

SCIENTIFIC RESEARCH MONITORING ON COVID-19

17 JULY 2020

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SCIENTIFIC RESEARCH MONITORING ON COVID-19

(ISSUE 166)

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.

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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

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).

Transmission

COVID-19 in Children and the Dynamics of Infection in Families

Public Health Response

Tocilizumab for Treatment of Mechanically Ventilated Patients with COVID-19

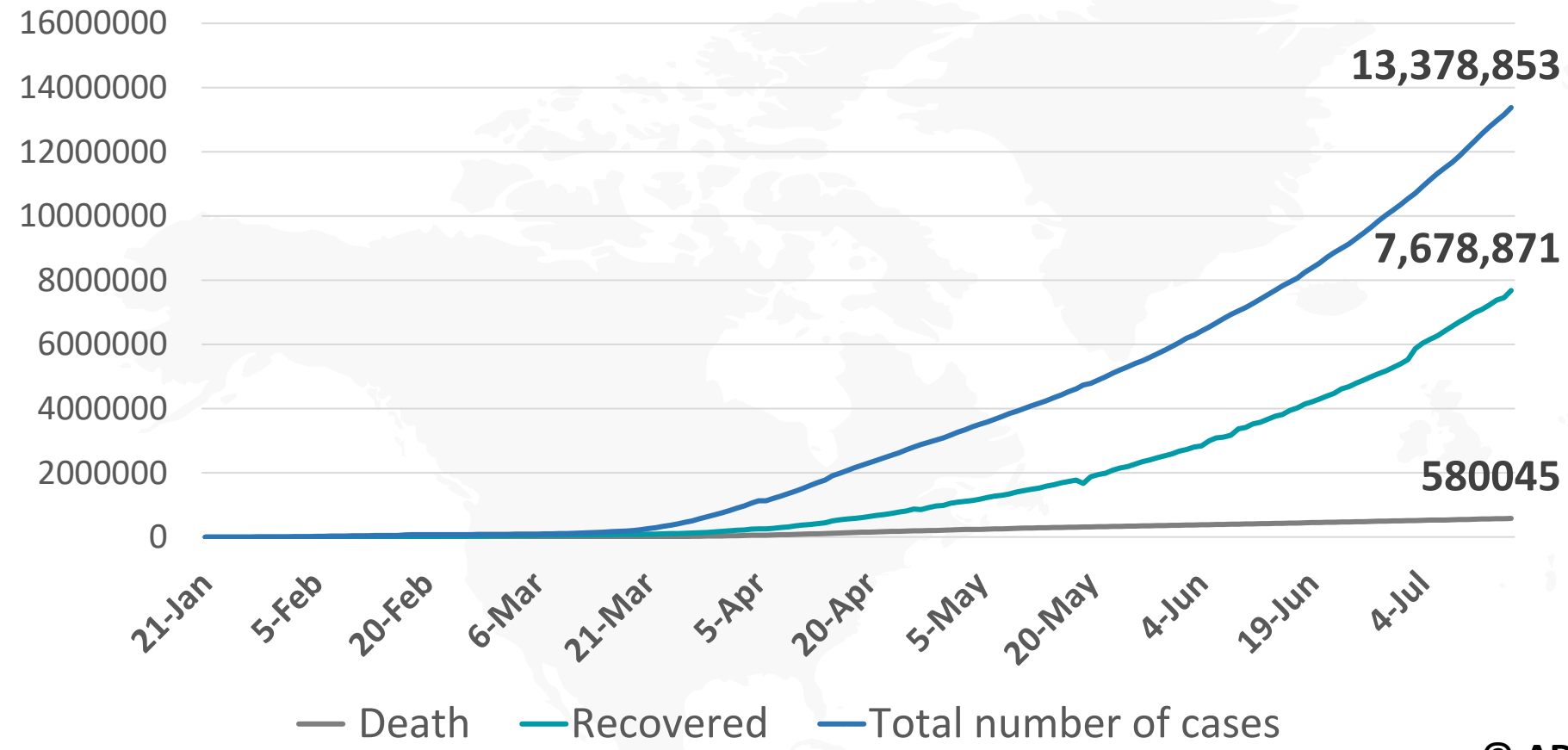




- 75 countries have submitted expressions of interest to protect their populations and those of other nations through joining the COVAX Facility, a mechanism designed to guarantee rapid, fair and equitable access to COVID-19 vaccines worldwide. The goal of COVAX is to deliver two billion doses of safe, effective vaccines that have passed regulatory approval and/or WHO prequalification.
- WHO and UNICEF have warned of a decline in vaccinations, due to disruptions in delivery caused by the COVID-19 pandemic. UNICEF Executive Director Henrietta Fore noted that “COVID-19 has made previously routine vaccination a daunting challenge” and stressed that further impact on vaccine coverage needs to be avoided otherwise there is a risk of exchanging one crisis for another. While the world races to find a vaccine to defeat the COVID-19 pandemic, WHO looks back on all that vaccines have achieved for humanity.
- The WHO Unity Study protocols developed to better understand the characteristics of the COVID-19 virus and the disease it causes.
 - To enhance understanding of the characteristics of the COVID-19 (SARS-CoV-2) virus and the disease it causes, WHO has developed a series of early epidemiological protocols, the WHO Unity studies.
 - The six currently available WHO Unity study protocols help countries to understand infection amongst close contacts of cases, health workers, or members of households; to understand the extent of infection in the population, and to determine the presence of the virus on different surfaces and environments.
 - To date, 47 countries have implemented at least one of the Unity study protocols
 - Two protocols are currently being developed in collaboration with technical partners. One will enable understanding of the extent of infection in schools and other educational institutions. The other will address COVID-19 in closed settings, which include long term care facilities, food processing plants, prisons, military barracks, and community venues.



Figure 1: Total number of infected, recovered, and death cases



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Figure 3: Total number of death due to COVID-19 (china and the result of the world)

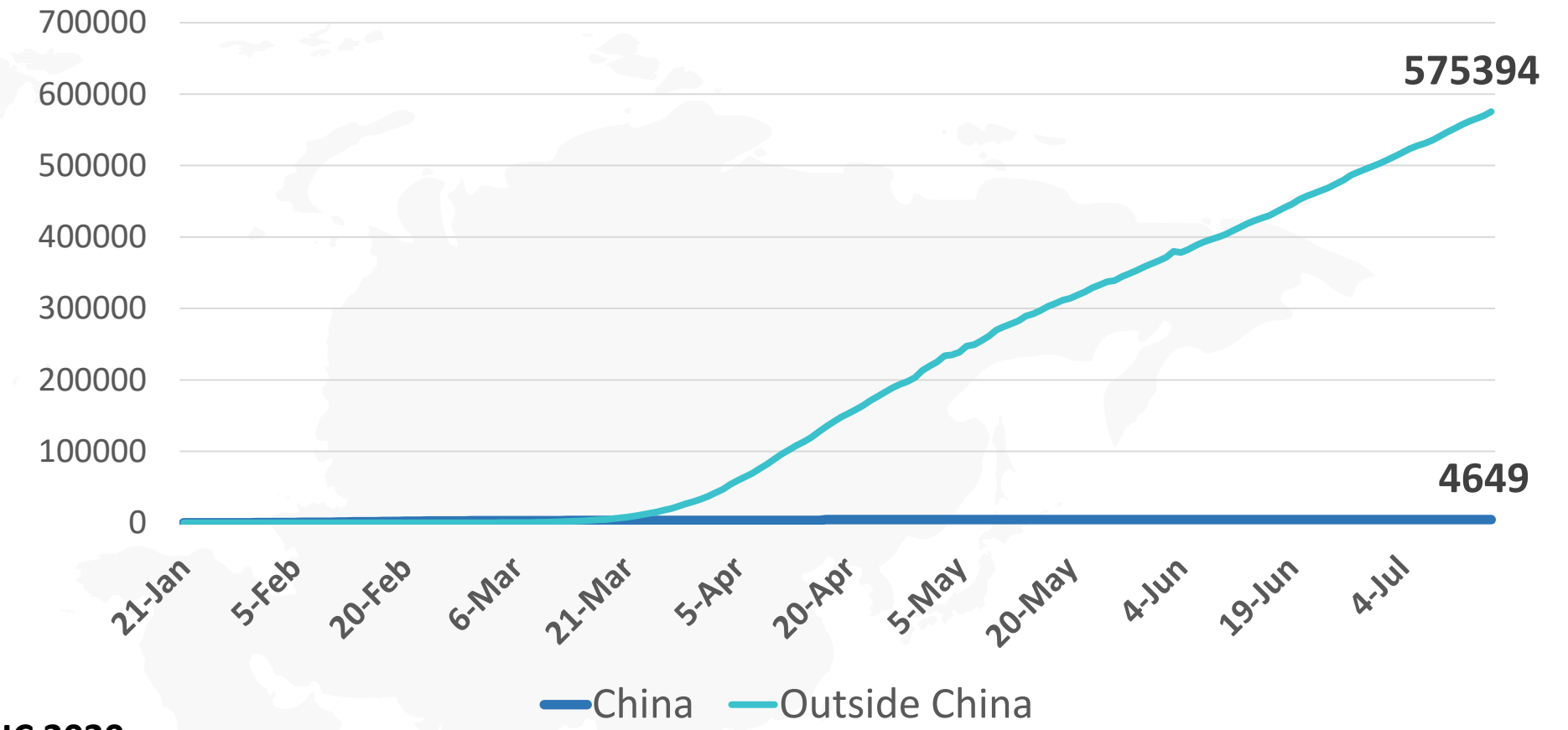


Figure 2: Daily new infected COVID-19 cases (china and the rest of the world)

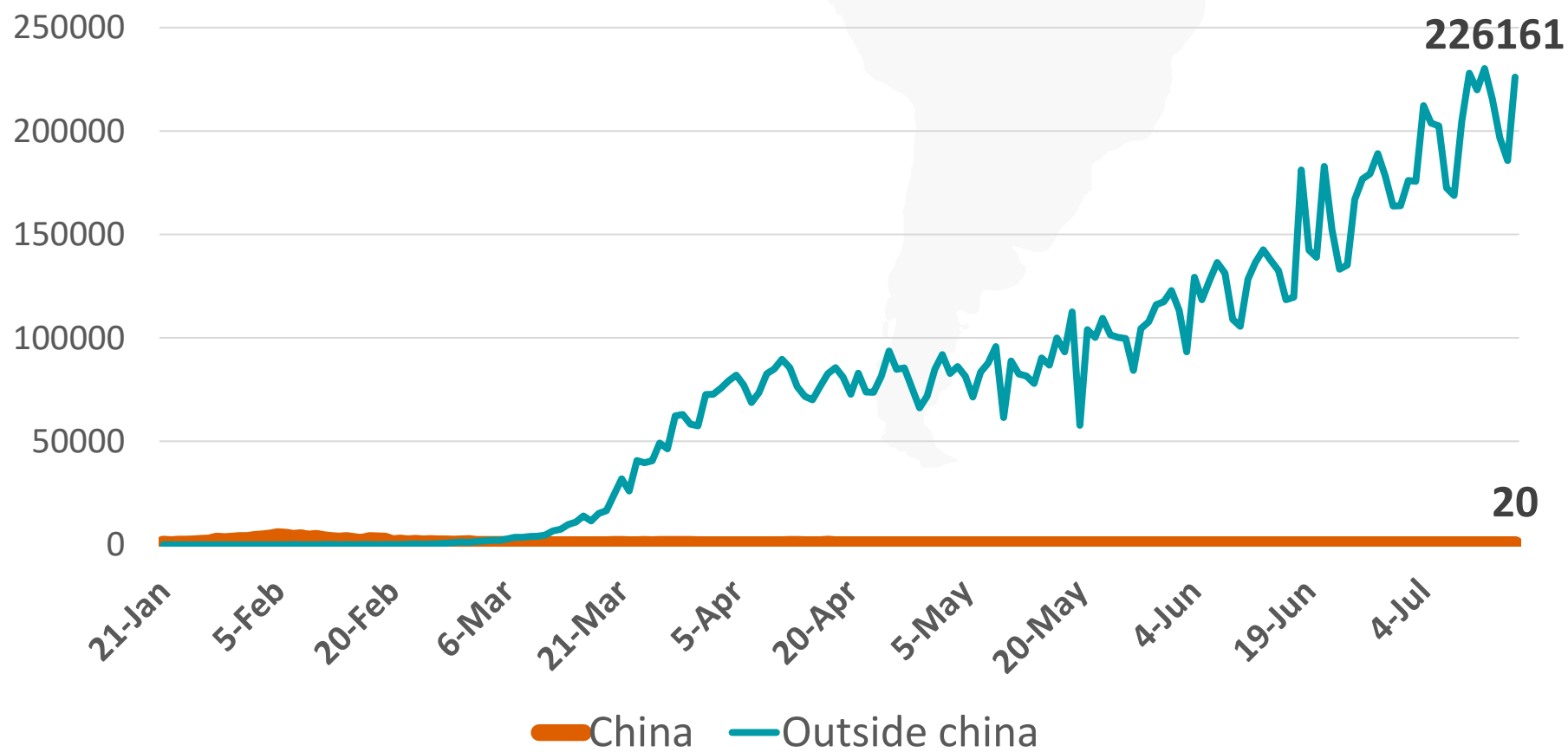


Figure 4: Global daily new deaths due to COVID-19 (china and rest world)

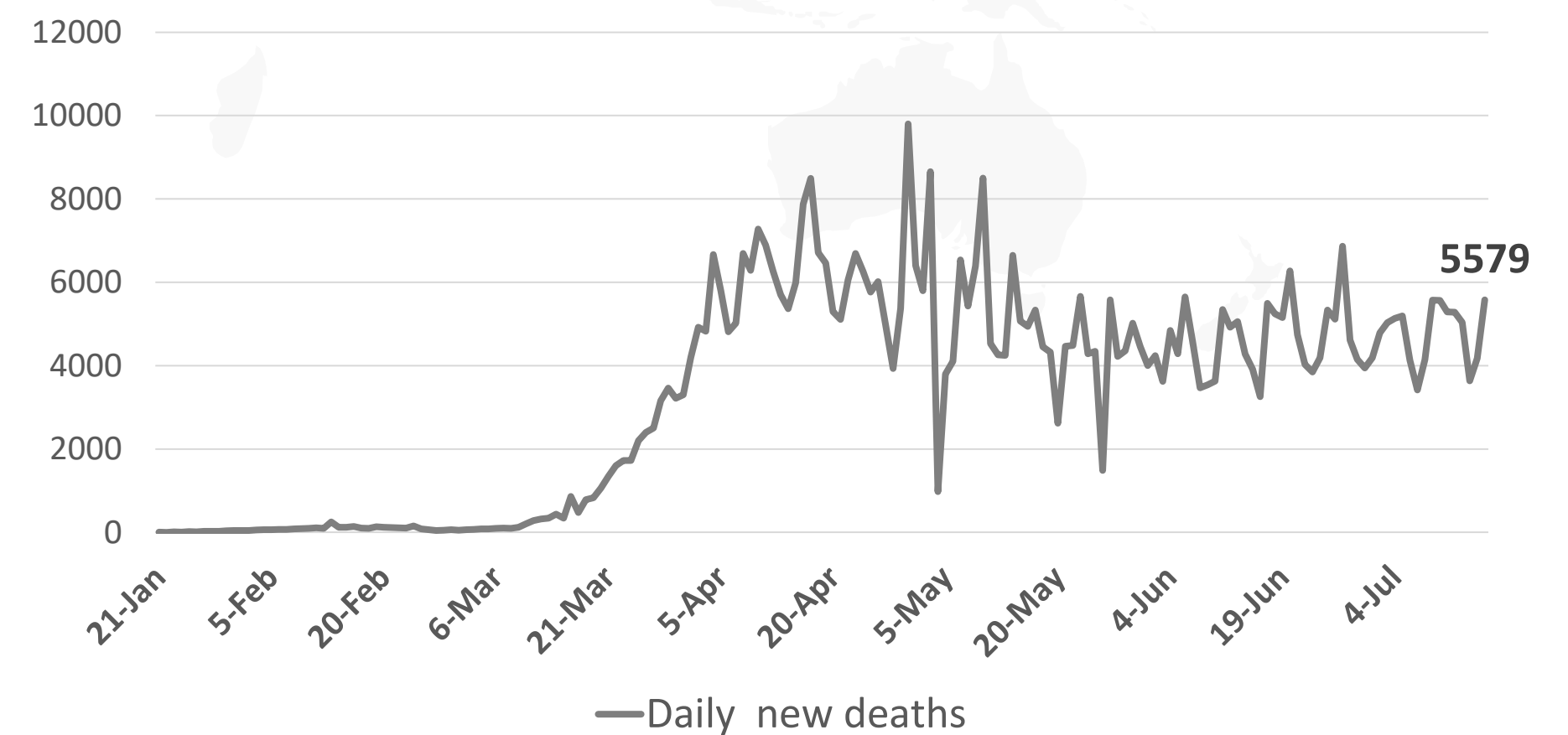
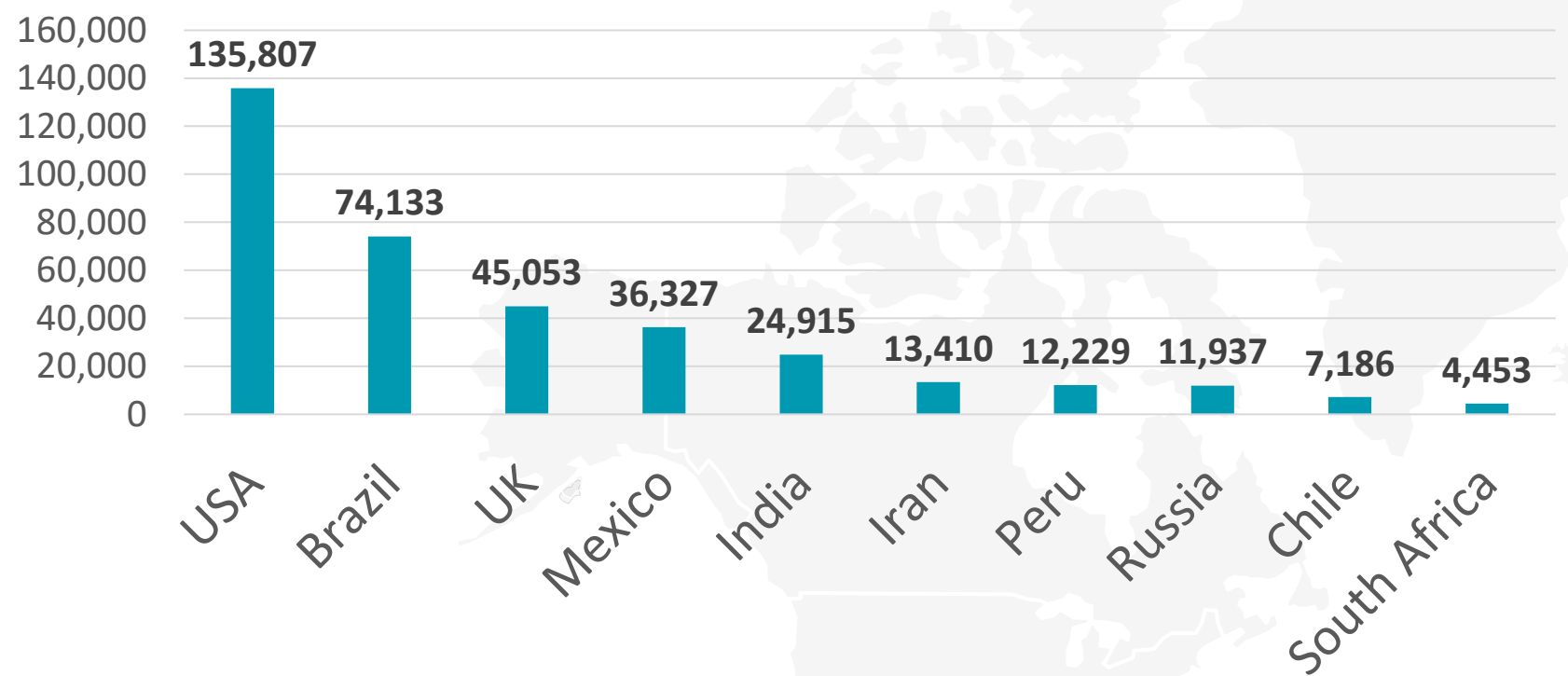
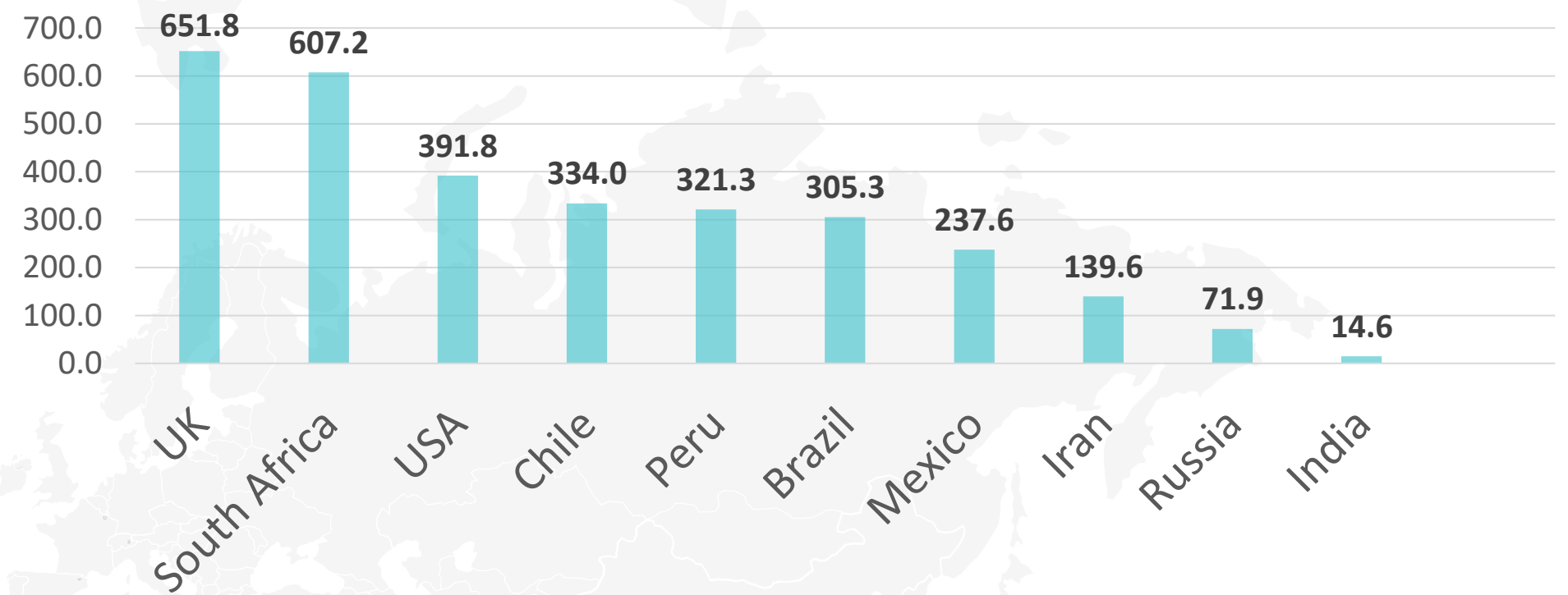


Figure 3: Top 10 countries in the total number of cases due to COVID-19

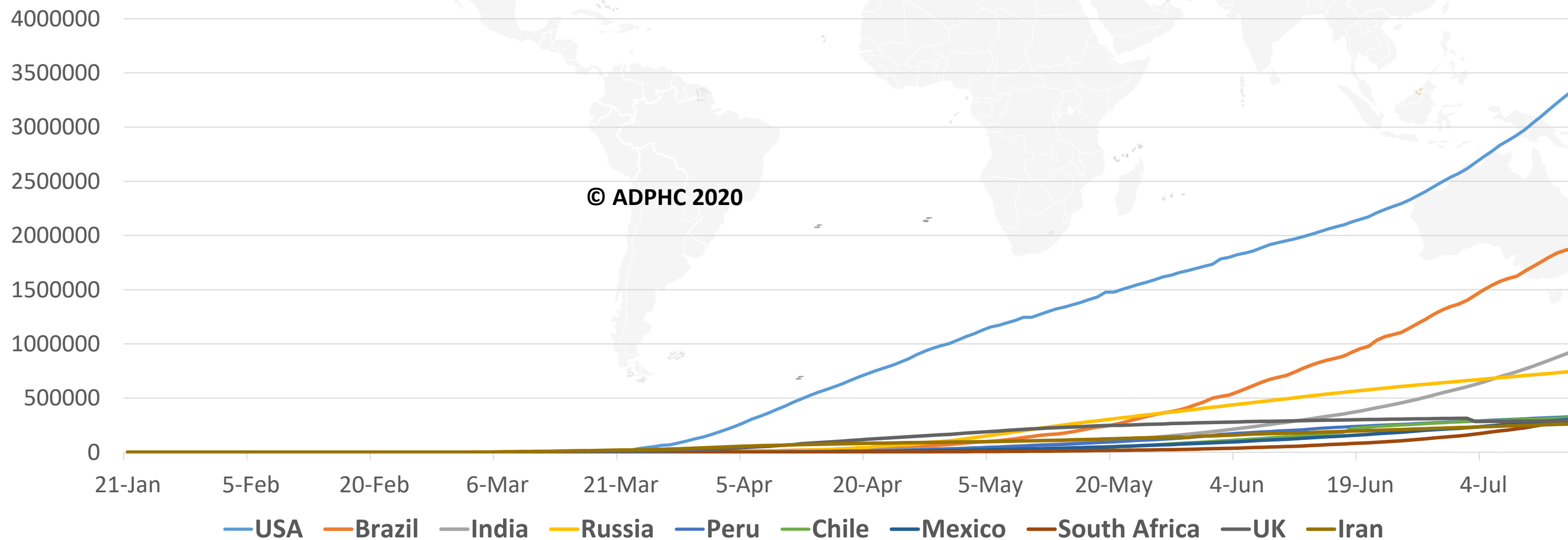
TOTAL DEATHS



DEATHS PER MILLION

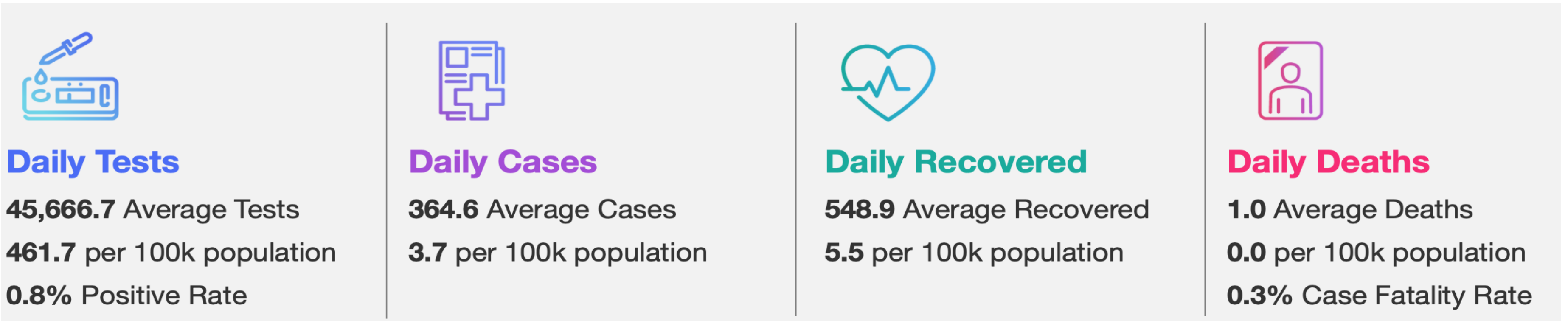


TOTAL INFECTED CASES



USA	3,405,494
Brazil	1,926,824
India	968,876
Russia	752,797
Peru	333,867
Chile	321,205
Mexico	311,486
South Africa	311,049
UK	291,915
Iran	264,561

Figure 5: COVID19 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

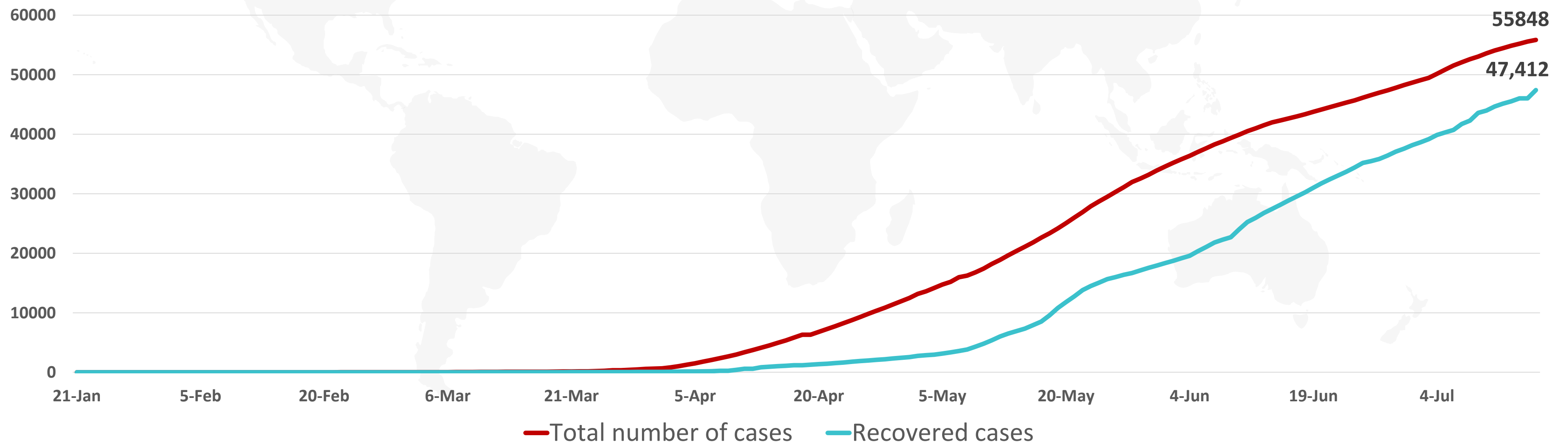
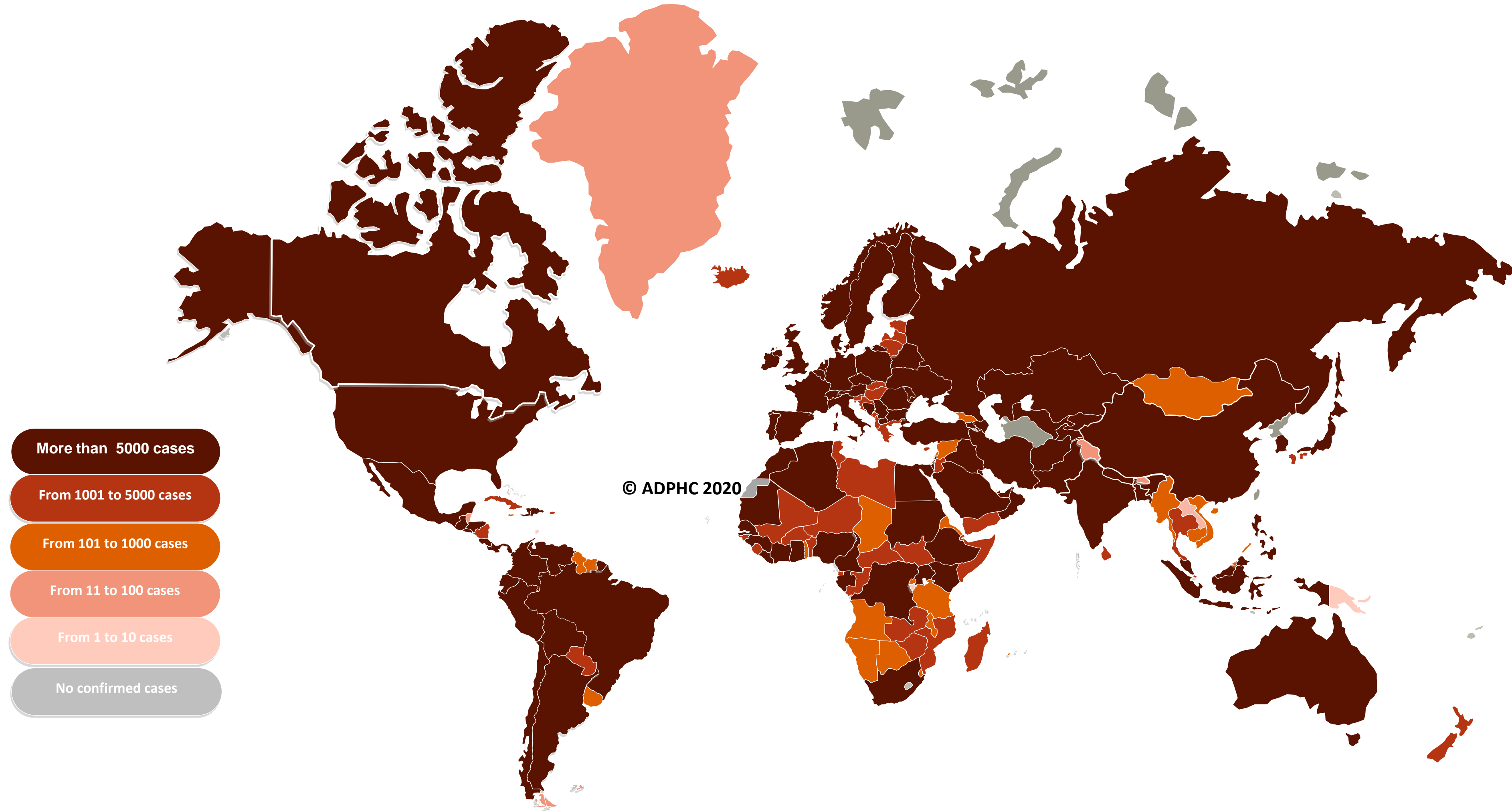


Figure 7A : Global distribution of COVID-19 cases



More than 5000 cases

From 1001 to 5000 cases

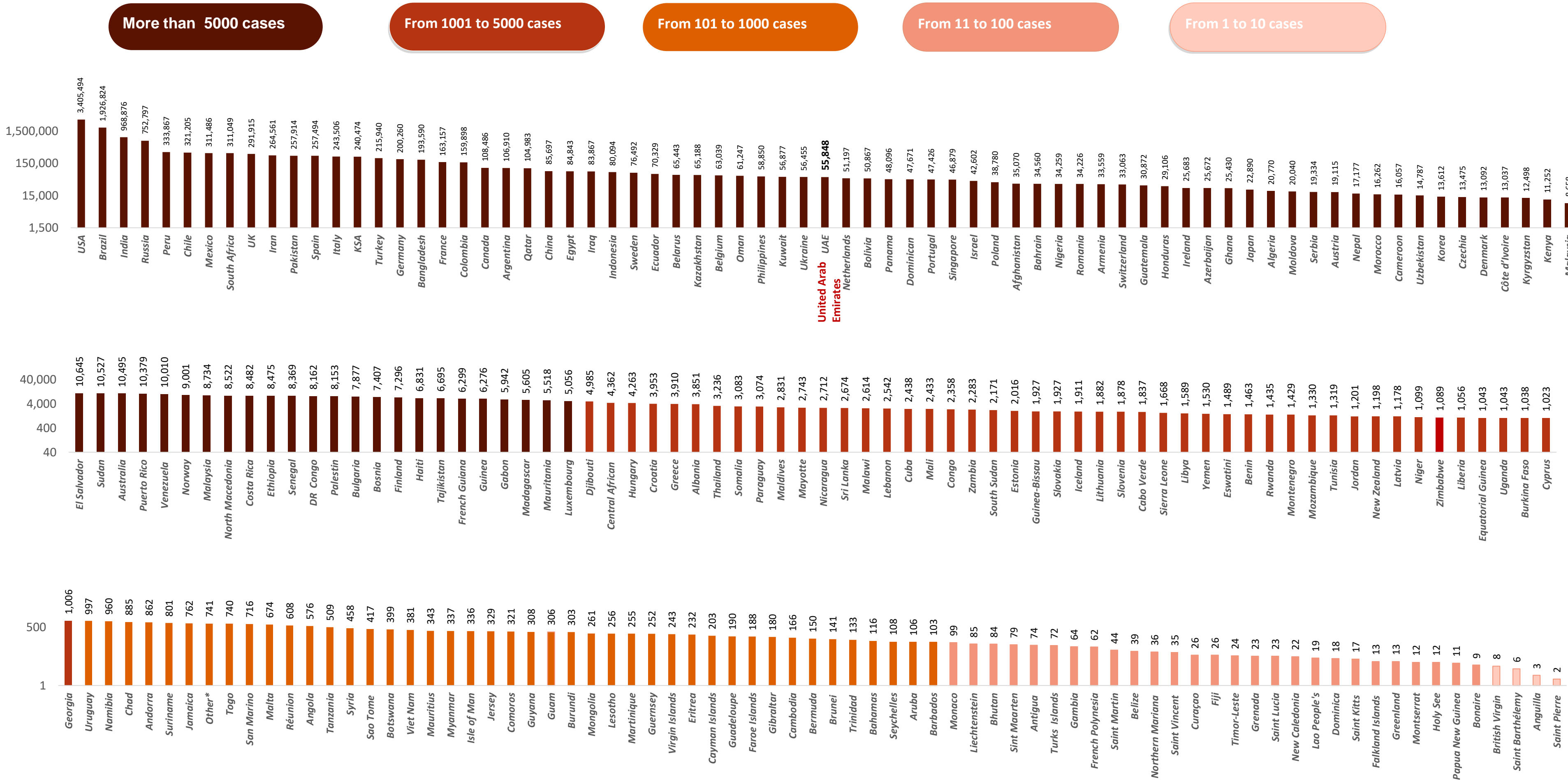
From 101 to 1000 cases

From 11 to 100 cases

From 1 to 10 cases

No confirmed cases

Figure 7B: Bar chart illustrate the global distribution of COVID19 cases



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

Figure 8: illustrate the Global distribution of COVID19 cases per region

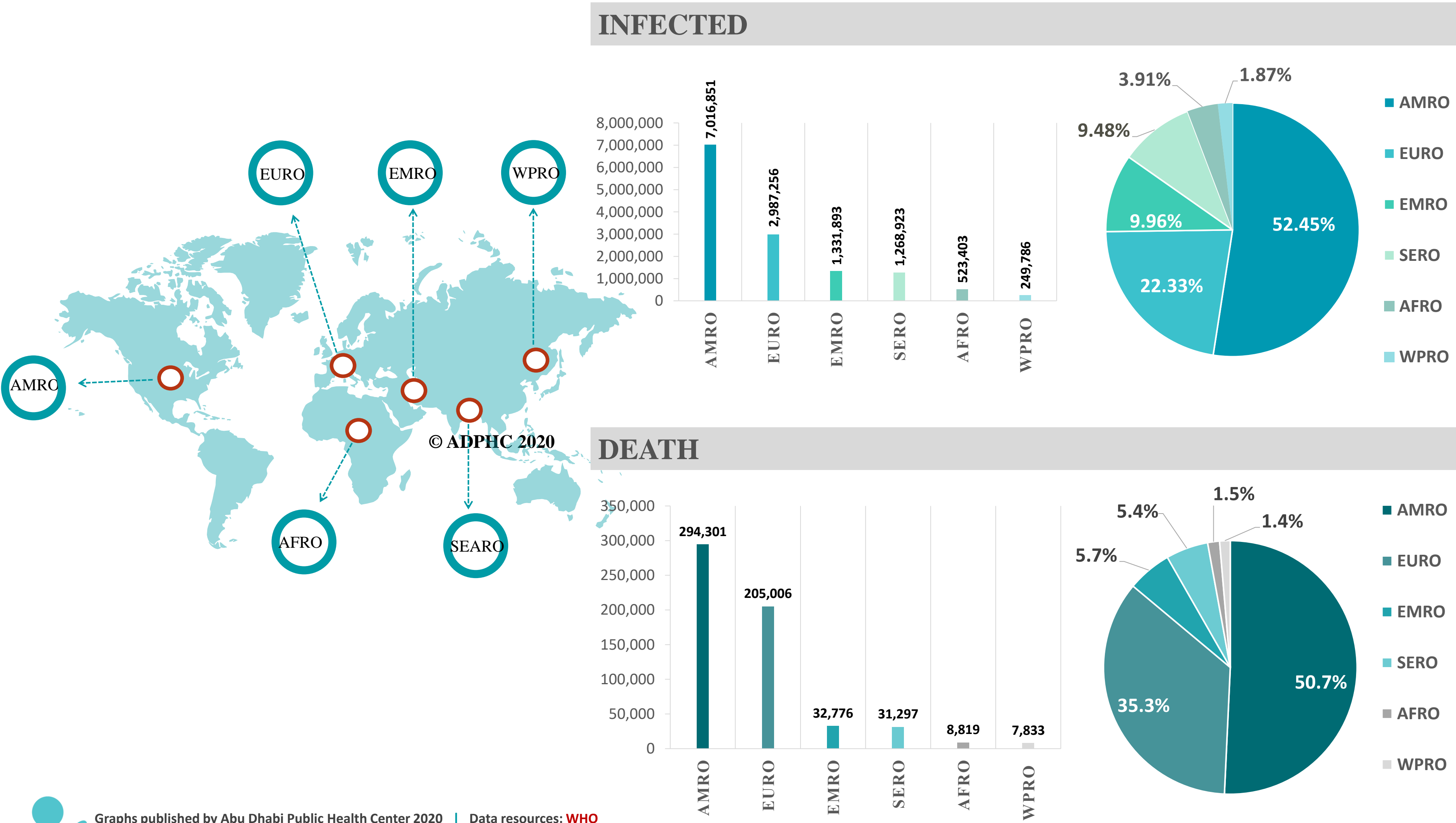
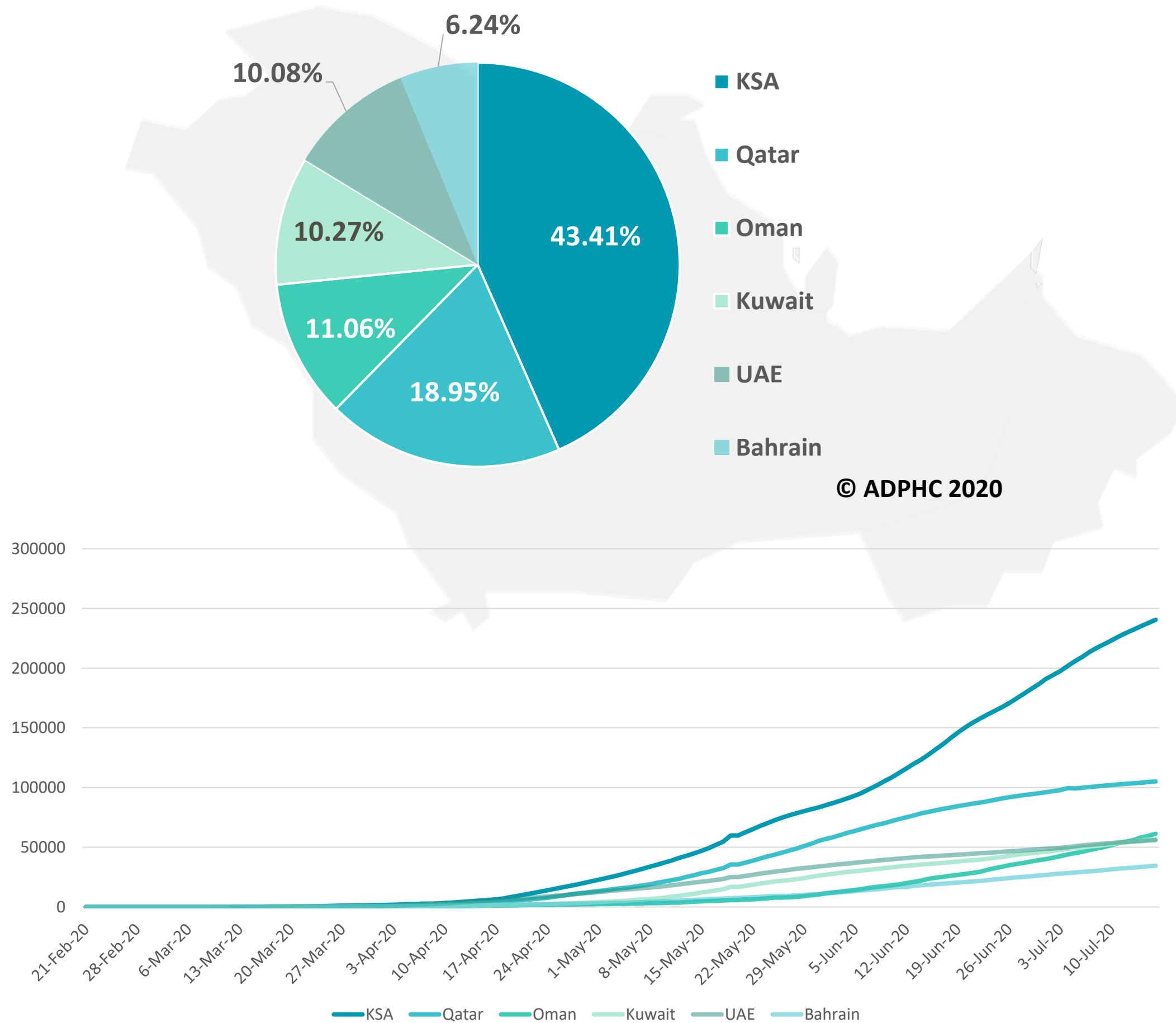
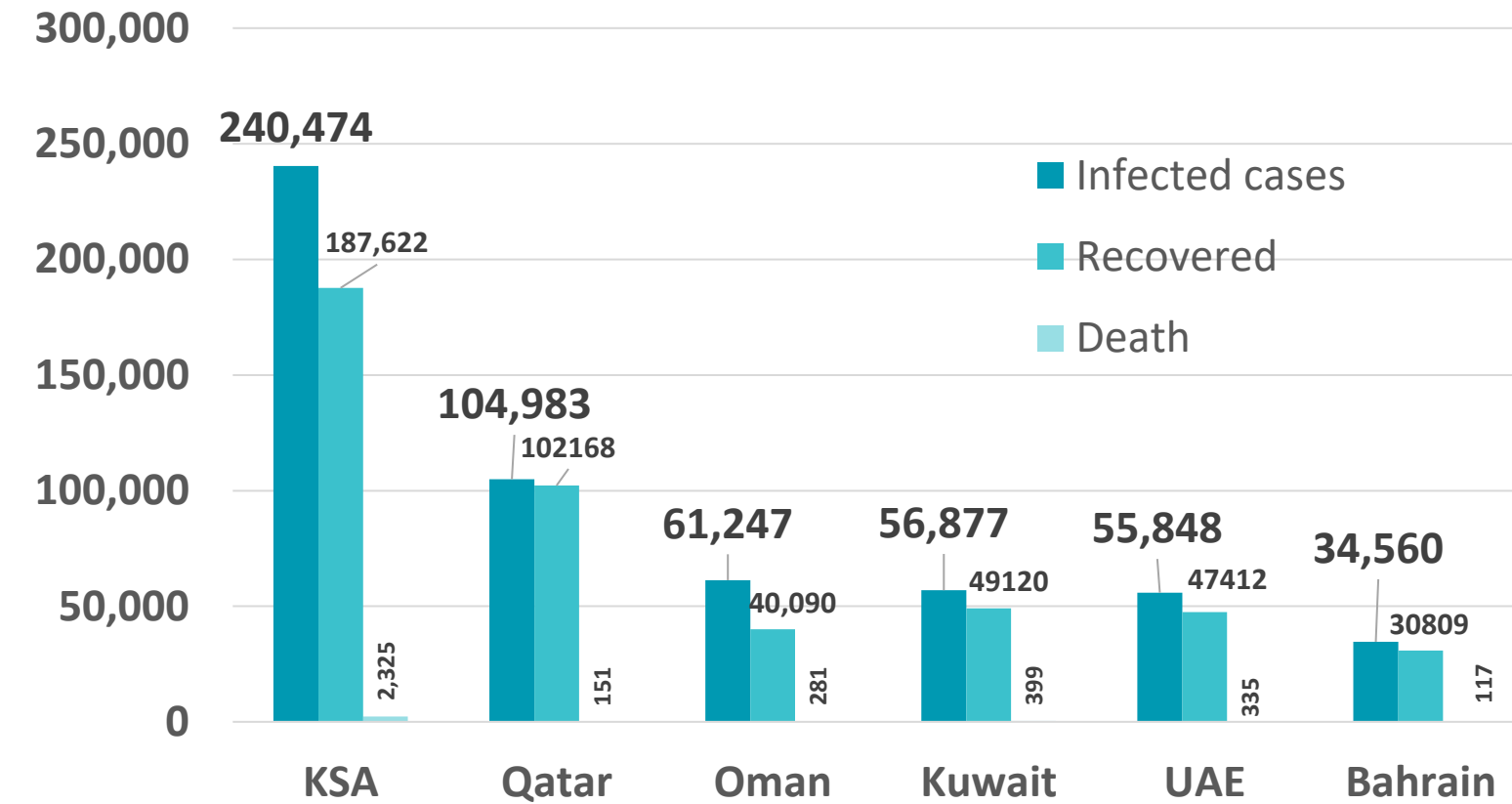


Figure 9: Comparative analysis of the distribution of COVID19 cases in GCC countries

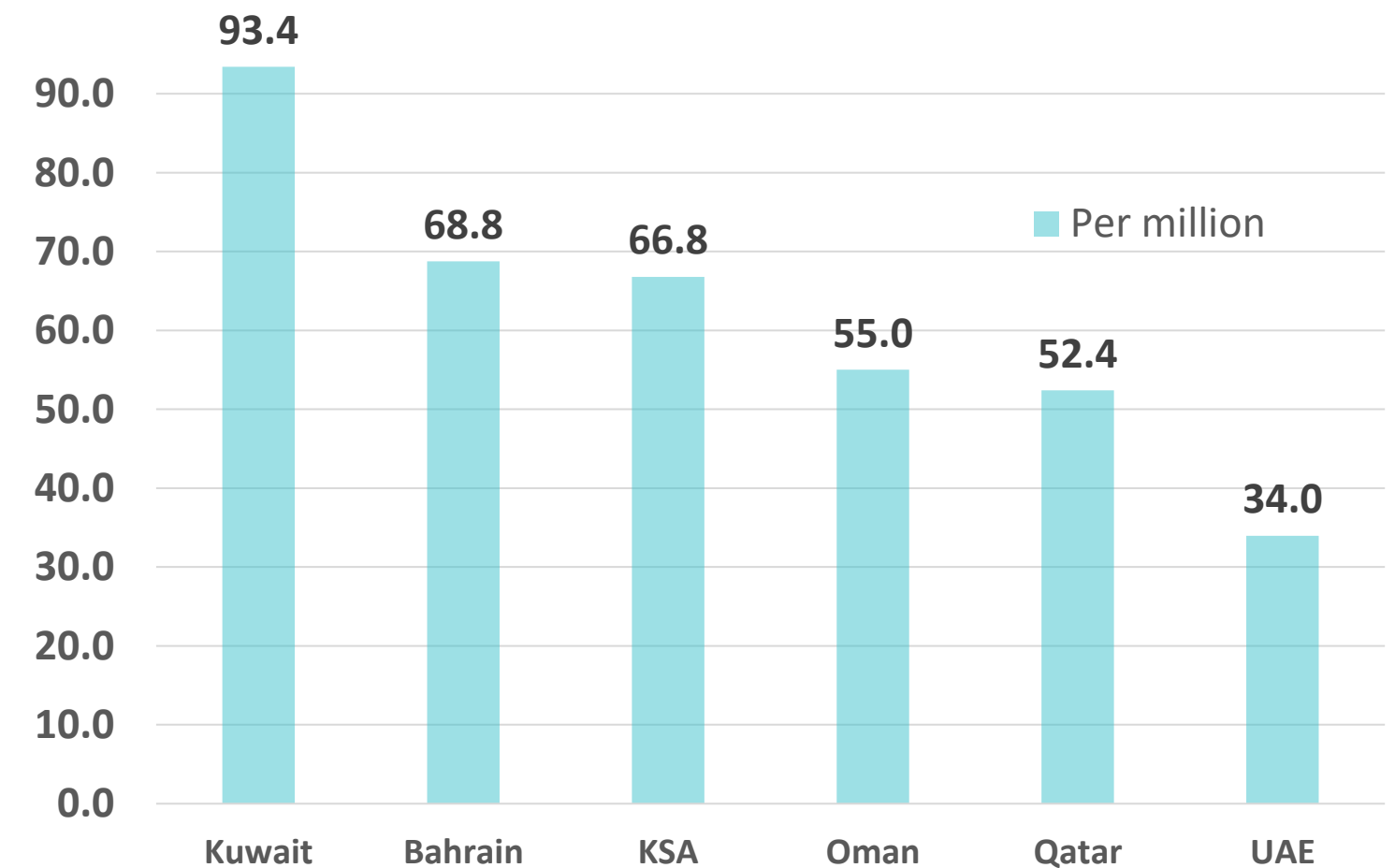
TOTAL NUMBER OF INFECTED CASES



TOTAL NUMBER OF INFECTED, RECOVERED AND DEATHS



DEATH PER MILLION



Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: [WHO](#)

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Figure 10: Comparative analysis of the distribution of COVID19 new cases in GCC countries

UAE



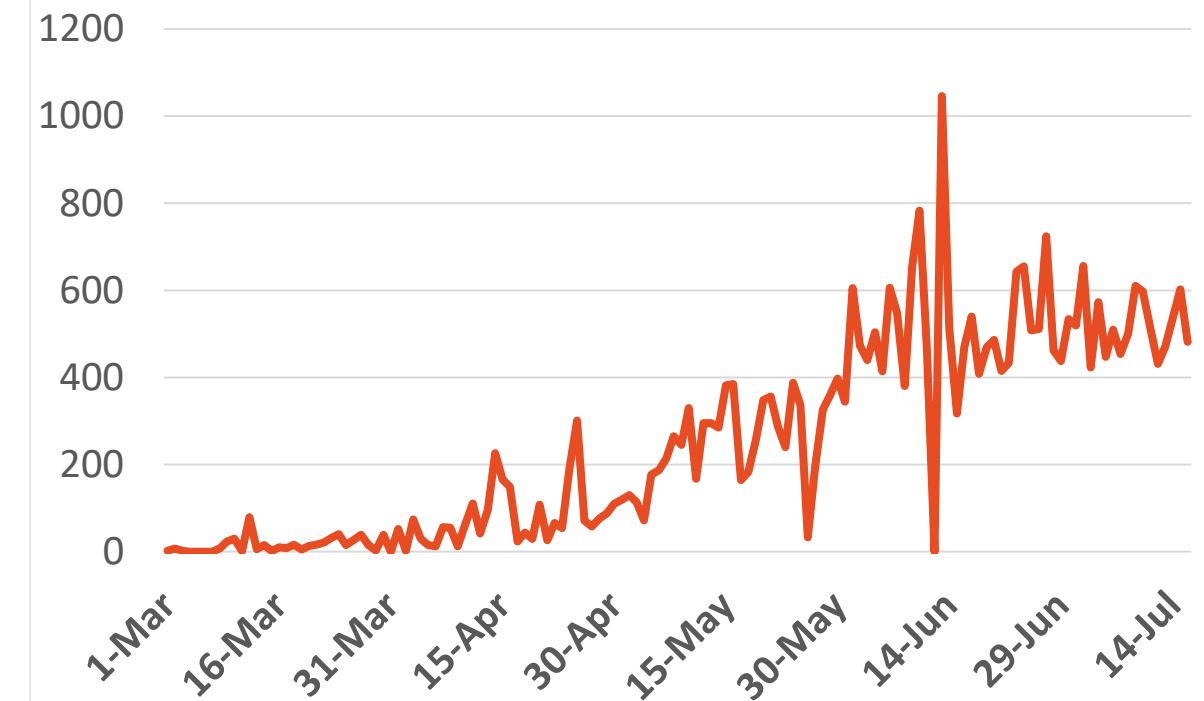
Source : National Emergency Crisis and Disaster Management Authority

KSA



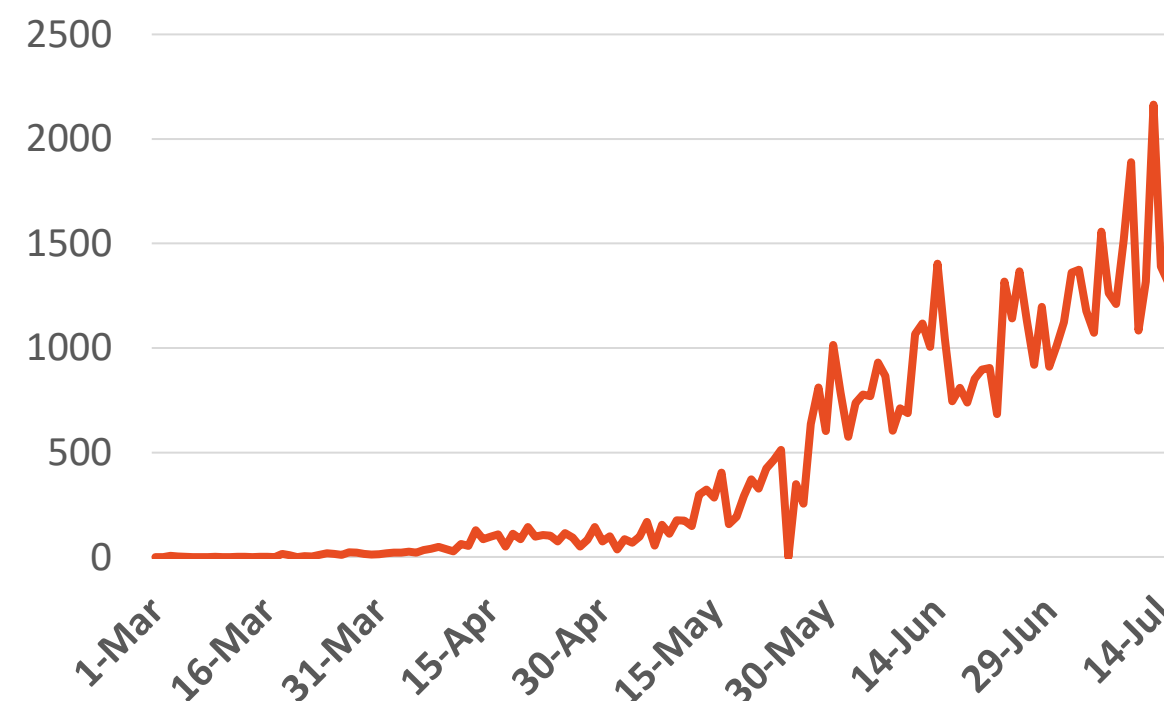
Source : KSA ministry of health

Bahrain



Source :WHO

Oman



Source :Oman ministry of health

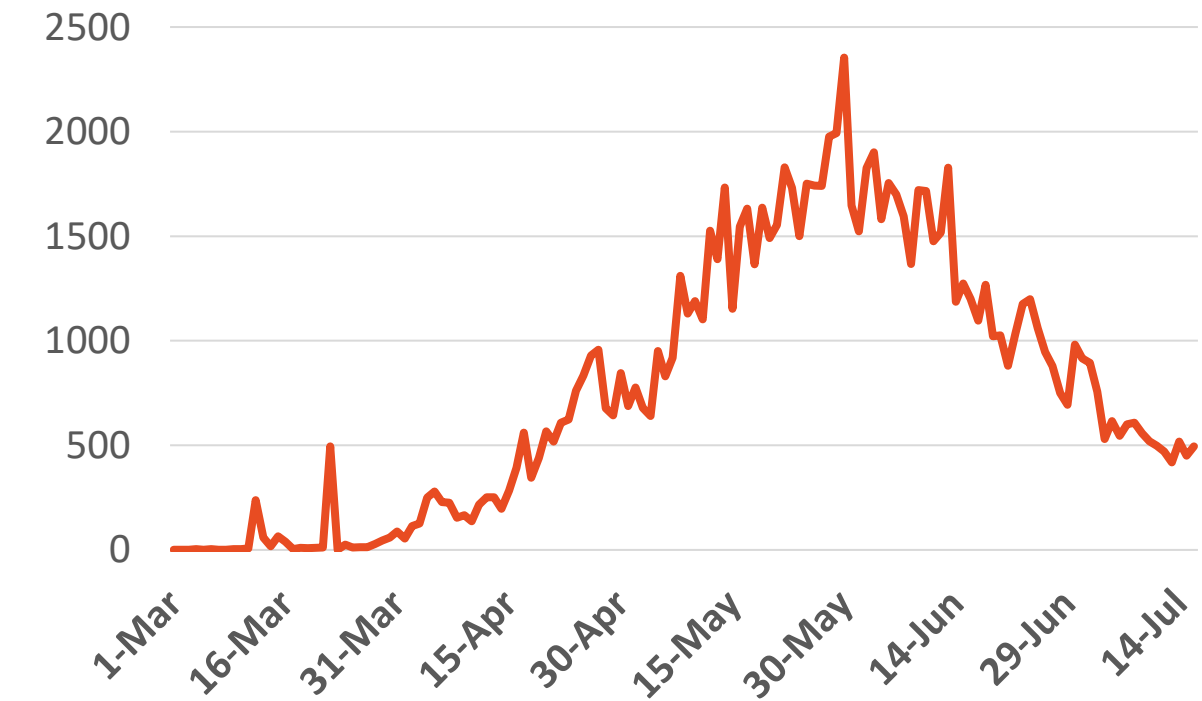
Kuwait

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Source : Kuwait ministry of health

Qatar



Source : Qatar ministry of health

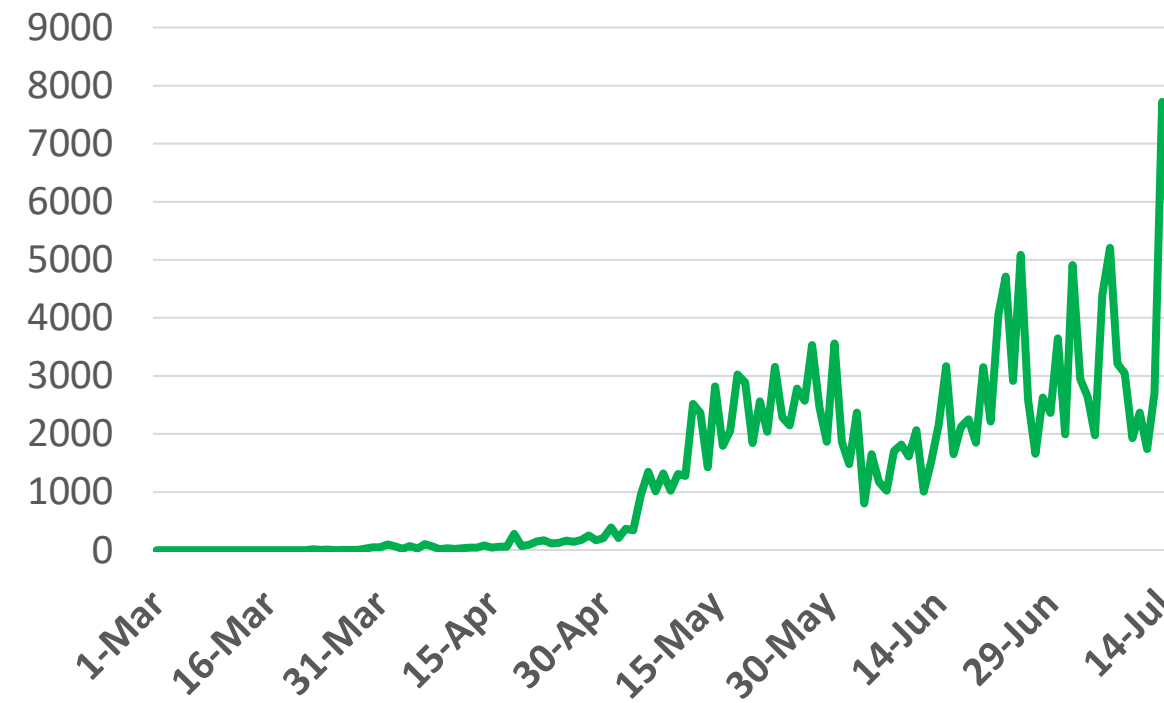
Figure 11: Comparative analysis of the distribution of COVID19 newly recovered cases in GCC Countries

UAE



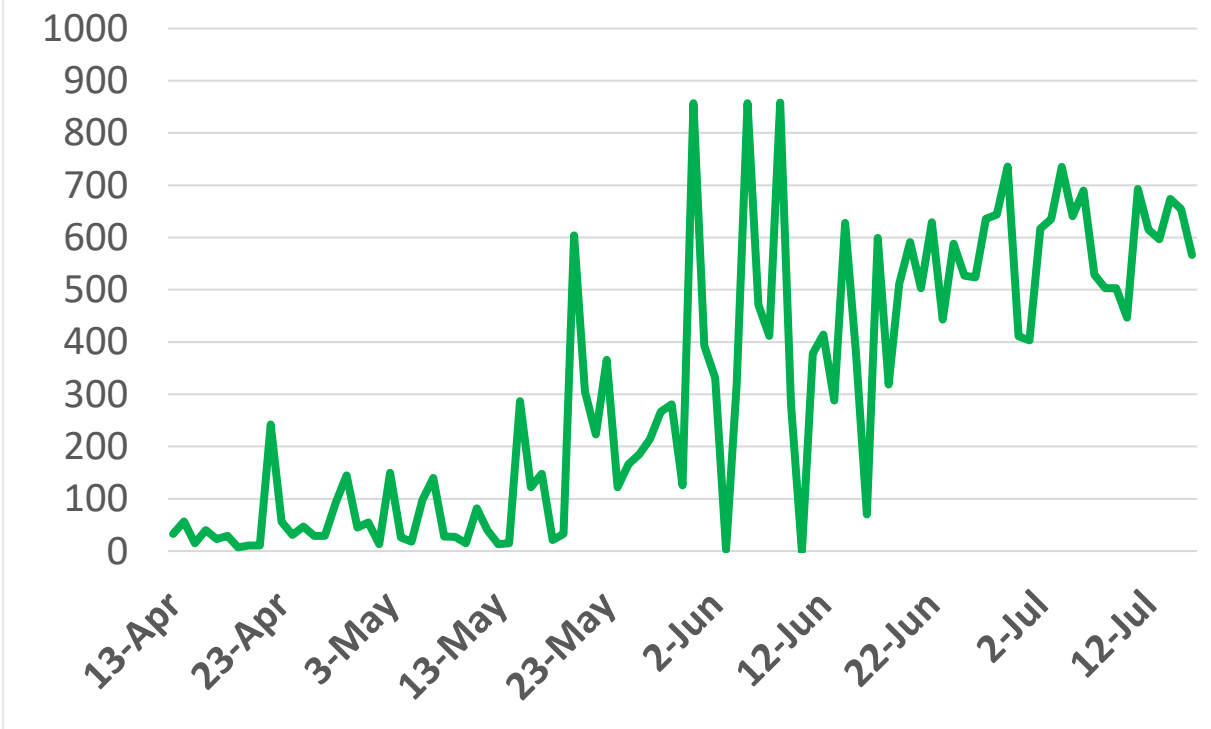
Source : National Emergency Crisis and Disaster Management Authority

KSA



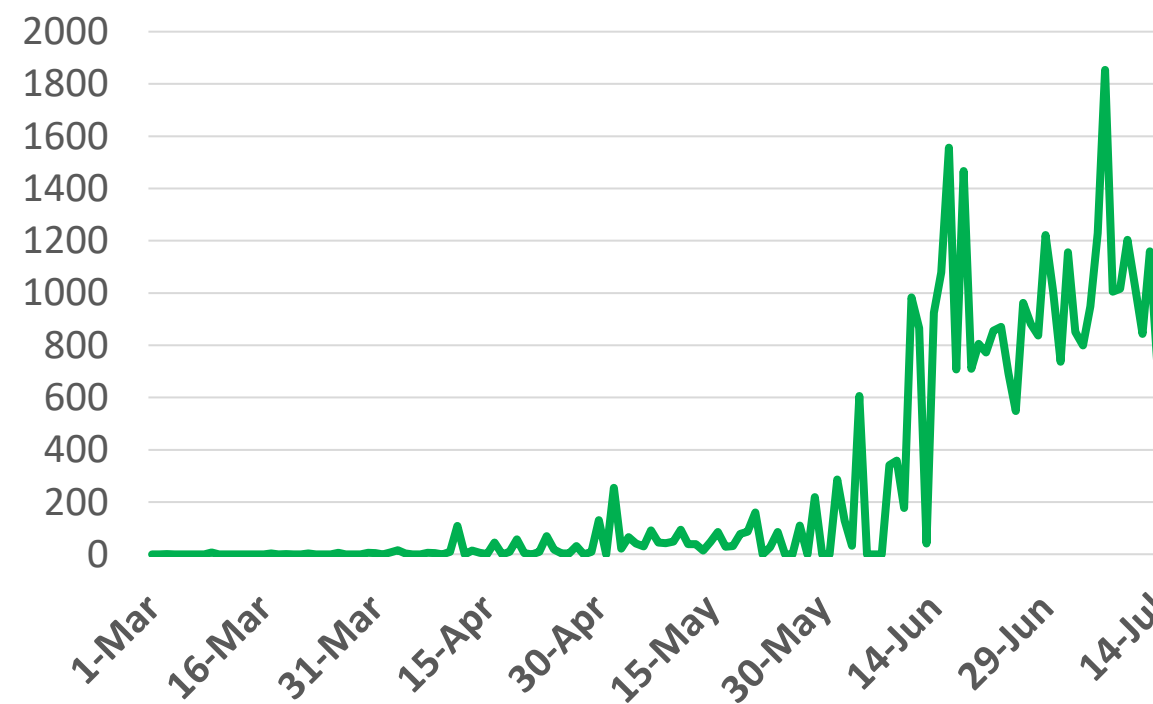
Source : KSA ministry of health

Bahrain



Source : GCCStat

Oman



Source : Oman ministry of health

Kuwait

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Source : Kuwait ministry of health

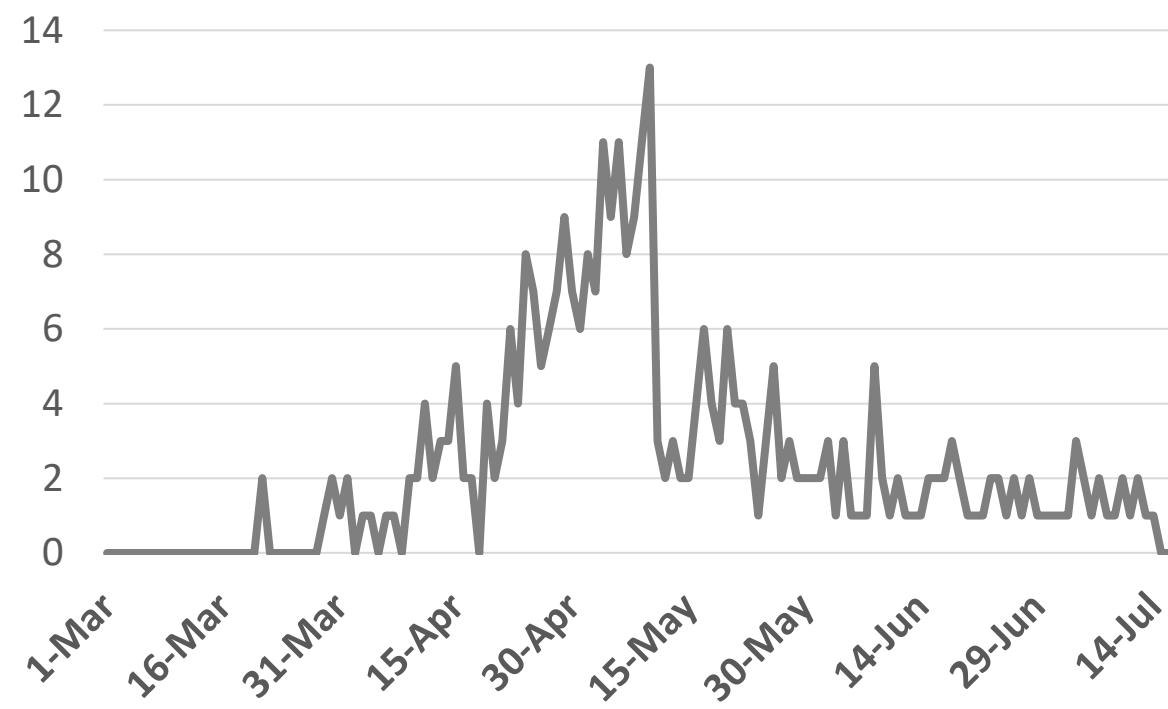
Qatar



Source : Qatar ministry of health

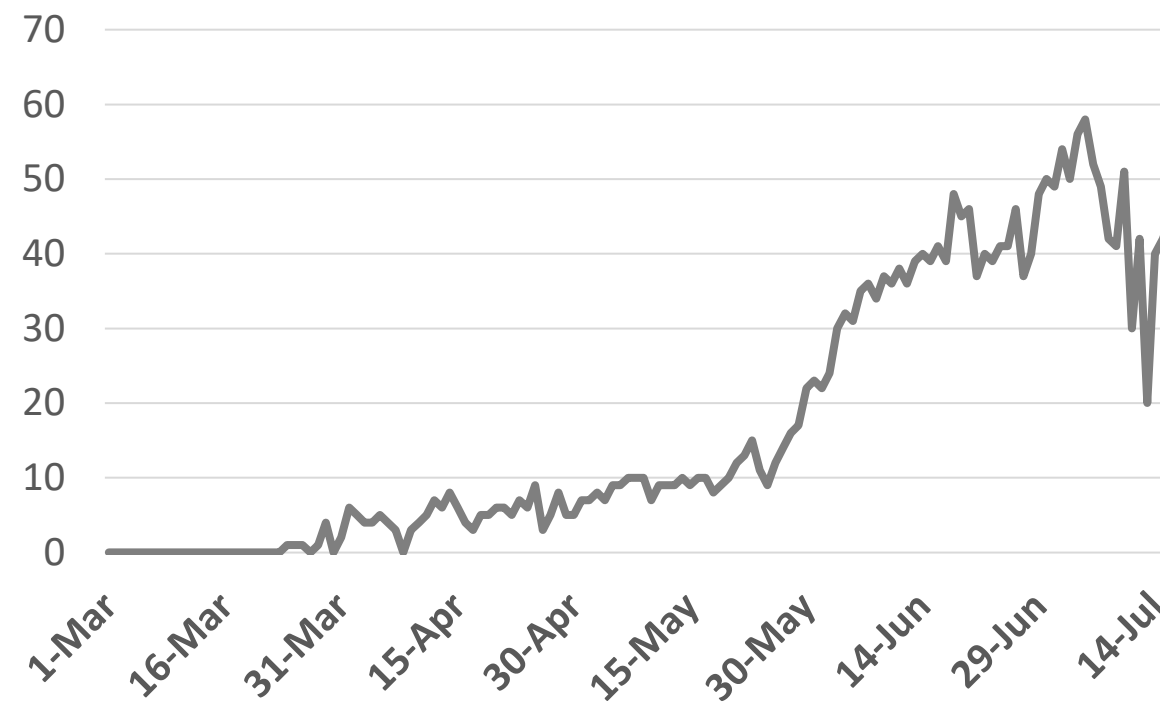
Figure 12: Comparative analysis of the distribution of COVID19 newly death cases in GCC countries

UAE



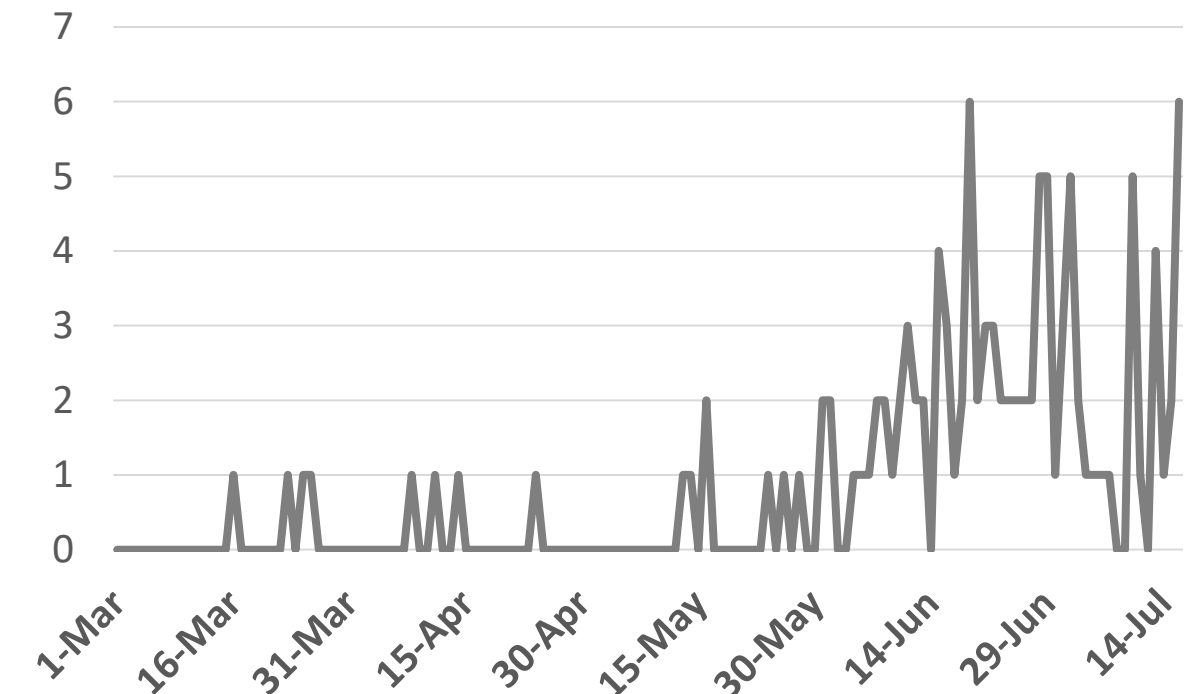
Source : National Emergency Crisis and Disaster Management Authority

KSA



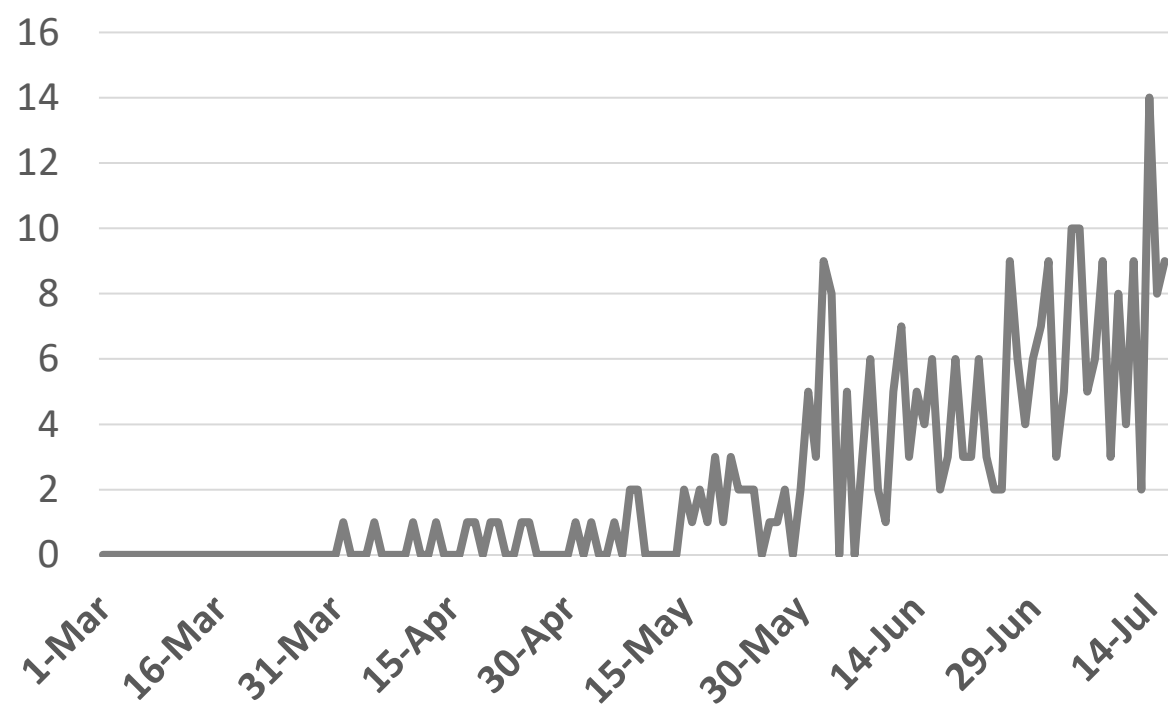
Source : KSA ministry of health

Bahrain



Source :WHO

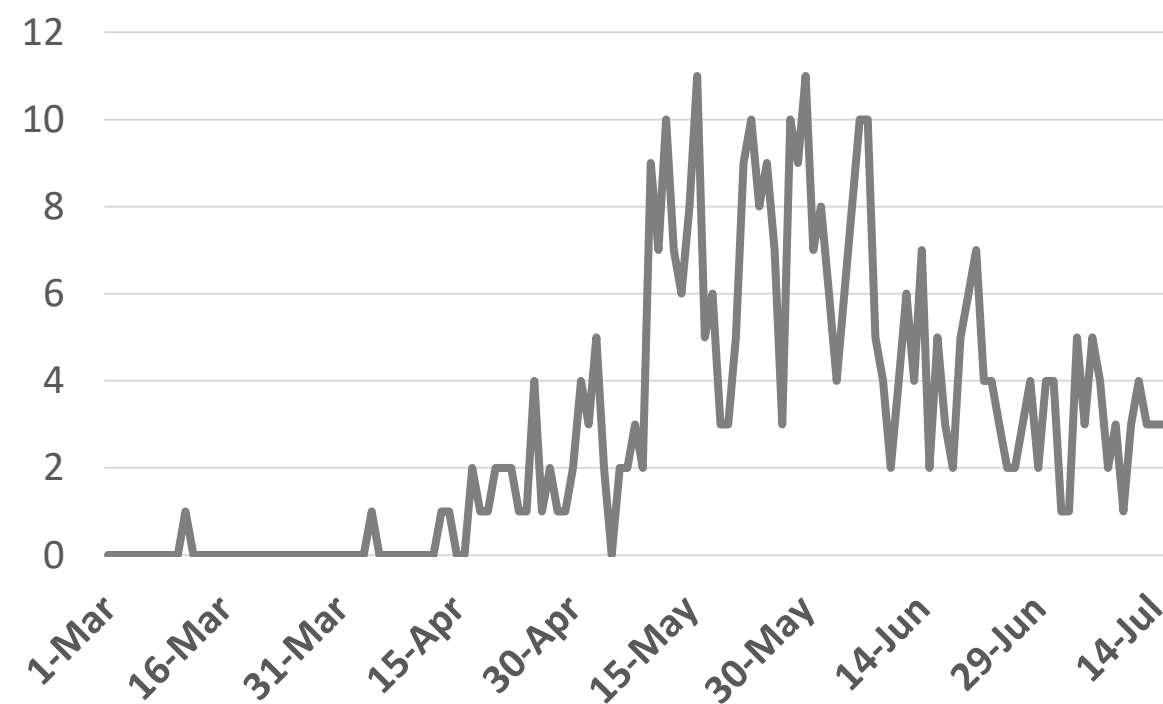
Oman



Source :Oman ministry of health

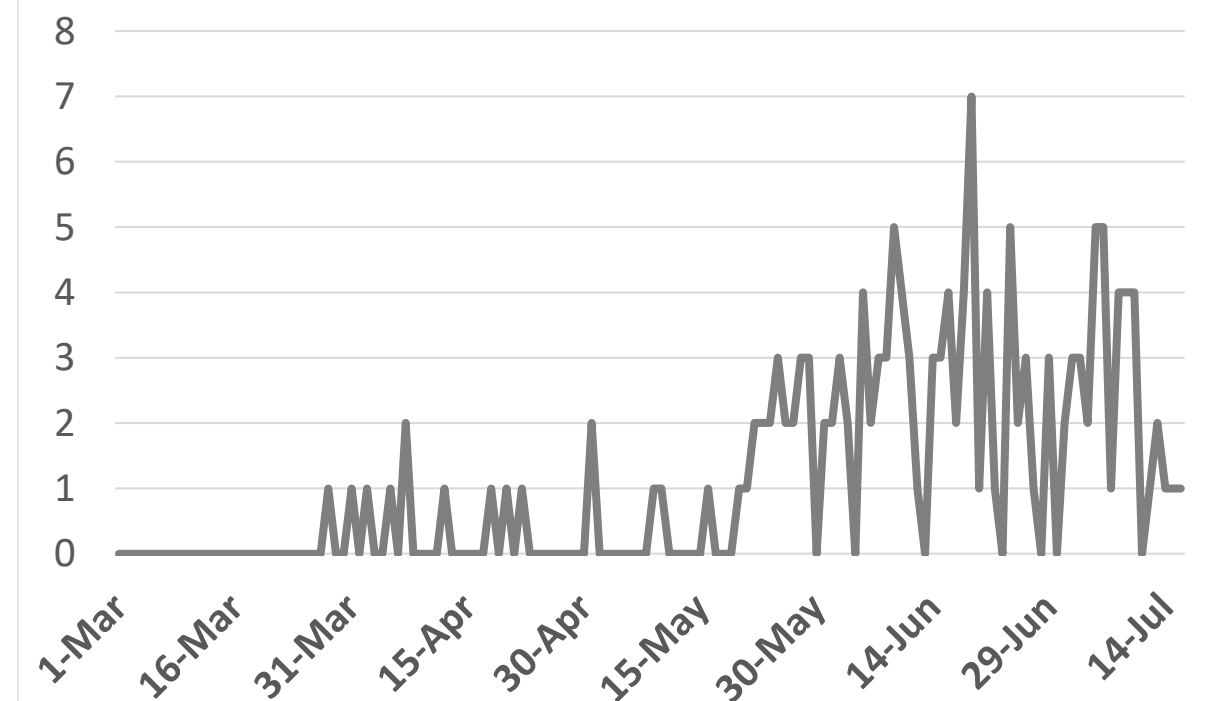
Kuwait

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Source : Kuwait ministry of health

Qatar



Source : Qatar ministry of health

Article 1: Tocilizumab for Treatment of Mechanically Ventilated Patients with COVID-19

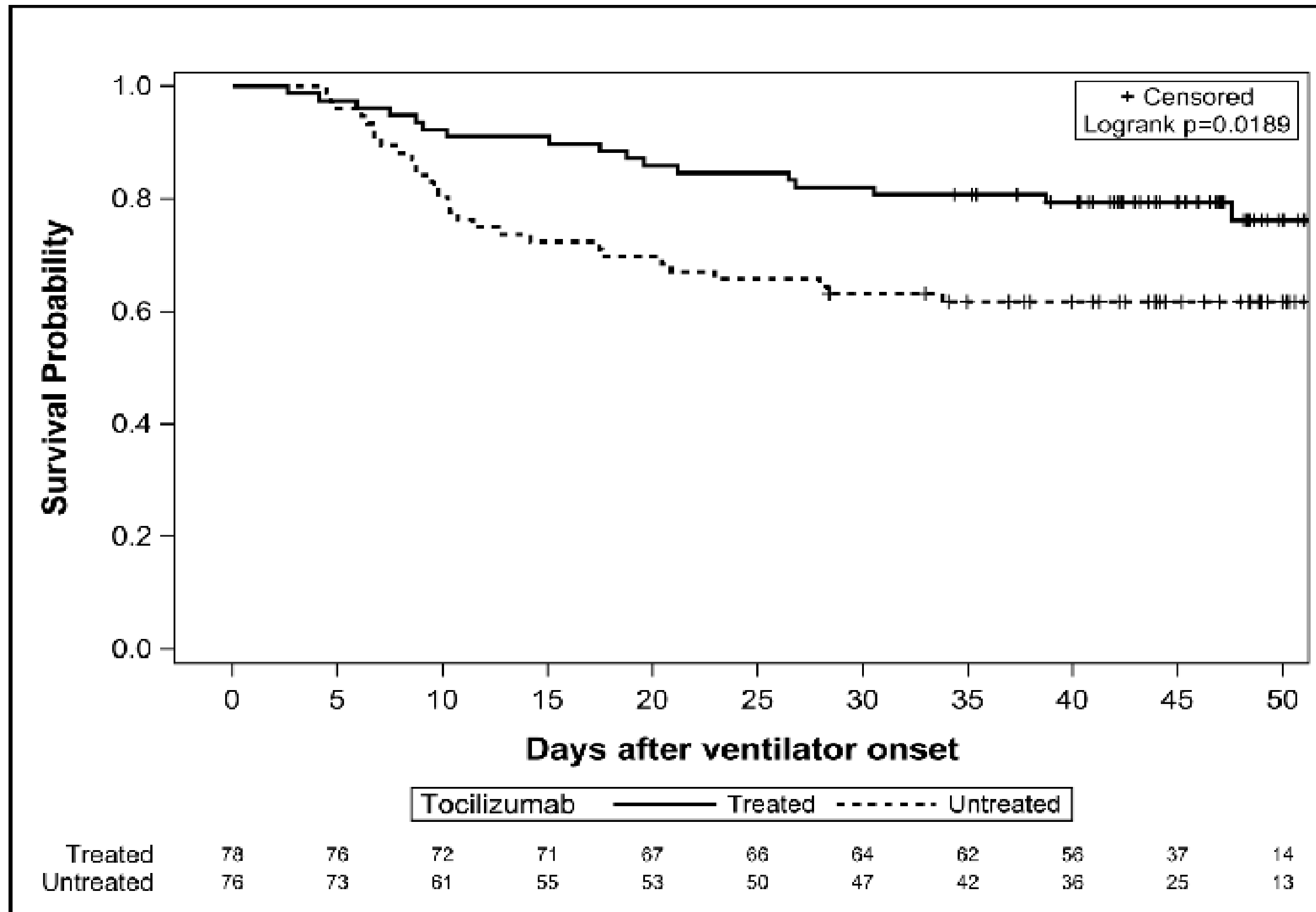
Published

15 July 2020 [Oxford Acedemia](#)

- Severe COVID-19 can lead to rapid decompensation and respiratory failure with elevated inflammatory markers (cytokine release syndrome), Tocilizumab an IL-6 blockade could stop the cytokine storm.
- Investigators in the University of Michigan assessed the efficacy and safety of Tocilizumab in a single-center cohort of patients with COVID-19 requiring mechanical ventilation. The primary endpoint was survival probability post-intubation; secondary analyses included an ordinal illness severity scale integrating superinfections.
- 154 patients were included, of whom 78 received Tocilizumab. Median follow-up was 47 days. Baseline characteristics were similar between groups, although Tocilizumab treated patients were younger (mean 55 vs 60 years), less likely to have chronic pulmonary disease (10% vs 28%) and had lower D-dimer values at the time of intubation (median 2.4 vs 6.5 mg/dl).
- In adjusted models, Tocilizumab was associated with a 45% reduction in mortality and associated with an increased superinfection (54% vs 26%; $p < 0.001$). However, there was no difference in 28-day case fatality rates between the treatment groups. The authors concluded that in this cohort of mechanically ventilated COVID-19 patients, Tocilizumab was associated with lower mortality despite higher superinfection occurrence.



Continued



Article 2:

COVID-19 in Children and the Dynamics of Infection in Families

Published

July 2020 [PAEDIATRICS](#)

- This study describe the clinical presentation of the first paediatric cases of COVID-19 in Switzerland and the dynamics of their familial clusters during March-April. The study found children do not seem to be a major vector of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) transmission.
- The study suggests that children appear to be infected by COVID-19 mainly through their family members, and children don't usually spread the virus to the rest of the household.
- Researchers studied household contacts of 40 children under 16 yrs. infected with SARS-CoV-2. In 79% of the households studied, at least one adult family member had suspected or confirmed COVID-19 before the child developed symptoms.
- In 8% of households, the child was the suspected index case. Researchers looked at similar studies addressing this issue and conclude that almost six months into the pandemic, accumulating evidence and collective experience argue that children, particularly school-aged children, are less important drivers of SARS-CoV-2 transmission than adults.
- Therefore, serious consideration should be paid toward strategies that allow schools to remain open, even during periods of COVID-19 spread. In doing so, we could minimize the potentially profound adverse social, developmental, and health costs that our children will continue to suffer until an effective treatment or vaccine can be developed and distributed or, failing that until we reach herd immunity.



THANK YOU



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