

Covid19 - Data analysis using R

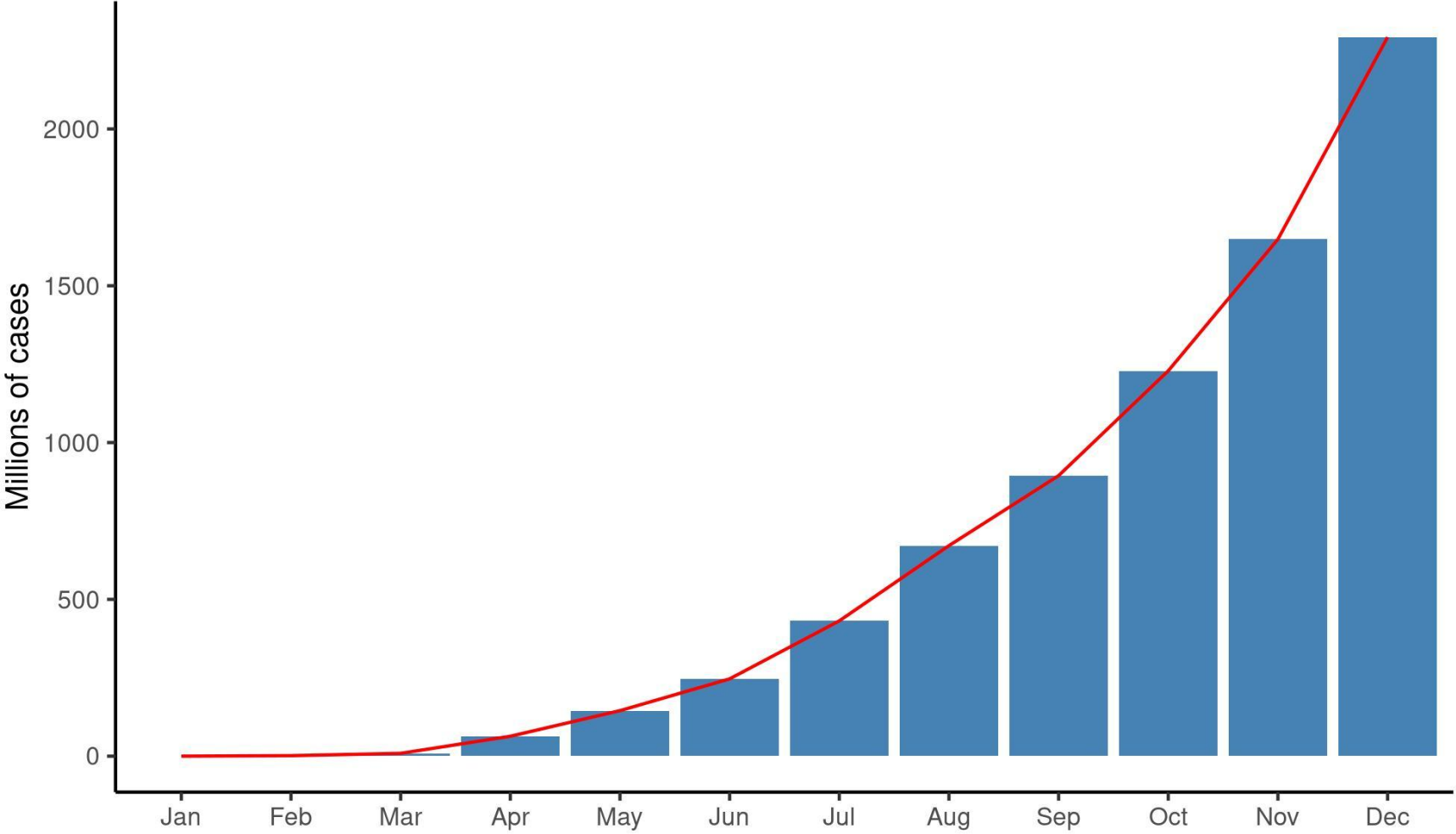
Data source:

https://github.com/CSSEGISandData/COVID-19/tree/master/csse_covid_19_data/csse_covid_19_time_series

1. Three datasets include number of *confirmed cases*, *deaths* and *recovered cases* of each day during period of *22nd Jan to 31st Dec 2020*.
2. Key findings include:
 - An increasing trend of cases in 190 countries during 12 months
 - Top 6 countries that have highest number of cases
 - How northern countries (north of the equator) and southern countries differed in case growth
 - Change in the US cases



Global COVID-19 cases in 2020



- On the last day of the observed period (31 December 2020), the total number of global confirmed cases is **83,424,446**.
- Different proportions between northern countries and southern ones:

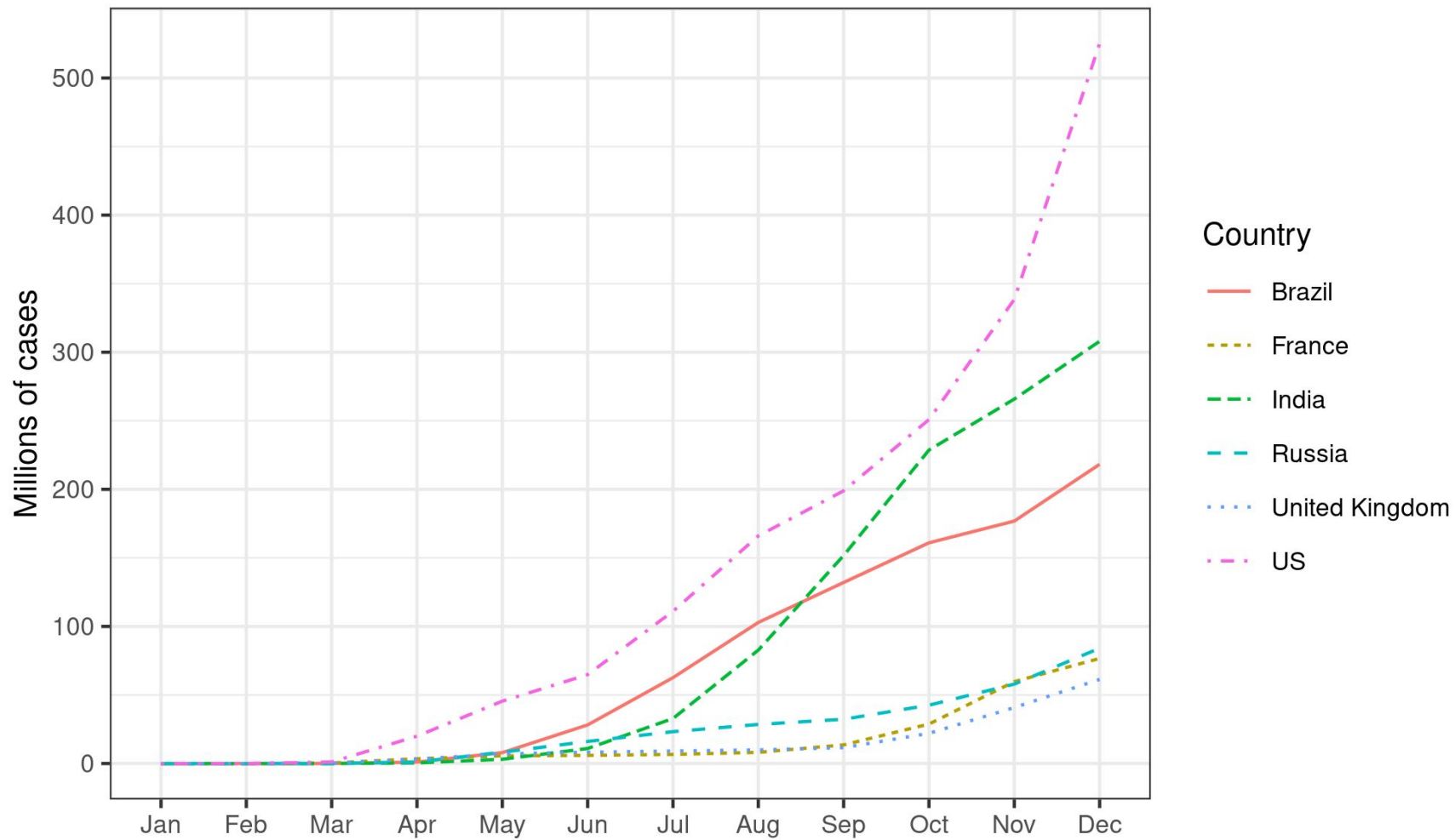
Regions <chr>	Total cases <chr>	Percentage <dbl>
Northern countries	69,847,057	83.72
Southern countries	13,577,389	16.28

Top 6 countries that had the highest number of confirmed cases are US, India, Brazil, Russia, France and UK:

Country/Region <chr>	12/31/20 <chr>
United Kingdom	2,496,231
France	2,677,666
Russia	3,127,347
Brazil	7,675,973
India	10,266,674
US	19,968,087

The US had the highest number of confirmed cases among countries which was recorded at 19,968,087 on 31st Dec 2020

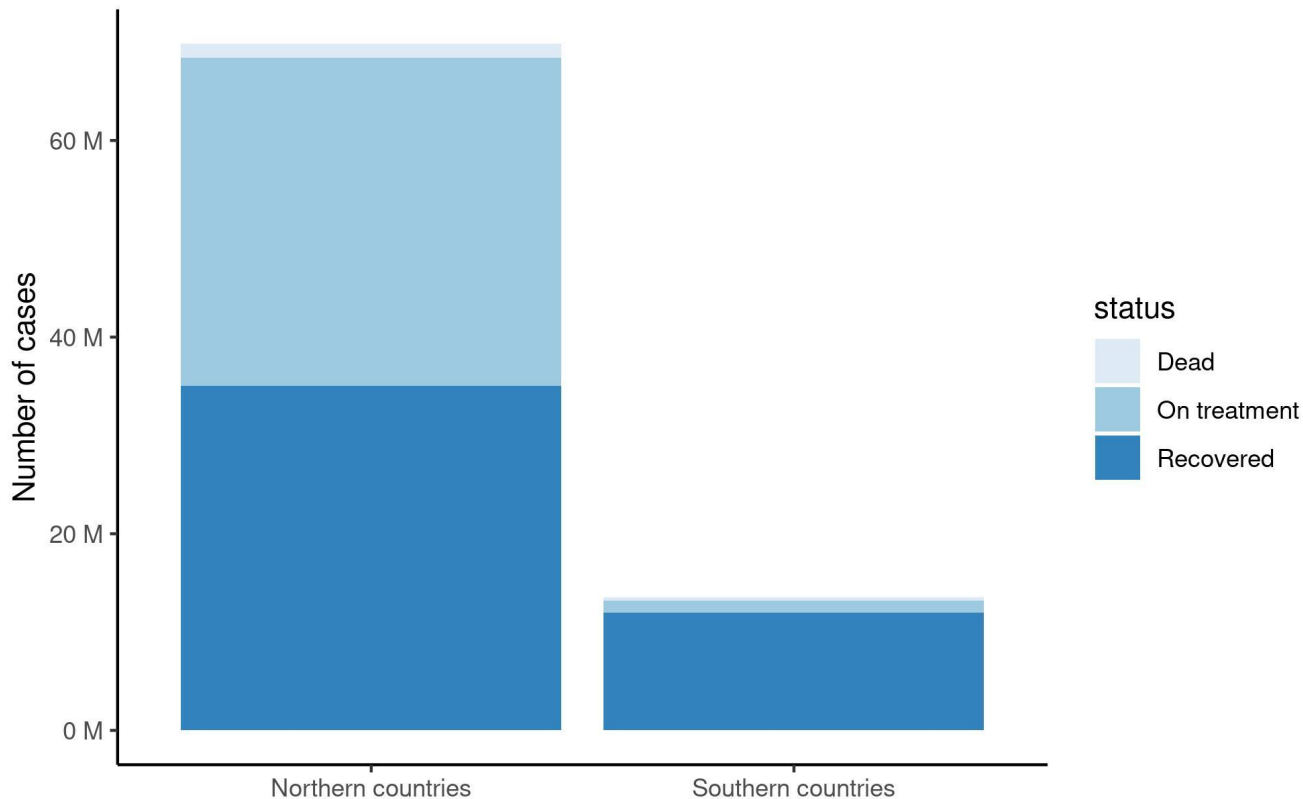
Confirmed cases in top six countries



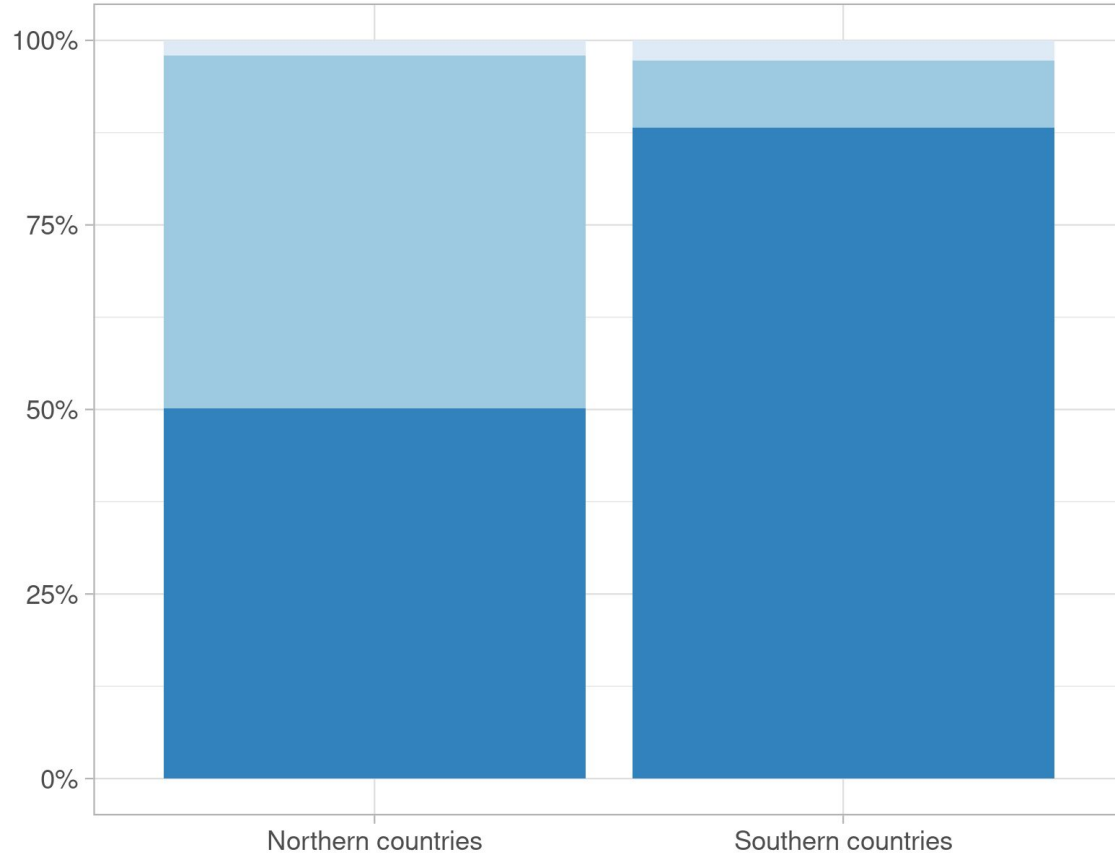
Now let's take a look at all 3 dataframes to see the total numbers of confirmed cases, deaths, under treatment and recovered cases

The statistics by 31st Dec 2020 as follows:

Regions	Cases confirmed	Deaths	On treatment	Cases recovered
Northern countries	69,847,057	1,443,582	33,367,866	35,035,609
Southern countries	13,577,389	374,519	1,228,430	11,974,440



- From this chart we can see the total confirmed cases in countries from the north of the equator outweighed the numbers of countries from the south.
- A majority of cases have been recovered in southern countries. We don't see that in northern countries where there were still lots of cases on treatment.



status

- Dead
- On treatment
- Recovered

- This chart is to illustrate the proportion of deaths, recovered and on-treatment cases in both areas.
- Again we can see a majority of cases have been recovered in southern countries.

By 31st Nov 2020:

- Total recovered cases are 47,010,049 which accounts for 56.35% of all confirmed cases all around the world. Total number of deaths is 1,818,116
- In northern countries, recovered cases are 35,035,609 (50.16% of confirmed cases in the north) and sadly 1,443,582 people have died (2.07%)
- In southern countries, recovered cases are 11,974,440 (88.19% of confirmed cases in the south) and 374,519 people have died (2.76%)



US cases in 2020

