

SCIENTIFIC RESEARCH MONITORING ON COVID-19

18 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 198)

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



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).

Click on icon to view content

Public Health Response

Returning to School in the Era of COVID-19

Mental Health

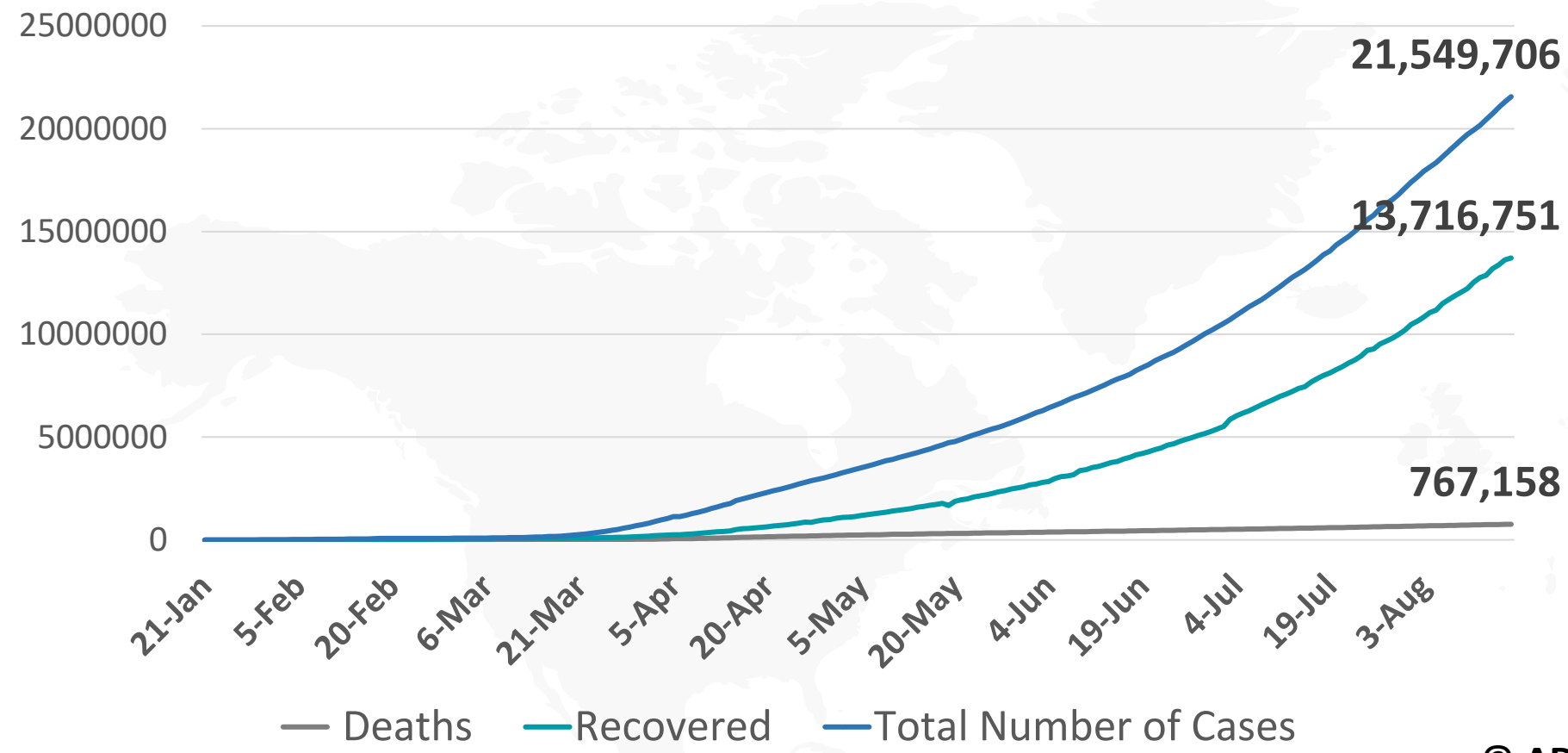
COVID-19 Mental, Economic Stresses Worse for US Public Than for Those in Other Wealthy Countries

Mental Health

Targetable Biological Mechanisms Implicated in Emergent Psychiatric Conditions Associated with SARS-CoV-2 Infection



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)

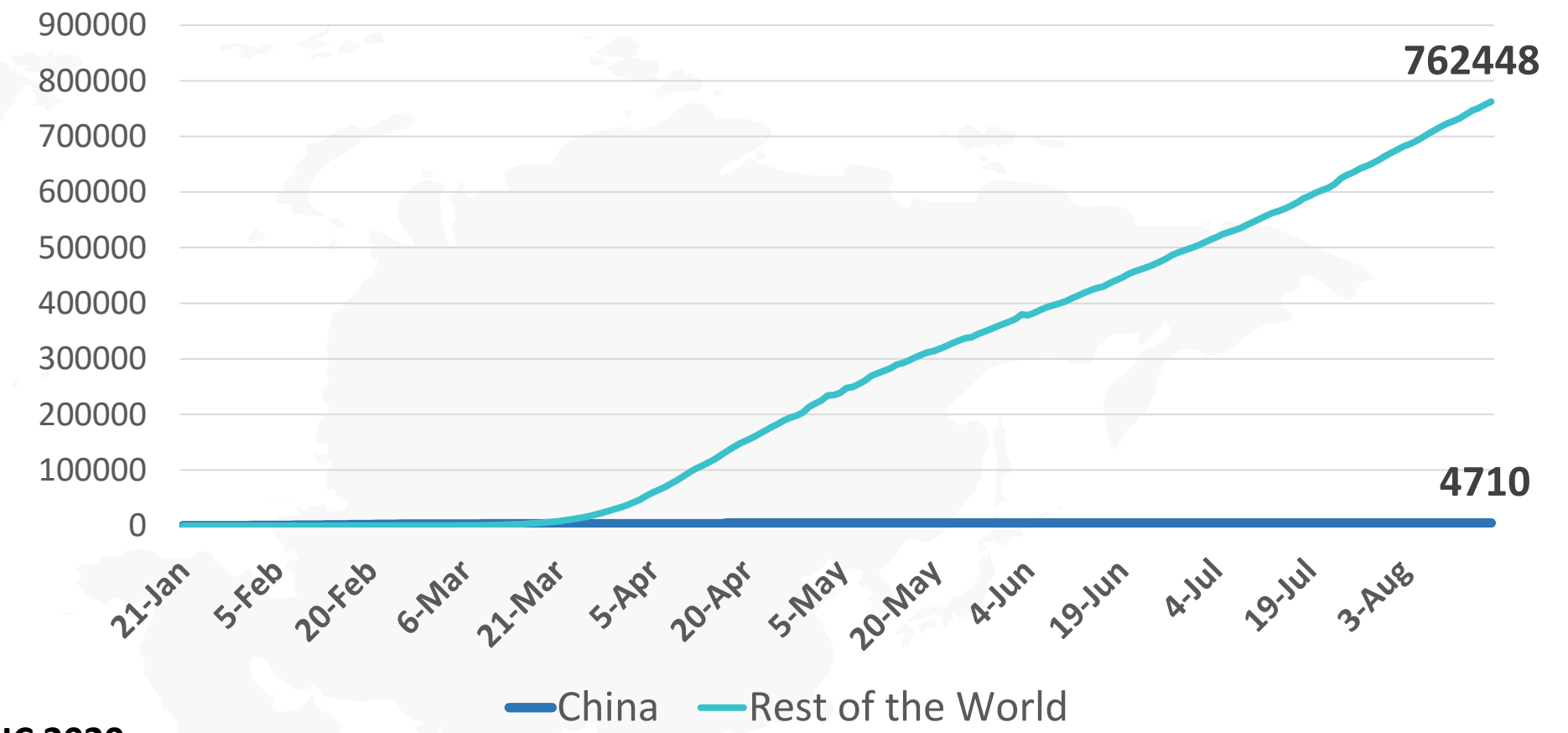


Figure 2: Daily New Infected COVID-19 Cases (China and rest of the world)

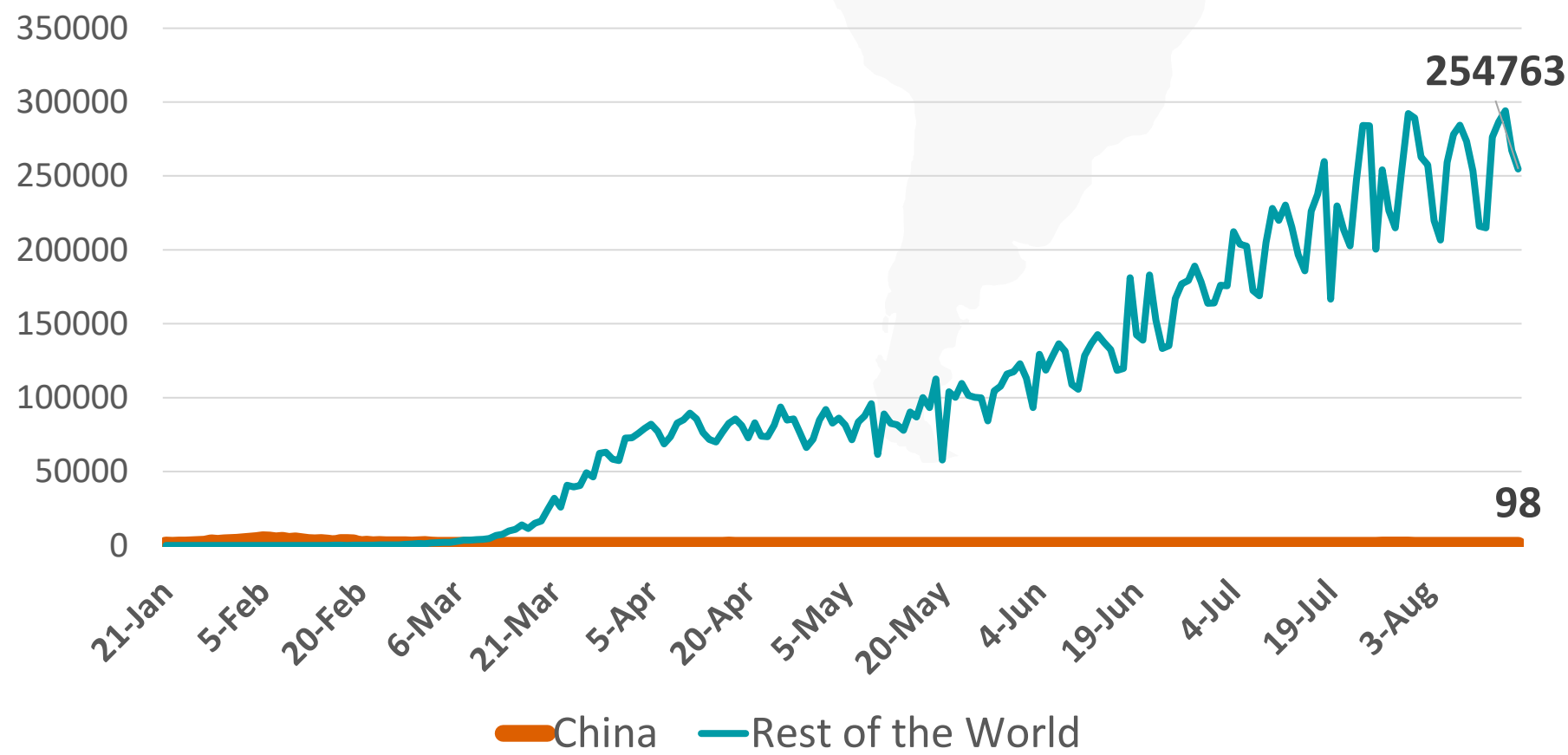


Figure 4: Global Daily New Deaths Due to COVID-19 (china and rest of the world)

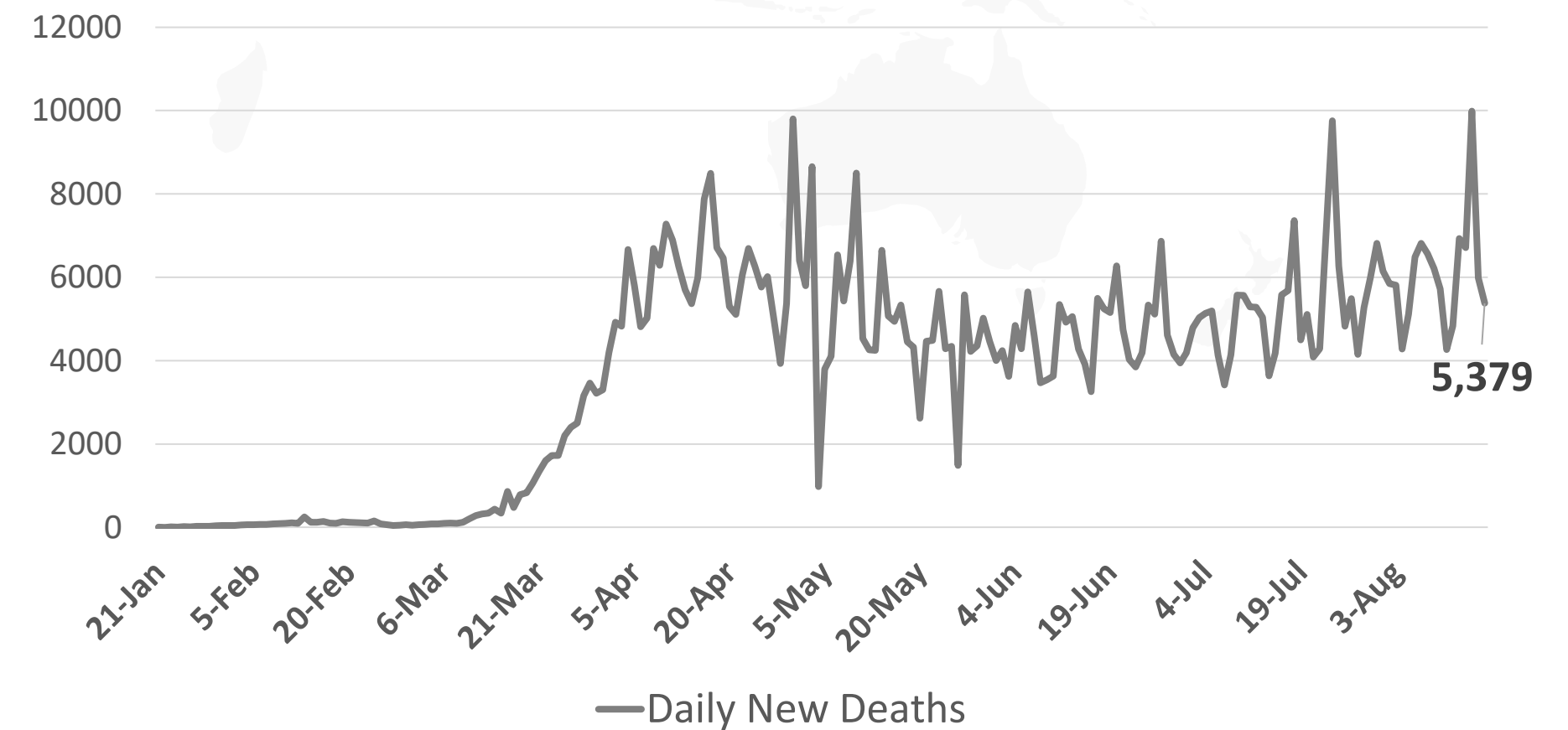
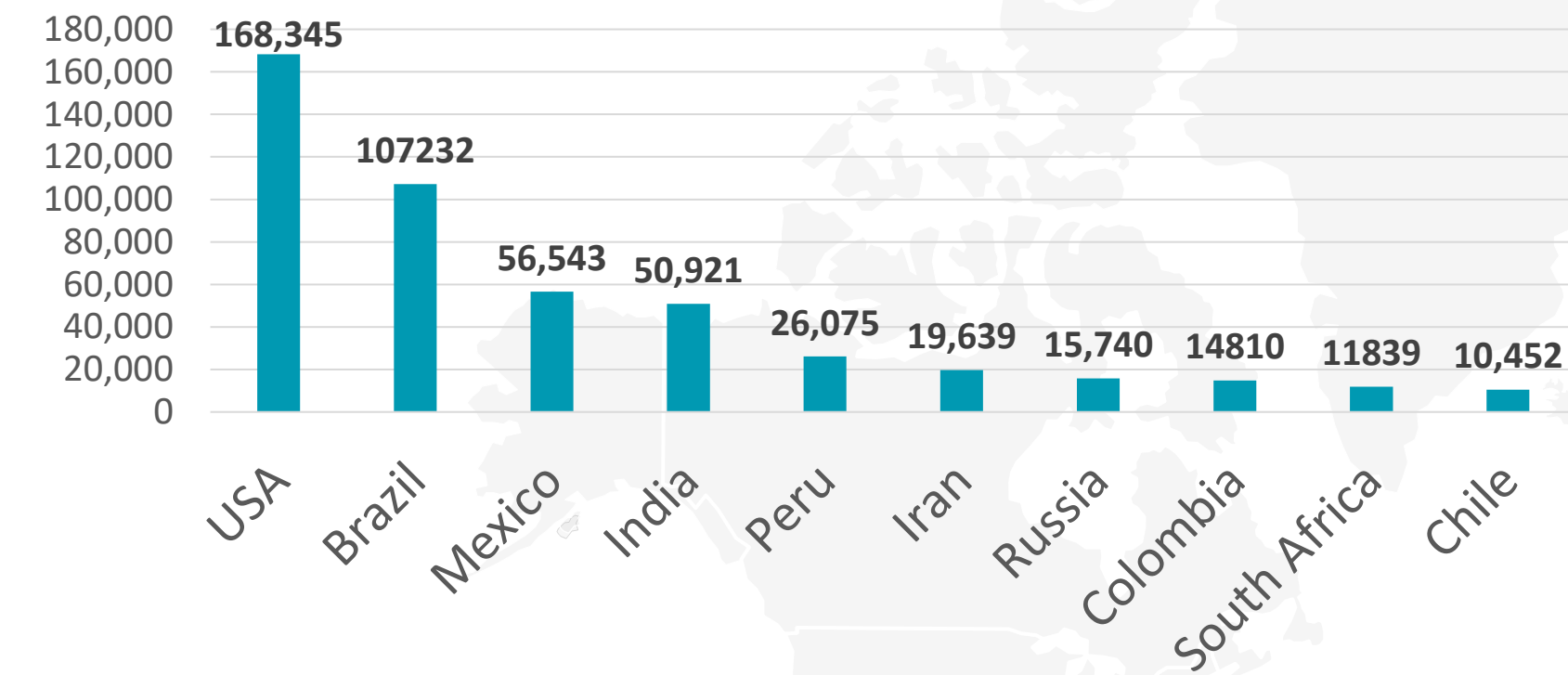
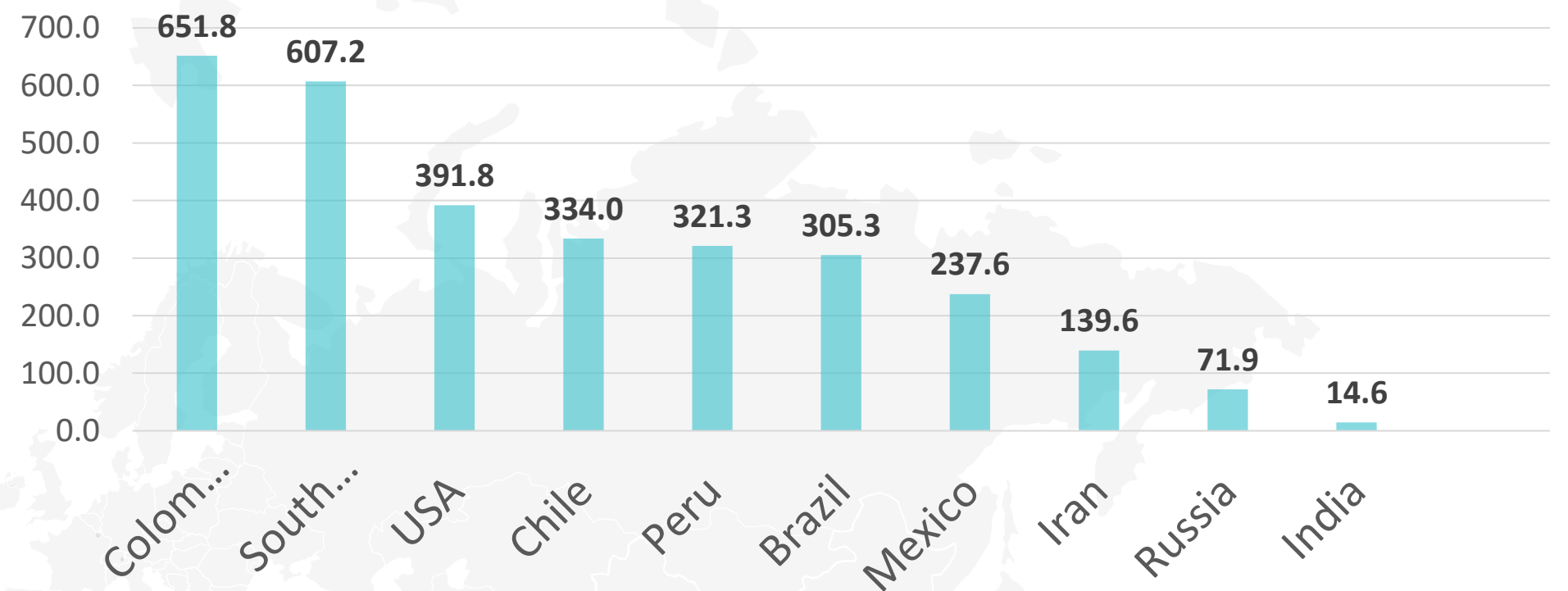


Figure 5: Top 10 Countries in the Total Number of Cases Due to COVID-19

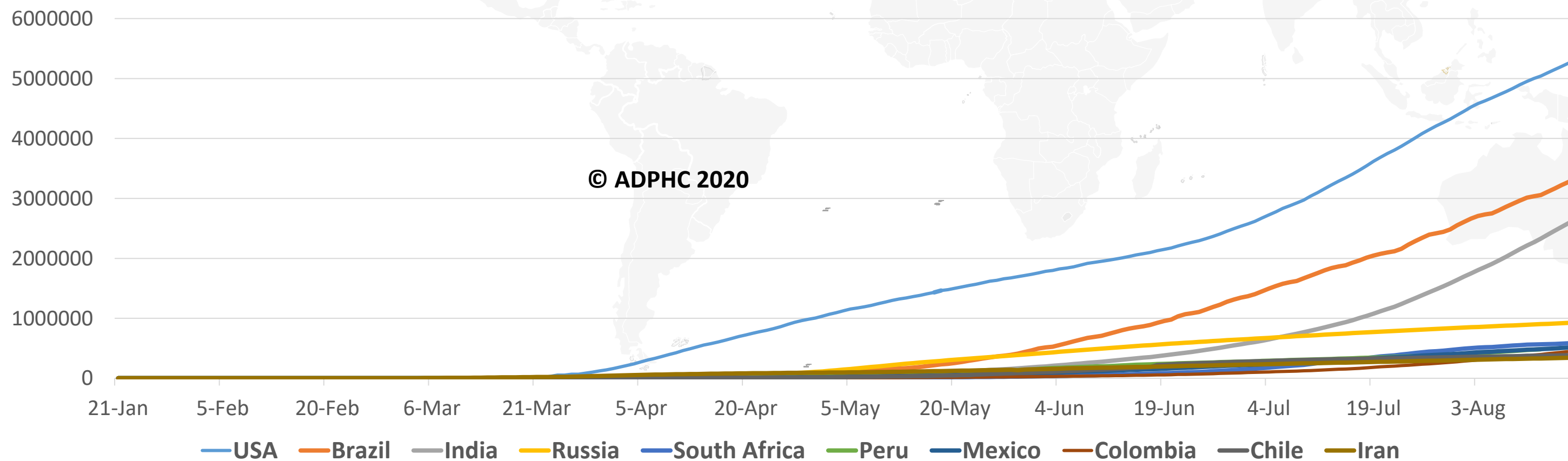
TOTAL DEATHS



DEATHS PER MILLION

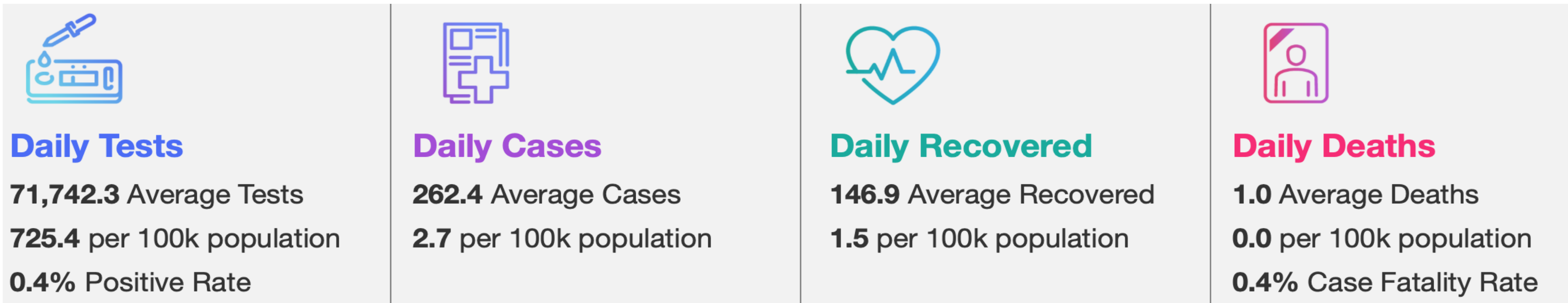


TOTAL INFECTED CASES



| | |
|--------------|-----------|
| USA | 5,312,940 |
| Brazil | 3,317,096 |
| India | 2,647,663 |
| Russia | 927,745 |
| South Africa | 587,345 |
| Peru | 525,803 |
| Mexico | 517,714 |
| Colombia | 456,689 |
| Chile | 385,946 |
| Iran | 343,203 |

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

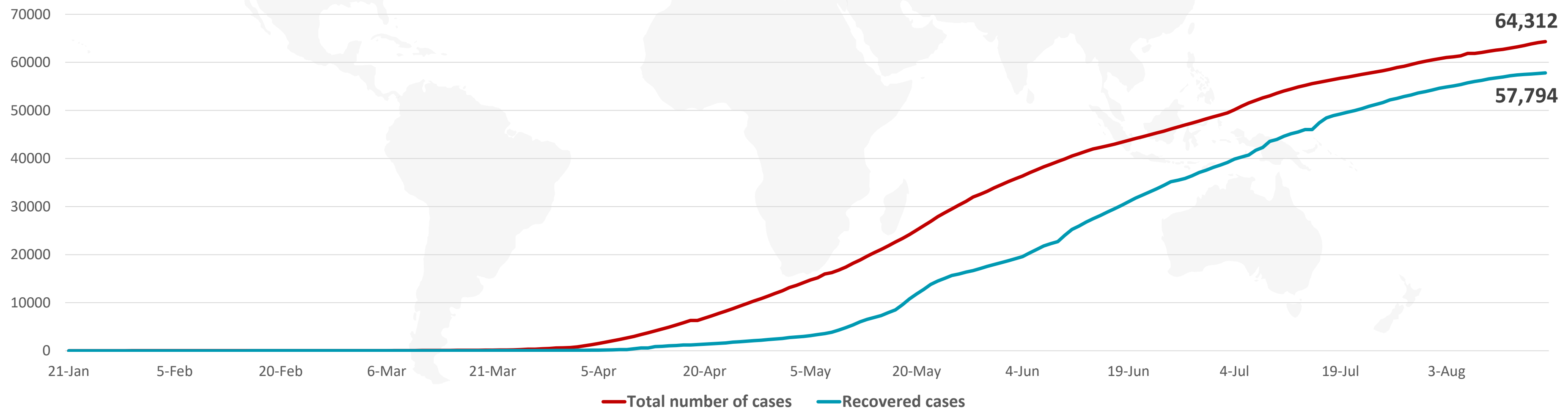
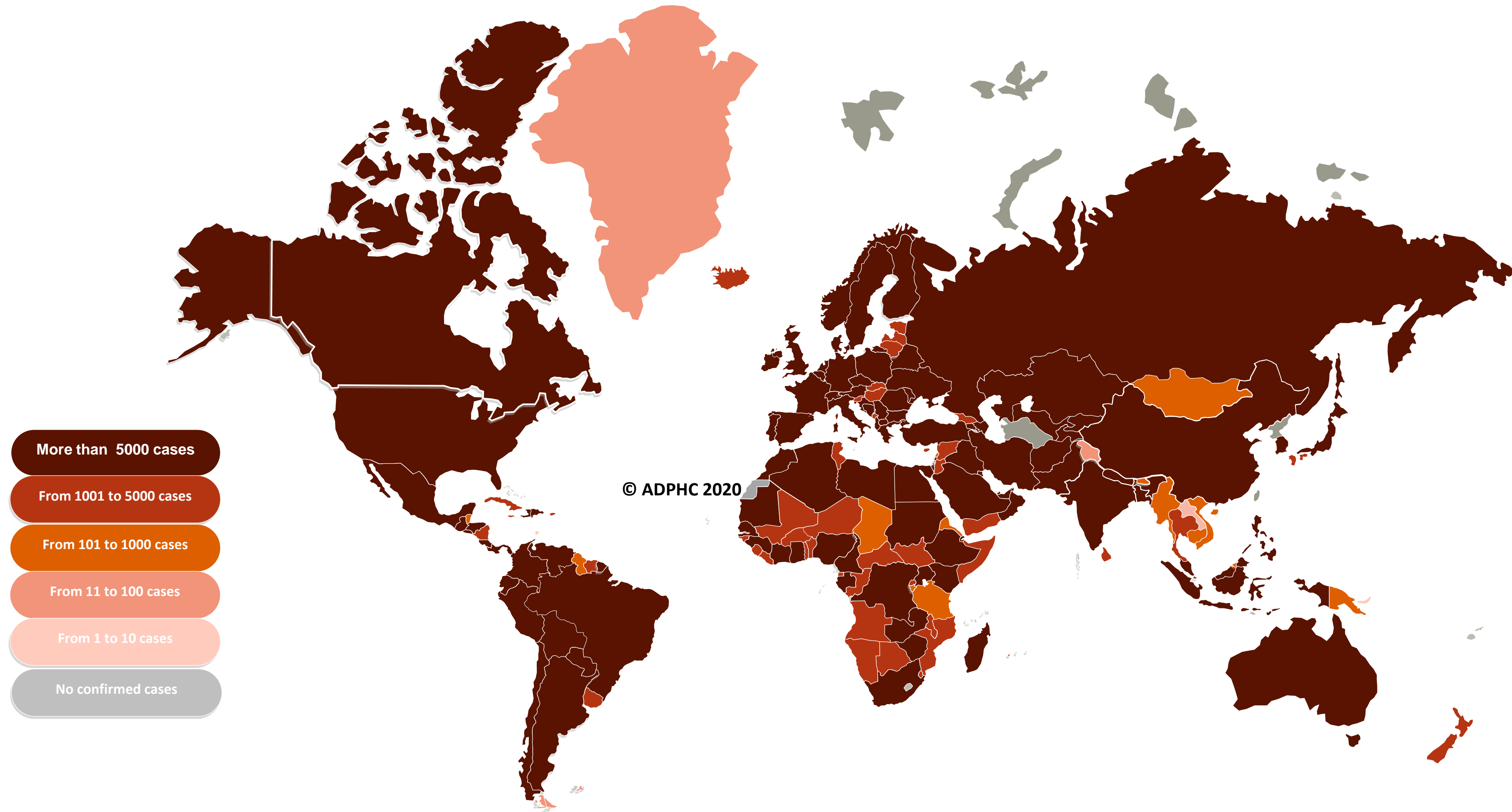


Figure 7A : Global Distribution of COVID-19 Cases



More than 5000 cases

From 1001 to 5000 cases

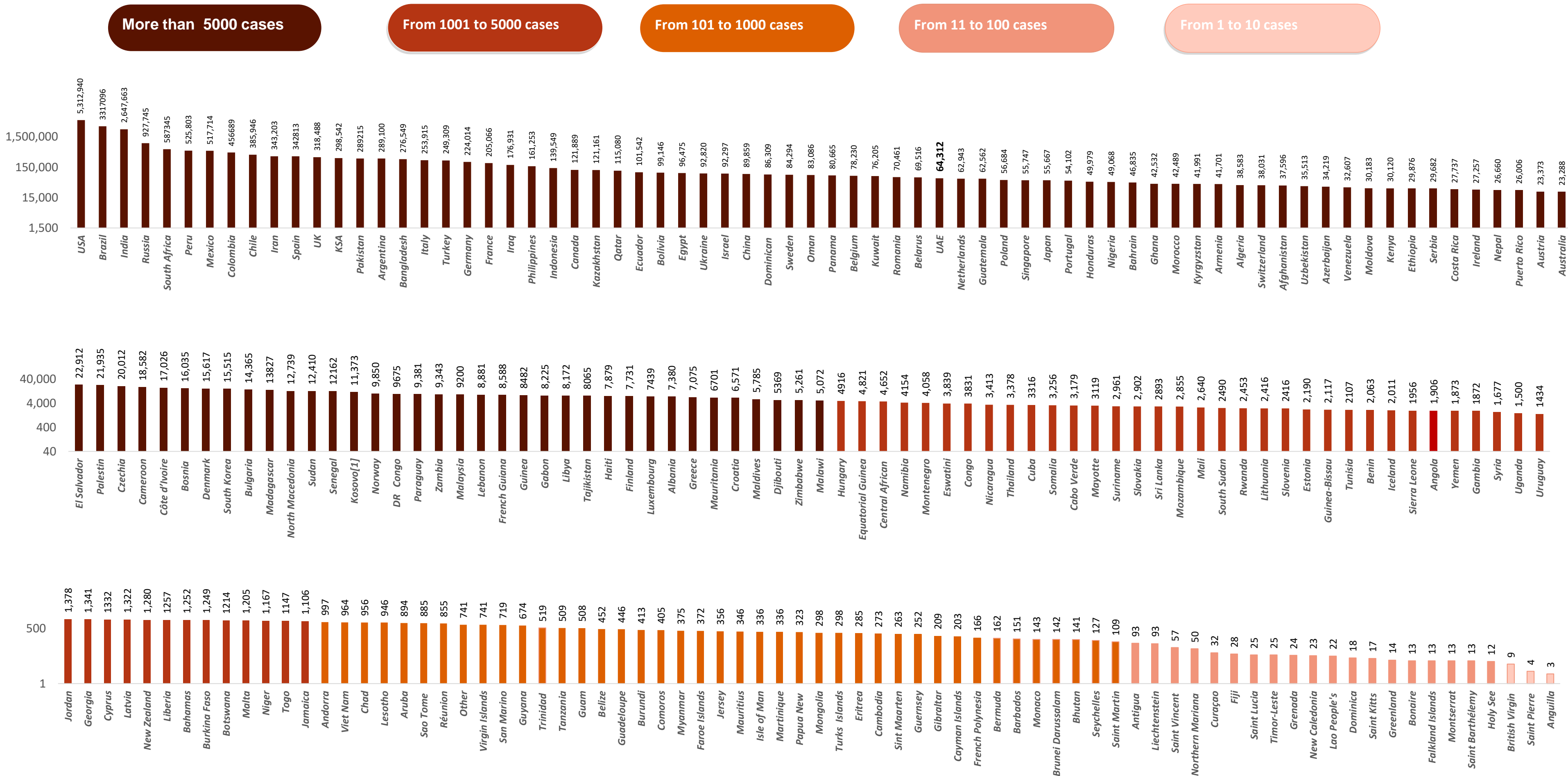
From 101 to 1000 cases

From 11 to 100 cases

From 1 to 10 cases

No confirmed cases

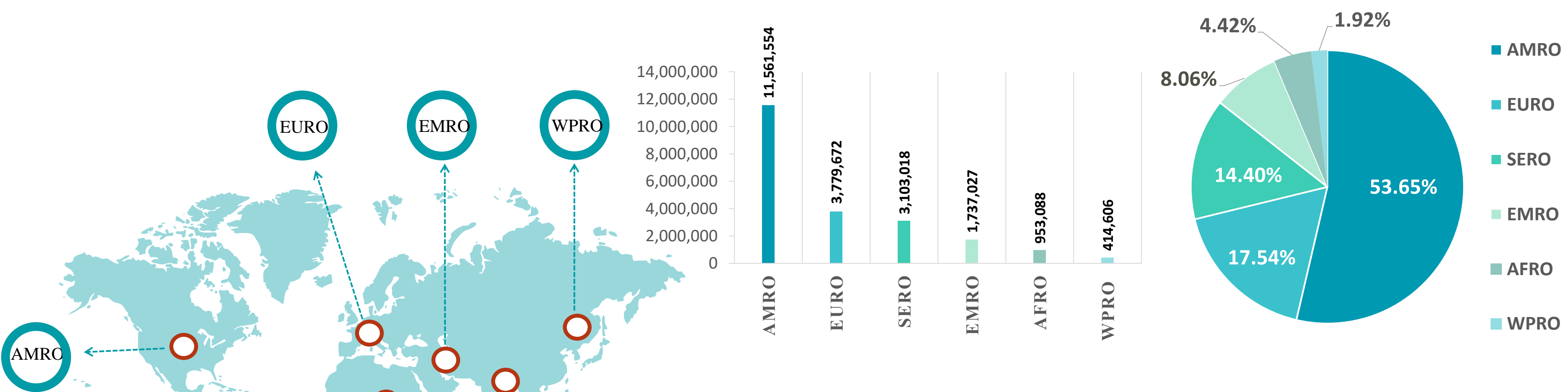
Figure 7B: Bar Chart Illustrates the Global Distribution of COVID19 Cases



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

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

INFECTED



DEATHS

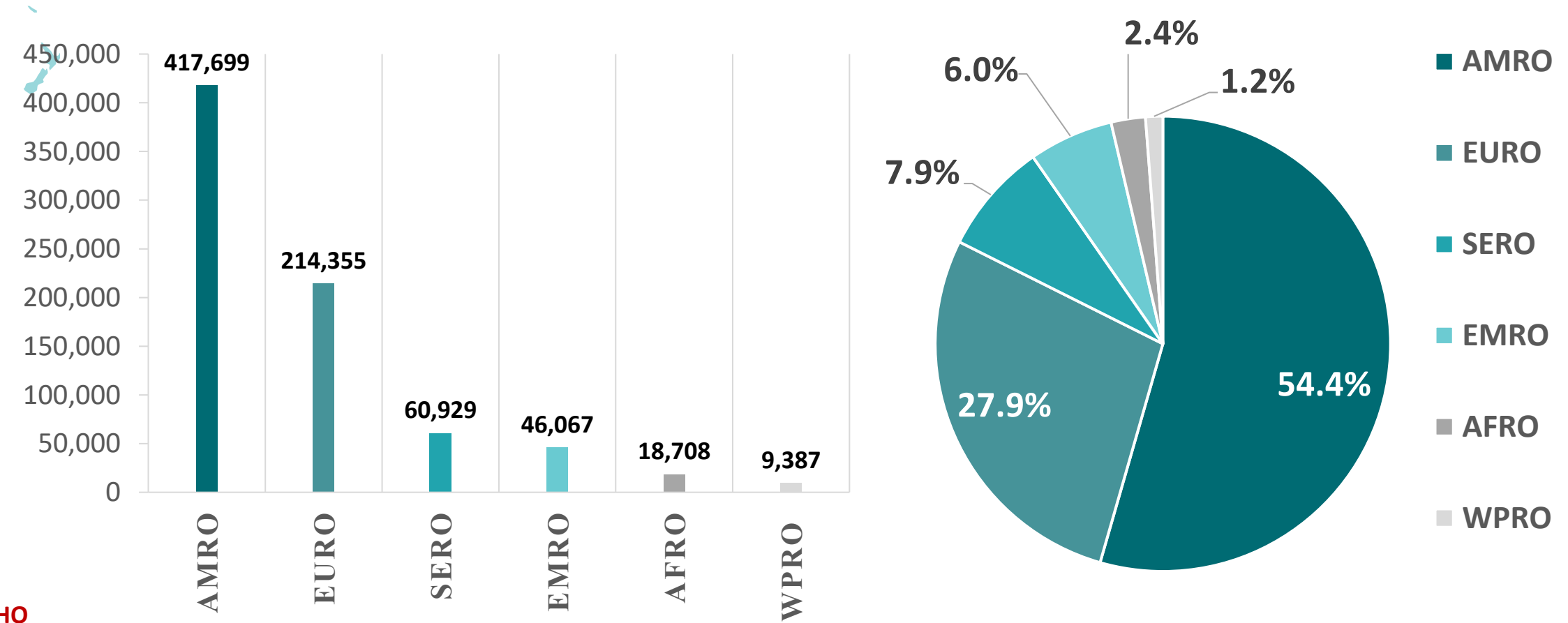
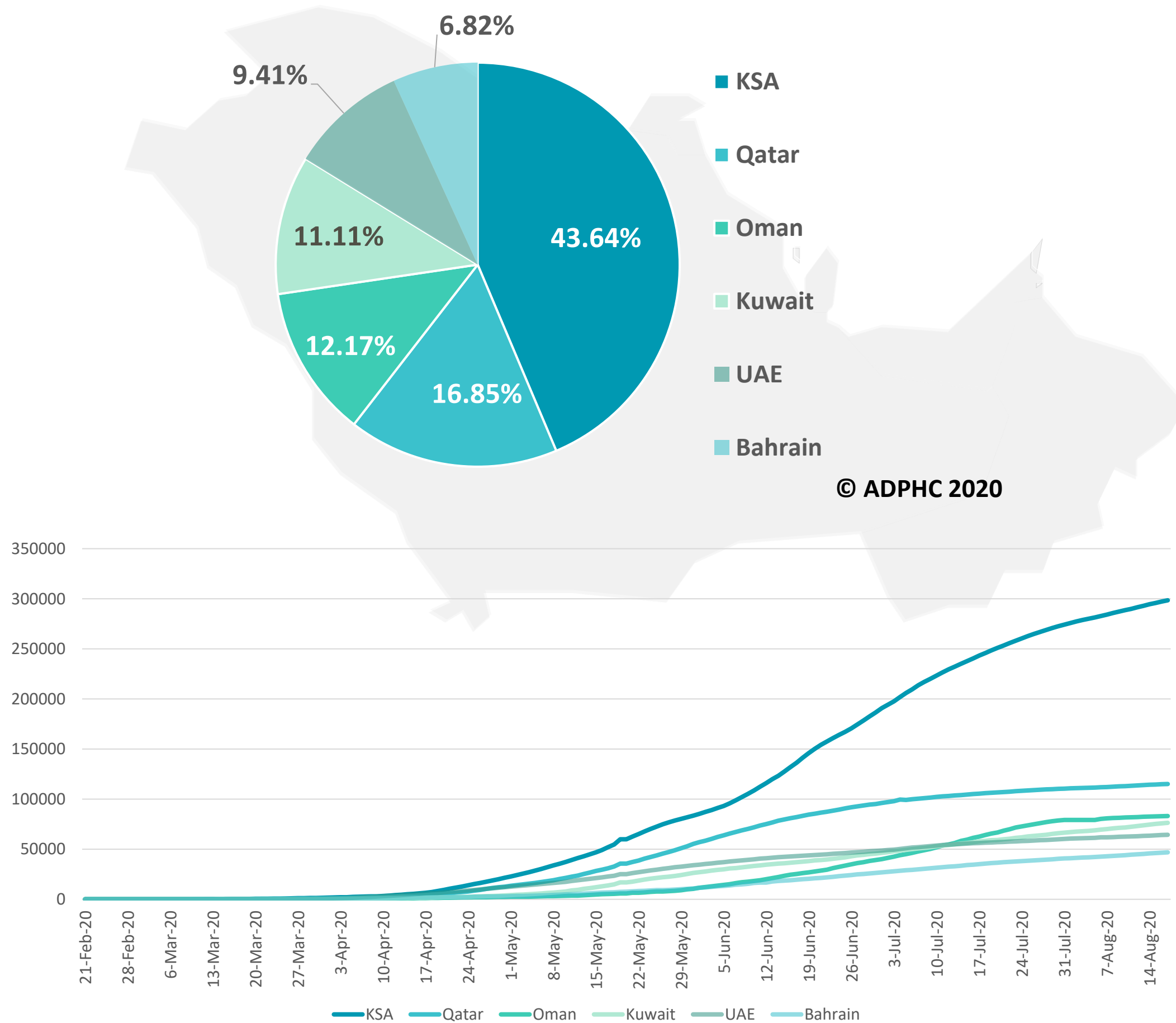
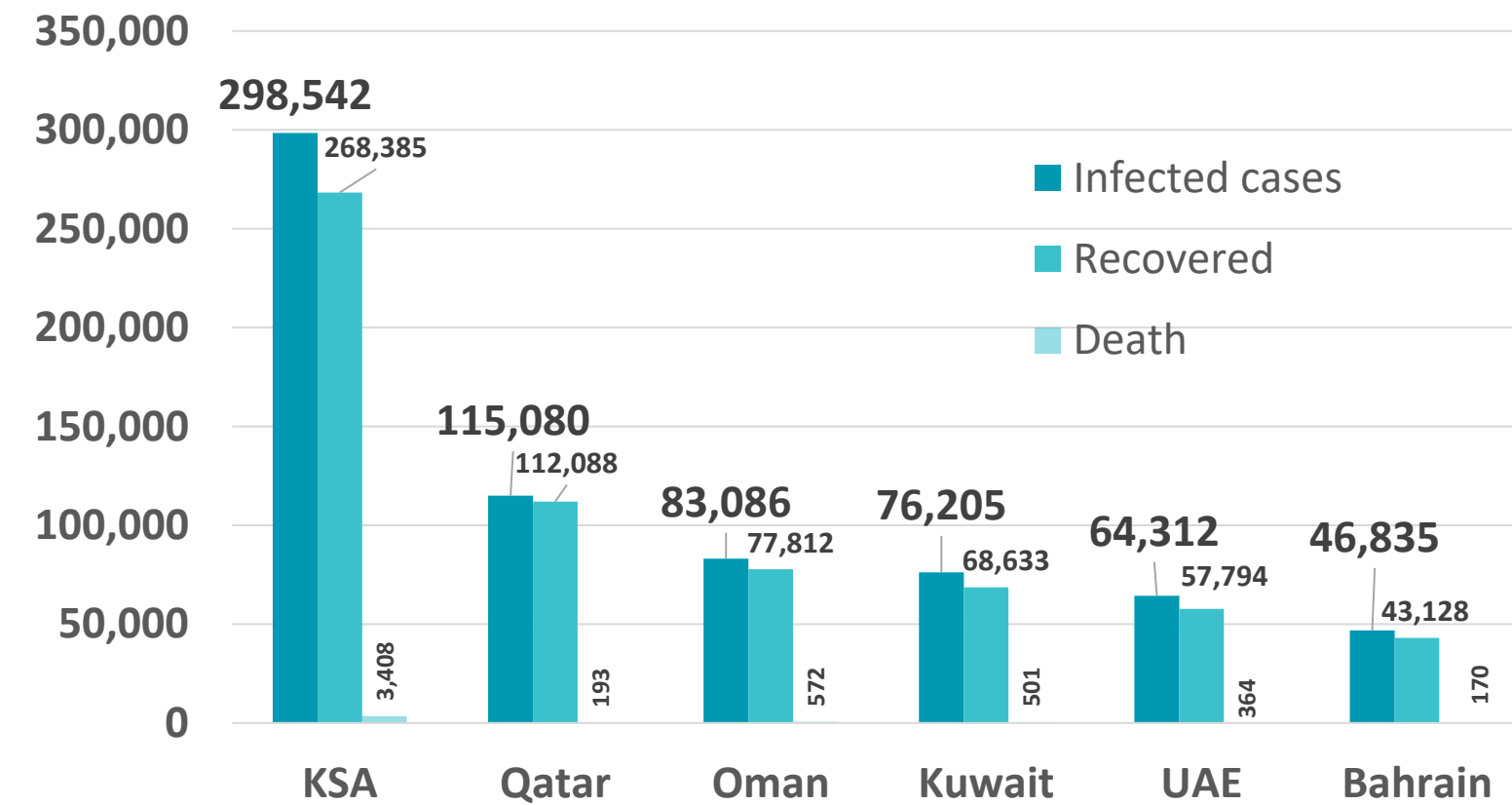


Figure 9: Comparative Analysis of the Distribution of COVID-19 Cases in GCC Countries

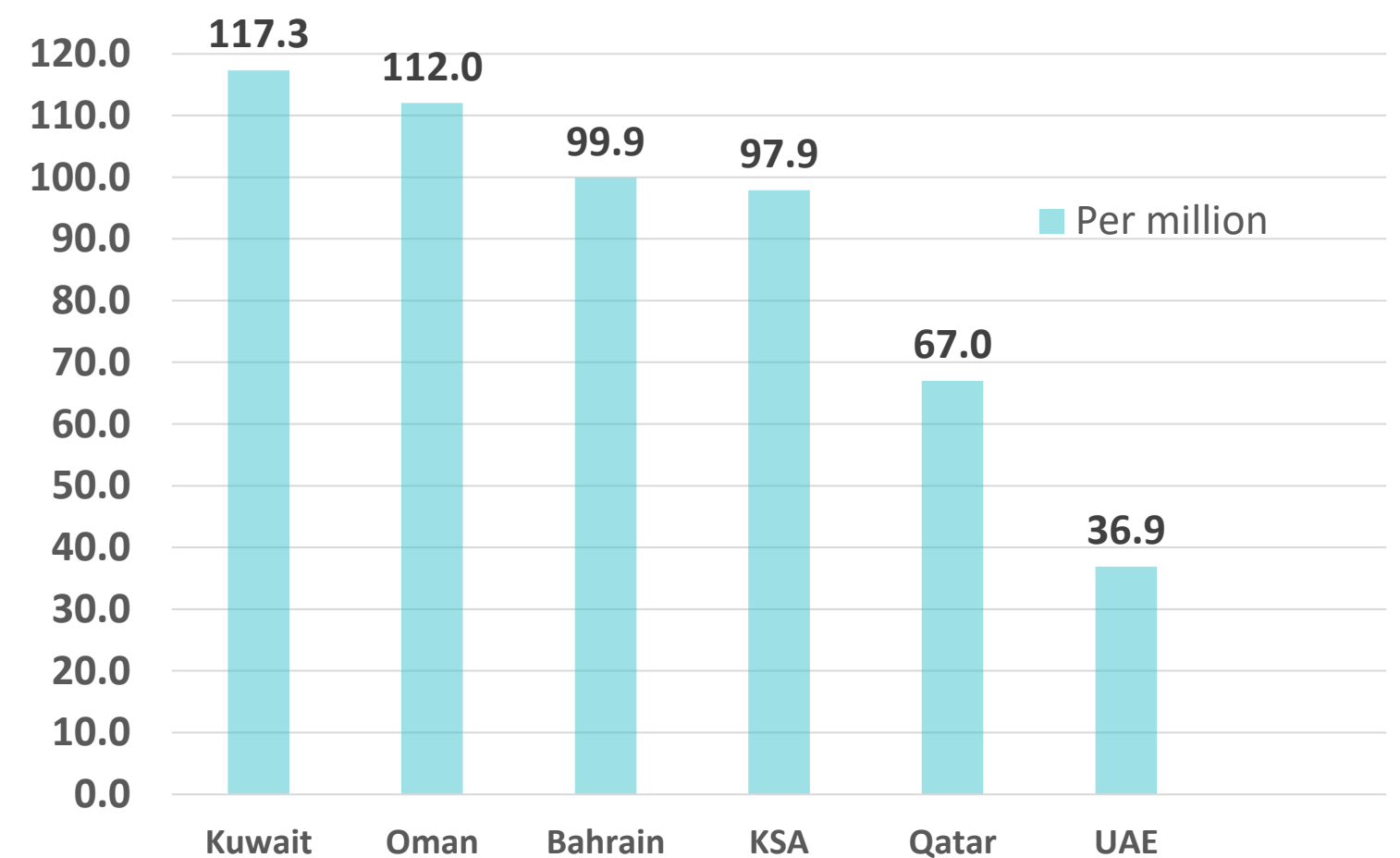
TOTAL NUMBER OF INFECTED CASES



TOTAL NUMBER OF INFECTED, RECOVERED AND DEATHS



DEATHS PER MILLION



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

© ADPHC 2020
This document was developed by Abu Dhabi Public Health Center - ADPHC. The document is and shall remain the property of ADPHC and may only be used for the purposes for which it was intended. Unauthorized use or reproduction of this document is prohibited.

مركز أبوظبي للصحة العامة © 2020
هذه الوثيقة مملوكة لمركز أبوظبي للصحة العامة، ولا يجوز استخدامها لغير الأغراض المخصصة لها. ويحظر استخدام أو إعادة إنتاج هذه الوثيقة بدون إذن

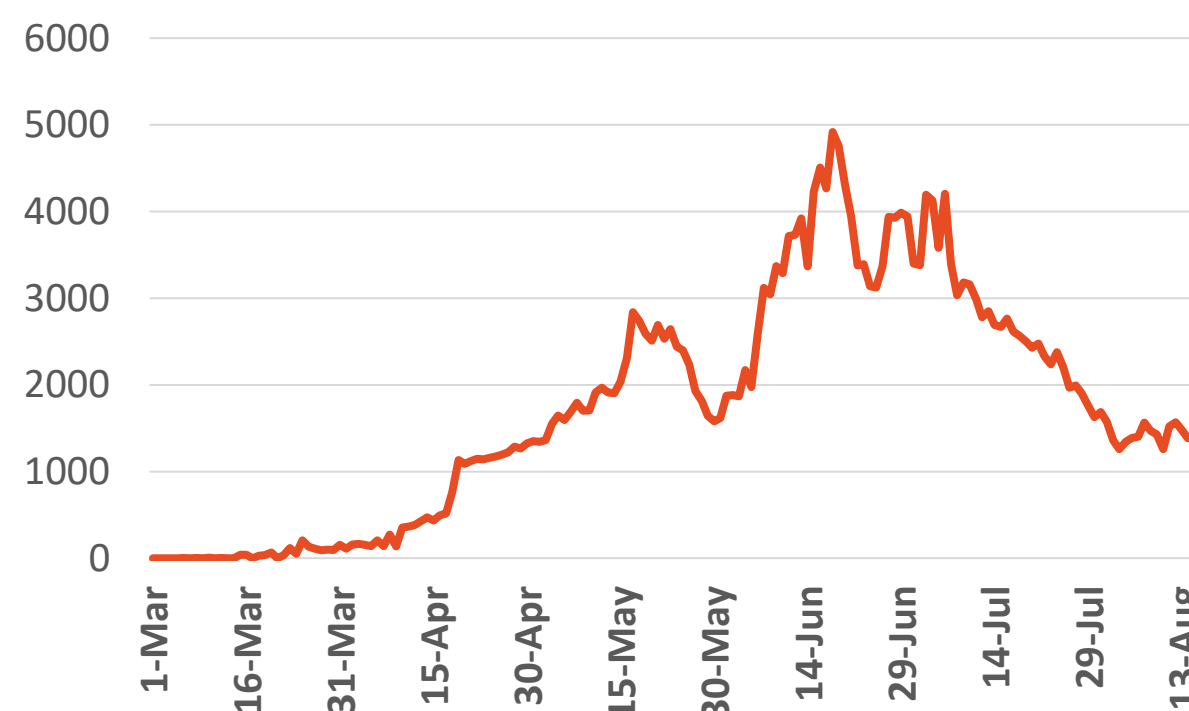
Figure 10: Comparative Analysis of the Distribution of COVID-19 New Cases in GCC Countries

UAE



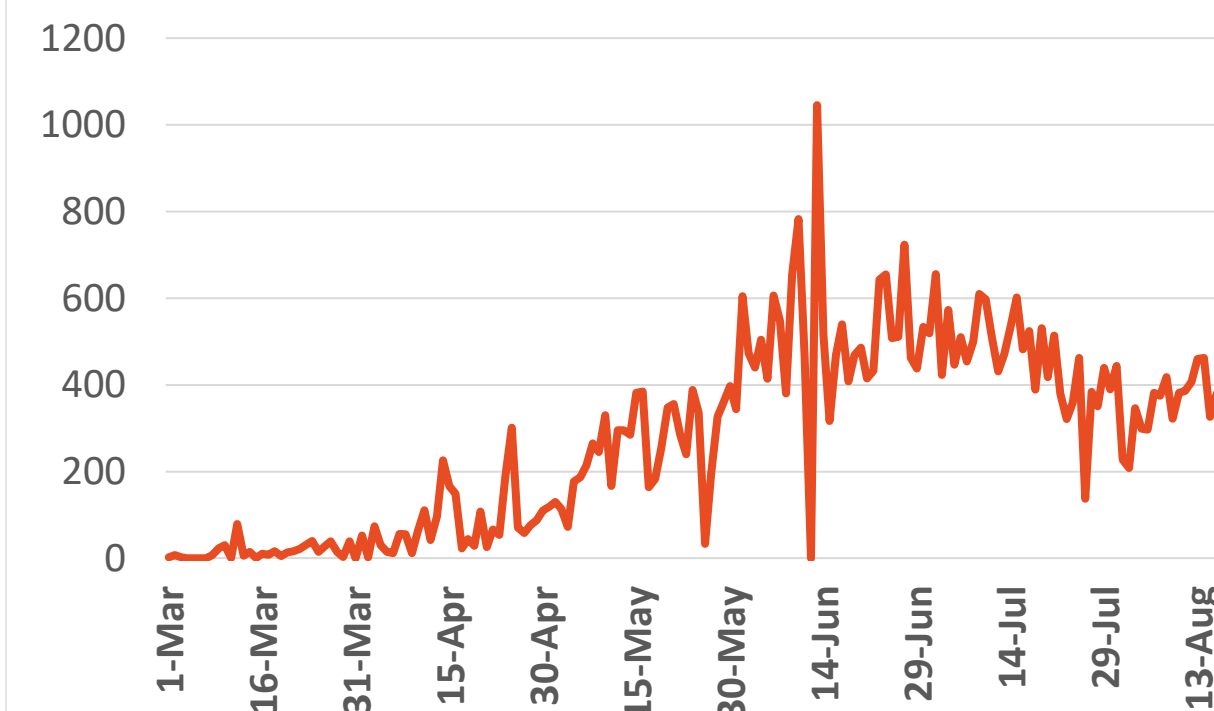
Source : National Emergency Crisis and Disaster Management Authority

KSA



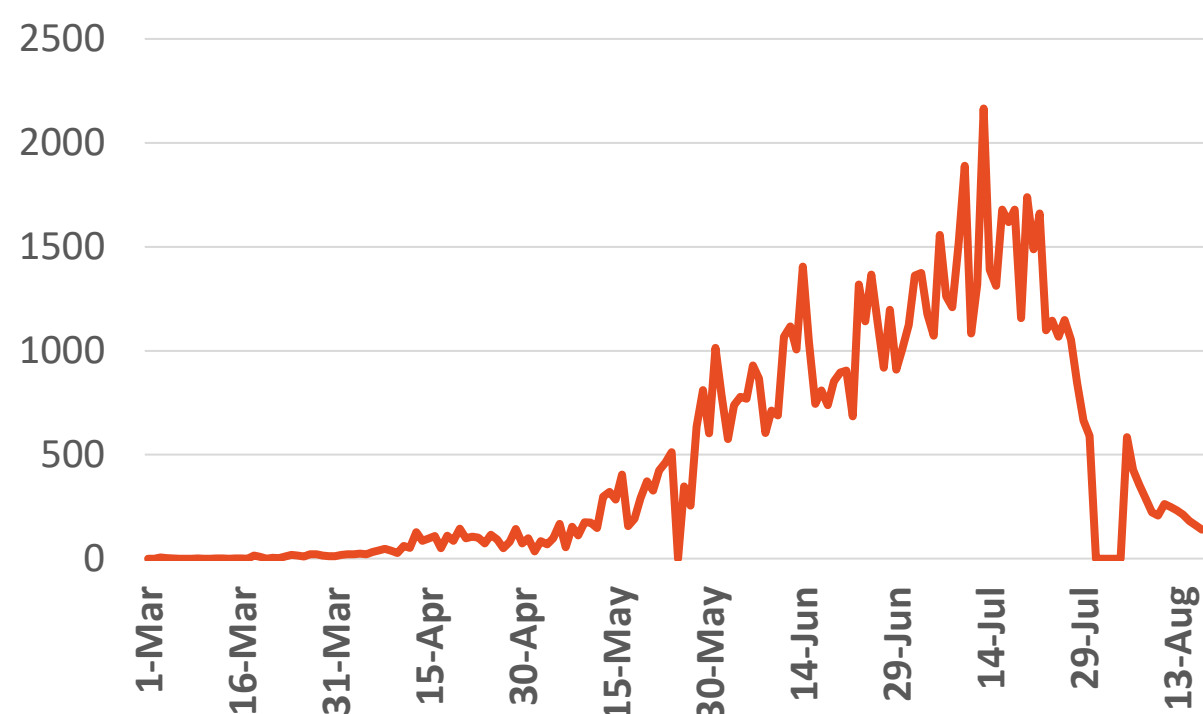
Source : KSA ministry of health

Bahrain



Source :WHO

Oman



Source :Oman ministry of health

No announced statistic data from 31 July to 4 August

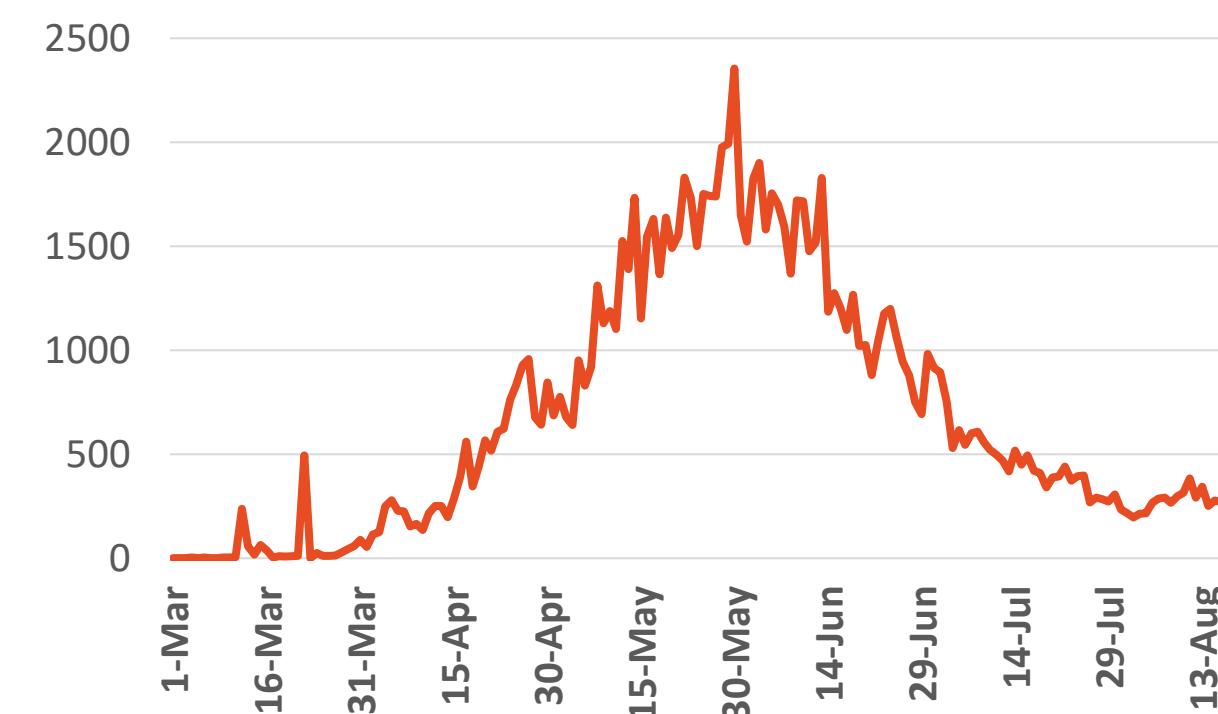
Kuwait

© ADPHC 2020



Source : Kuwait ministry of health

Qatar



Source : Qatar ministry of health

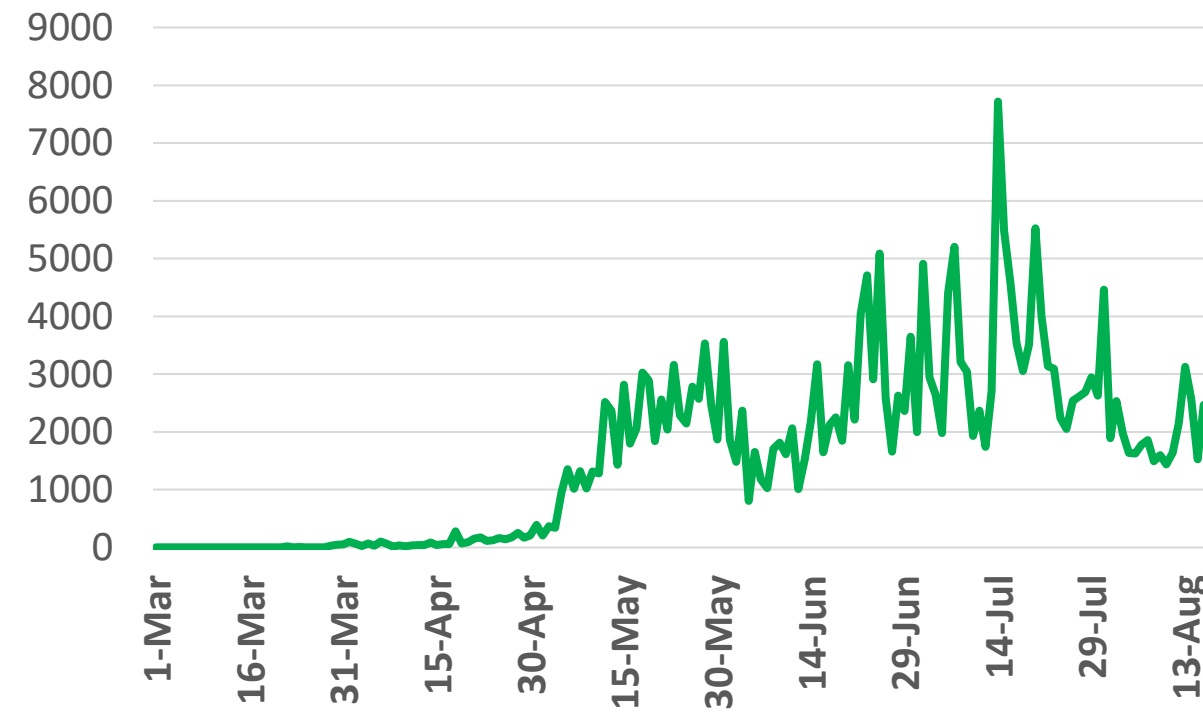
Figure 11: Comparative Analysis of the Distribution of COVID-19 Newly Recovered Cases in GCC Countries

UAE



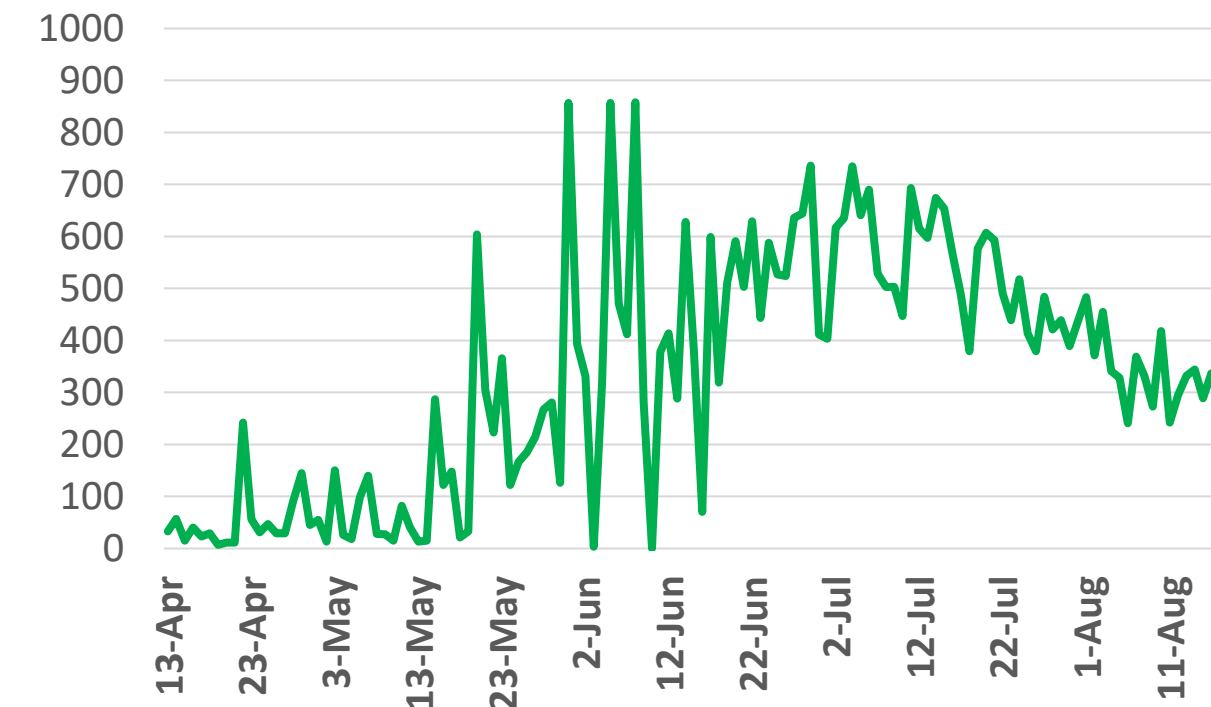
Source : National Emergency Crisis and Disaster Management Authority

KSA



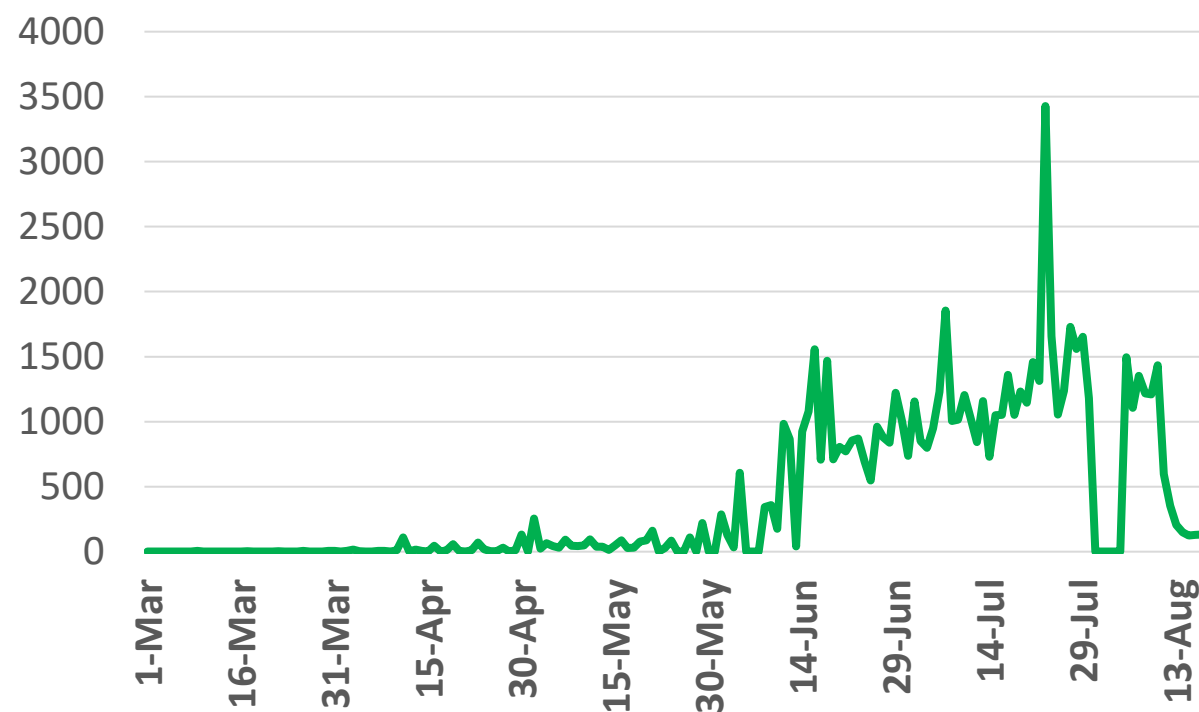
Source : KSA ministry of health

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

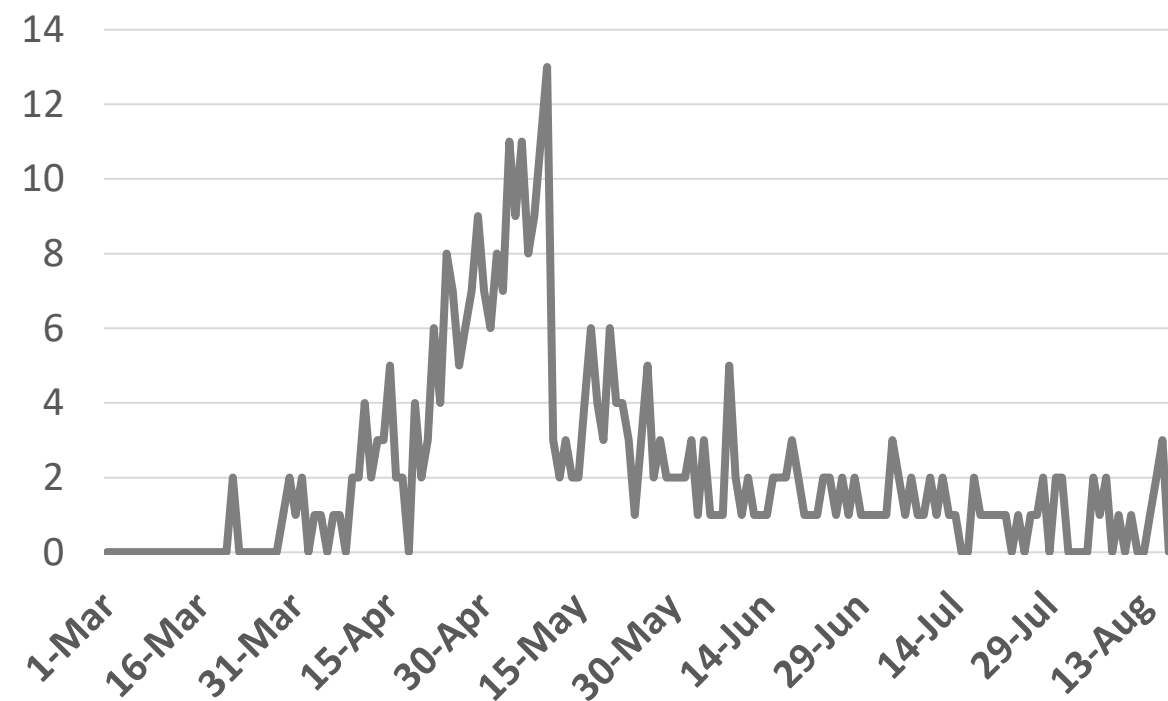
Qatar



Source : Qatar ministry of health

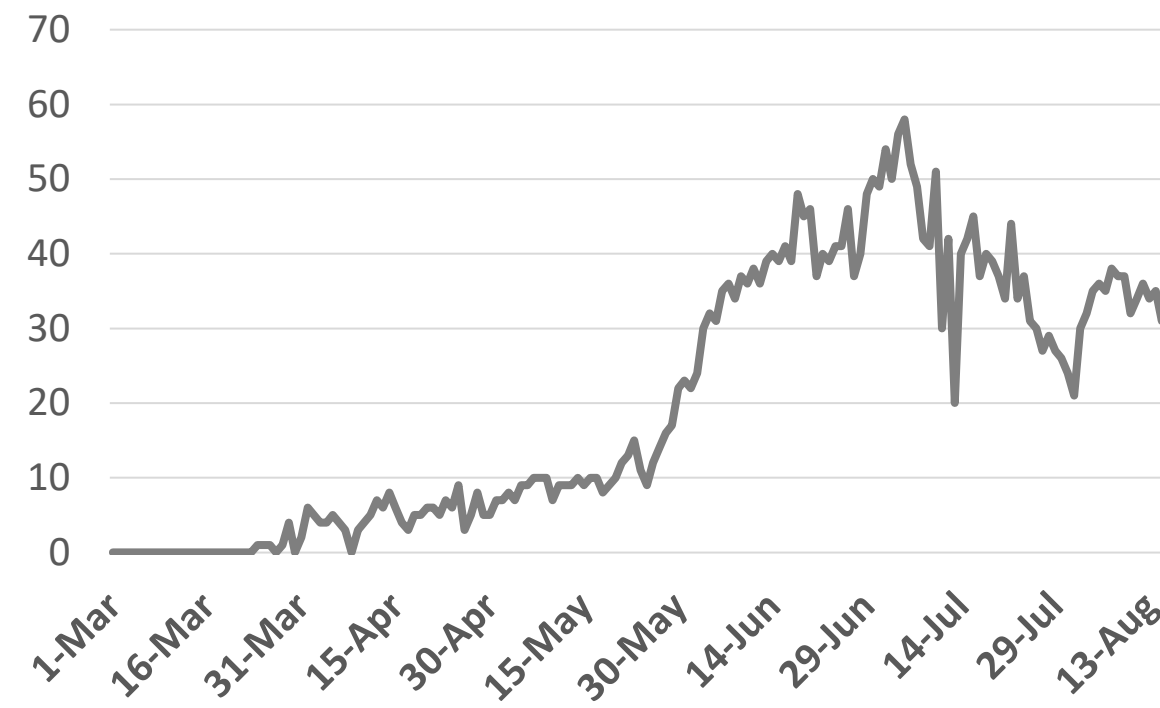
Figure 12: Comparative Analysis of the Distribution of COVID-19 New Death Cases in GCC Countries

UAE



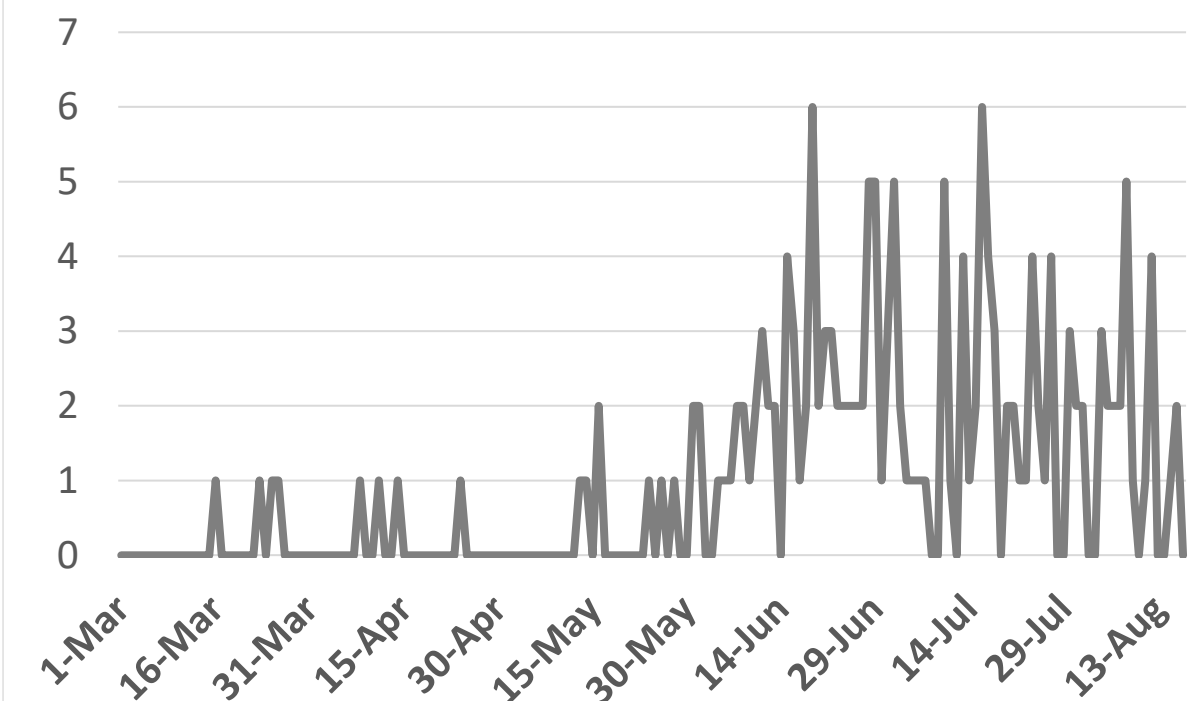
Source : National Emergency Crisis and Disaster Management Authority

KSA



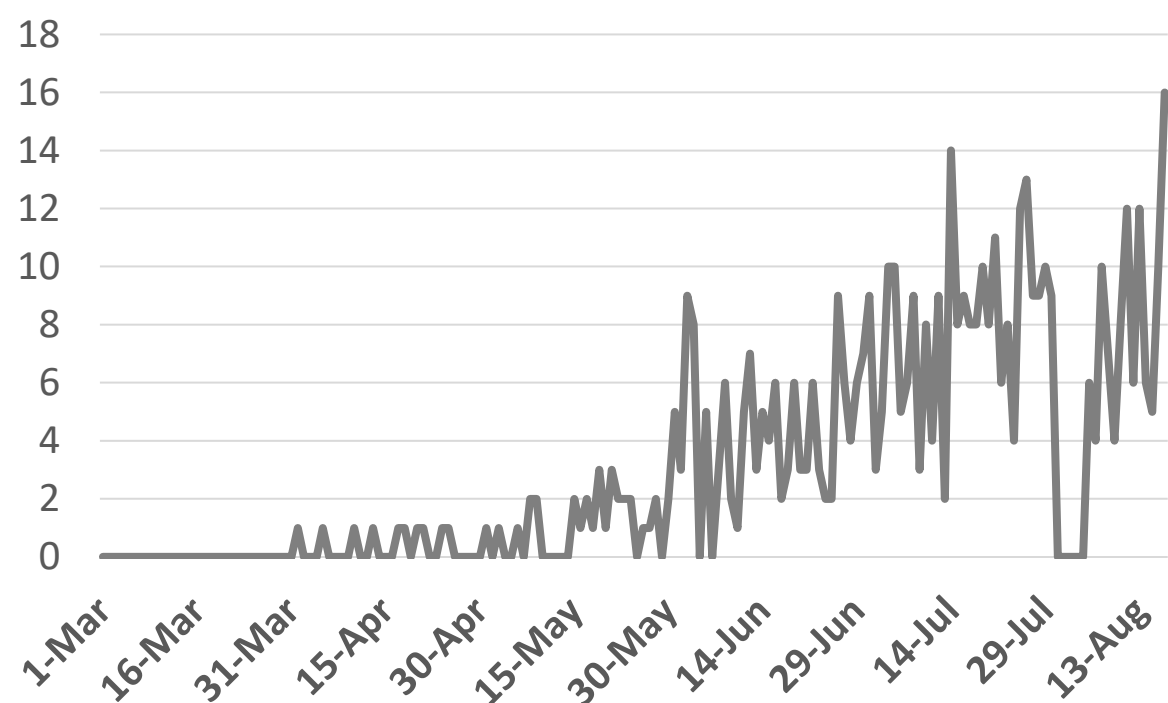
Source : KSA ministry of health

Bahrain



Source :WHO

Oman

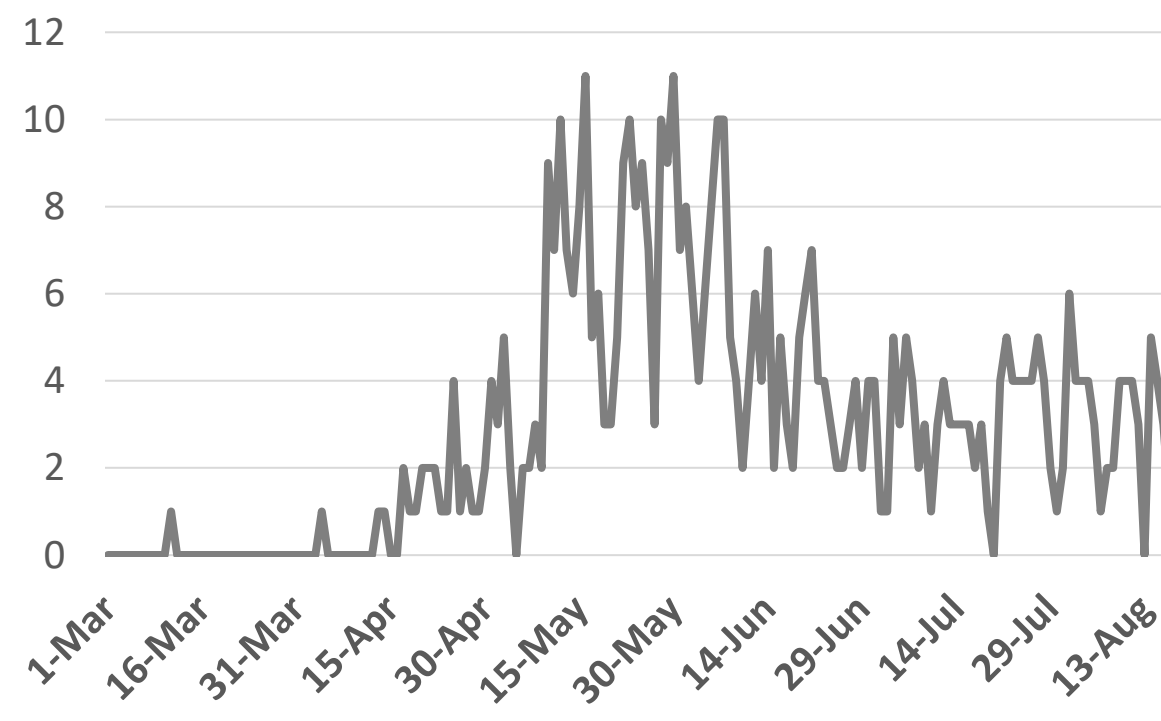


Source :Oman ministry of health

*No announced statistic data from 31 July to 4 August

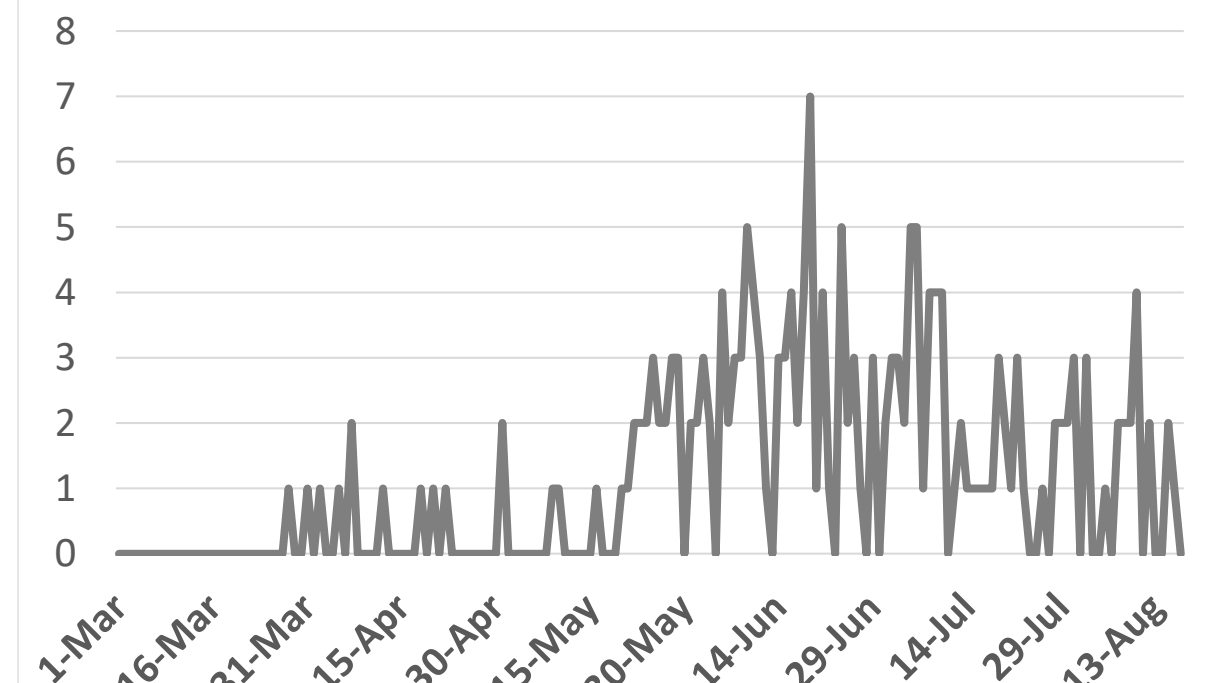
Kuwait

© ADPHC 2020



Source : Kuwait ministry of health

Qatar



Source : Qatar ministry of health

Article 1

Returning to School in the Era of COVID-19

Published

14 August 2020 [JAMA](#)

This editorial discusses a parental survey and addresses concerns and fears of COVID-19 and other associated diagnoses such as multisystem inflammatory syndrome in children, confidence in the school system, or ability to home-school factor into decision-making to return to school.

Findings

- A study by Kroshus et al. highlights the complex considerations that families face when considering educational options for their children during the pandemic. The study used oversampling of Black and Hispanic participants, and previous studies have shown that Black, Latinx, and Native American students have less access to electronic devices, internet connectivity, and quality virtual learning programs. Owing to these inequities, Black and Latinx students may experience an additional three months of learning loss compared with other students.
- During the COVID-19 pandemic, children with disabilities have struggled to access services remotely; such as special-education teaching and rehabilitation services. This leaves families of children with disabilities in a challenging position when thinking about whether to return to school for in-person services.
- To help alleviate this:
 - Schools will need to contemplate additional safety measures
 - Schools will also need to contemplate alternative instructional strategies to allow improved access to virtual learning environments for students with disabilities and their families..





Article 2

COVID-19 Mental, Economic Stresses Worse for US Public Than for Those in Other Wealthy Countries

Published

13 August 2020 [JAMA](#)

This study exams how US adults are facing mental health and economic challenges related to the coronavirus disease 2019.

Background

The authors note that previous findings indicate that even before the COVID-19 pandemic, US residents were already among the most likely to experience emotional distress. In 2016, 26% of US adults reported that in the past 2 years they had experienced emotional distress that was difficult to cope with on their own. This rate is similar to that of Canada (27%) and Sweden (24%) but considerably higher than reported by adults in Germany (7%) and France (12%).

Methodology

Survey of 8259 adults 18 years or older, conducted by the survey research firm SSRS from March 30 to May 25, 2020, provides a snapshot of respondents' experiences during a period when US cumulative cases increased from more than 160 000 to more than 1.6 million. One-third of US adults reported they were experiencing stress, anxiety, and great sadness that was difficult for them to cope with on their own—a significantly higher proportion than in other countries, where 10% (in Norway) to 26% (Canada) of adults reported similar distress.

Conclusion

- One in three adults in the U.S. and the U.K. reported being able to get help from a professional when feeling stress, anxiety, or sadness. In contrast, approximately half of Australians and Canadians were able to get needed help.
- Americans, Australians, and Canadians were the most likely to report losing a job or source of income because of the pandemic.





Article 3

Published

Targetable Biological Mechanisms Implicated in Emergent Psychiatric Conditions Associated With SARS-CoV-2 Infection

31 July 2020 [JAMA](#)

This paper examined the effect of the environmental stressors, enhanced by psychological factors, such as loss of control, fear of death and dying, and isolation, are affecting the psychiatric outcomes of the COVID-19 pandemic.

Background

There is increasing evidence linking immune activation with depression and suicidal behavior, and anti-inflammatory approaches have demonstrated efficacy in treating depression according to several large meta-analyses.

Summary Points

- Various infections involving hospital stay are associated with suicide, and maximum behavioral effects can take more than 6 months after infection to fully develop. This may be due to the priming of cellular immune substrates.
- Priming is defined as “an alteration (most often enhancement) of subsequent responses by an initial stimulus and involves cellular morphological and physiological changes”.
- SARS-CoV-2 seems to directly invade the central nervous system (CNS) through neural and hematogenous routes.
- There are several key domains in SARS-CoV-2 infection that are still not understood completely. First, the nature of SARS-CoV-2 immunity and if it carries prevention of infection (sterilizing immunity) or prevention of symptomatic disease (protective immunity) and for how long is unknown. Second, even though few genetic, demographic, and clinical risk factors have been uncovered and await duplication, the sources of the considerable heterogeneity in the clinical manifestations and severity of the disease are still not understood.
- SARS-CoV-2 gain intracellular access through binding of their spike proteins to angiotensin-converting enzyme 2 (ACE2), expressed mainly in the alveolar epithelia of the lungs, the epithelia of other tissues, and brain endothelia.
- The apparent hypothesis is that ACE2 may be the key to coronavirus invasiveness and severity of illness.
- Binding to ACE2 is not necessary for either a high severity of respiratory or systemic illness or for neurological and psychiatric outcomes of coronaviruses.
- The simple course of COVID-19 includes biological factors that elevate the risk and severity of neurological and early neuropsychiatric outcomes. The infection course has a higher level of exposure to very severe stress relative to those with mild or asymptomatic infection, including fear of death and dying.