

How healthcare and government responses affect the impact of COVID-19

TrueCue COVID-19 Hackathon

Team 8

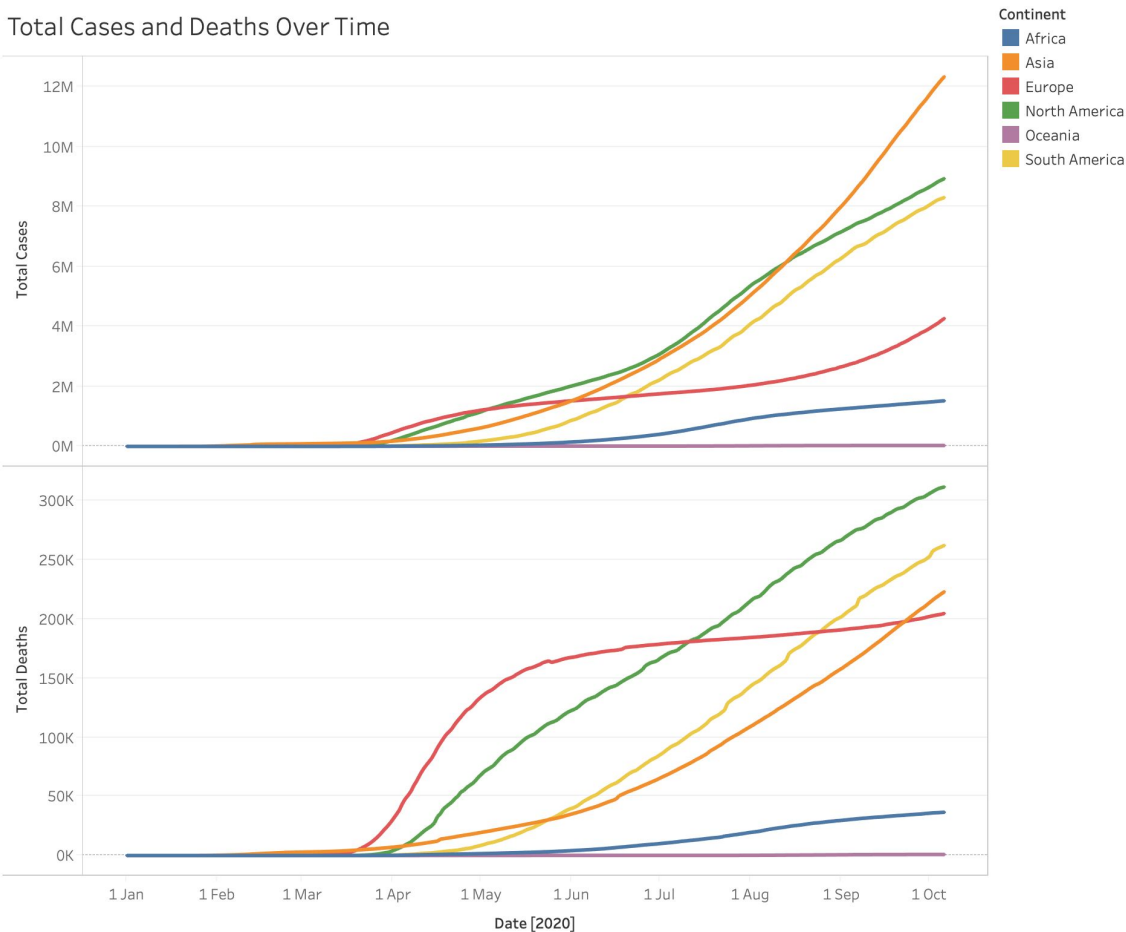
Liv Rennie, Marina Vabistsevits, Bhakti Saoji



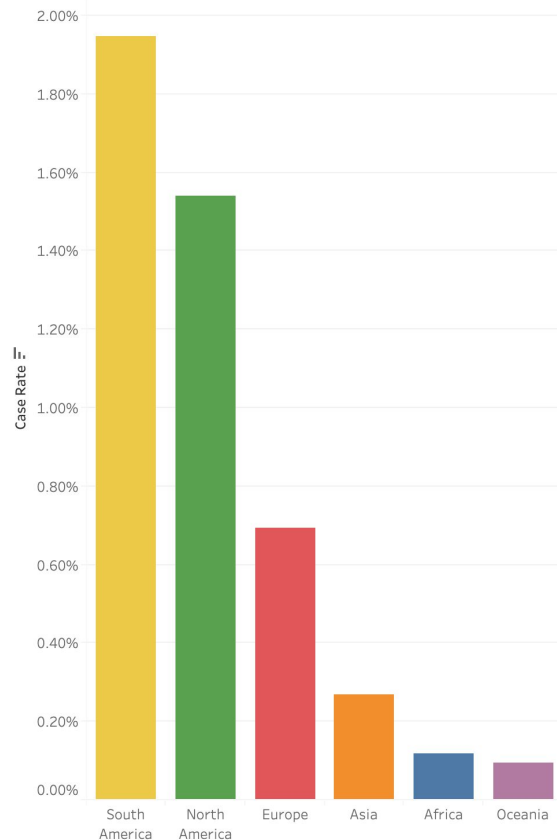
women
in
data

Cases and Deaths Over Time

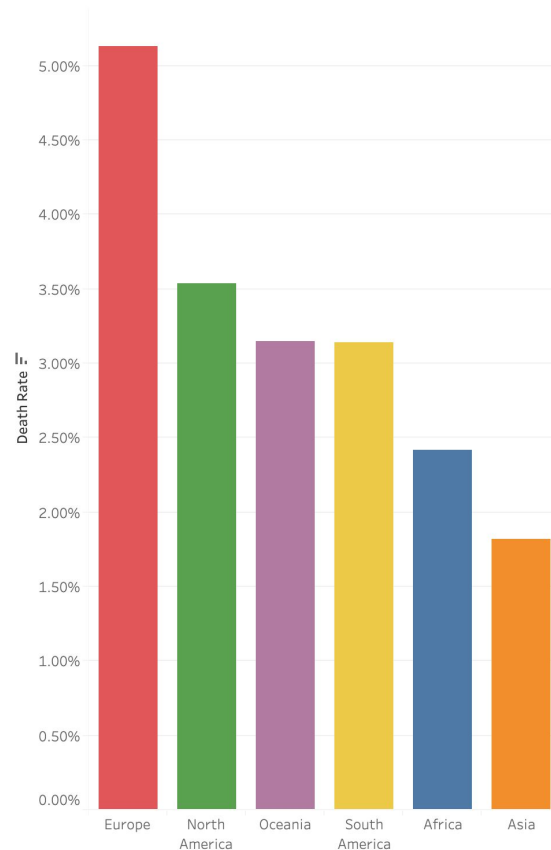
Total Cases and Deaths Over Time



Case Rate by Continent



Death Rate by Continent



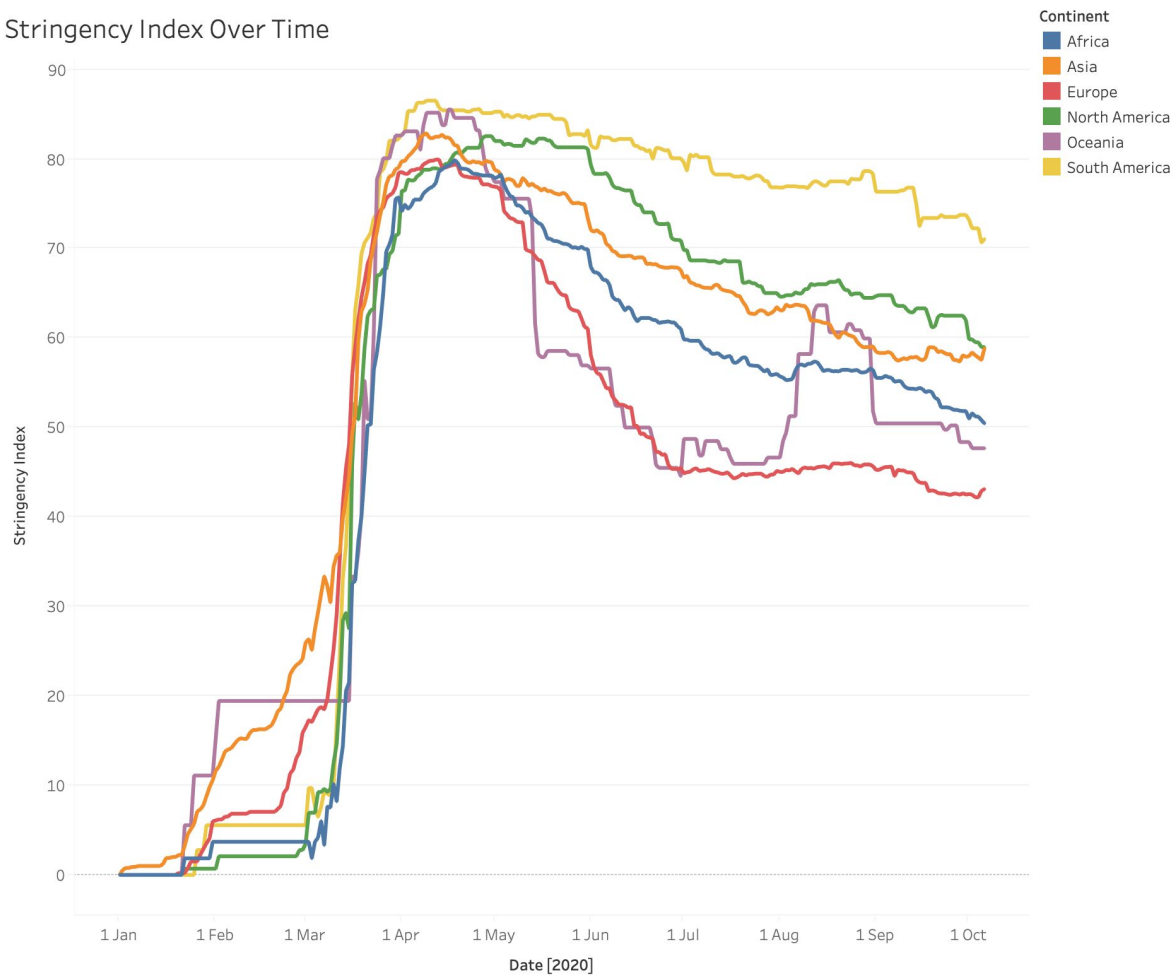
Case and Death Rate

- Case rate is the percentage of the population who have tested positive for COVID
- Death rate is the percentage of people who tested positive who have died

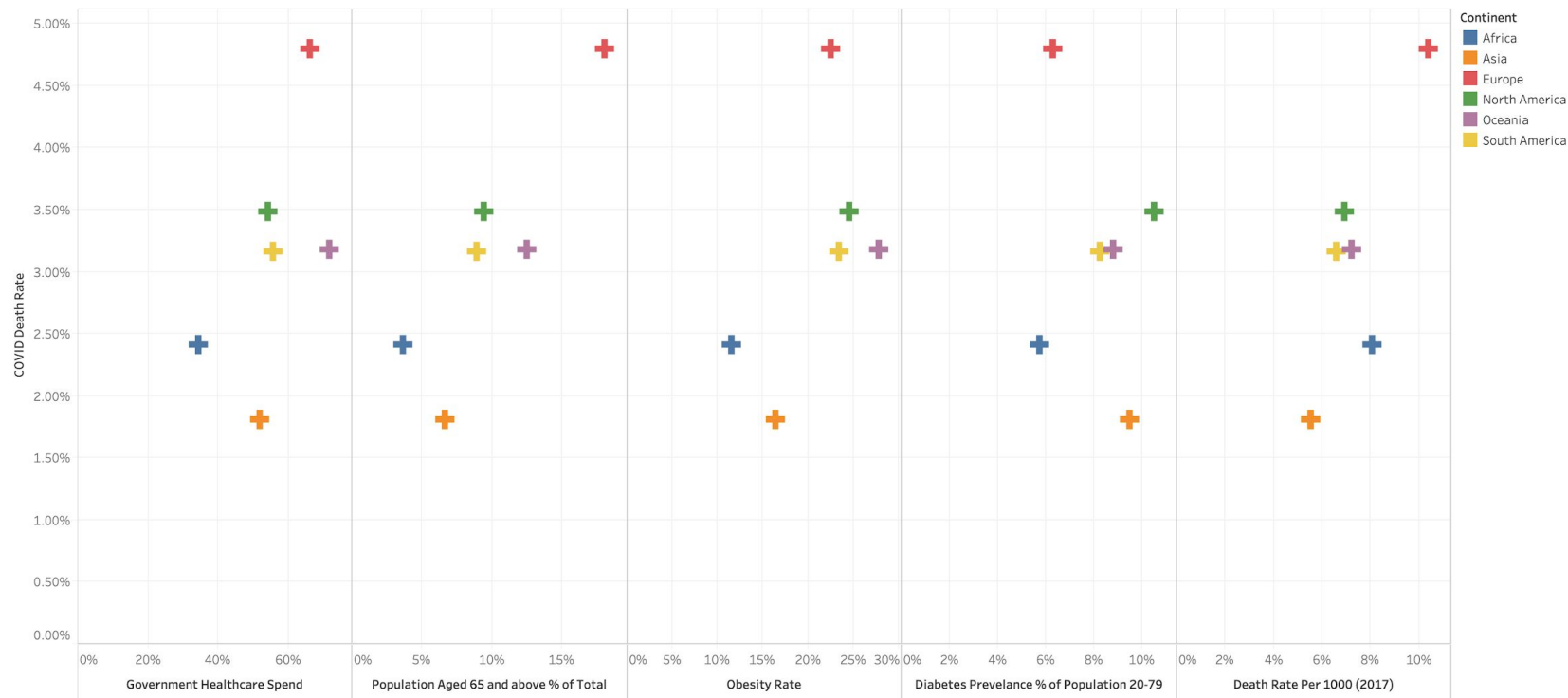
Stringency Index

A measure of how strict the lockdown measures are. Looks at 9 metrics: school closures, workplace closures, cancellation of public events, restrictions on public gatherings, closures of public transport, stay-at-home requirements, public information campaigns, restrictions on internal movements and international travel controls.

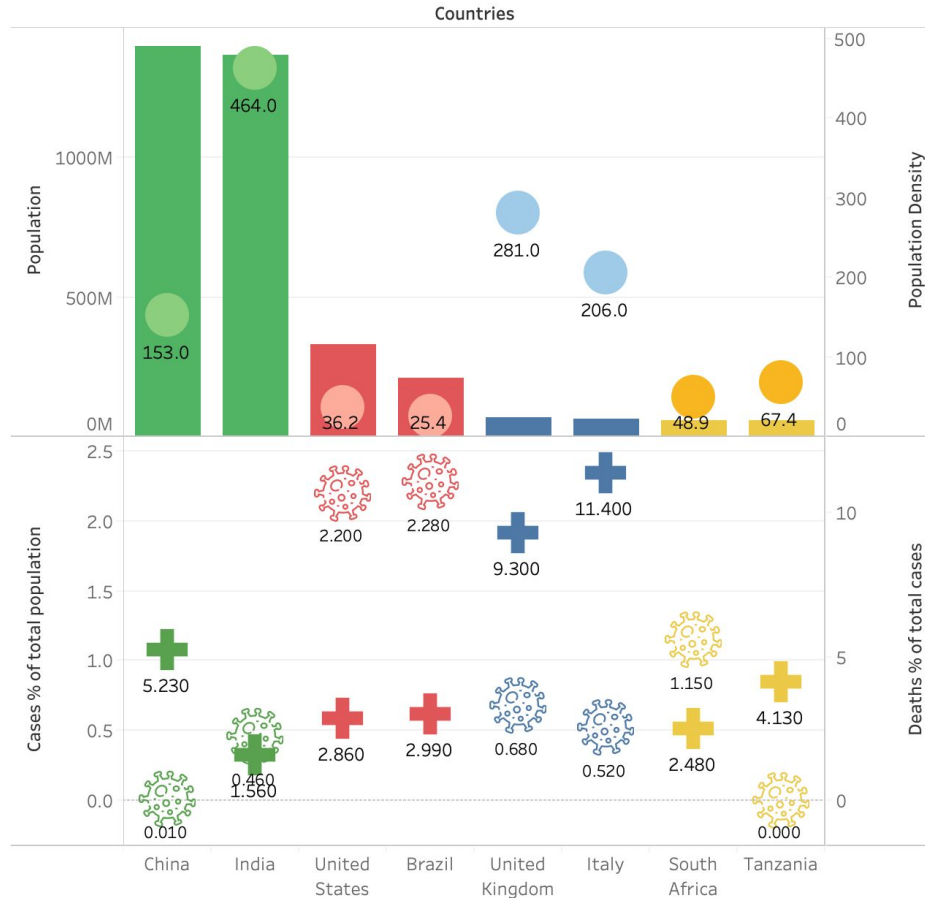
Stringency Index Over Time



Health and Healthcare Affects



Population size and density; Covid-19 cases% and death %



Country pairs per continent

China vs India

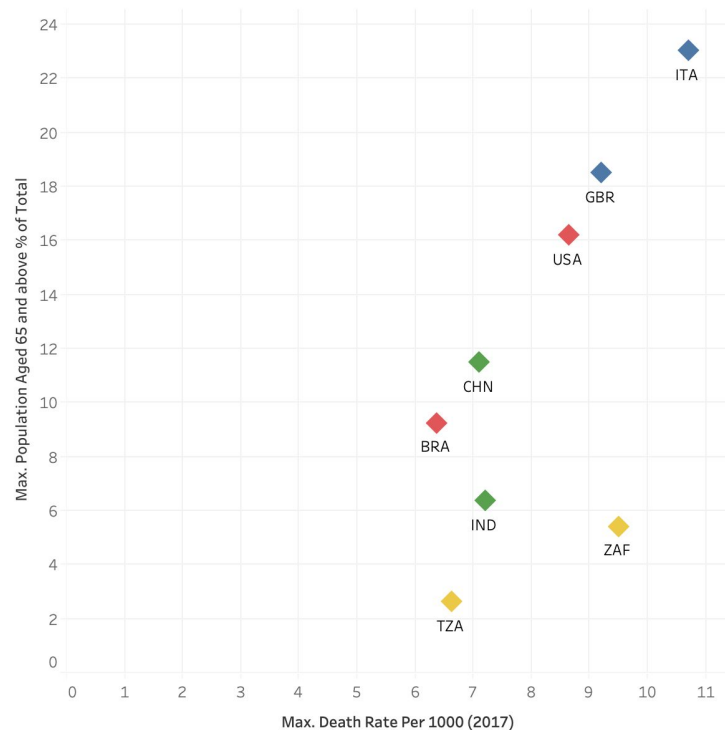
US vs Brazil

UK vs Italy

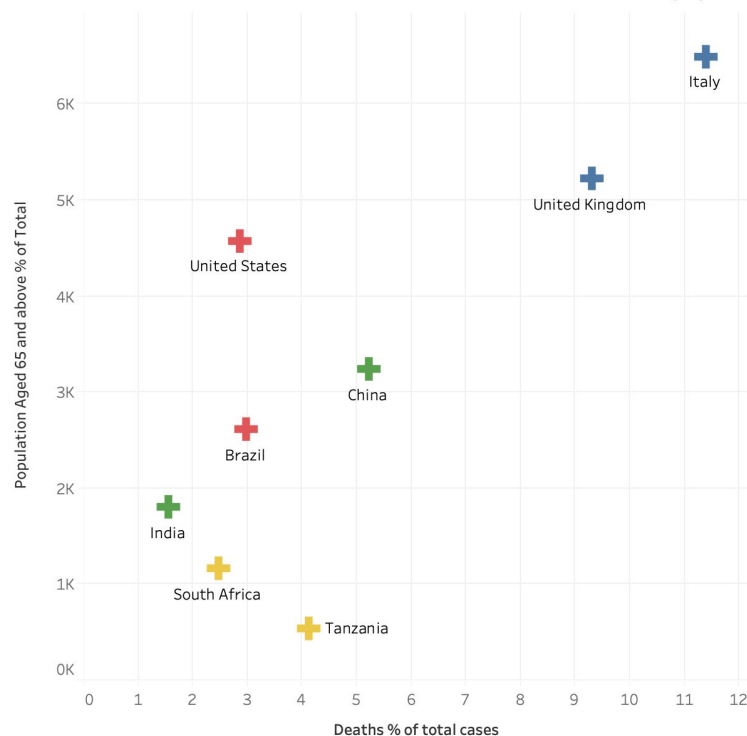
South Africa vs Tanzania

Population age vs historical death rate / COVID-19 death %

Death rate in 2017 VS Population aged over 65 (%)



Death % of total Covid cases VS Population aged over 65 (%)

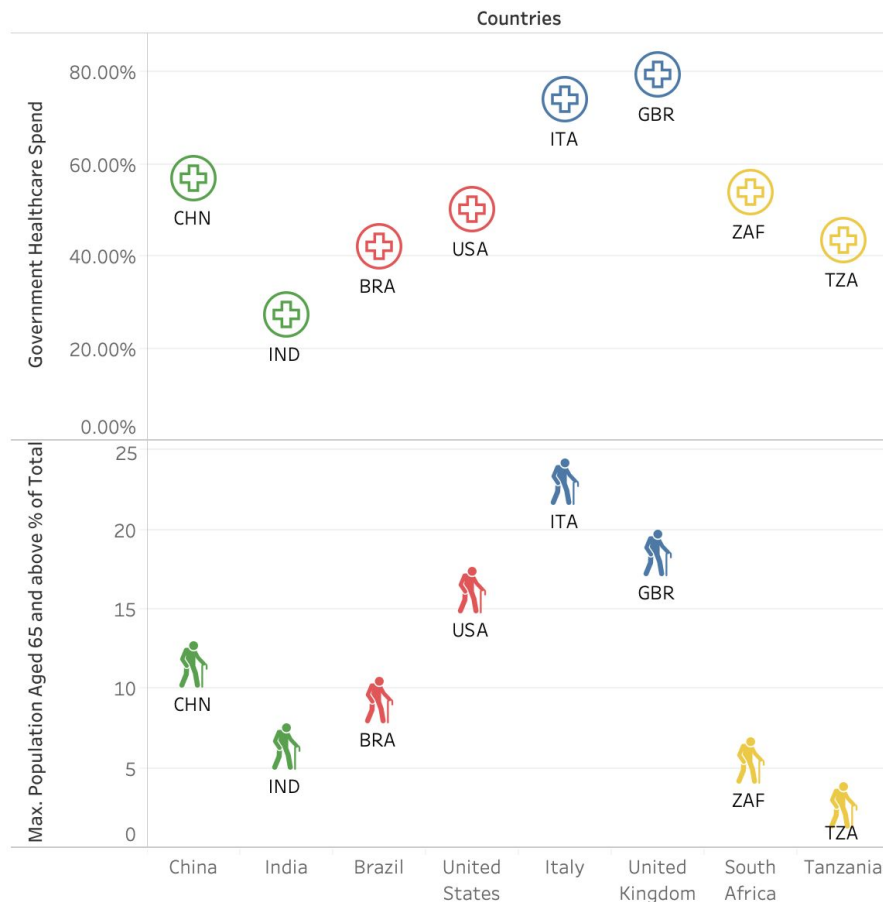


Healthcare spend / population age

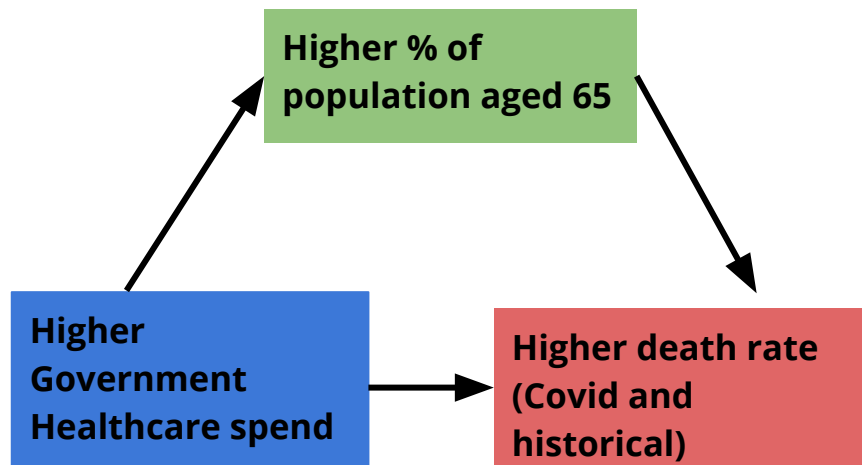
**Higher Government
Healthcare spend**

**Higher % of
population aged 65**

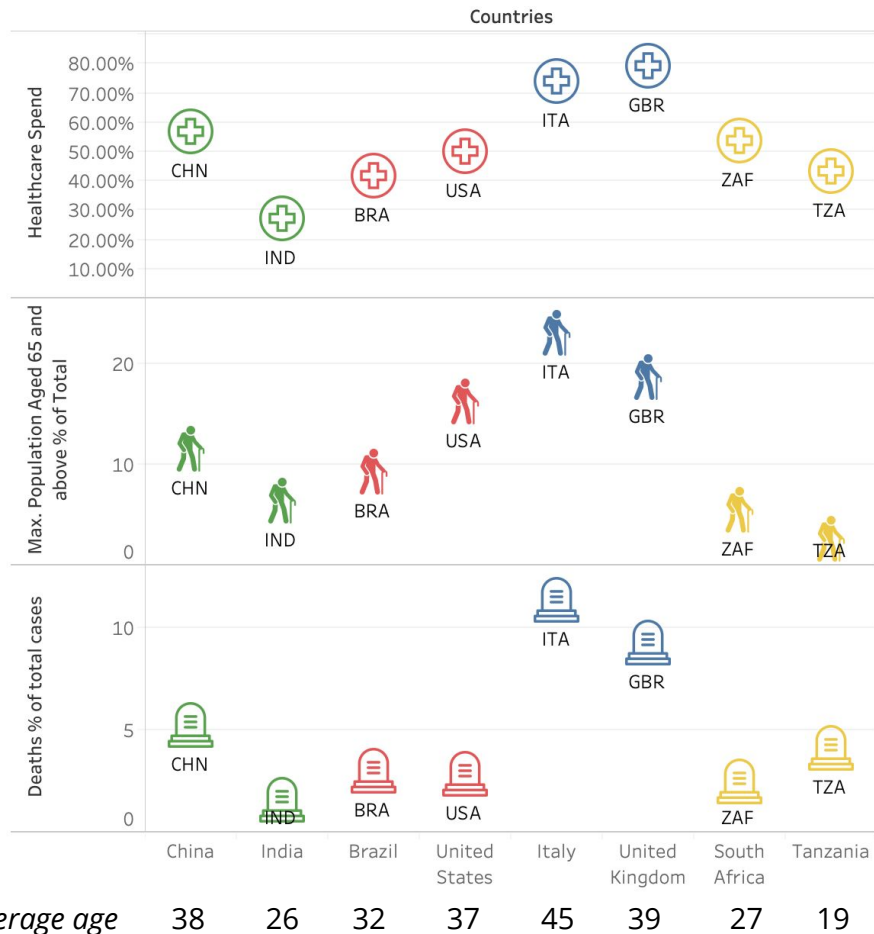
Healthcare spend / age over 65



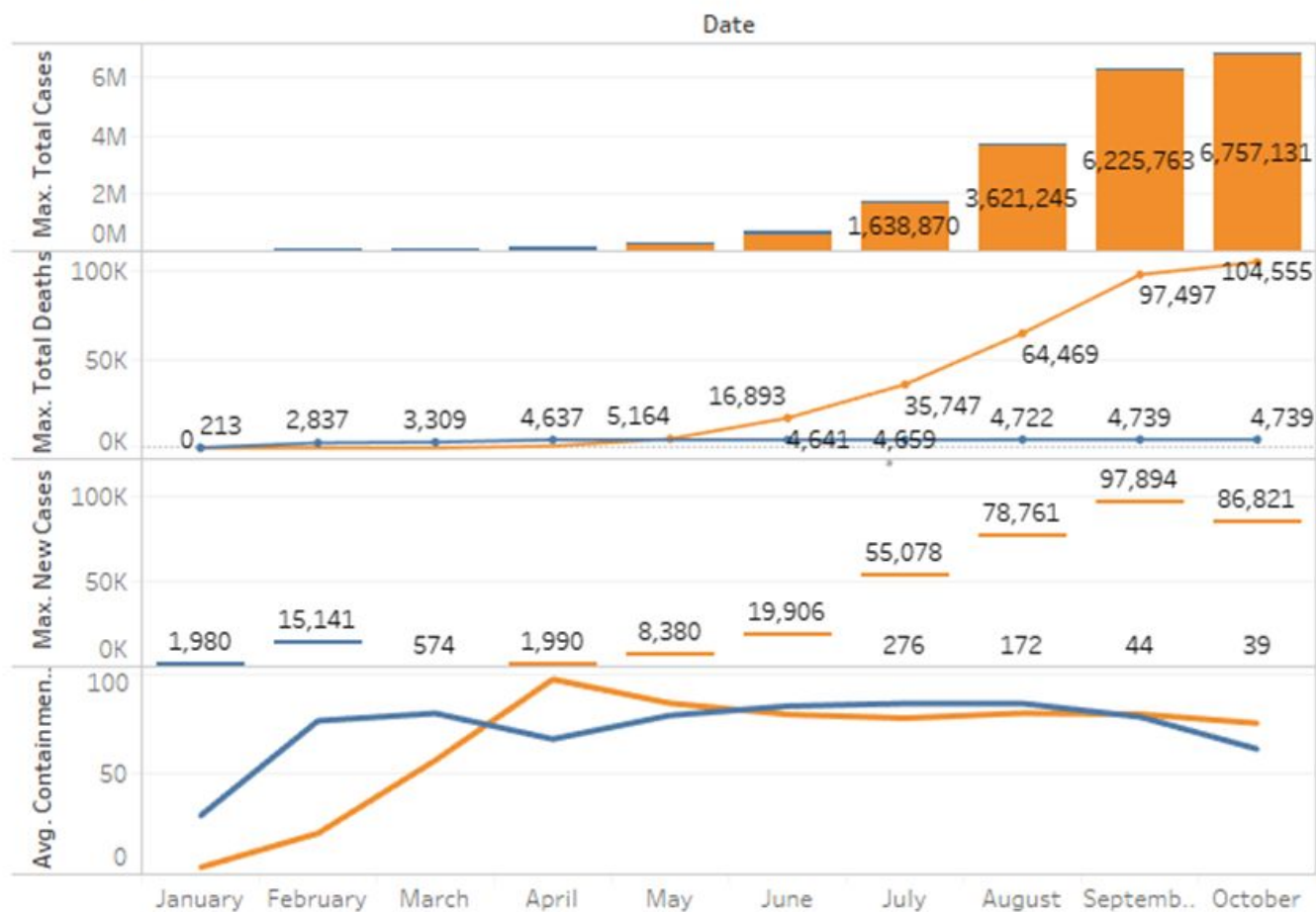
Healthcare spend / population age / death %

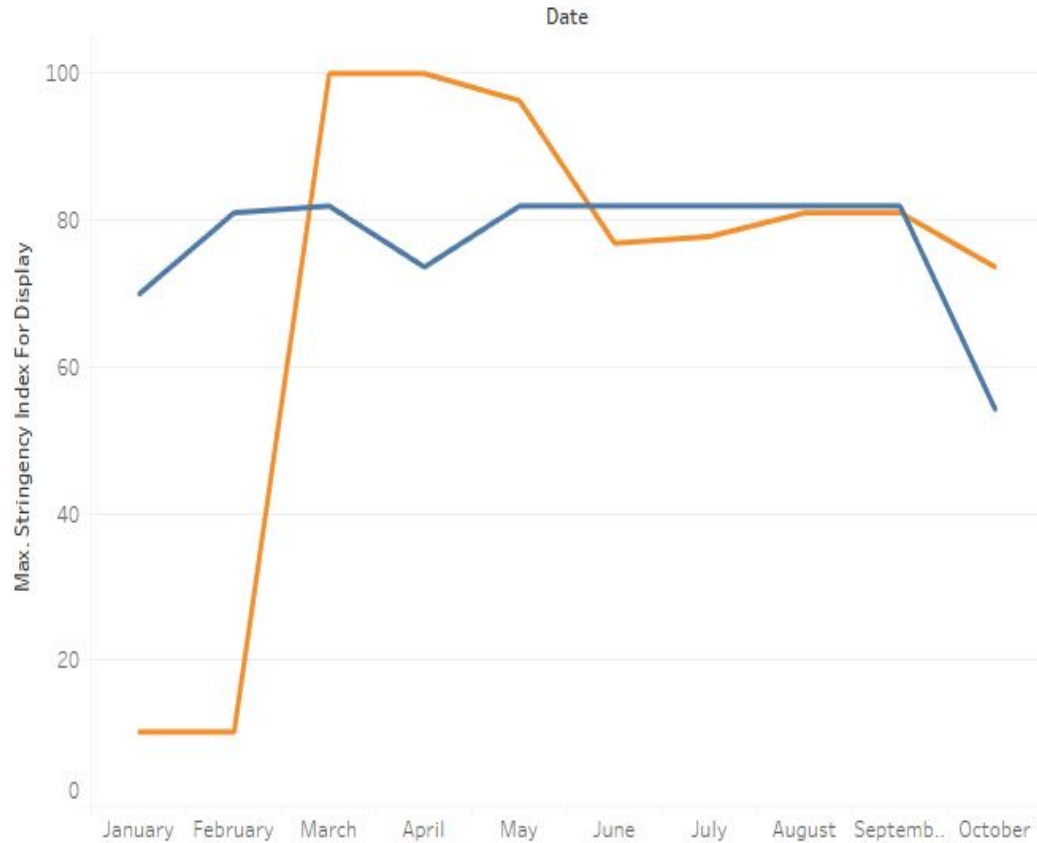


Healthcare spend / age over 65 / Covid death %



India vs China

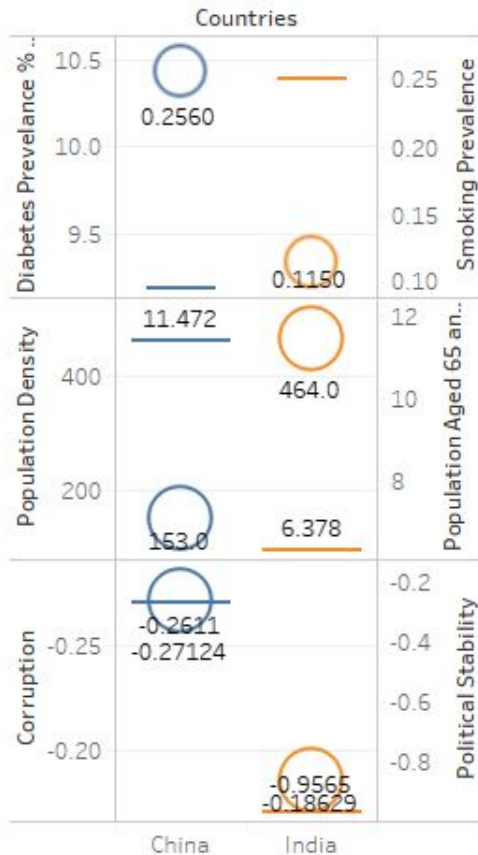




The March lockdown imposed with a 4 hour notice and as a result rural migrants were forcibly held back in cities for two months as infections rose. When they were finally allowed to go home, they took the virus from urban hotspots to rural areas across the country.

As the infections spike in rural areas, health experts say the country's crumbling rural health sector is not equipped to deal with the surge in cases.

Parameters for China and India



Countries

China

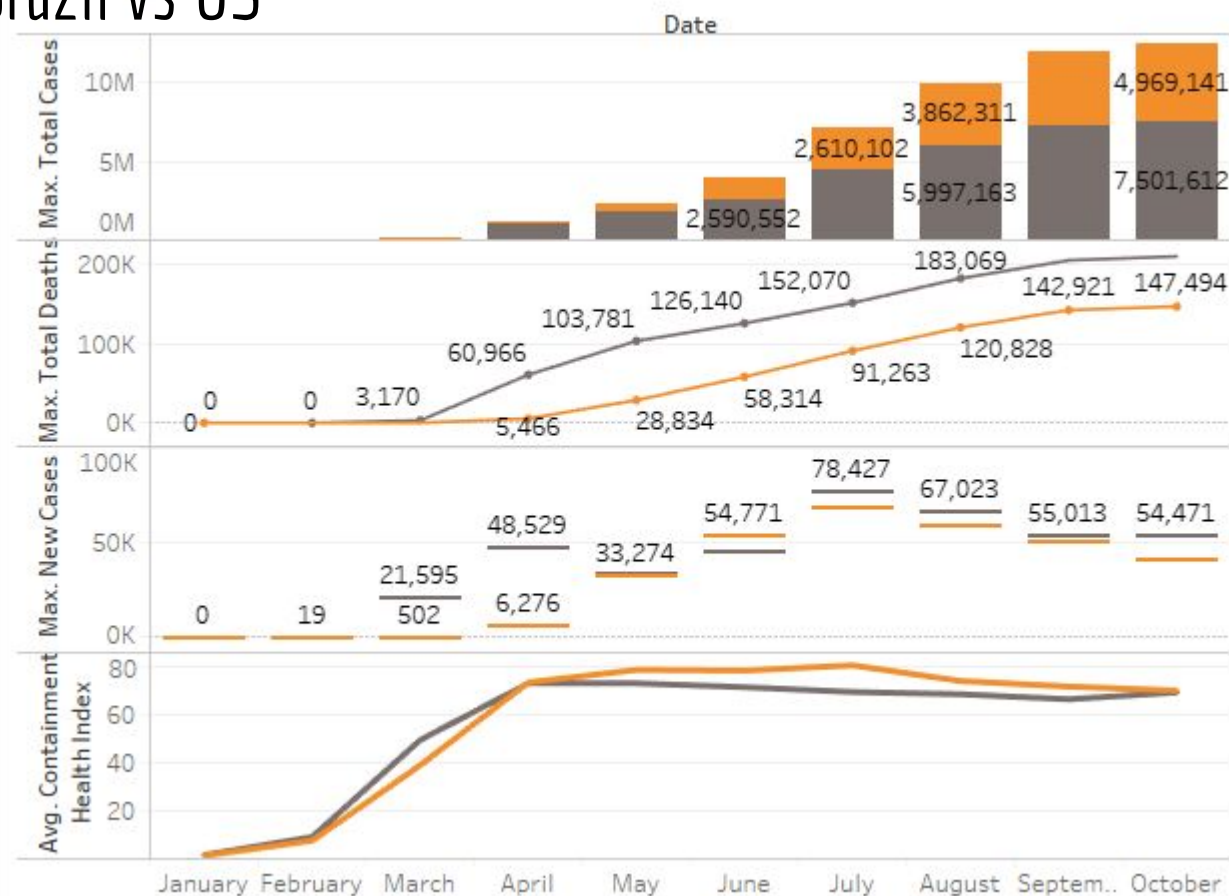
India

Smoking prevalence is high in China and diabetes in India is higher by approximately 2%.

Age of the population is lower for India and recovery rate has been high which accounts for low % of deaths for total cases.

Government effectiveness is higher in china and general adoption of policies by the public is better in China than in India.

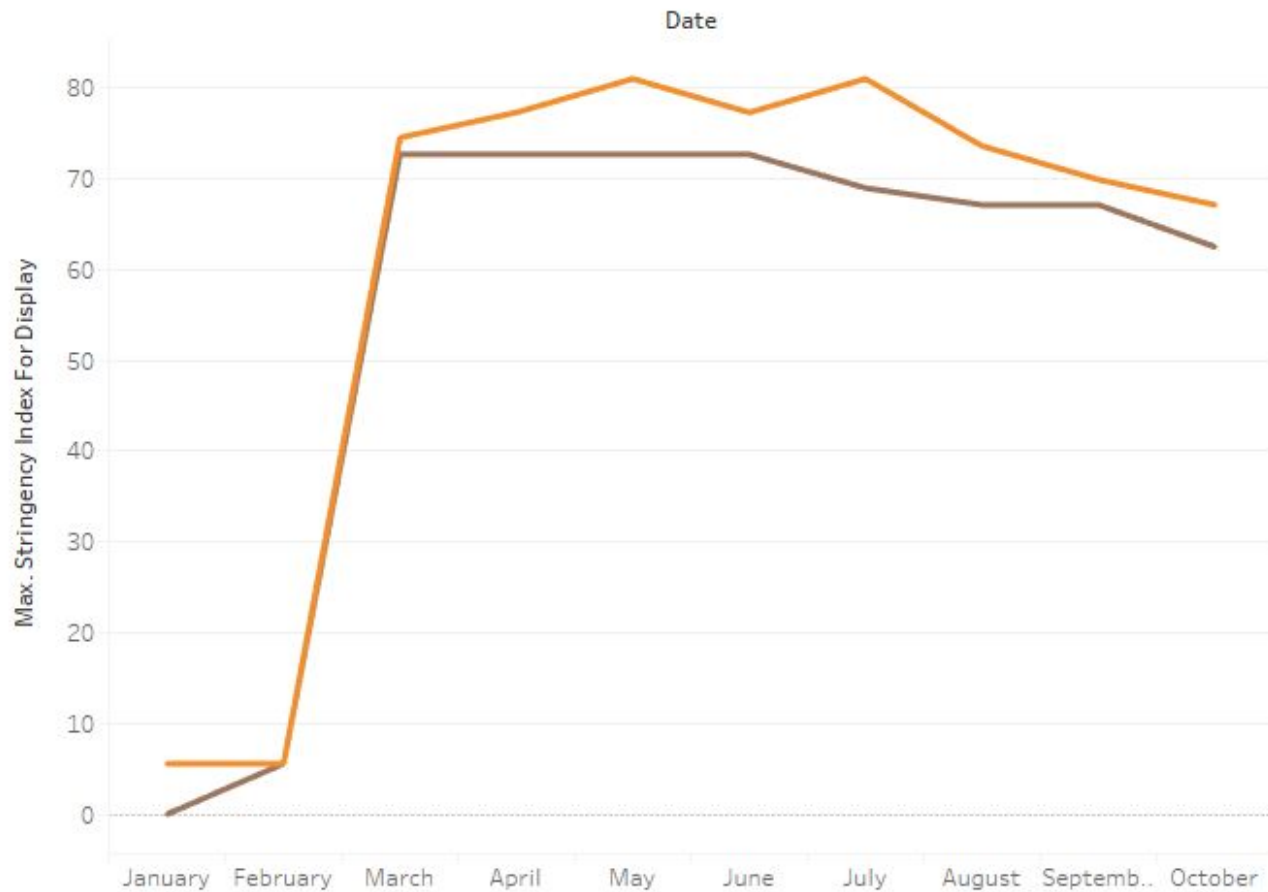
Brazil vs US



Countries

Brazil

United States



Brazil and US both are seeing a continued rise in number of total cases however there seems to be a decrease in the number of new cases.

Both countries has shown reluctance in imposing social distancing and lockdown measures and have been slow to grasp the threat of the virus.

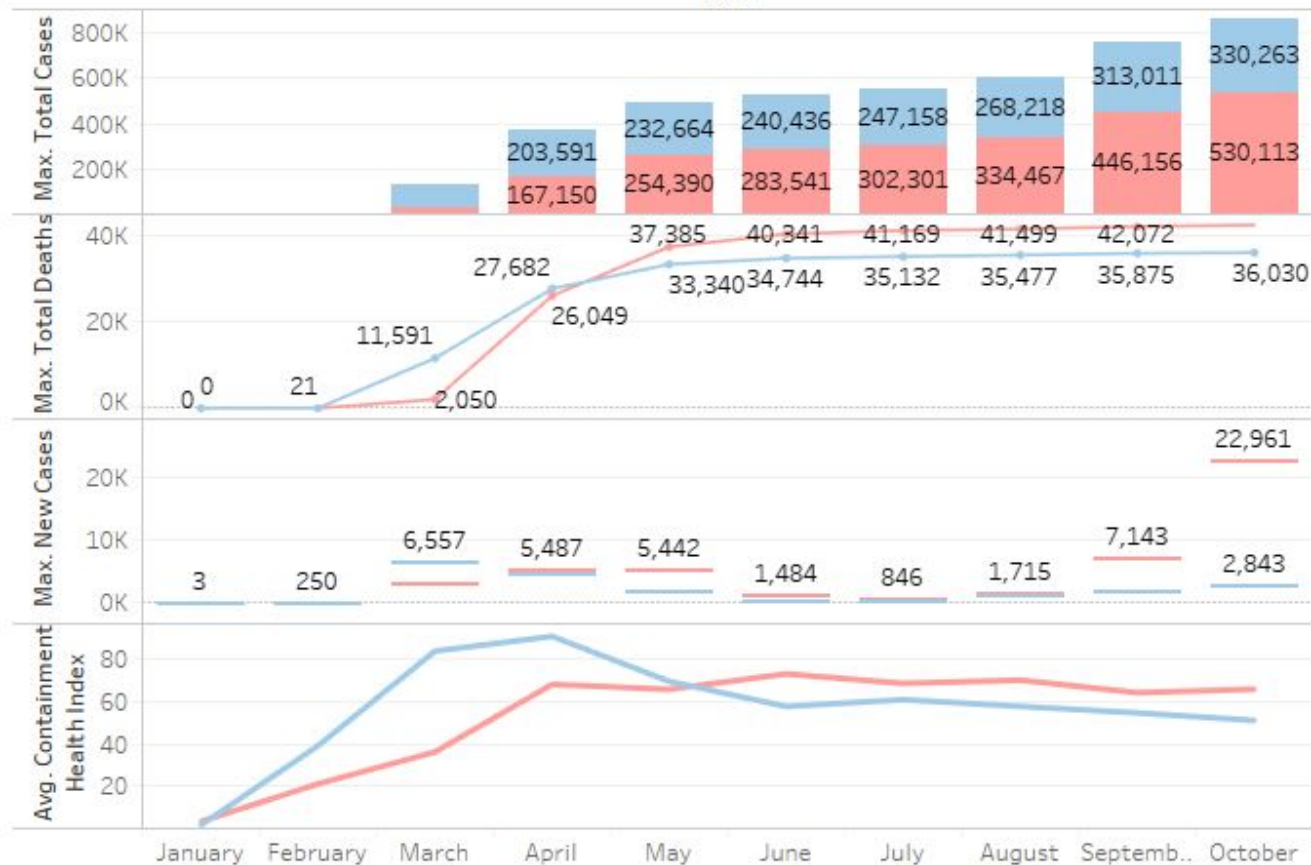
Italy vs United Kingdom

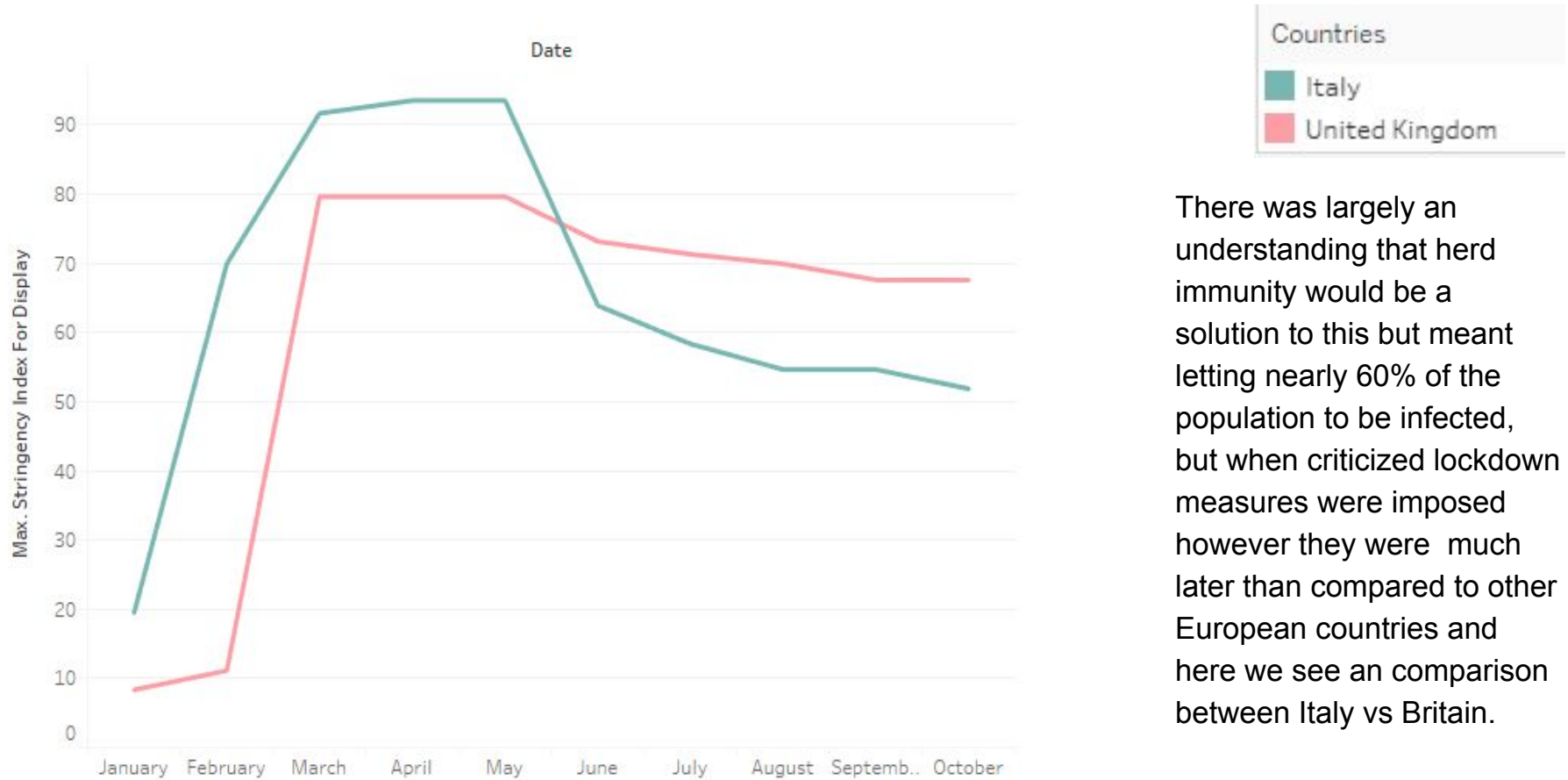
Date

Countries

Italy

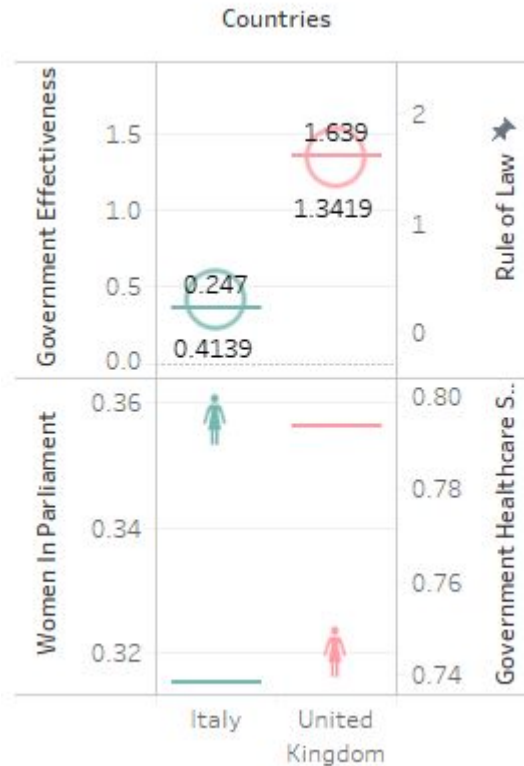
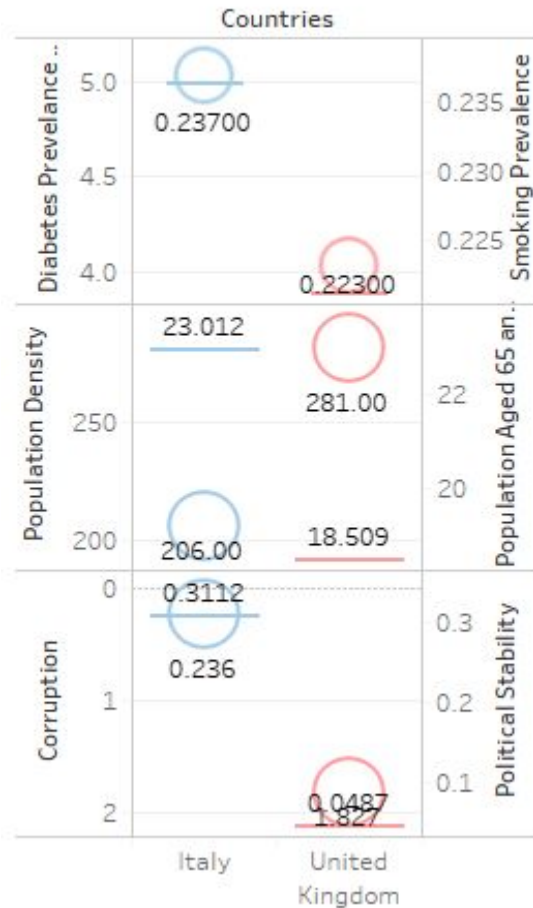
United Kingdom





There was largely an understanding that herd immunity would be a solution to this but meant letting nearly 60% of the population to be infected, but when criticized lockdown measures were imposed however they were much later than compared to other European countries and here we see an comparison between Italy vs Britain.

Parameters for Italy and UK



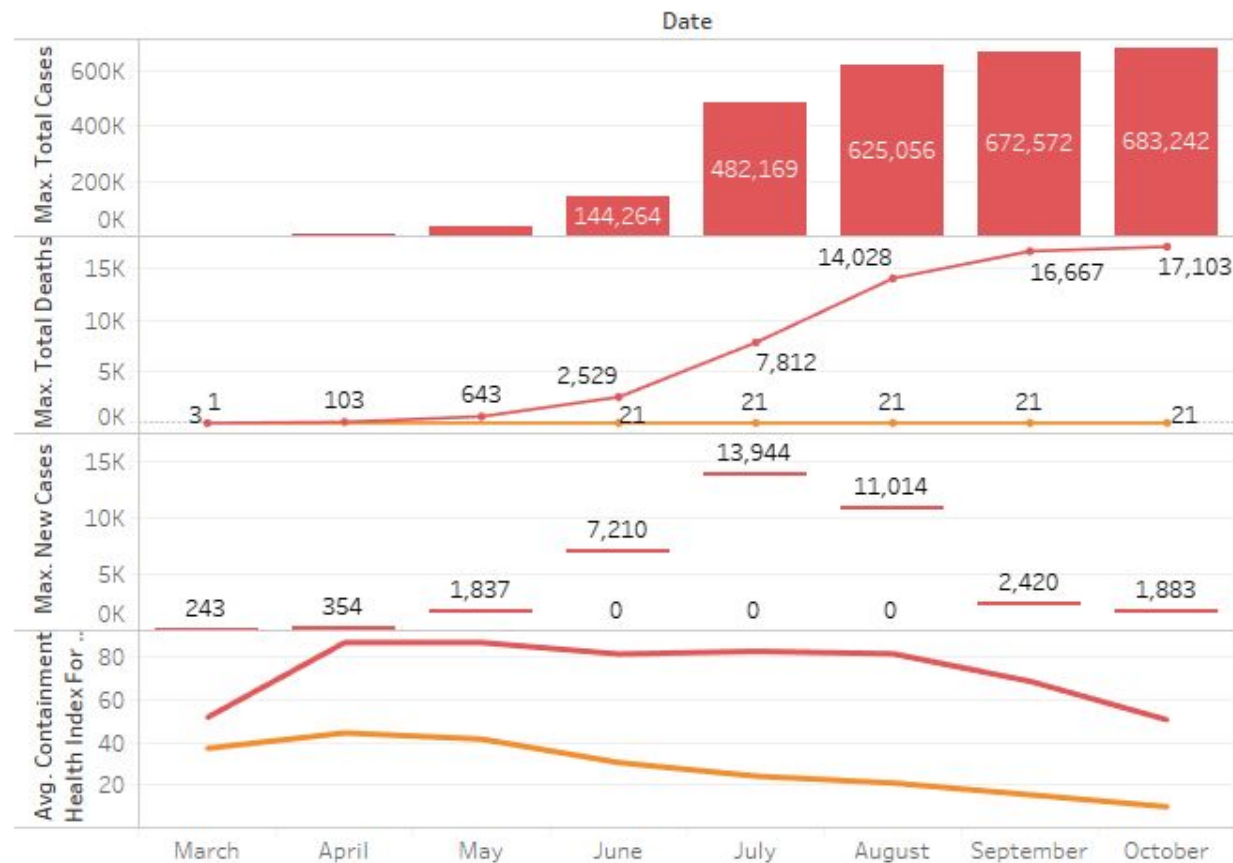
Countries

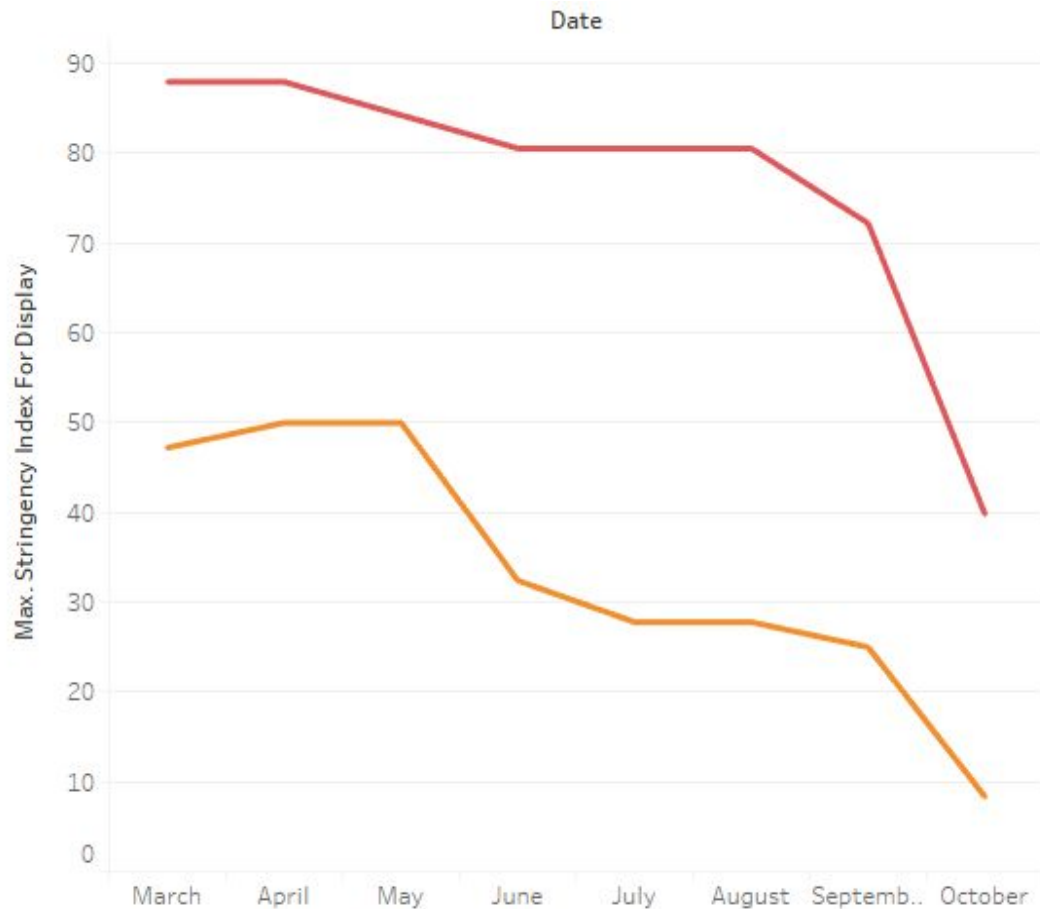
- Italy
- United Kingdom

In Italy we see a higher prevalence of diabetes and smoking (among 20-79 yrs) and higher population percentage of the elderly despite having a lower population density compared to the UK.

UK despite having a better rule of law and government effectiveness index had a lower containment index during the initial few months of the lockdown.

South Africa vs Tanzania

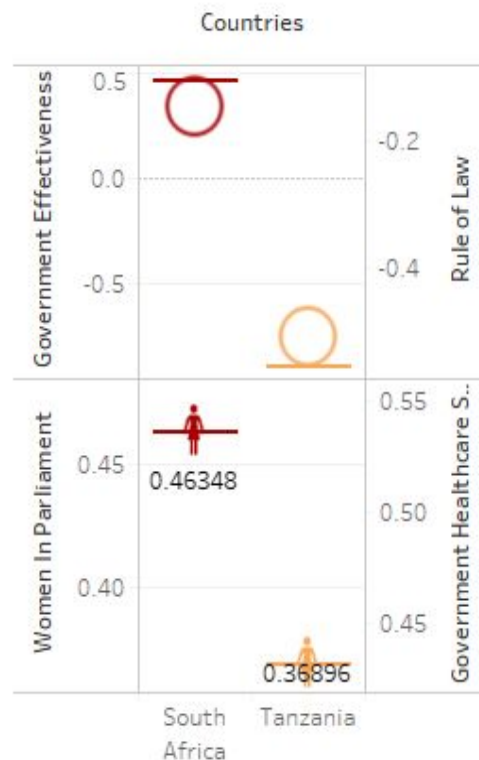
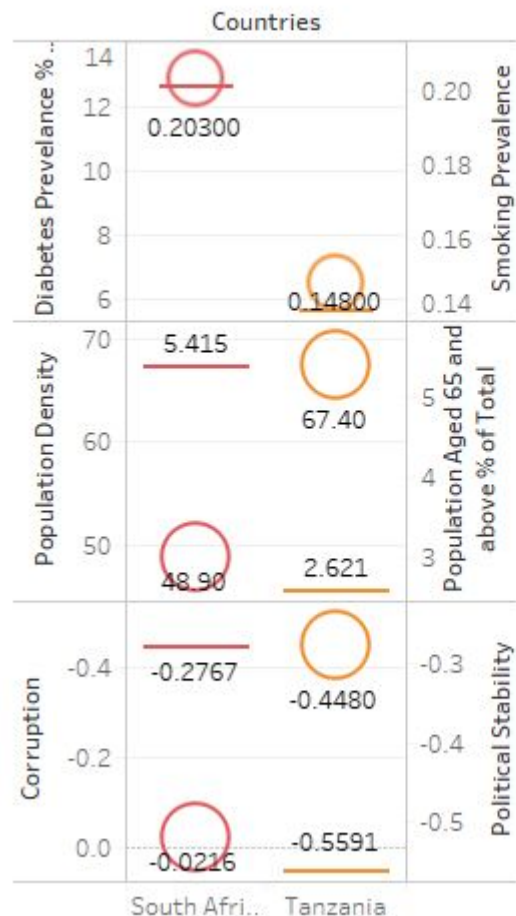




South Africa with effective communication and moving to close borders soon. In its earliest stages, the lockdown slowed down the rate of infections—around a 3 percent daily increase.

Tanzania has strikingly low numbers with barely any new cases. This can be due the lack of transparency in the Tanzanian government and heavy media control.

Parameters for South Africa and Tanzania



Tanzania has a higher population density compared to South Africa and it also has a younger population when compared to South Africa which might be a reason behind the lower number of deaths but cannot be relied on.

There is lower political stability and higher corruption as well lower government effectiveness in Tanzania.

South Africa has applied its experiences from public health campaigns against tuberculosis and HIV/AIDS epidemics to curb the spread of coronavirus. The healthcare spend index supports this. The government and its partners have the know-how and infrastructure to conduct widespread testing.

Thank You
