

# SCIENTIFIC RESEARCH MONITORING ON COVID-19

11 AUGUST 2020

For accessing the full series of published scientific reports please visit the following link:  
<https://www.doh.gov.ae/ar/covid-19/Healthcare-Professionals/Scientific-Publication>

# SCIENTIFIC RESEARCH MONITORING ON COVID-19

## (ISSUE 191)

Abu Dhabi Public Health Center (ADPHC) is gathering the latest scientific research updates and trends on coronavirus disease (COVID-19) in a daily report. The report provides summaries on breakthrough or updated research on COVID-19 to allow health care professionals and public health professionals get easy and fast access to information.

Click on icon to view content



**Research**  
Update



**WHO**  
Report



**Statistics**



**Articles**  
Summary

Note : All articles presented in this report represent the authors' views and not necessarily represents Abu Dhabi Public Health Center views or directions. Due the nature of daily posting , some minor language errors are expected.

For further inquiries you may communicate with us as [PHP@adphc.gov.ae](mailto:PHP@adphc.gov.ae)

# RESEARCH UPDATES

---

The views and opinions expressed in this report are those of the authors and do not reflect the official policy or position of the Abu Dhabi Public Health Center (ADPHC).

Click on icon to view content

## Vaccine

**COVID-19: Where Are We on Immunity and Vaccines?**

## Clinical Features

**Long Term Respiratory Complications of COVID-19**

## Public Health Response

**Social Distancing Laws Cause Only Small Losses of Economic Activity during the COVID-19 Pandemic in Scandinavia**

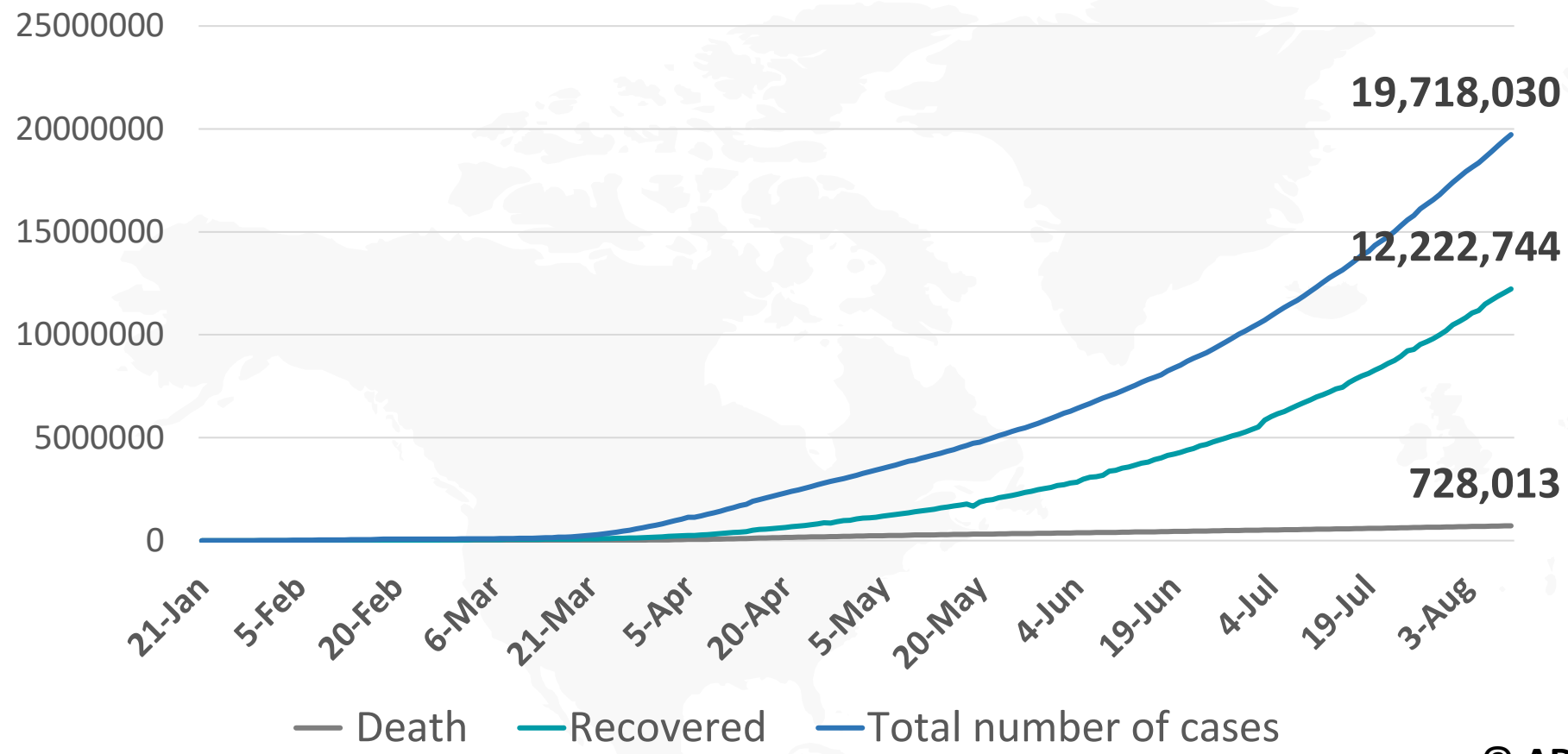




- Over the past weeks, WHO has been adding functionality to its COVID-19 global dashboard, to display all of the latest data that has been published in the daily situation report; these data are now fully available on the dashboard. Important narrative updates are being merged into the WHO COVID-19 “Rolling Updates” pages. Starting next Monday, 17 August, the daily situation report will be replaced by a “COVID-19 Weekly Epidemiological Update” which will focus on analysis and interpretation of the evolving epidemiologic situation. Operational updates will continue to be shared through the “Weekly Operational Update on COVID-19”.
- A flight carrying protective masks, ventilators and other essential medical supplies for the COVID-19 response, landed in Papua New Guinea last Thursday, marking the start of a humanitarian air service for the Pacific region.
- Preparedness and Response Progress Report which evaluates where we are in the outbreak and the considerable achievements made over the past 6 months.  
Some of these achievements include the:
  - [Solidarity Trial](#), helping find an effective treatment for COVID-19.
  - [WHO Partners Platform](#), providing a tool that enables collaboration in response efforts.
  - COVID-19 Supply Chain System; sending tens of millions of pieces of equipment to countries around the world, ensuring they reach those who need it most
  - COVID-19 Solidarity Response Fund; supporting WHO and partners in the global response
  - [Global Research Roadmap](#), accelerating priority research and development.
  - [Access to COVID-19 Tools \(ACT\) Accelerator](#), accelerating the development, production, and equitable access to COVID-19 tests, treatments, and vaccines.
  - Publishing of 130 guidance documents on various aspects of preparedness and response.
  - Providing [online](#) and in-person training, technical missions and remote support.

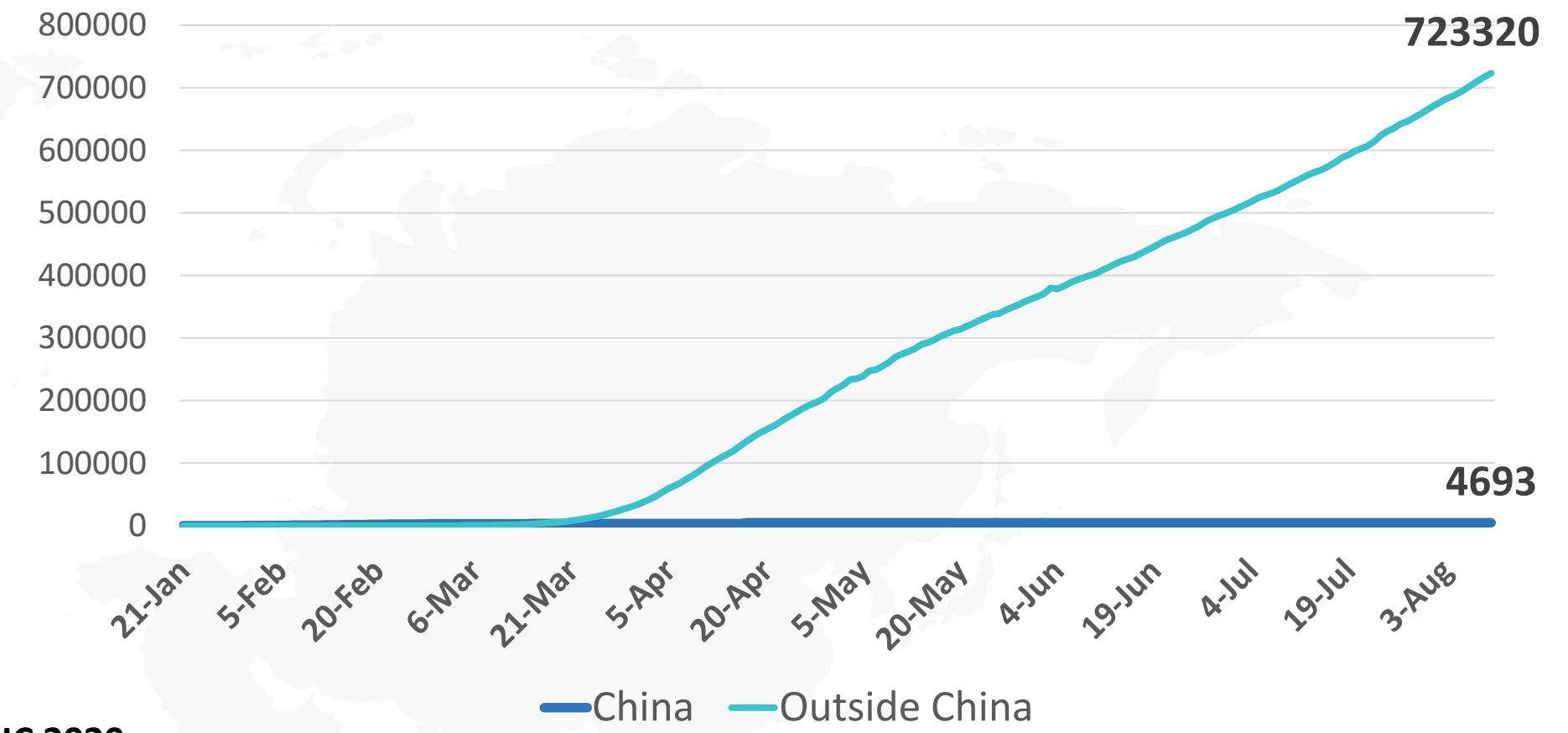


**Figure 1: Total Number of Infected, Recovered, and Death Cases**

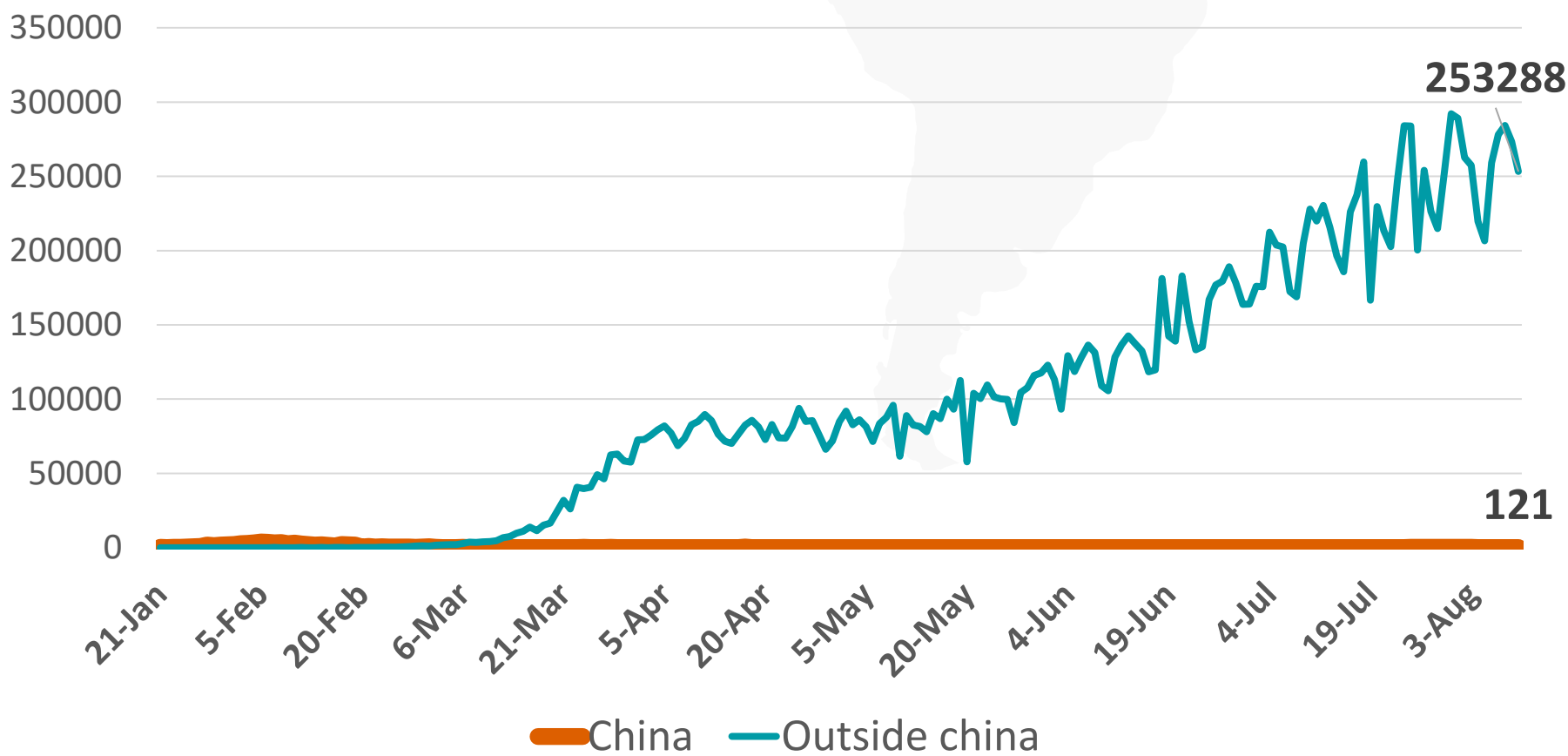


© ADPHC 2020

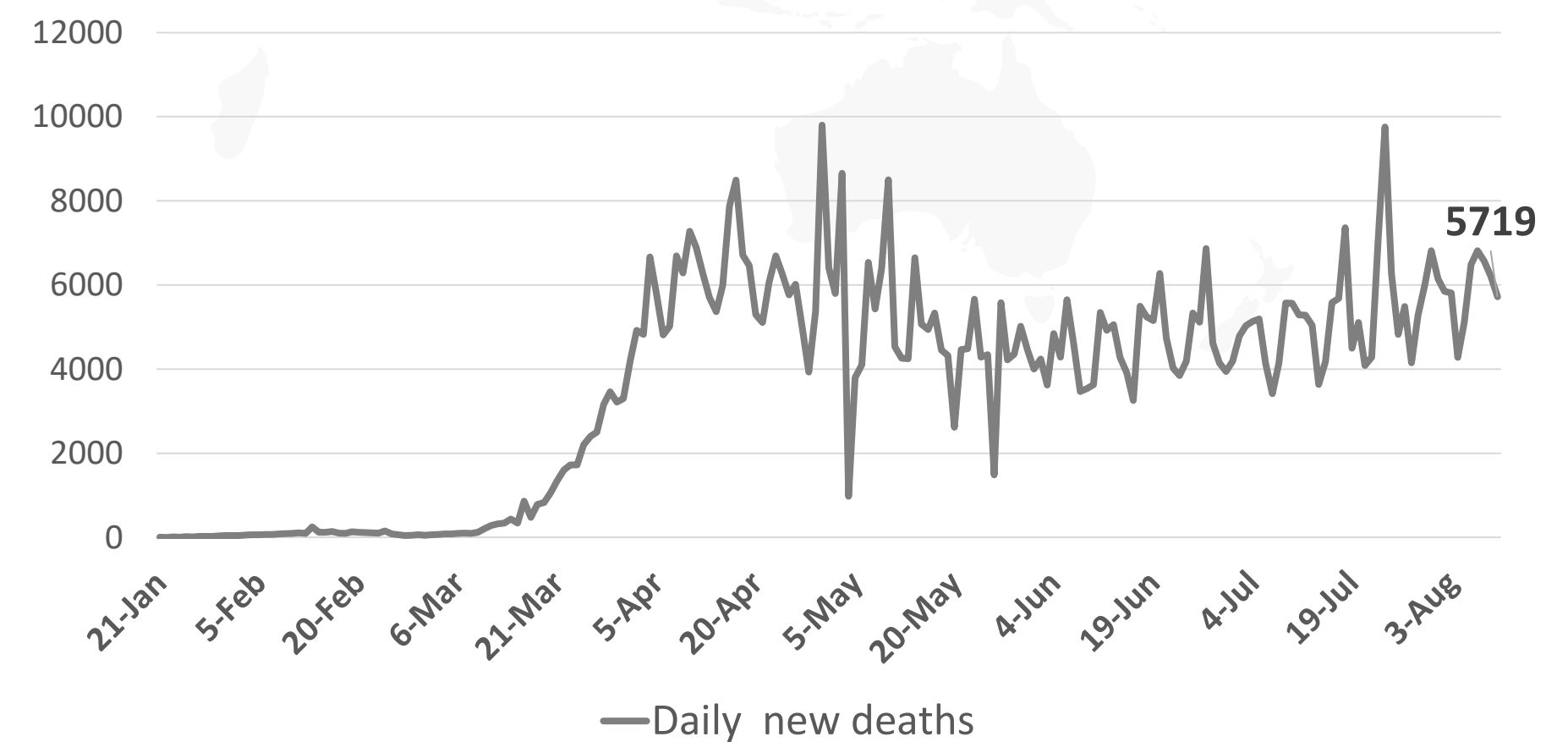
**Figure 3: Total Number of Death Due to COVID-19 (china and result of the world)**



**Figure 2: Daily New Infected COVID-19 Cases (China and rest of the world)**



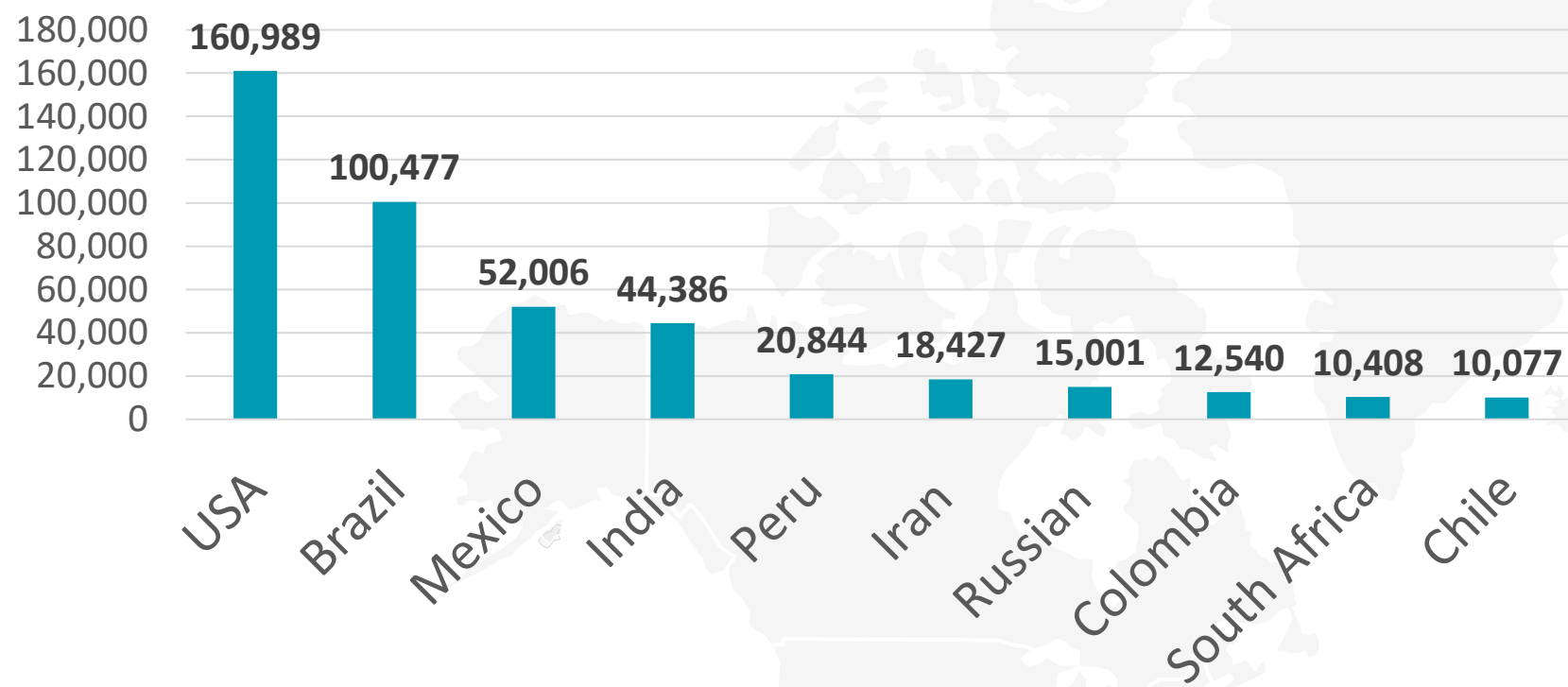
**Figure 4: Global Daily New Deaths Due to COVID-19 (china and rest of the world)**



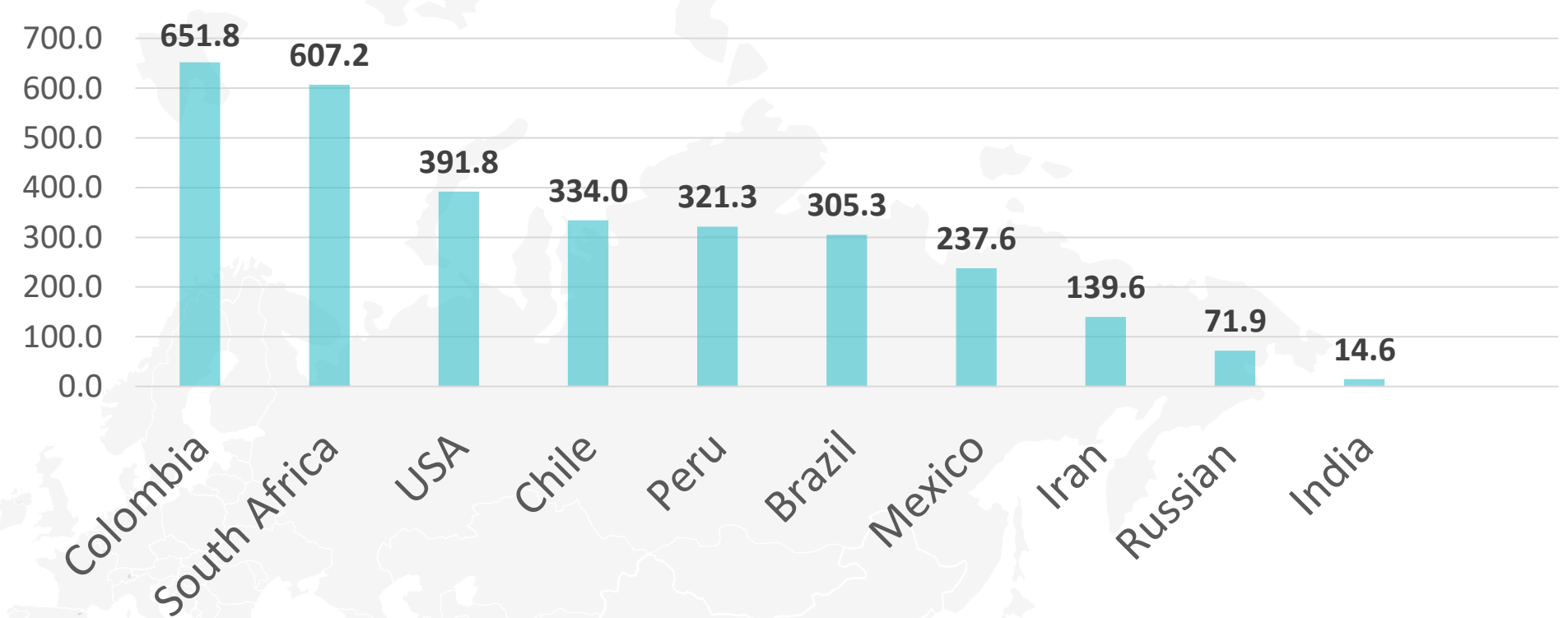


## Figure 5: Top 10 Countries in the Total Number of Cases Due to COVID-19

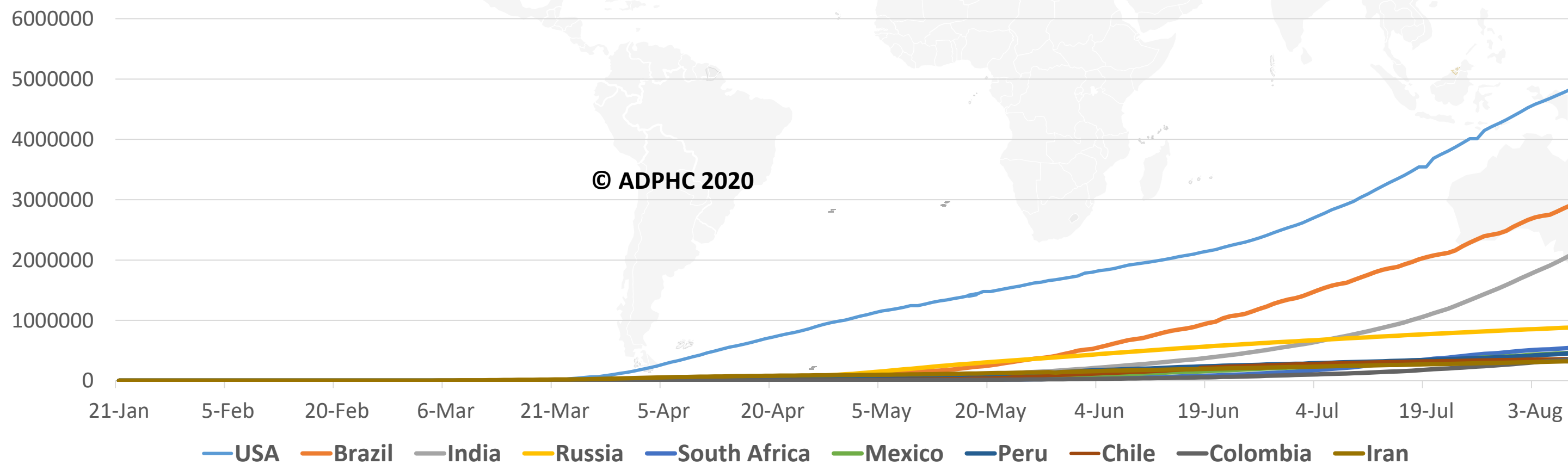
### TOTAL DEATHS



### DEATHS PER MILLION

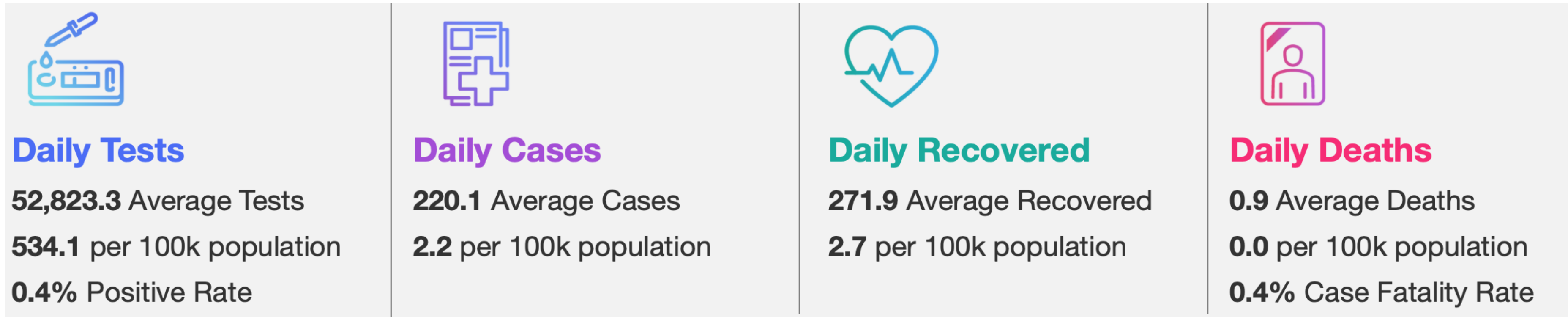


### TOTAL INFECTED CASES

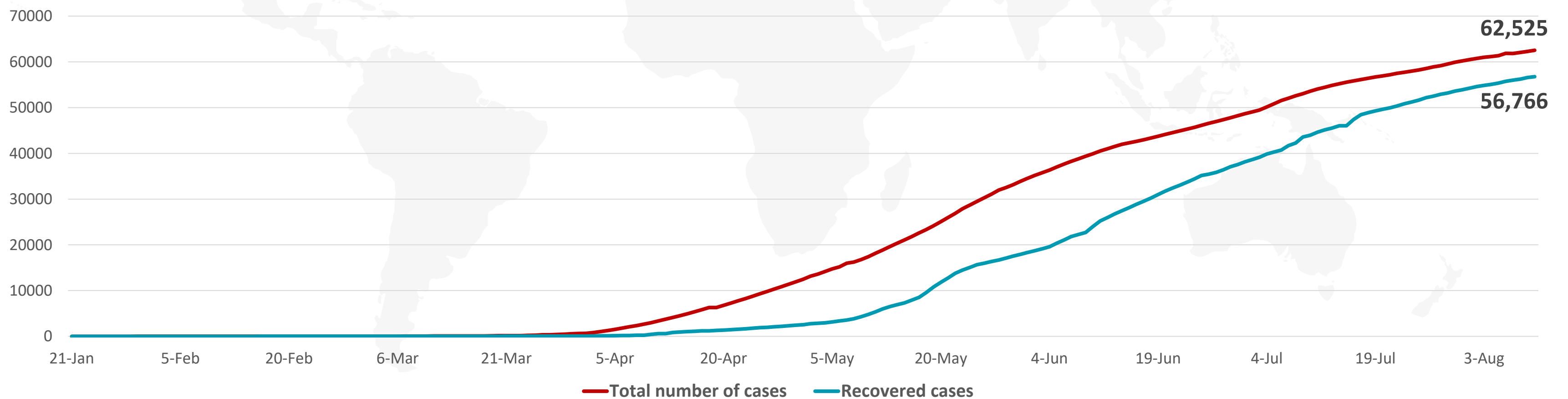


USA	4,951,851
Brazil	3,012,412
India	2,215,074
Russia	892,654
South Africa	559,859
Mexico	475,902
Peru	471,012
Chile	376,870
Colombia	373,056
Iran	326,712

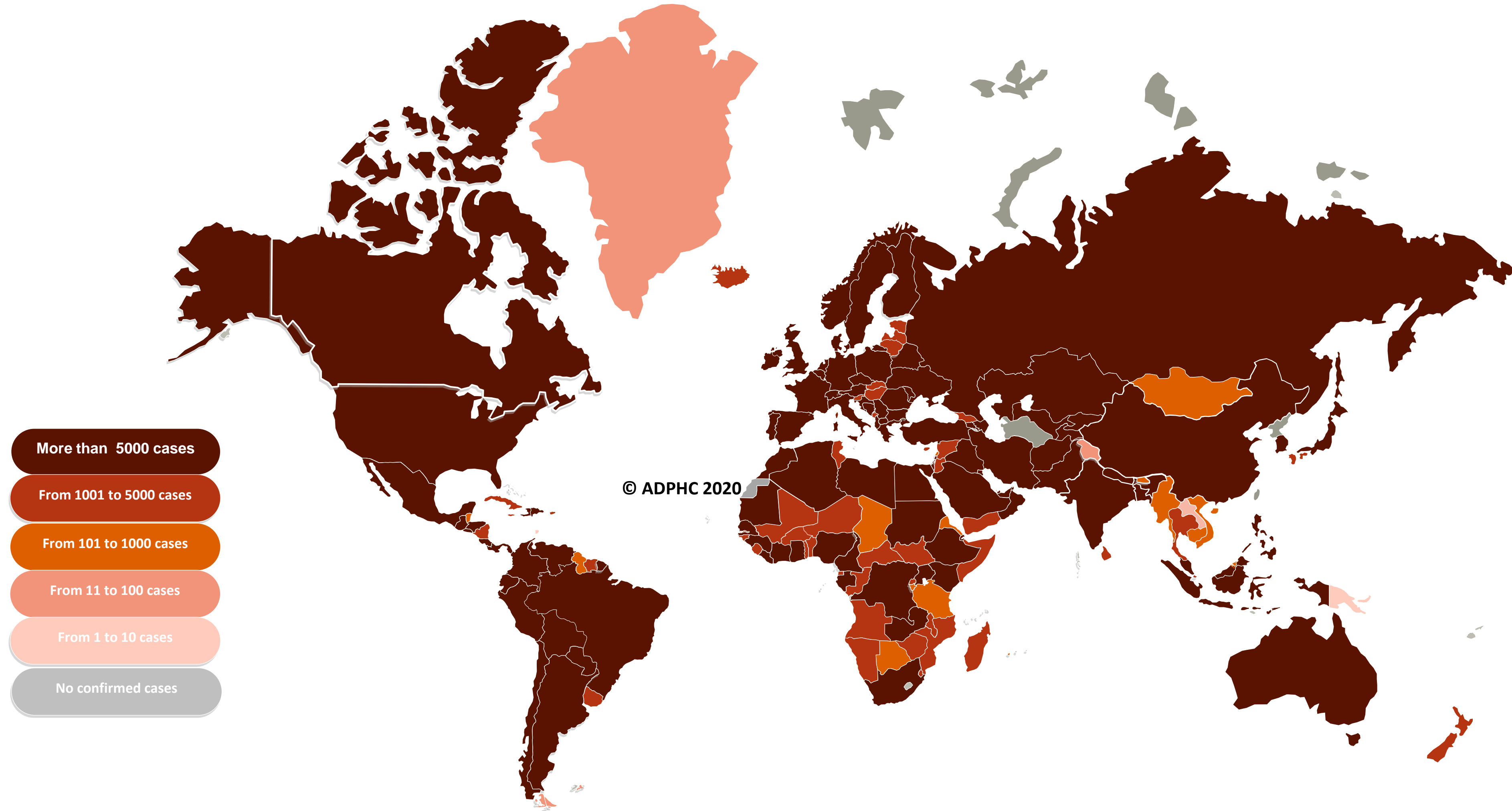
**Figure 6: COVID-19 Status in the UAE** (Federal Competitiveness and Statistics Authority Dashboard)



## TOTAL NUMBER OF INFECTED AND RECOVERED CASES DUE TO COVID-19 REPORTED BY THE UAE



## Figure 7A : Global Distribution of COVID-19 Cases



More than 5000 cases

From 1001 to 5000 cases

From 101 to 1000 cases

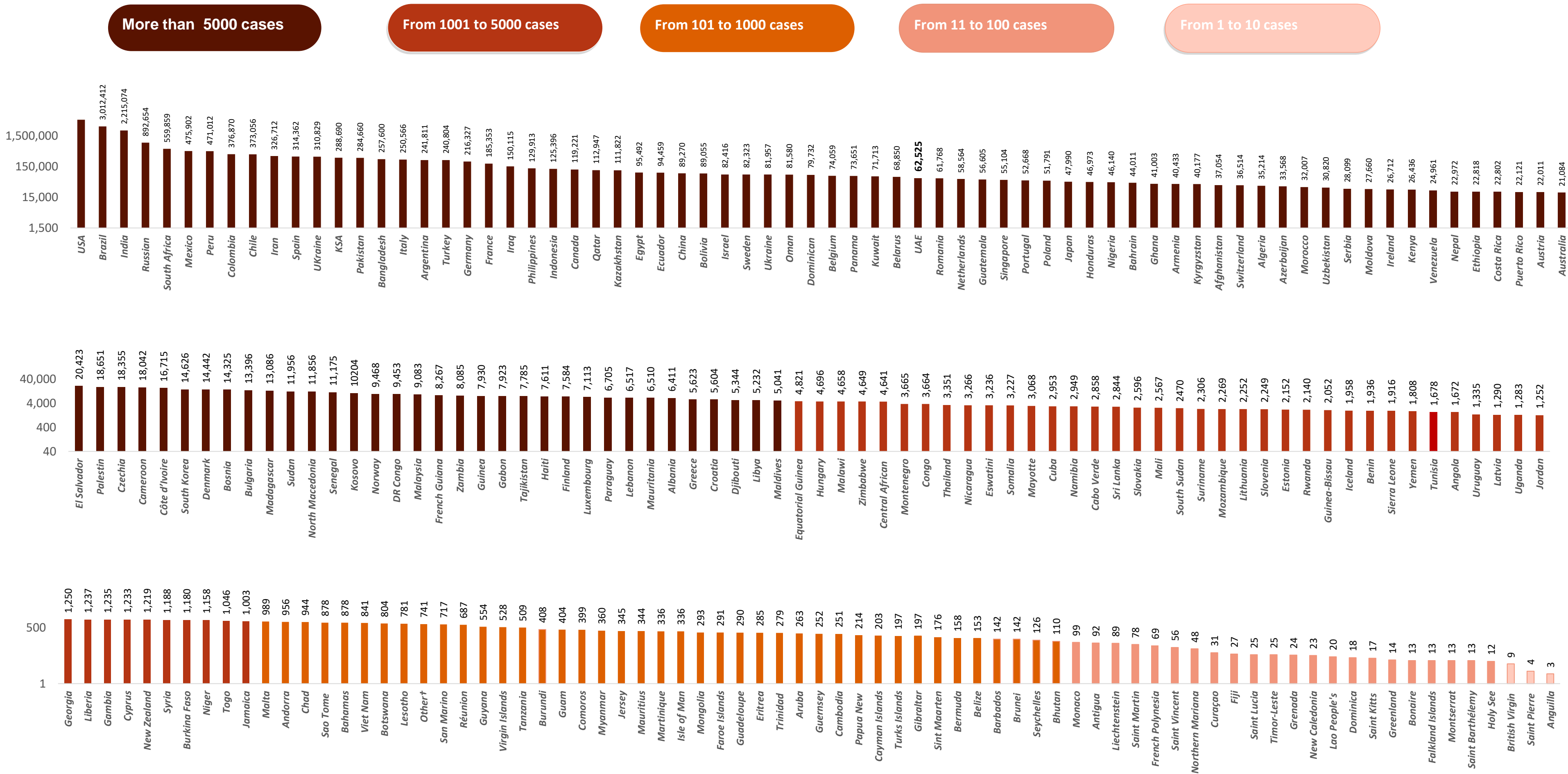
From 11 to 100 cases

From 1 to 10 cases

No confirmed cases



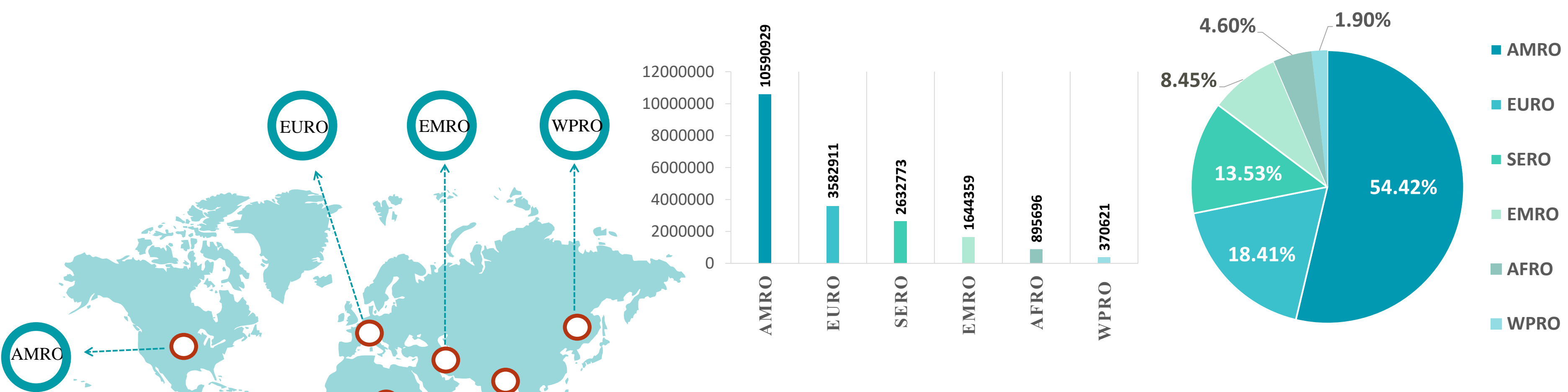
## Figure 7B: Bar Chart Illustrates the Global Distribution of COVID19 Cases



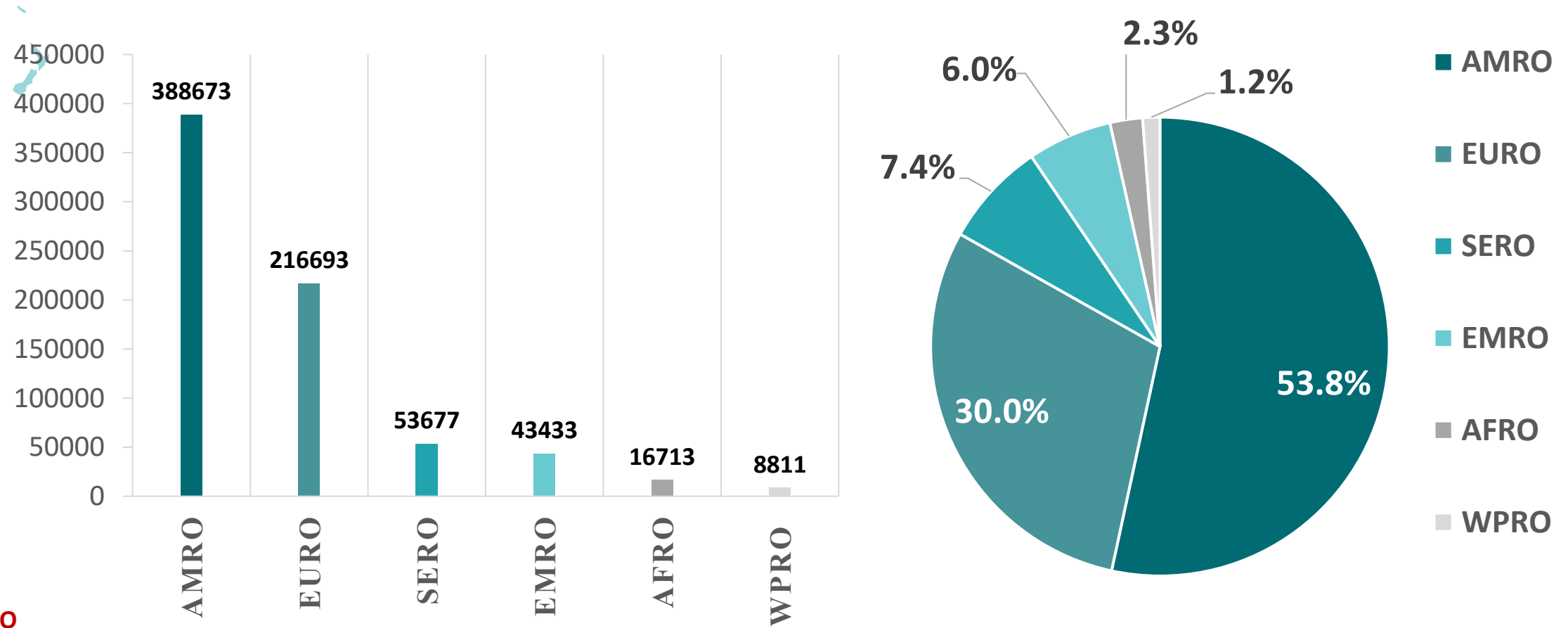
Other\*: includes cases and deaths reported under the international conveyance(Diamond Princess)

Figure 8: Global Distribution of COVID-19 Cases per Region

## INFECTED

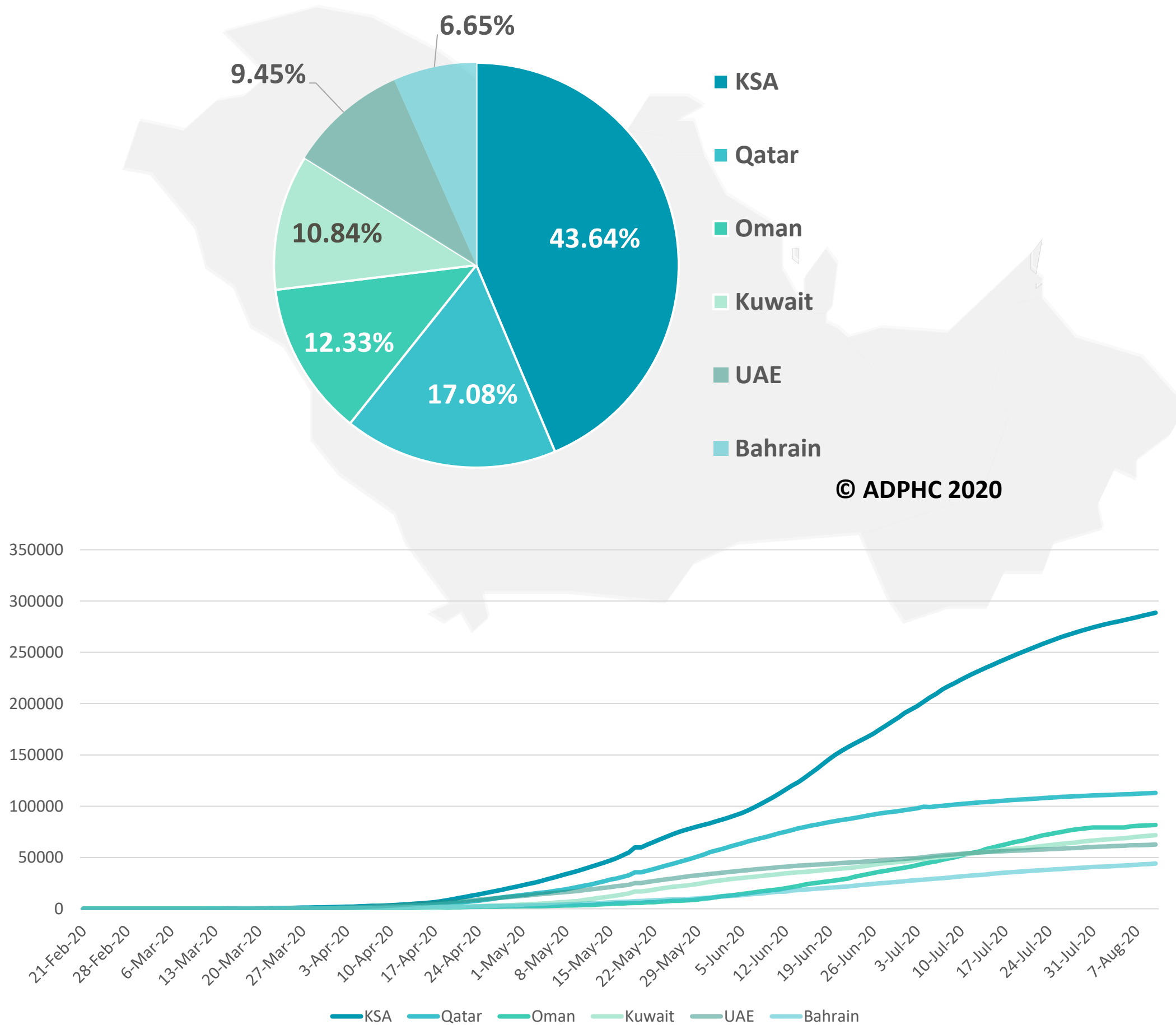


## DEATHS

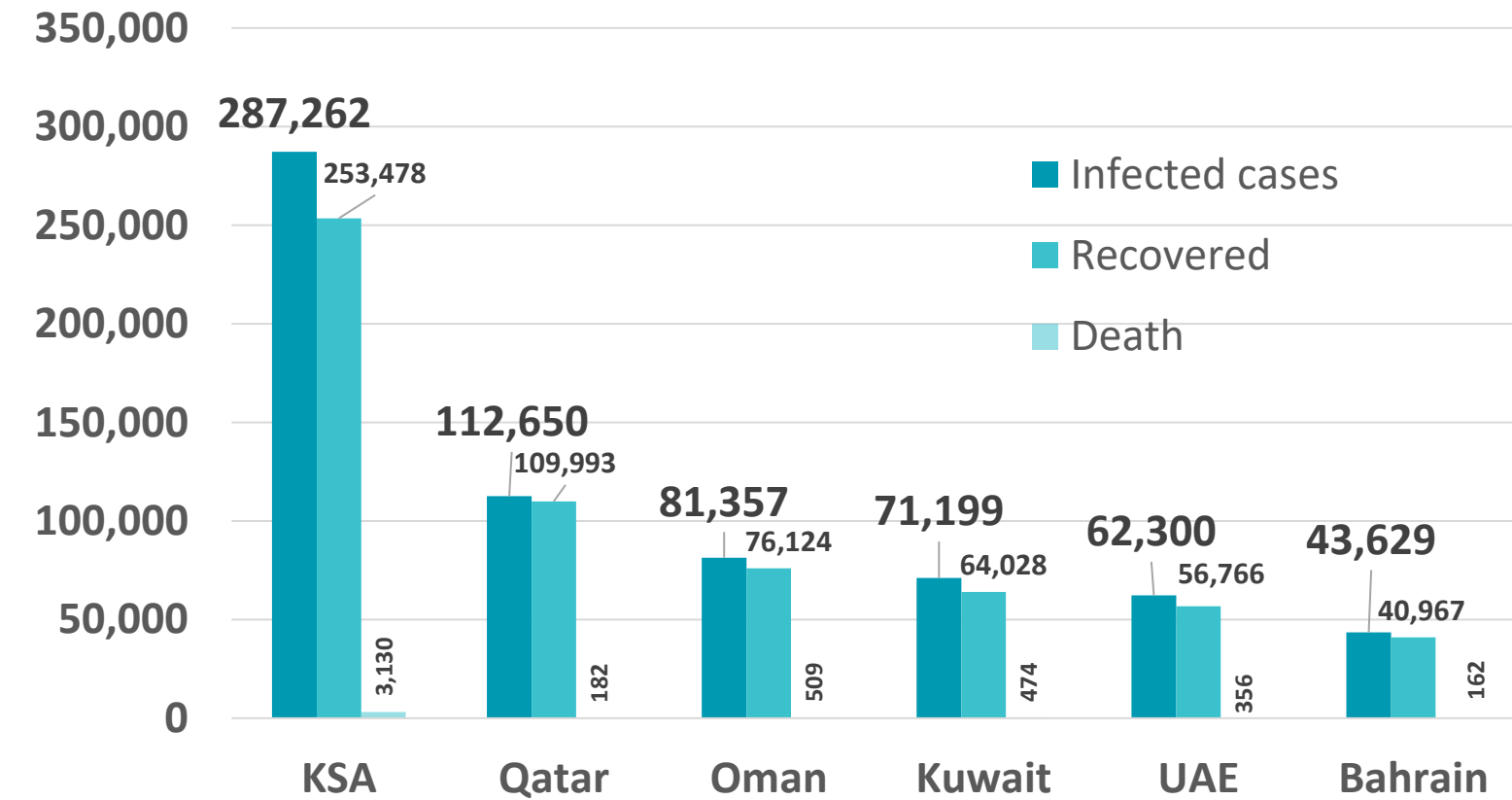


## Figure 9: Comparative Analysis of the Distribution of COVID-19 Cases in GCC Countries

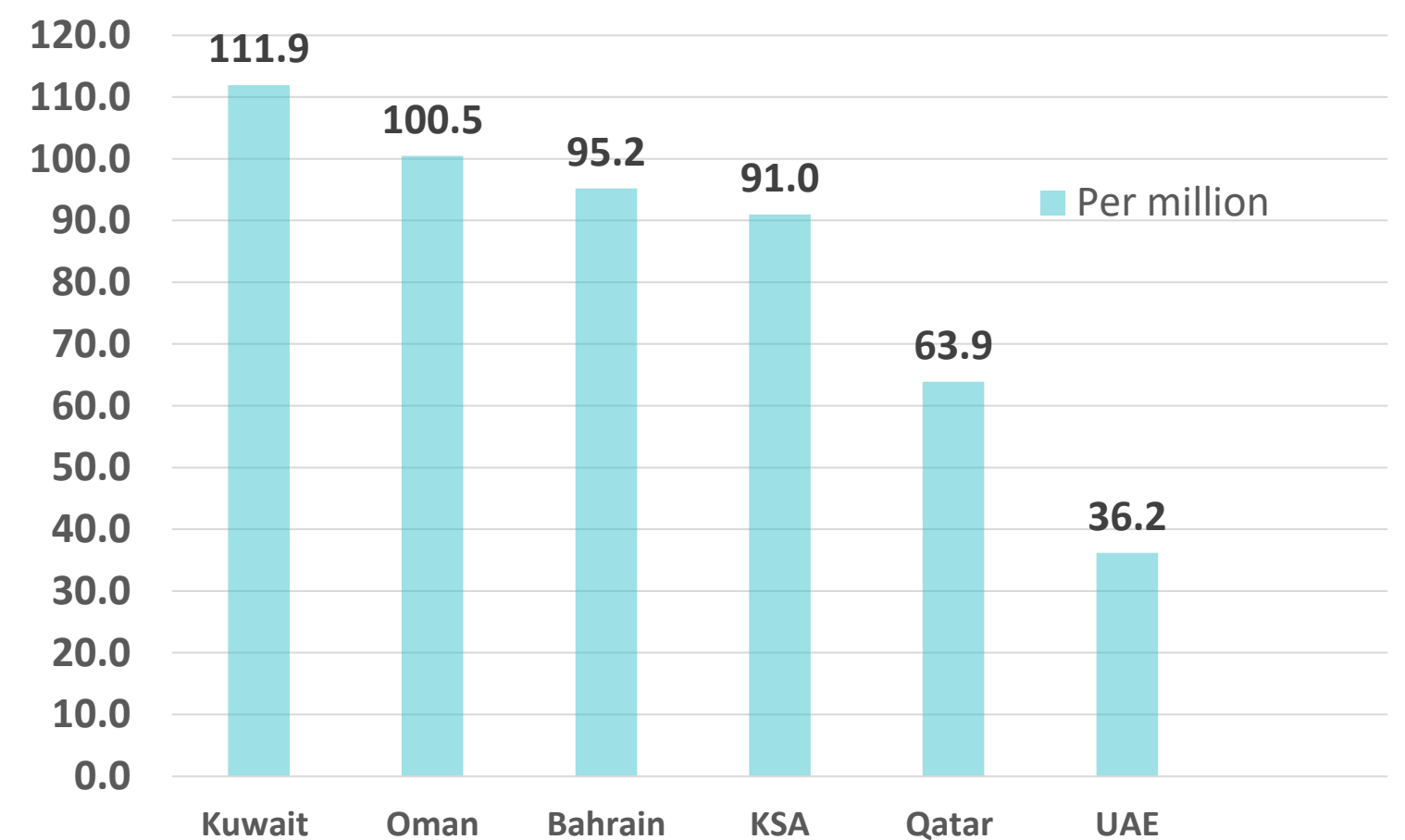
### TOTAL NUMBER OF INFECTED CASES



### TOTAL NUMBER OF INFECTED, RECOVERED AND DEATHS



### DEATHS PER MILLION



## Figure 10: Comparative Analysis of the Distribution of COVID-19 New Cases in GCC Countries

### UAE



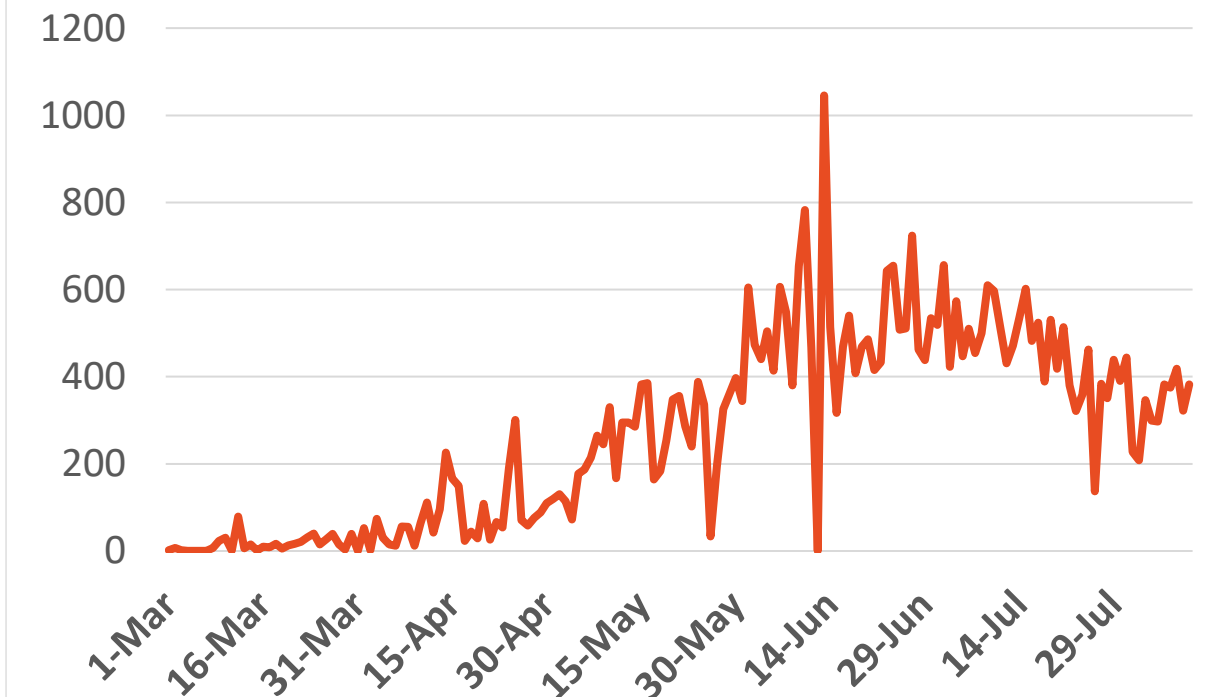
Source : National Emergency Crisis and Disaster Management Authority

### KSA



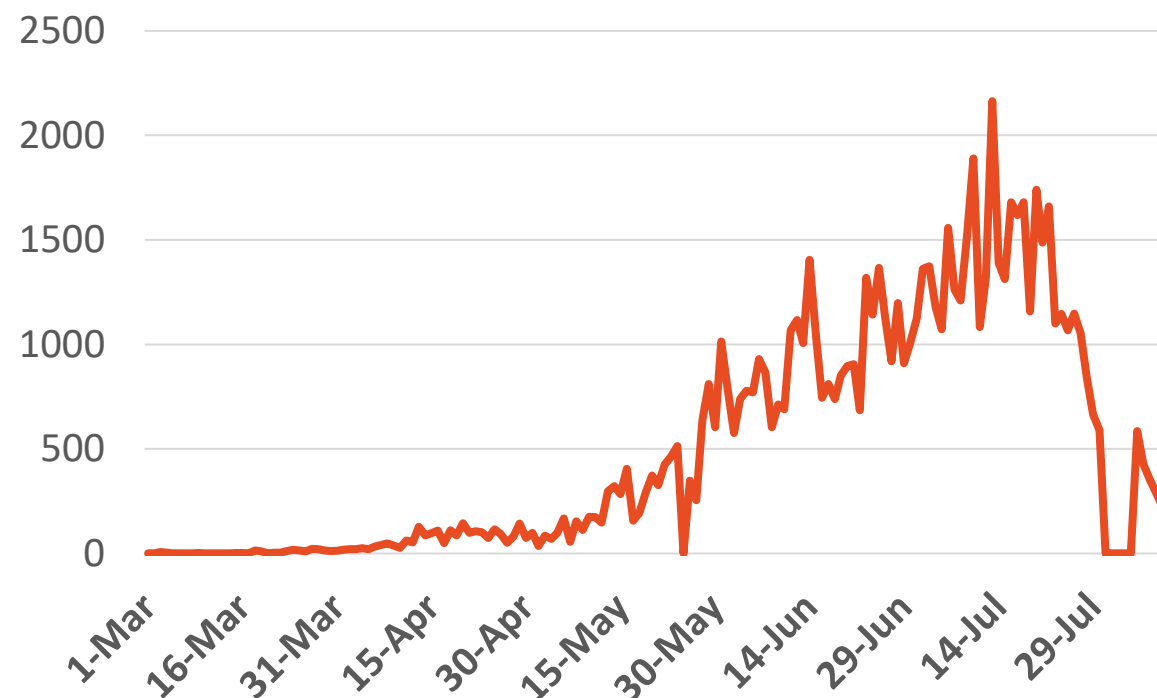
Source : KSA ministry of health

### Bahrain



Source :WHO

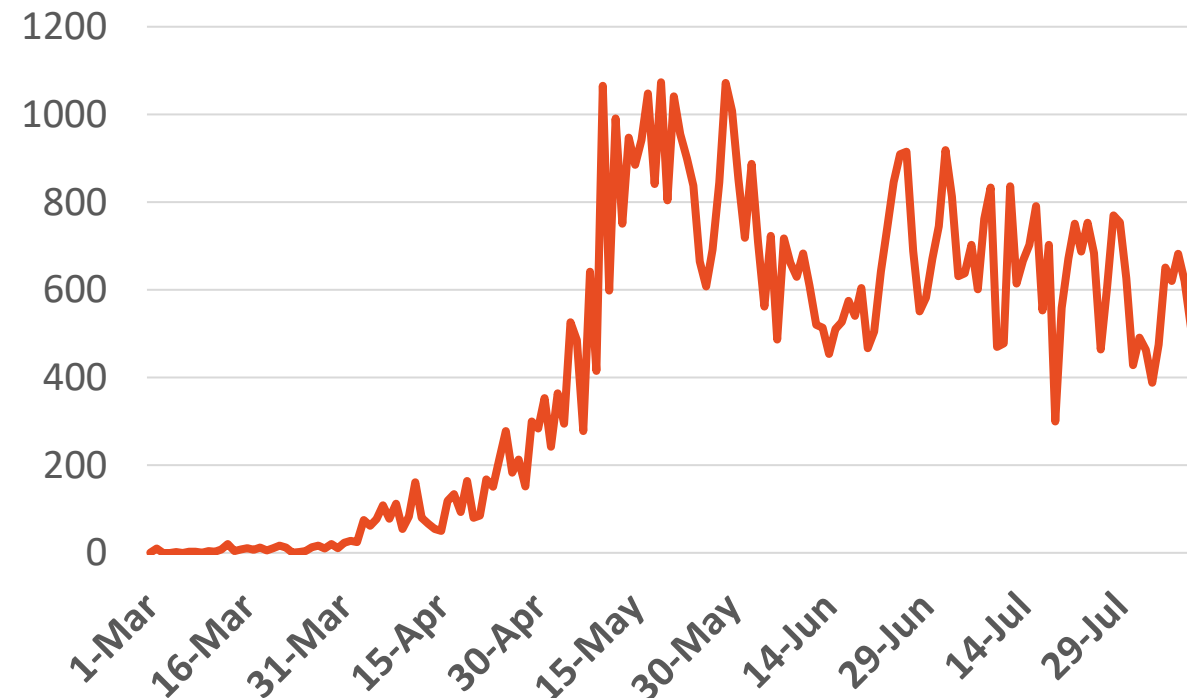
### Oman



Source :Oman ministry of health  
No announced statistic data from 31 July to 4 August

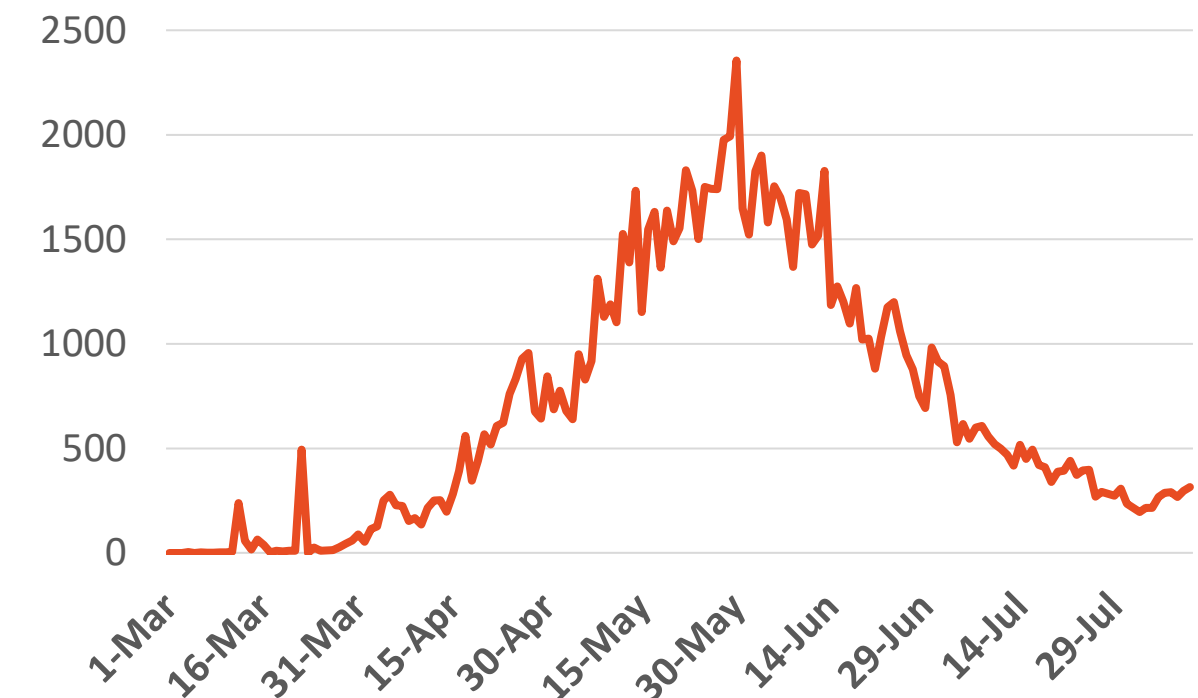
### Kuwait

© ADPHC 2020



Source : Kuwait ministry of health

### Qatar



Source : Qatar ministry of health



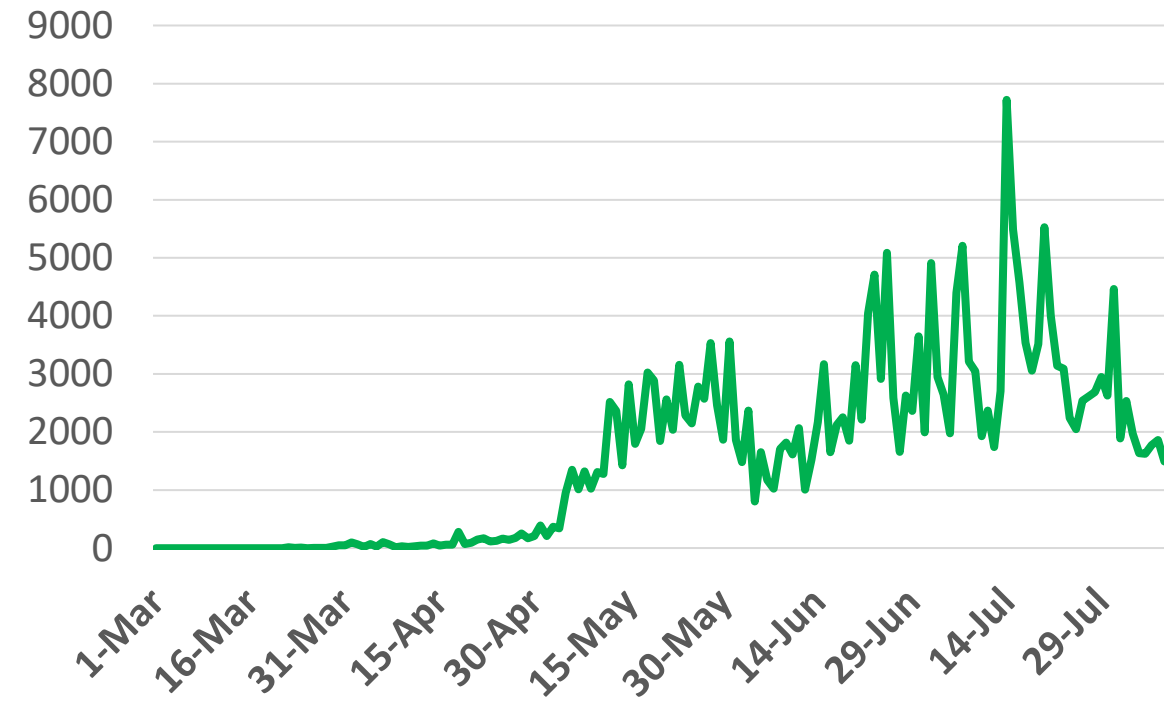
## Figure 11: Comparative Analysis of the Distribution of COVID-19 Newly Recovered Cases in GCC Countries

### UAE



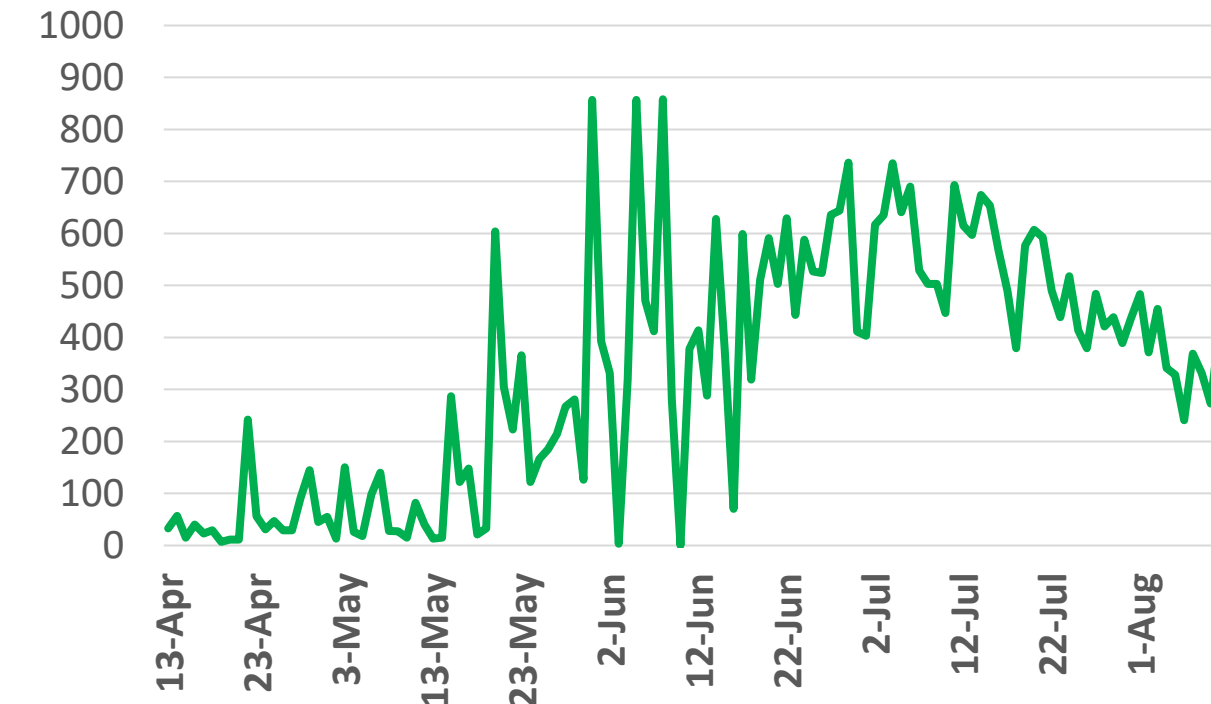
Source : National Emergency Crisis and Disaster Management Authority

### KSA



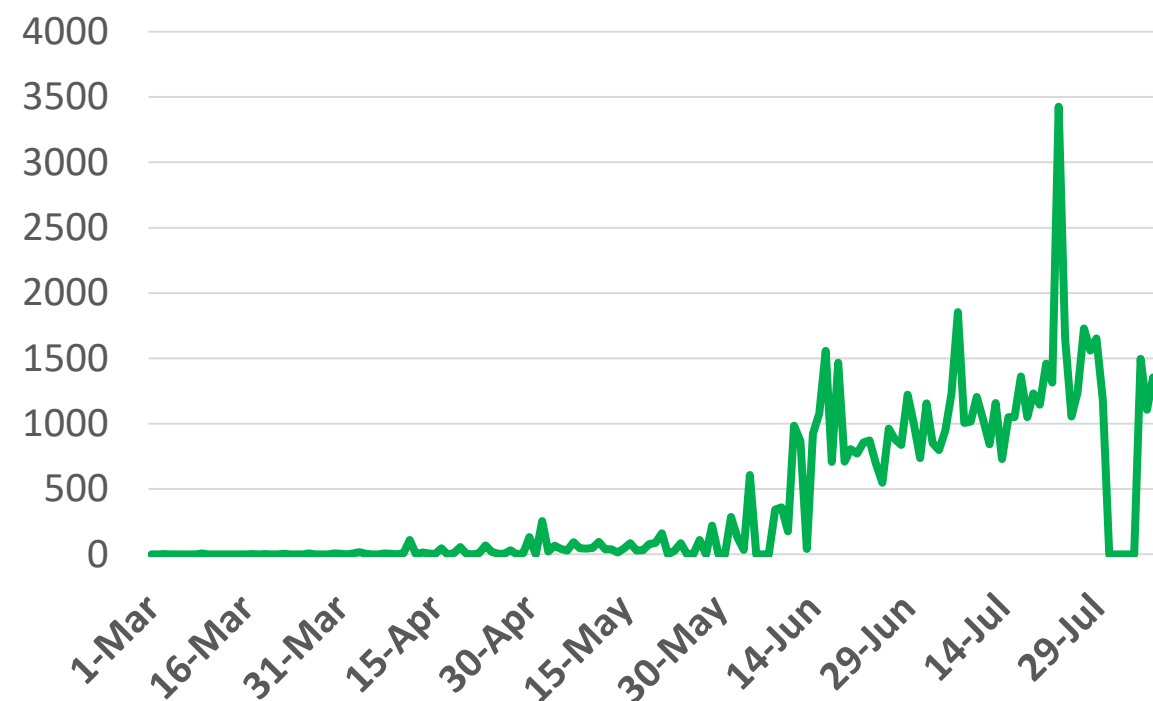
Source : KSA ministry of health

### Bahrain



Source : GCCStat

### Oman



Source : Oman ministry of health

\*No announced statistic data from 31 July to 4 August

### Kuwait

© ADPHC 2020



Source : Kuwait ministry of health

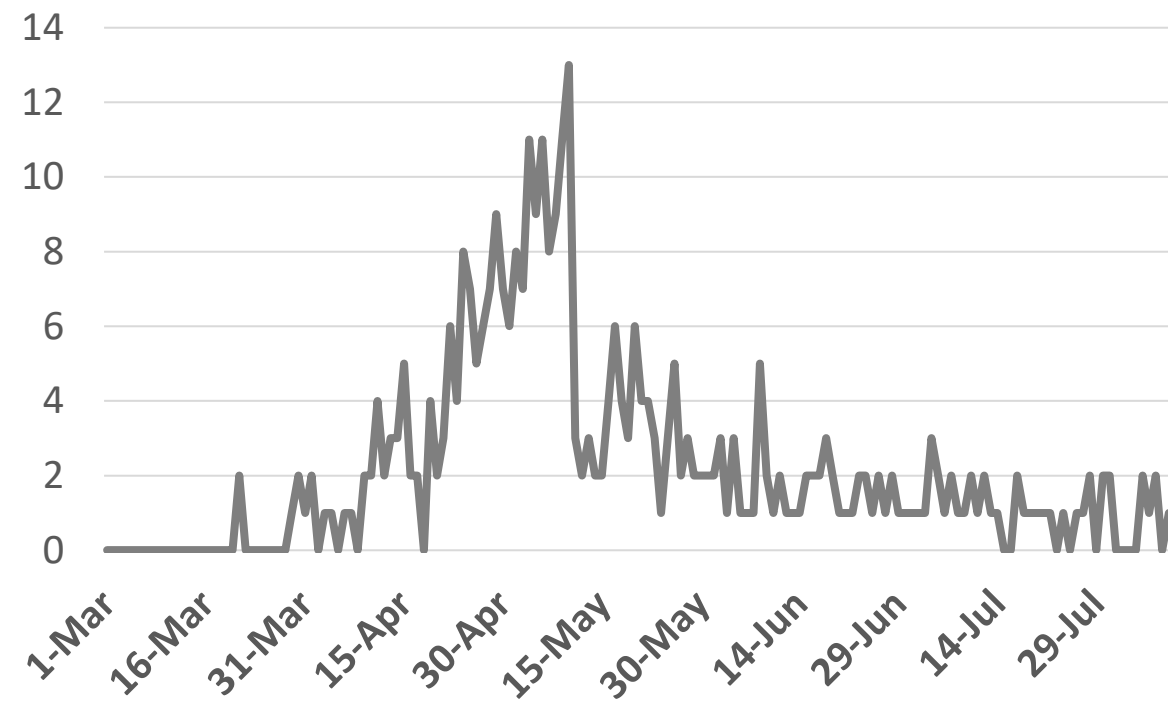
### Qatar



Source : Qatar ministry of health

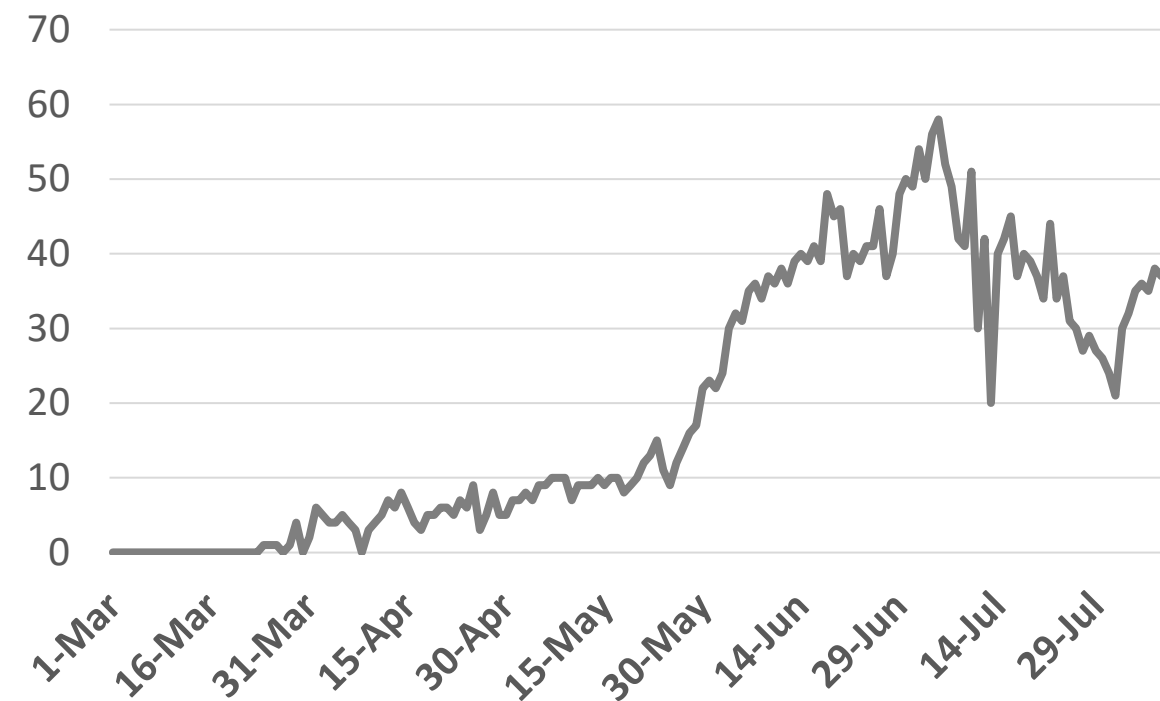
## Figure 12: Comparative Analysis of the Distribution of COVID-19 New Death Cases in GCC Countries

### UAE



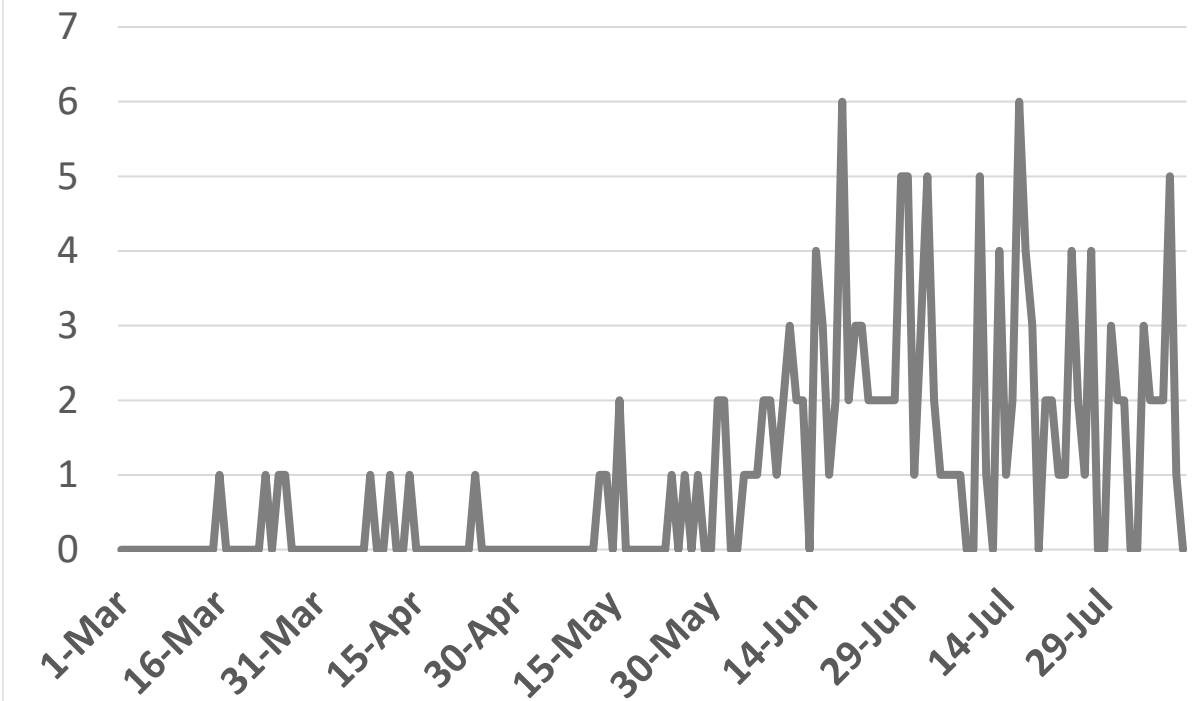
Source : National Emergency Crisis and Disaster Management Authority

### KSA



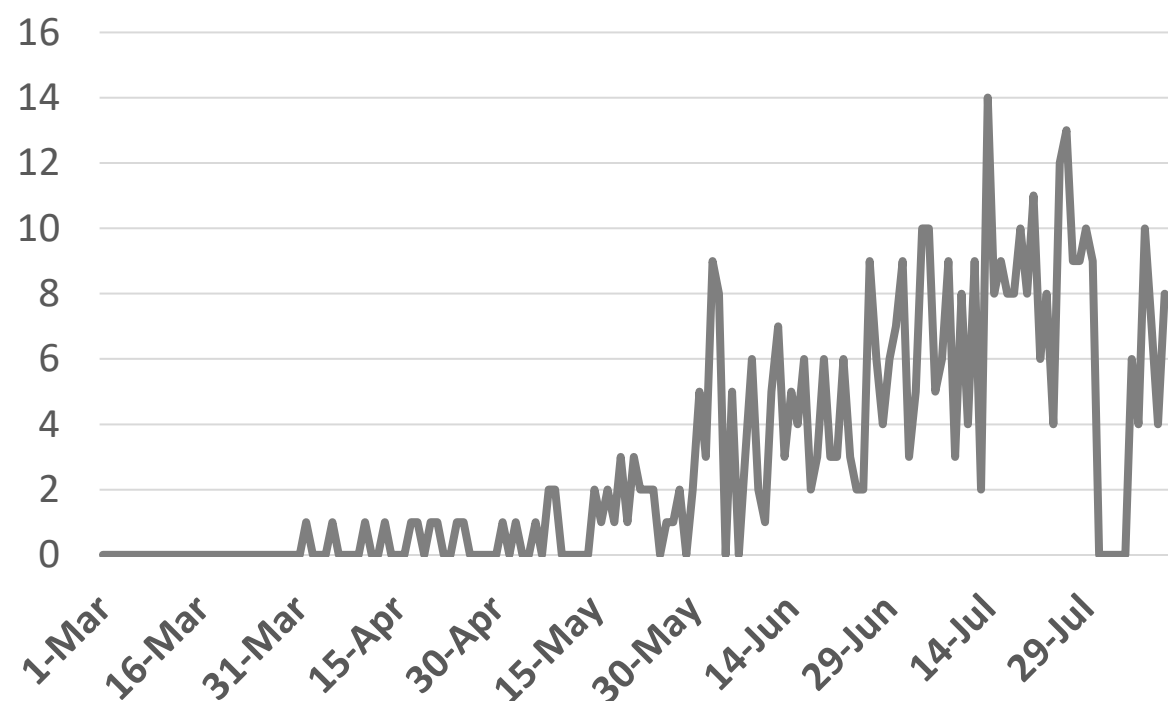
Source : KSA ministry of health

### Bahrain



Source :WHO

### Oman

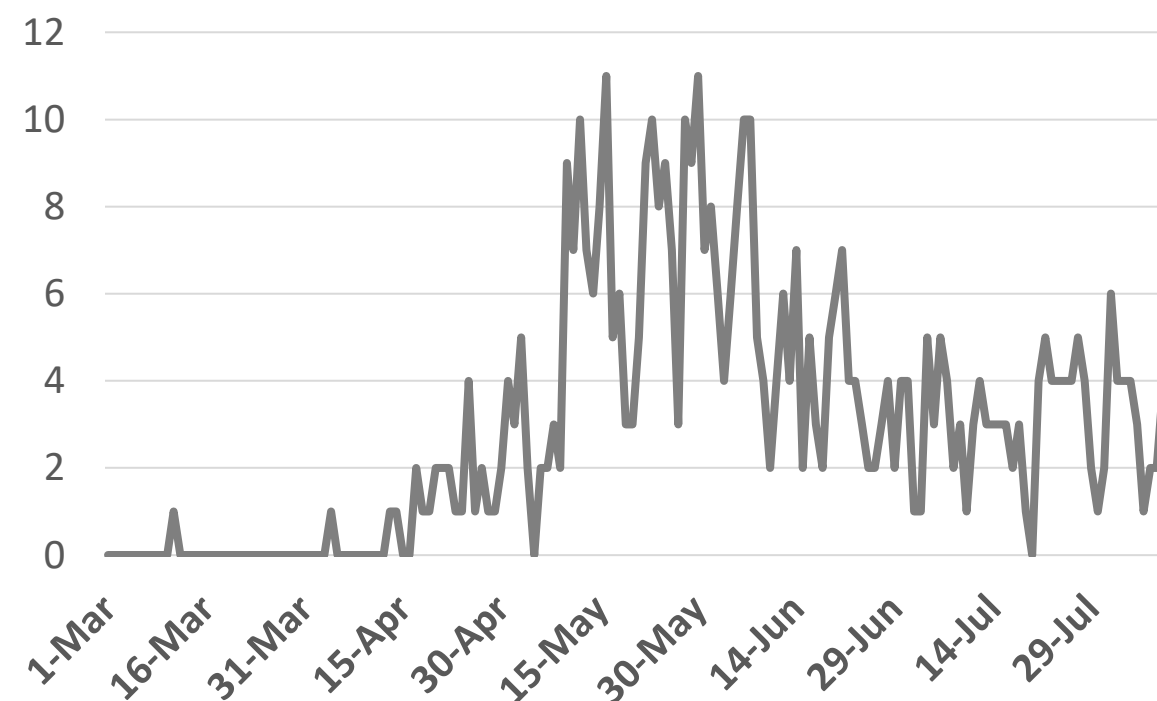


Source :Oman ministry of health

\*No announced statistic data from 31 July to 4 August

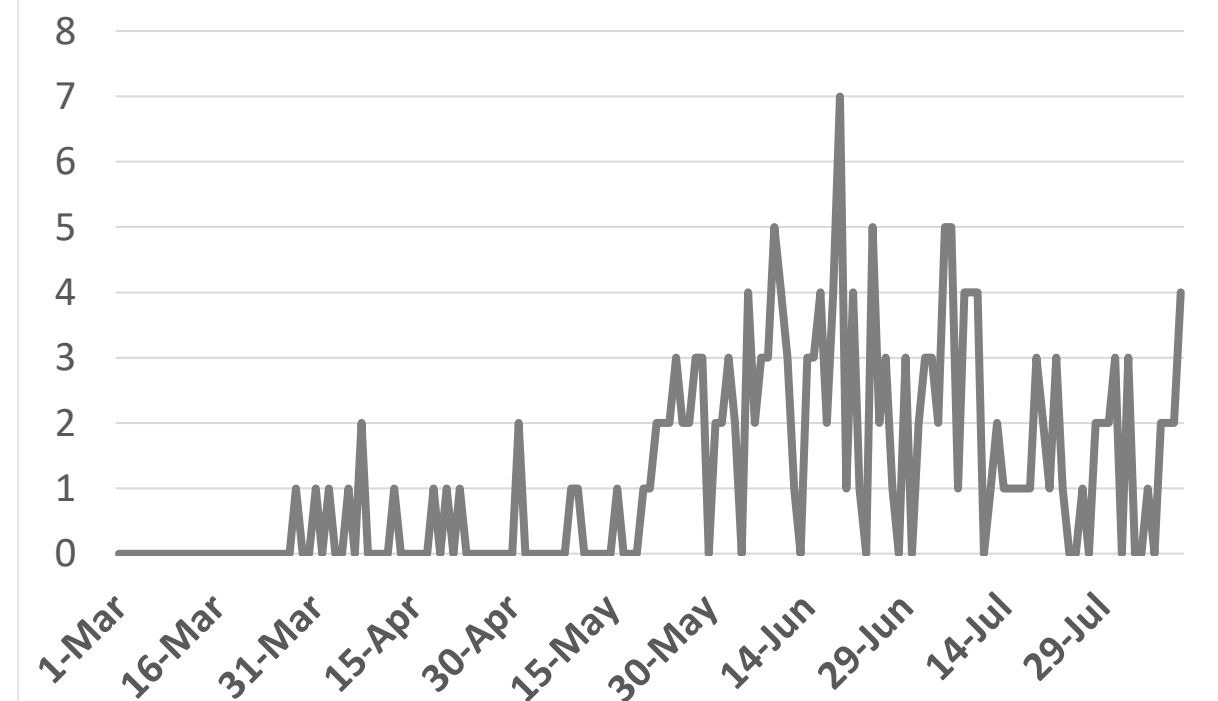
### Kuwait

© ADPHC 2020



Source : Kuwait ministry of health

### Qatar



Source : Qatar ministry of health

## Article 1

## COVID-19: Where Are We on Immunity and Vaccines?

Published

5 August 2020 [THE BMJ](#)

- A clinical study that was conducted by the University of Oxford, United Kingdom reported that the vaccine candidate induced strong antibody and T cell immune responses. No serious adverse events were found. In another study in China, researchers reported that after vaccination (Ad5-nCoV), 95% of participants in the high dose group and 91% in the low dose group showed either T cell or antibody immune responses. Mild or moderate adverse reactions (e.g. fever, fatigue, or injection site pain) were found, and the proportion was considerably higher among vaccine recipients than placebo recipients.
- In China, the military will receive Ad5-nCoV vaccine by **CanSino**. The military commission gave this vaccine a ‘military especially needed drug approval’ despite it not yet completing phase III trial. The data of clinical study showed a good safety profile and high levels of humoral and cellular immune response. The overall results revealed that the vaccine has the potential to prevent diseases caused by SARS-CoV-2. In Russia, the government has announced that it will start mass immunization in October. No Russian studies were included on the WHO’s list of phase III trials. Therefore, questions have been raised about how the candidate vaccine was tested.
- Researchers are hopeful that T cells could provide durable protection against the virus. Four types of T cells are of interest:
  - T helper cells (CD4) that are responsible for cellular immunity and helping B cells to produce neutralizing antibodies.
  - Killer T cells (CD8) that directly kill infected cells.
  - Th17 cells, which drive the inflammatory responses that help to control infections.
  - Regulatory T cells that help to contain the immune response, thereby preventing over reaction and damage to tissues.





## Article 2

## Long Term Respiratory Complications of COVID-19

Published

03 August 2020 [THE BMJ](#)

- The severity of the long-term respiratory complications of COVID-19; remains to be seen. Previous research reported that many patients experience persistent respiratory symptoms months after their initial illness. In the United Kingdom (UK), National Health Service (NHS) issued guidelines for aftercare needs of patients recovering from COVID-19; and identifies potential respiratory problems including chronic cough, fibrotic lung disease, bronchiectasis, and pulmonary vascular disease.
- SARS-CoV-2 targets alveolar epithelial cells and evidence indicate that other viruses, including herpes viruses, infect these cells in the pathogenesis of pulmonary fibrosis. Cellular changes occurring with ageing, such as genomic instability, mitochondrial dysfunction, and epigenetic modification might reduce the ability of these cells to respond effectively to viral encounter, thus triggering pathways that promote both dysregulated repair and fibrosis.
- Persistent respiratory complications following COVID-19 may cause significant population morbidity. Prospective studies are in progress to evaluate further complications and to identify people at greatest risk. For the time being, a realistic approach to primary care management might include first-line investigations such as chest radiography and oxygen saturation measurements with referral to secondary care where lung pathology needs investigation.





## Article 3

### Published

## Social Distancing Laws Cause Only Small Losses of Economic Activity during the COVID-19 Pandemic in Scandinavia

03 August 2020 [PNAS](#)

- Denmark and Sweden were similarly exposed to the pandemic, but only Denmark imposed significant restrictions on social and economic activities.
- Starting 11 March 2020, Denmark introduced social distancing laws that included the full or partial shutdown of many venues of economic activity, such as restaurants, bars, cinemas, and personal care services (e.g., hairdressers and dentists).
- Sweden adopted a light-touch approach that involved limited restrictions on the activities of private businesses. Using a large dataset; the study estimated the effect of COVID-19 shutdown policies on consumer spending in the COVID-19 pandemic; measured as the sum of credit and debit card transactions, mobile wallet payments, cash withdrawals, and electronic invoice payments associated with online shopping.
- Consumer spending based on venues of varying social and physical proximity to others; was also constructed into four categories of spending: **social spending at bars, restaurants, cinemas, and the like; personal care spending at hairdressers, beauticians, and dentists; spending on public transport; and spending on the high street and in malls.**





## Continued

### Results

- Before imposing any restrictions, in both Sweden and Denmark, daily aggregate spending in January and February 2020 was evolving similarly to the same period in 2019.
- Around the date of the Danish shutdown, spending drops sharply in both countries and remains below 2019 levels throughout the analysis window.
- There was 29% drop in total spending in Denmark and 25% drop in total spending in Sweden through the COVID-19 pandemic, that represents an estimate of 4-percentage-point (95% CI: 3 to 5 p.p.) difference between the two countries.
- Spending by the age group of 18 to 29 years dropped around 10 percentage points more in Denmark than in Sweden, while spending by the oldest age group (age 70+ yrs) dropped around 5 percentage points less in Denmark than in Sweden.
- There was an age gradient in the effect of the shutdown for categories of spending involving (Figure 2).
- The effect of the shutdown is strongly negative for the young (low health risk) and less negative, sometimes even positive, for the elderly (high health risk).





## Continued

### Significance

- Many countries have experienced massive reductions in consumer spending around the time they began to shut down. The study shows that these restrictions are, in fact, responsible for only a small portion of the drop in consumer spending, suggesting that the virus itself is responsible for the majority of the economic damage.
- Social distancing laws may provide an economic benefit: the laws reduce the economic activity of the low-risk population and can thus protect those with the greatest risk of mortality from bearing the greatest burden in terms of reduced spending.

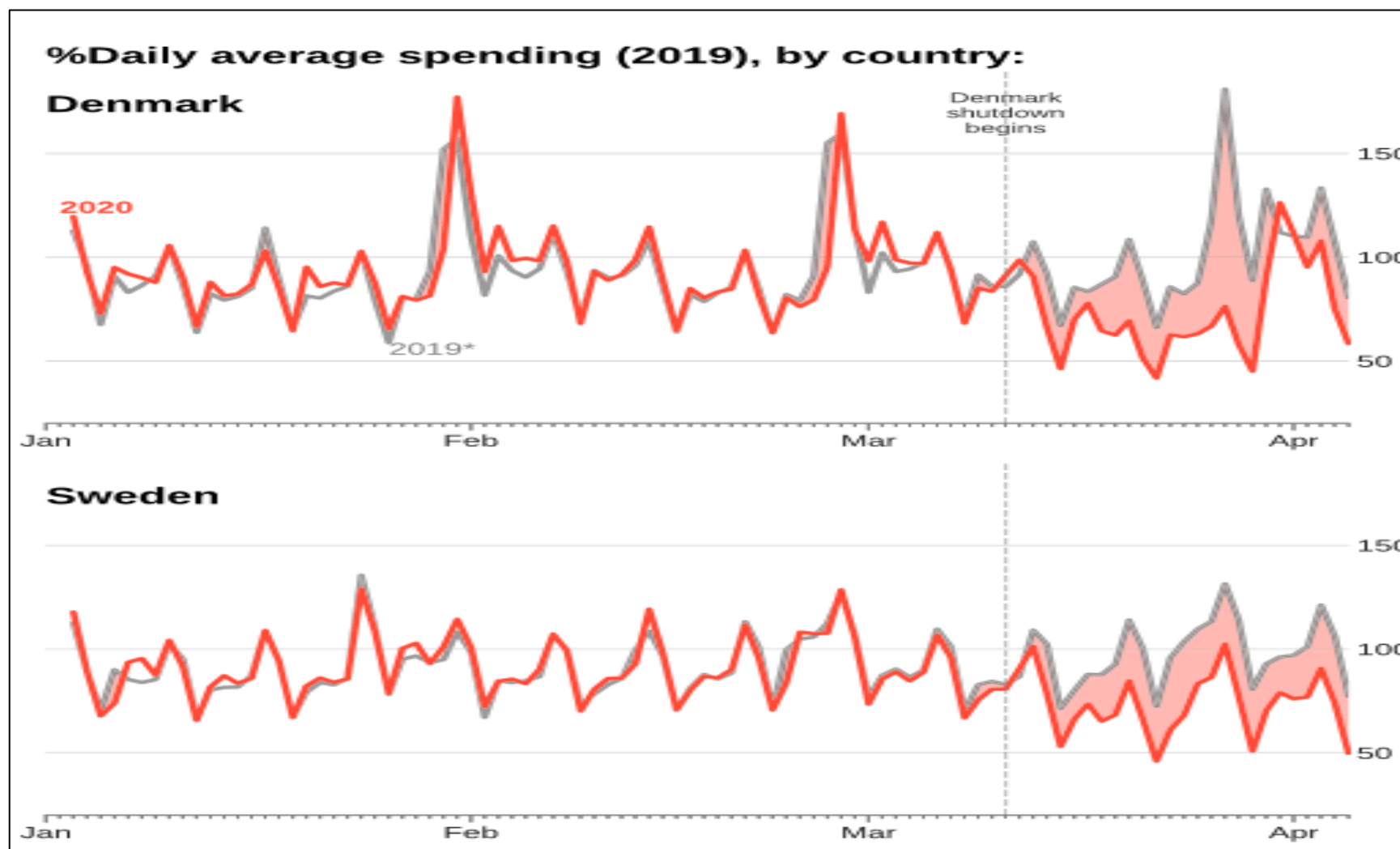


Figure 1 Small Effect of Shutdown on Aggregate Consumer Spending

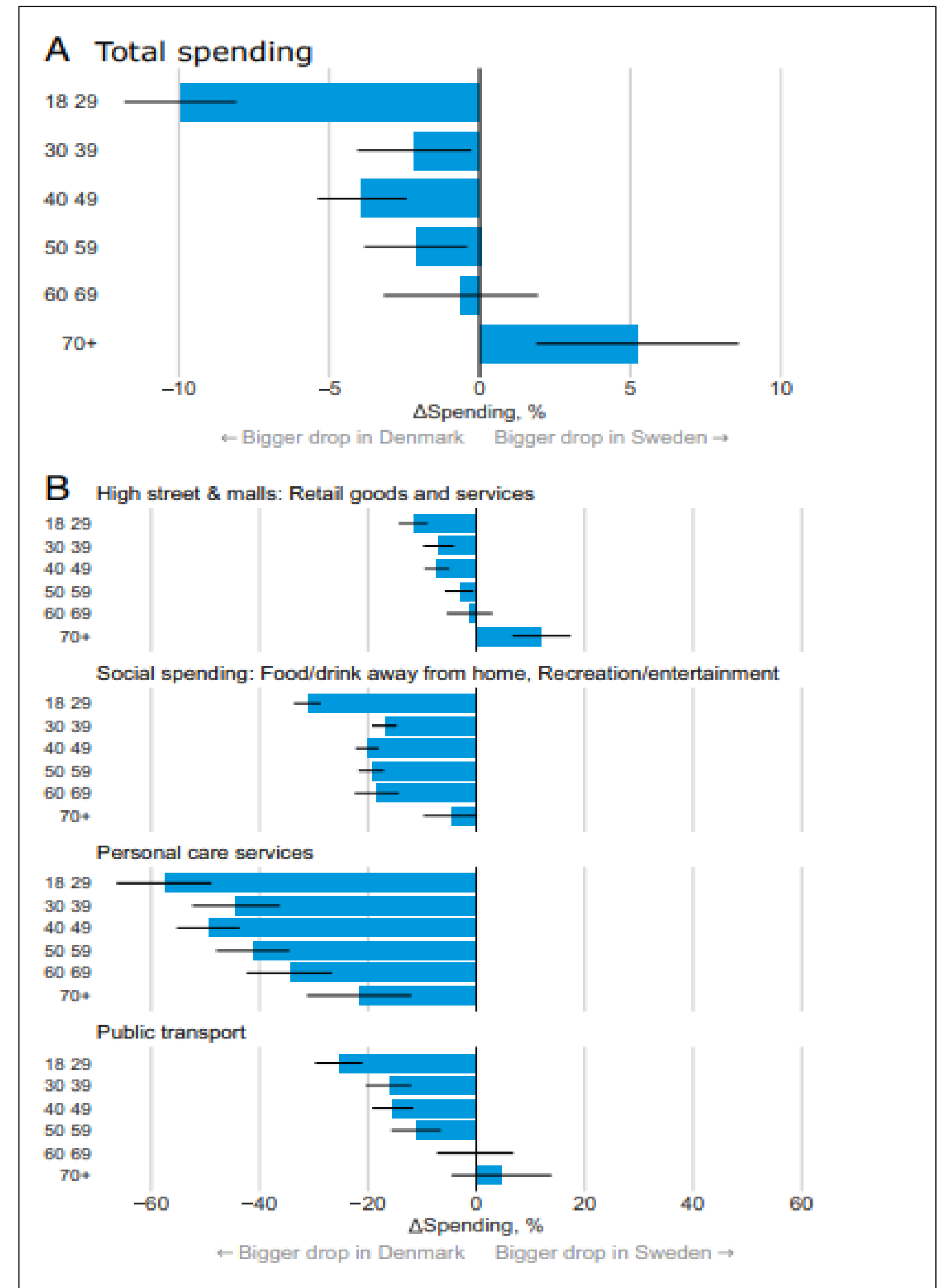


Figure 2 Effect of the shutdown by age group

