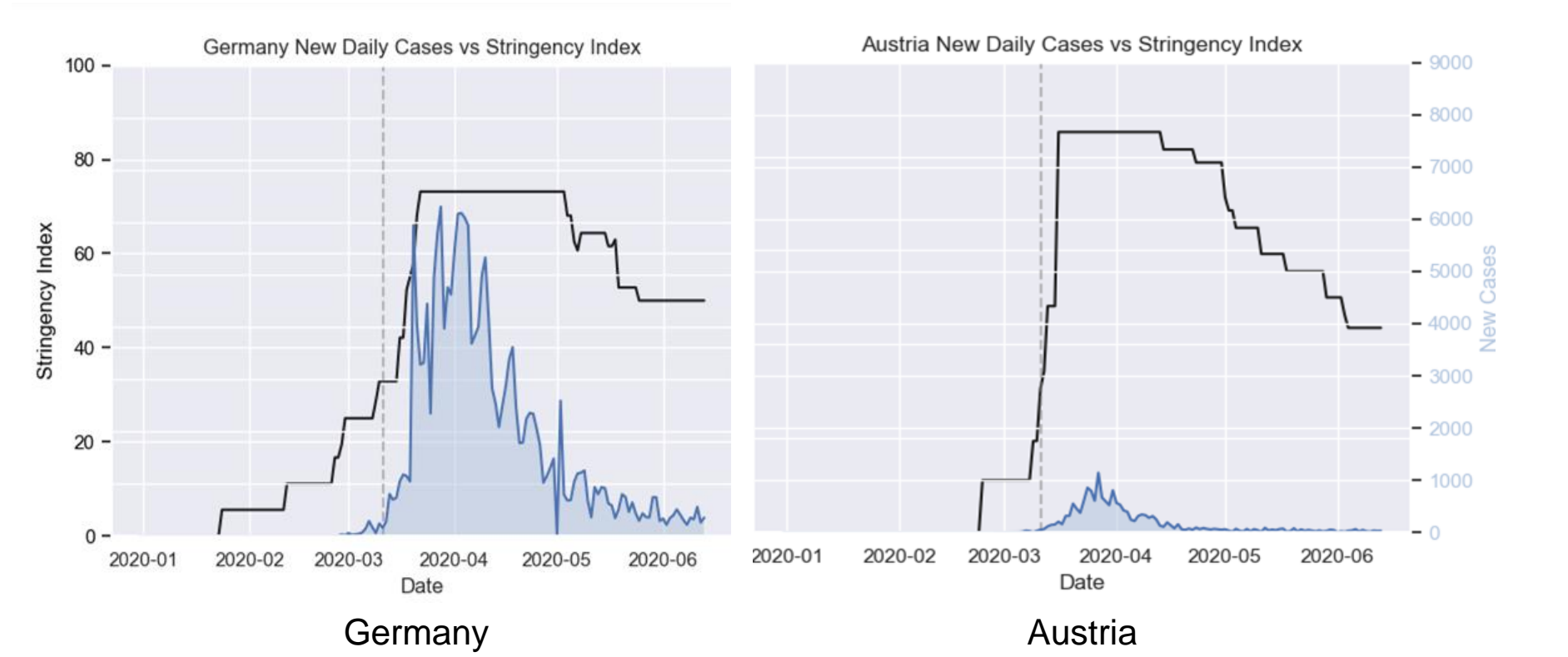


Sweden

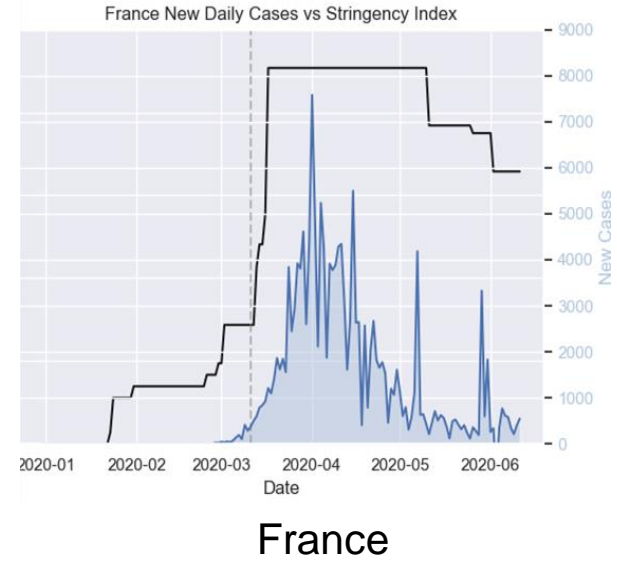
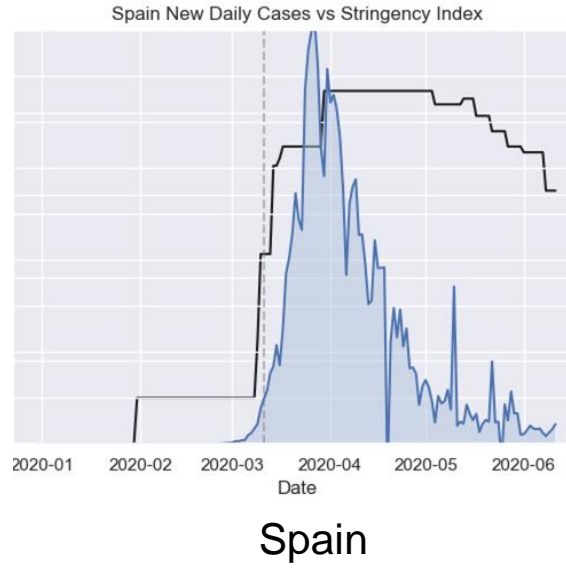
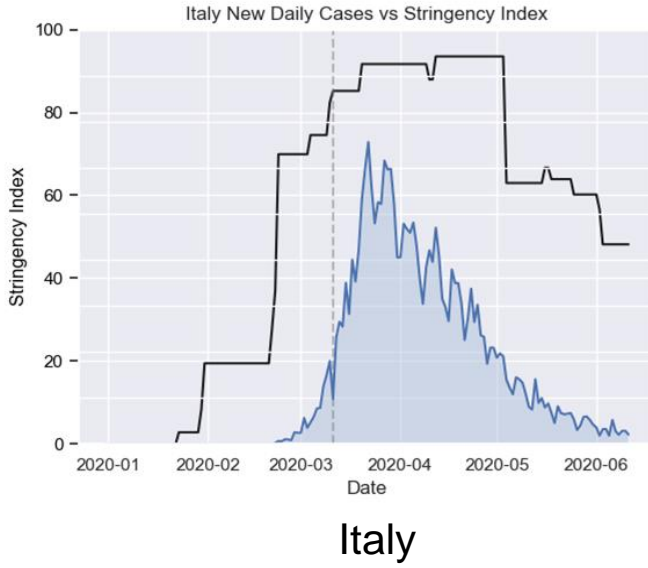


Netherlands

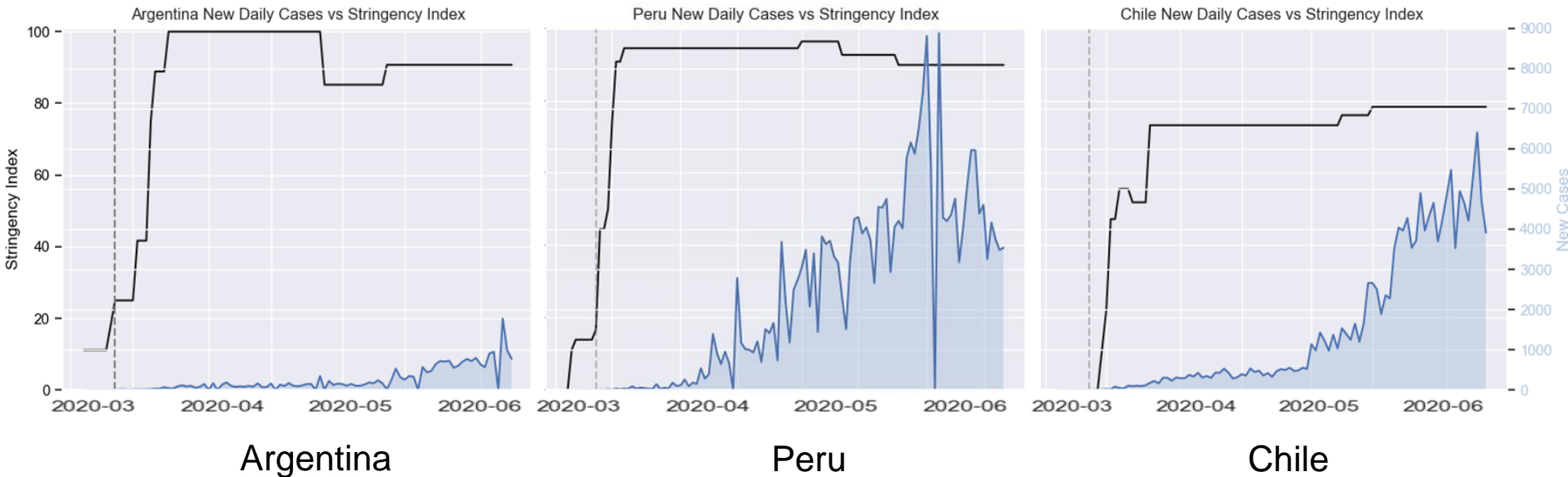
Countries who adopted severe and early control strategies



Countries who adopted severe strategies later in their epidemics

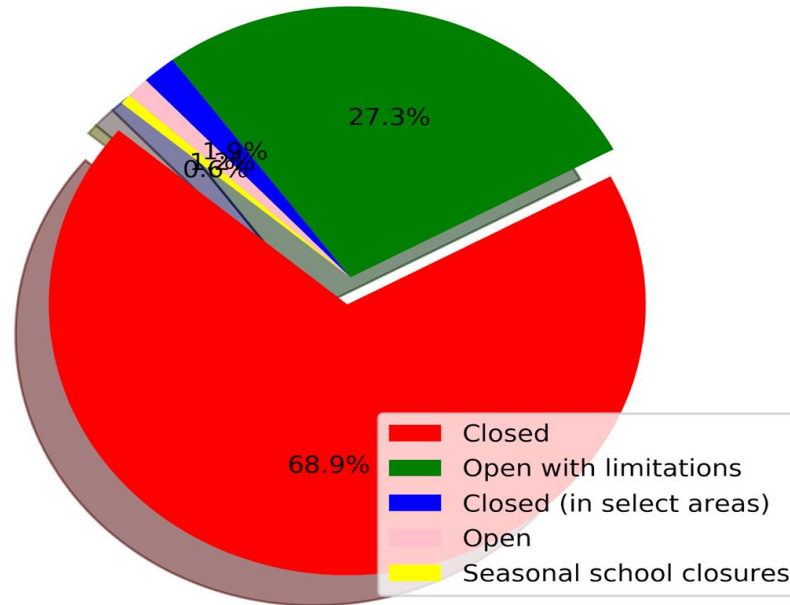


Developing countries who adopted severe and early control strategies



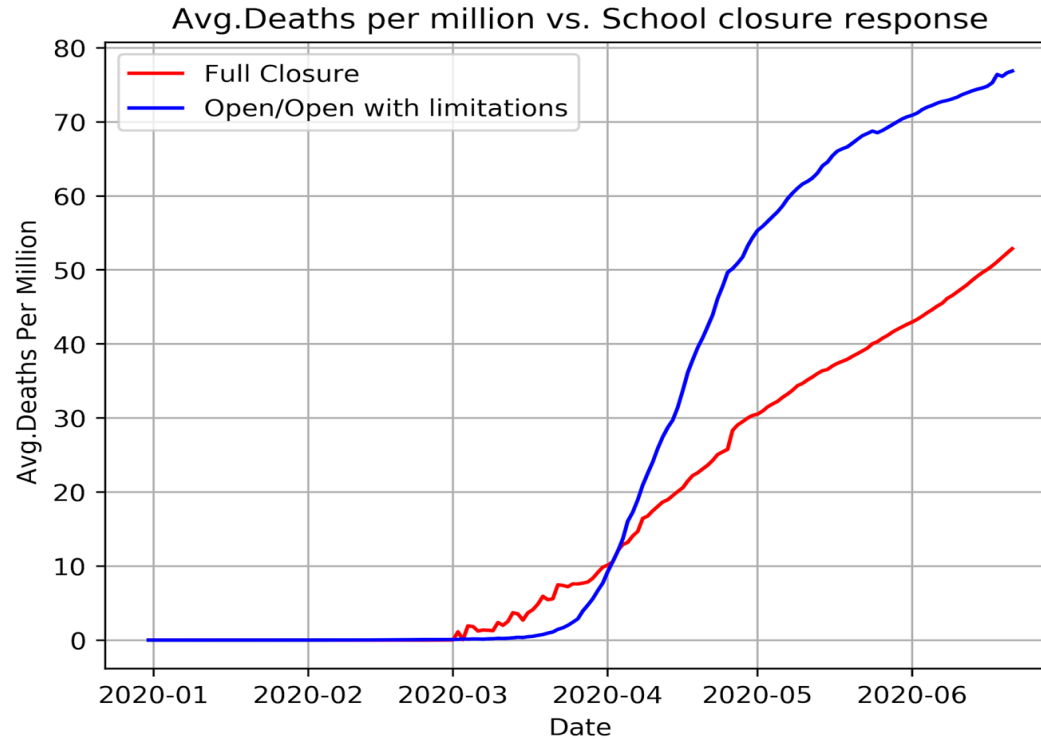
What proportion of the global population closed schools?

Distribution by School Closure Type



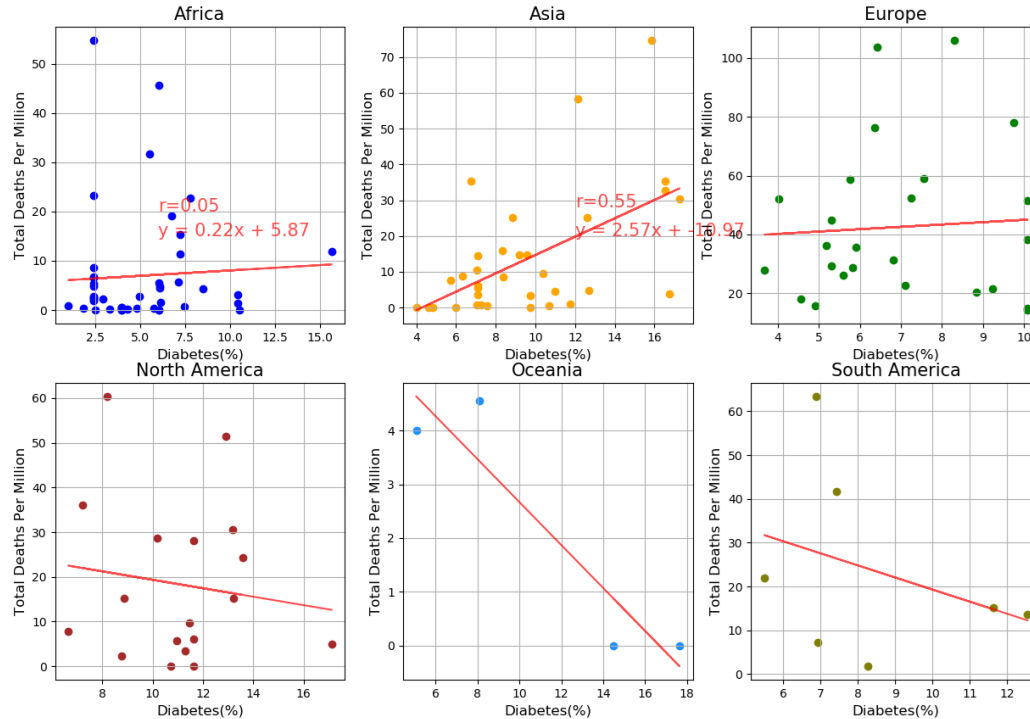
- Close to 70% of the countries fully closed schools

Does School Closure Type Impact Death Rate?



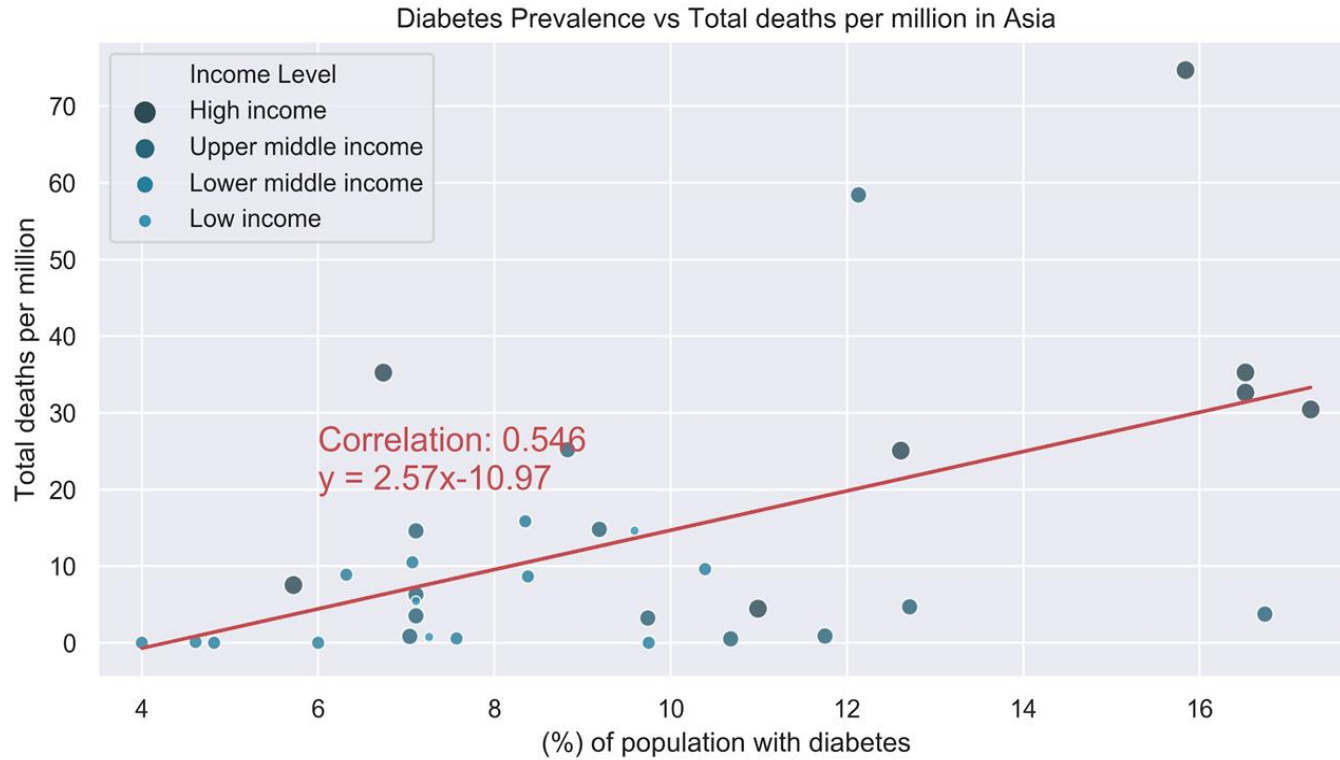
- On average, countries that fully close schools have had lower deaths per million

Does Diabetes Prevalence affect COVID-19 Deaths?



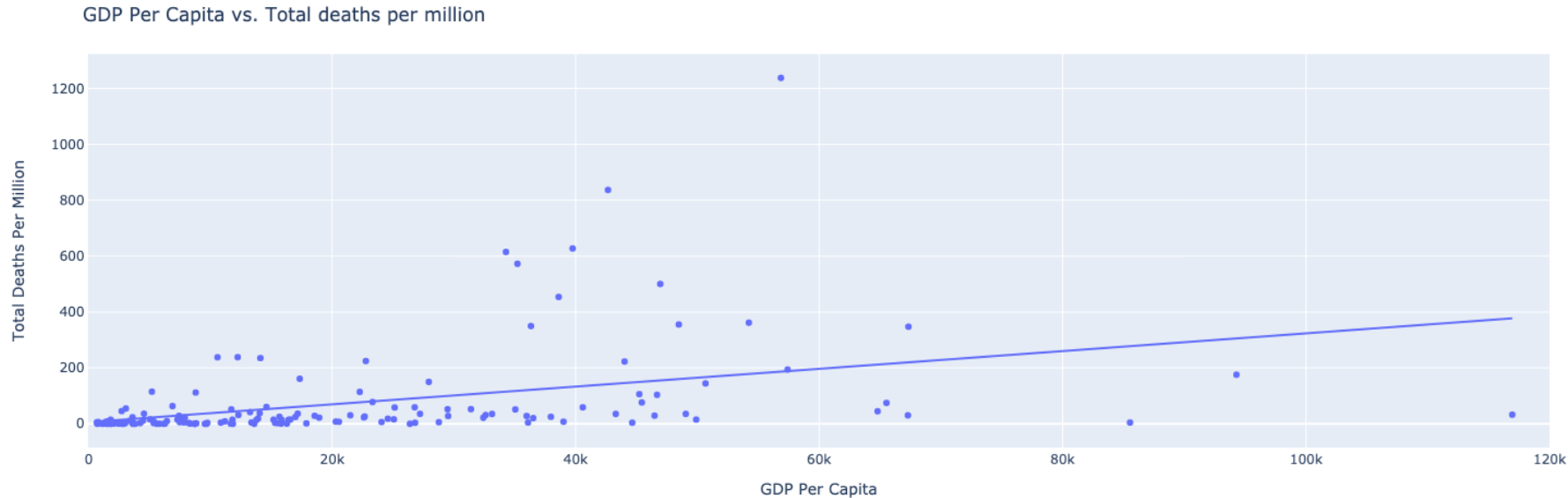
- Asia showed the strongest correlation between COVID deaths and diabetes prevalence

Is income level a hidden variable in the link between diabetes (%) and Covid deaths?



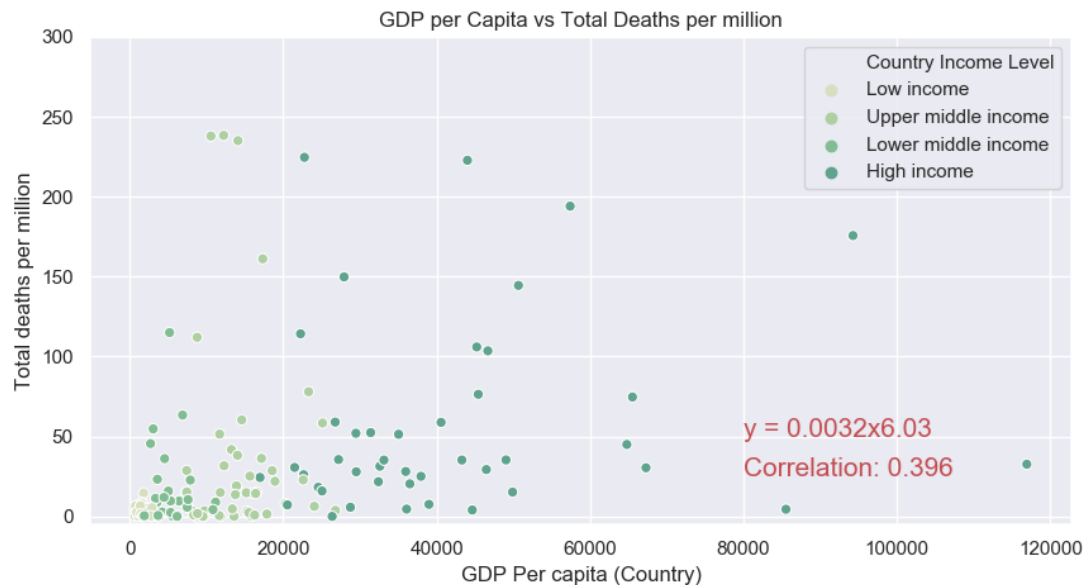
- Diabetes prevalence was closely linked to the income level of a country

Do wealthier countries have fewer deaths?



- There is a weak correlation of 0.396 when comparing GDP per capita and the total deaths per country.
- The vast majority of countries with higher death rates are countries that we consider to have a higher “tourist rating” (although we have no data to confirm this...yet)

Do wealthier countries have fewer deaths? (continued)



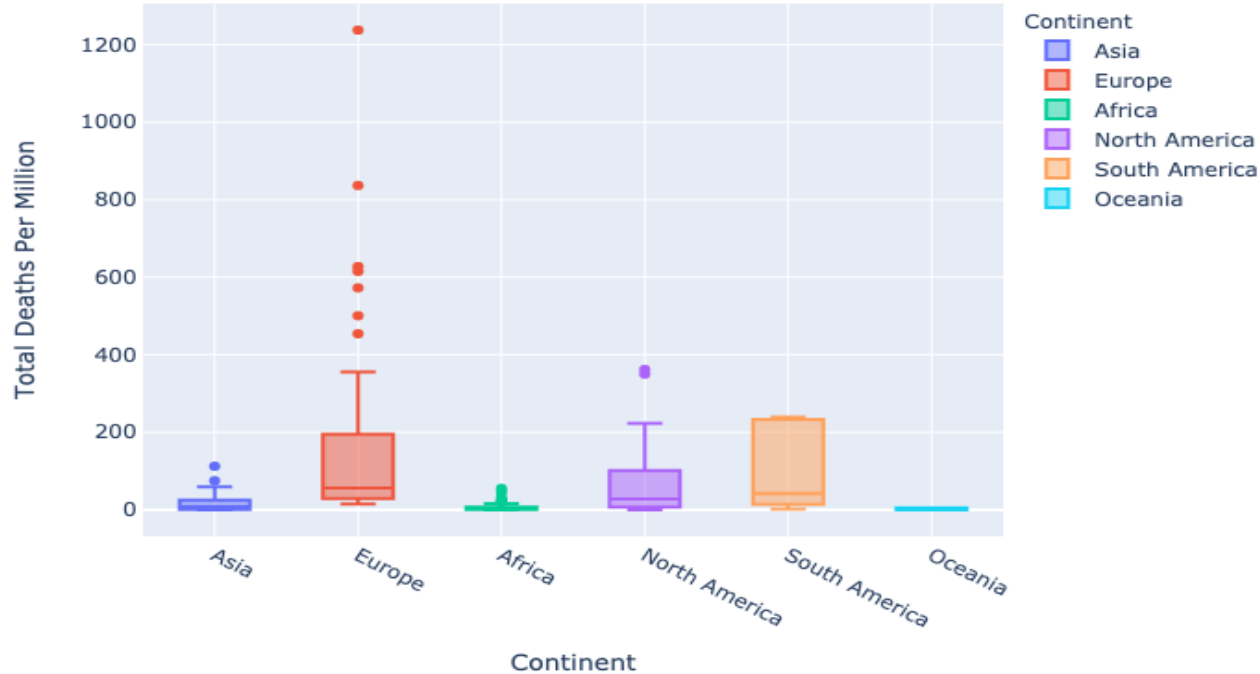
- This is a close up of our data after removing outliers.
- Given that this is a sample size we can assume that a country's wealth does not have a significant effect on preventing deaths like other factors such as healthcare systems, stringency, and quality/availability of hospital care.

Does Population Density facilitate the spread of COVID-19?



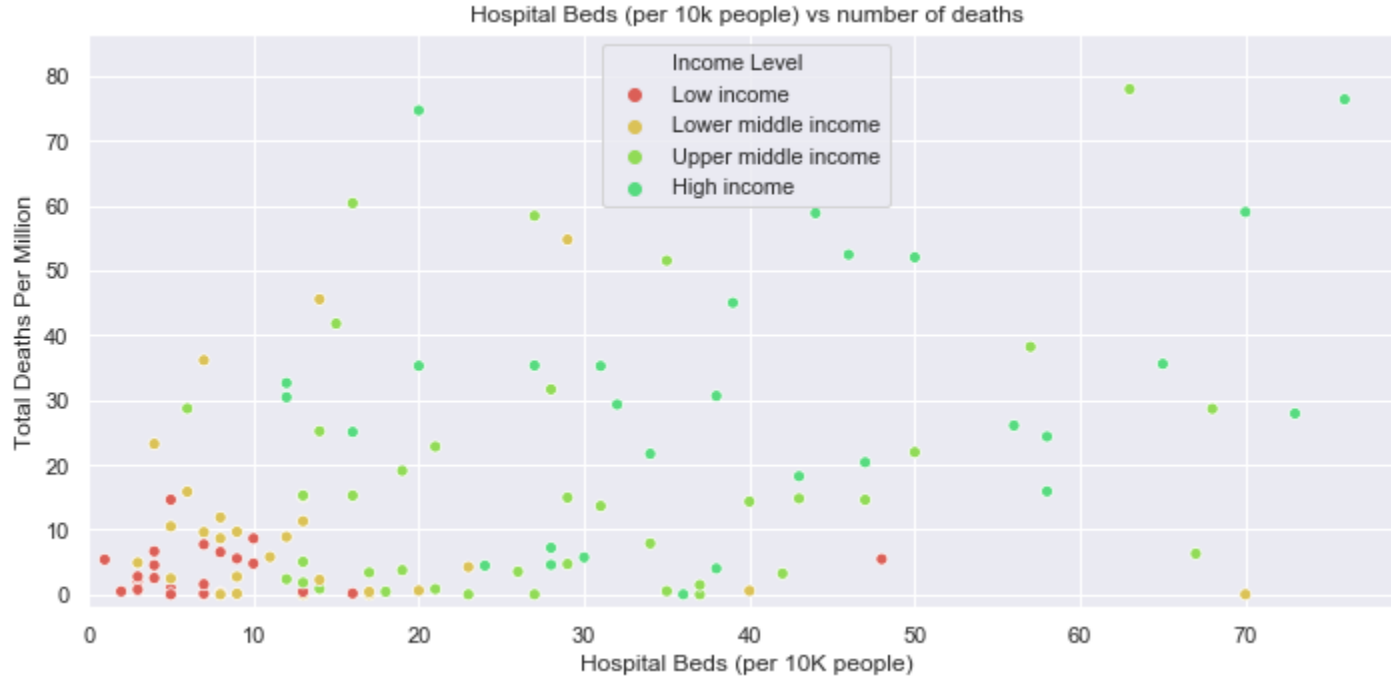
- Given that each country's demographics vary, we decided to see if region and wealth were contributing factors.
- At first look we can see high income countries, mainly in Europe were the most affected followed by upper middle income countries in North and South America.
- From this data we can safely assume population density is definitely a contributing factor in densely populated regions (countries that surrounded by cities/countries that also have high population density).

Does Population Density facilitate the spread of COVID-19?



- After having sorted our data by continent, it's evident that even though Asia was where the virus originated, it was Europe and South America that got hit the most (with the exception of a few outliers in North America *hint hint* it's the USA)

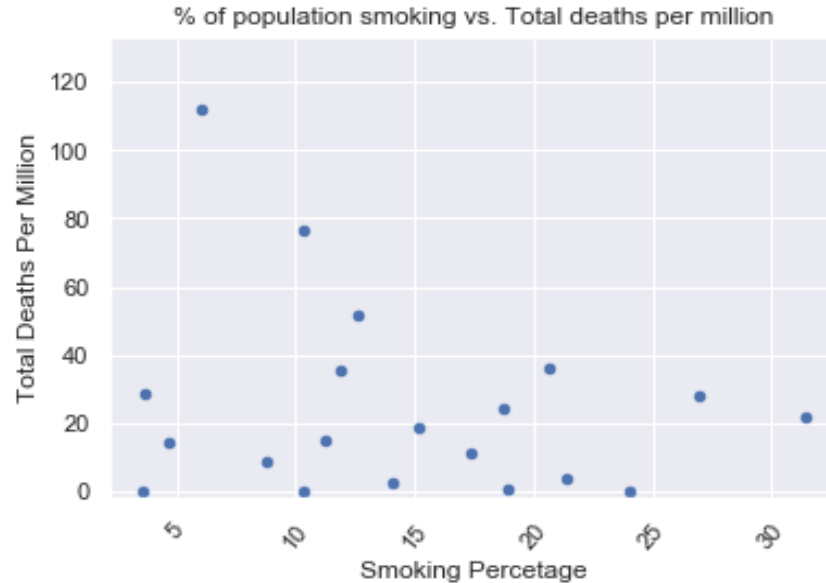
Does increased medical resources affect death rate?



Source: World Health Organization, Global Health Observatory, Hospital Beds Density by Country

- Weak positive correlation between hospital beds available and total deaths 0.438.
- Counterintuitive that as more beds are available, death rate increases

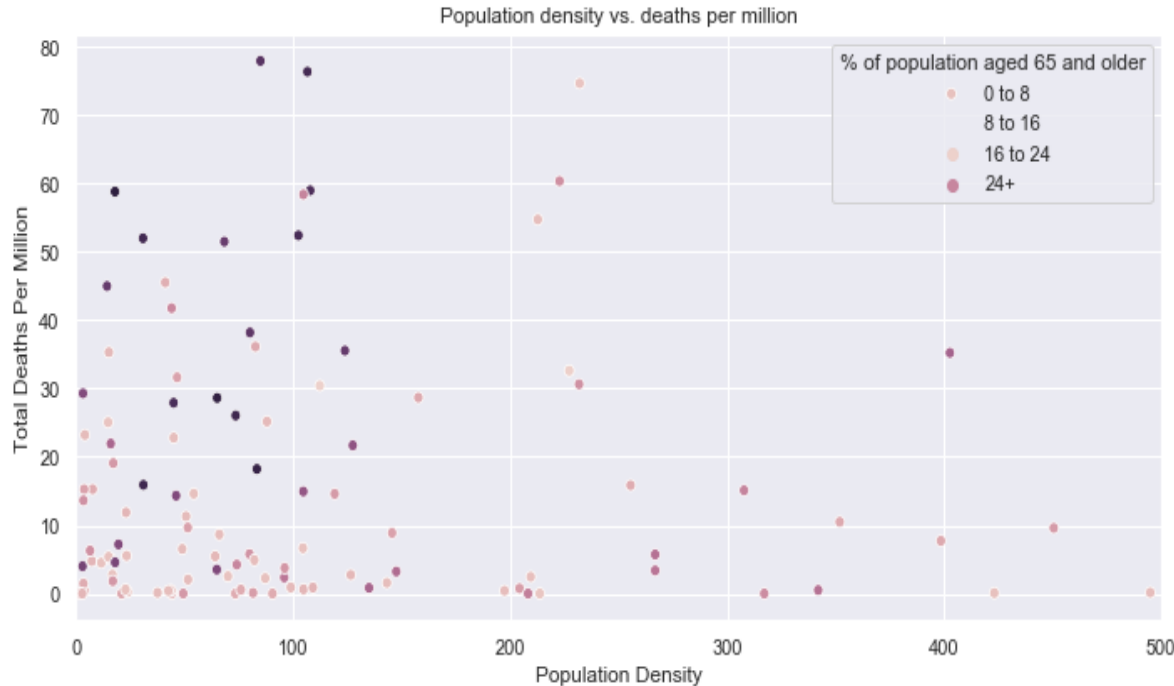
Is the population smoking rate related to the death rate?



Source: World Health Organization, Global Health Observatory, Estimate of current cigarette smoking prevalence (%)

- Initial assumptions were made that smoking increased the likelihood of COVID-19 complications
- Extremely weak correlation of 0.16

Does population density affect the death rate?



- When population density remains steady, it is the population's age demographic that seems to affect the death rate

Thank you!