

SCIENTIFIC RESEARCH MONITORING ON COVID-19

6 SEPTEMBER 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 217)

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

Clinical feature

Outcomes Following SARS-CoV-2 Infection in Liver Transplant Recipients: An International Registry Study

Clinical feature

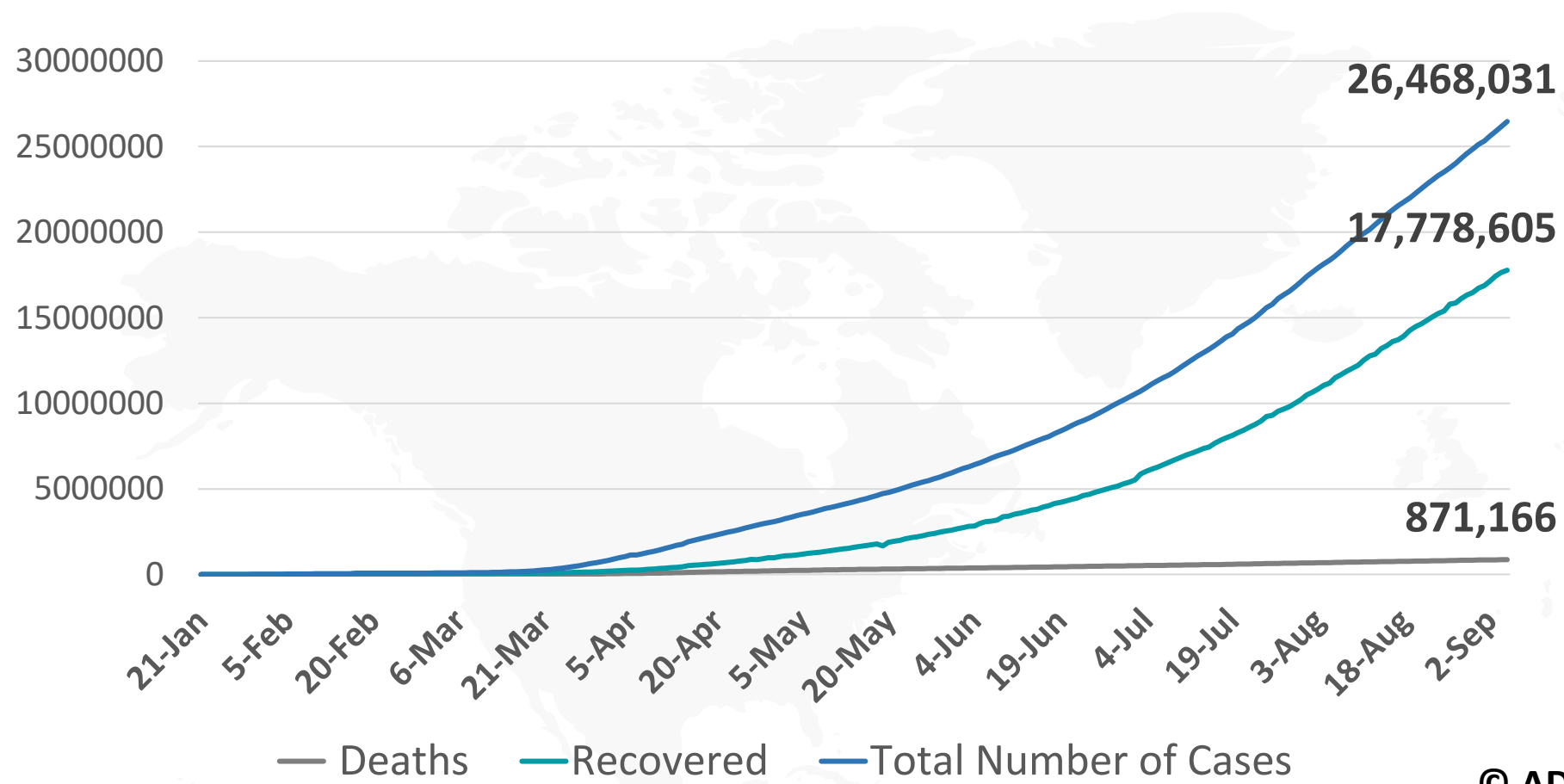
Symptomatic and Asymptomatic Viral Shedding in Pediatric Patients Infected With Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)

Clinical feature

Pathophysiology of COVID-19-Associated Acute Respiratory Distress Syndrome: A Multicentre Prospective Observational Study



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)

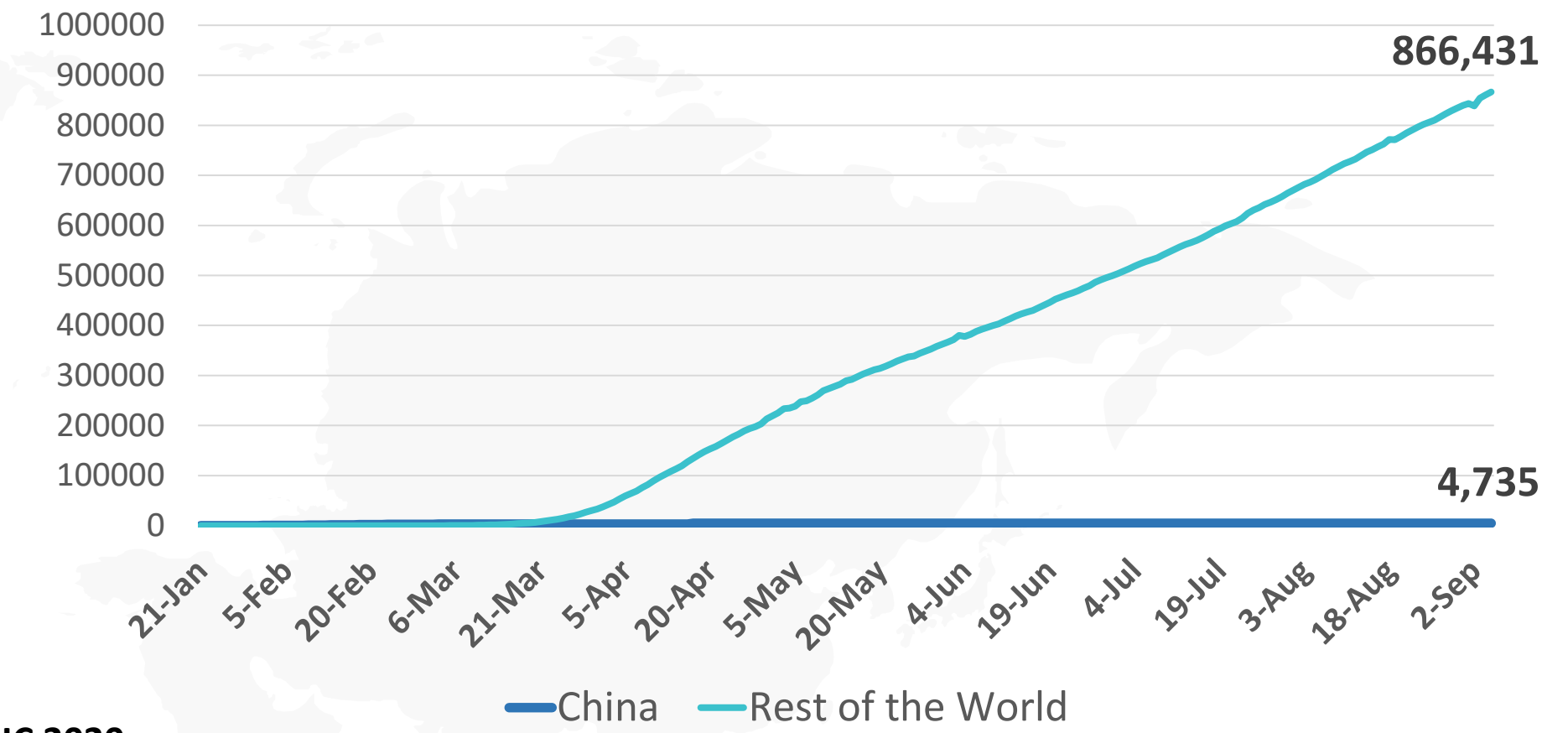


Figure 2: Daily New Infected COVID-19 Cases (China and rest of the world)

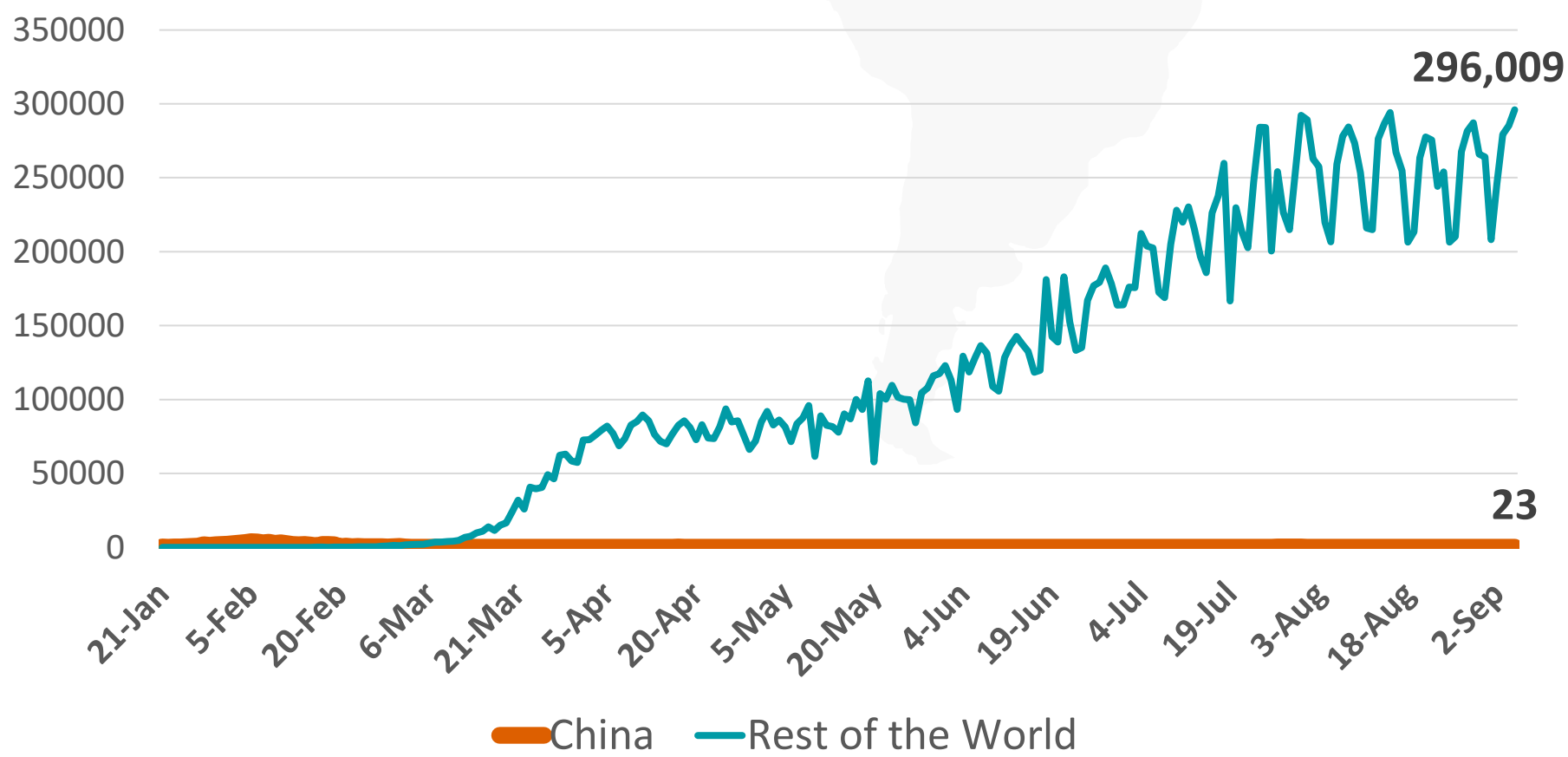


Figure 4: Global Daily New Deaths Due to COVID-19 (china and rest of the world)

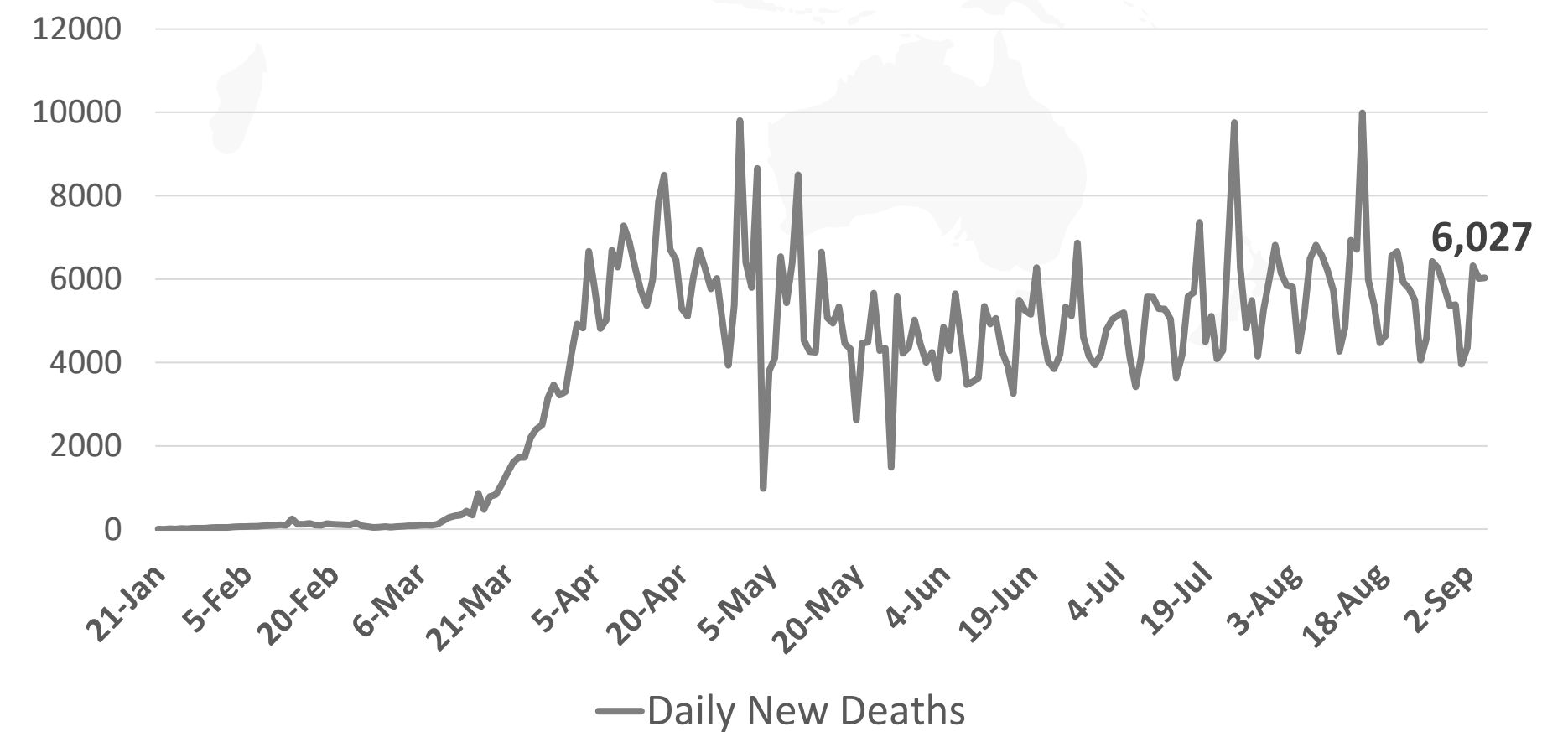
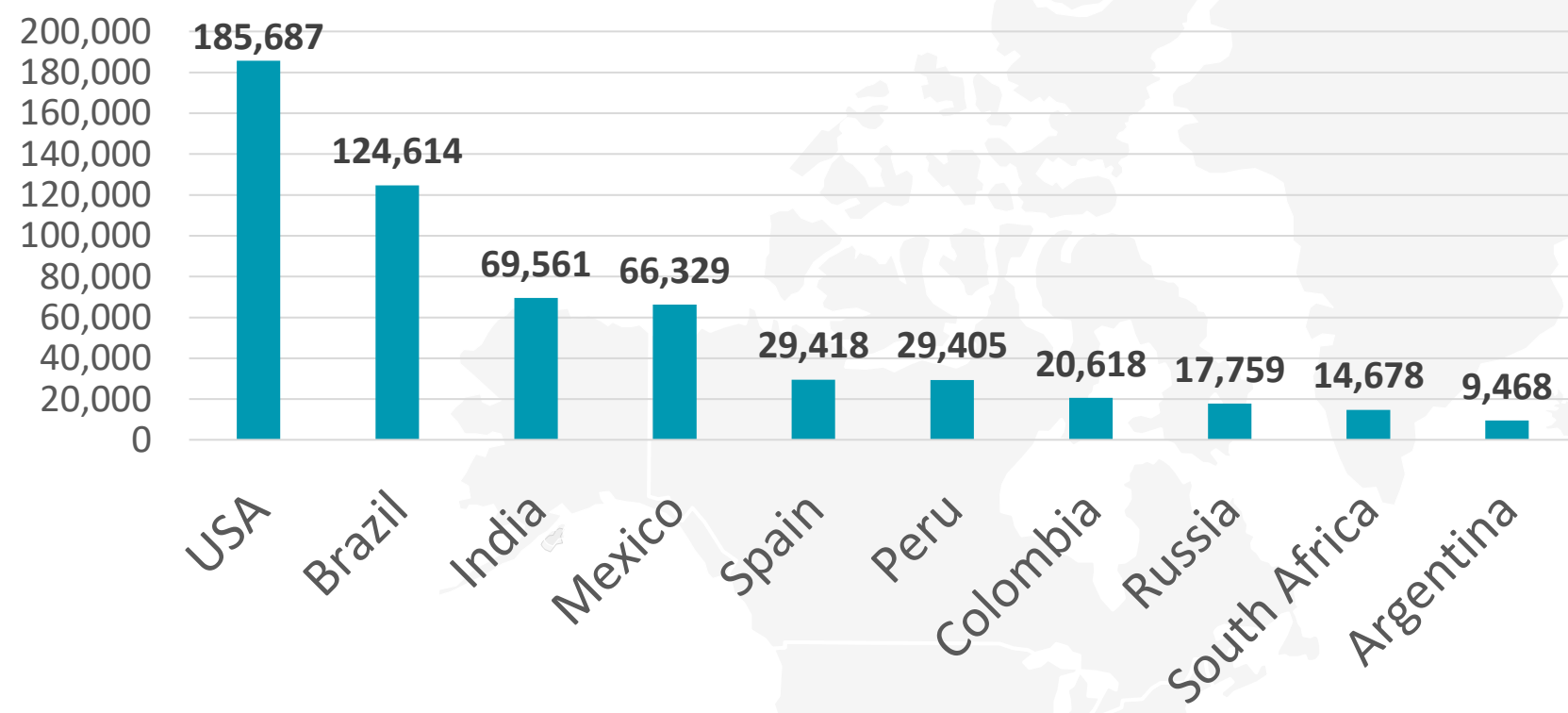
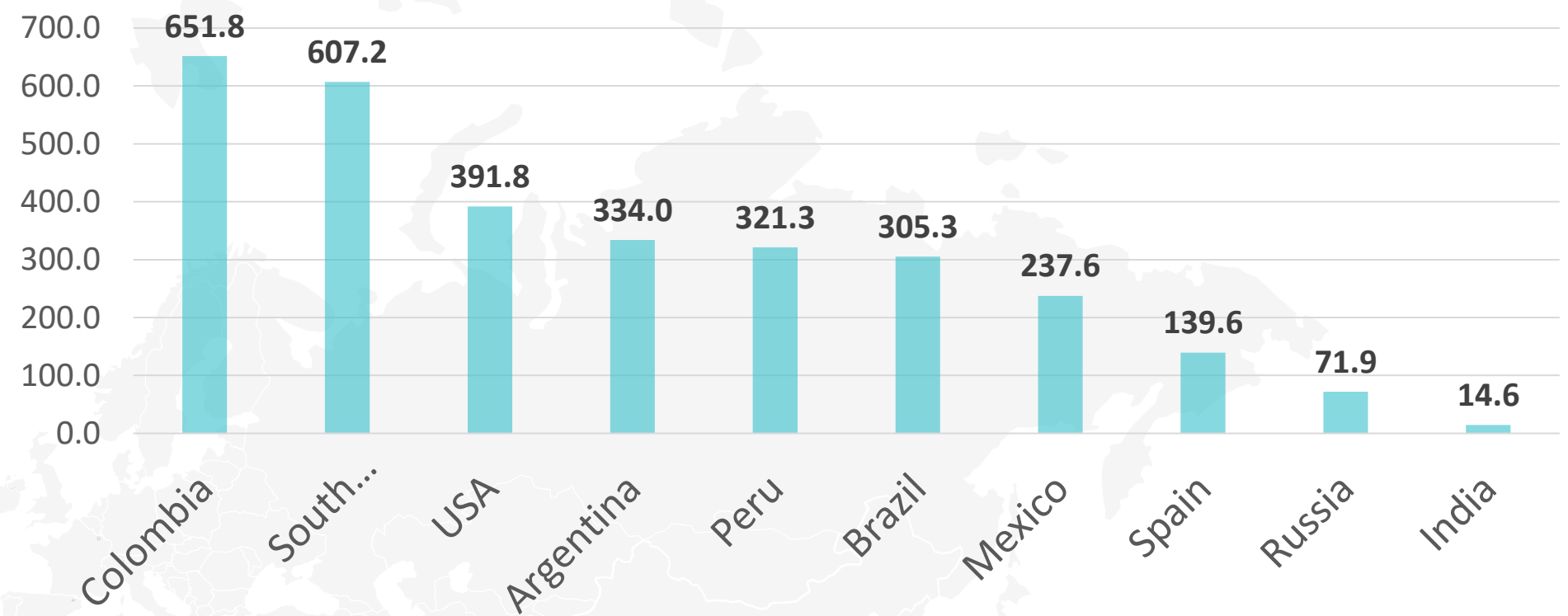


Figure 5: Top 10 Countries in the Total Number of Cases Due to COVID-19

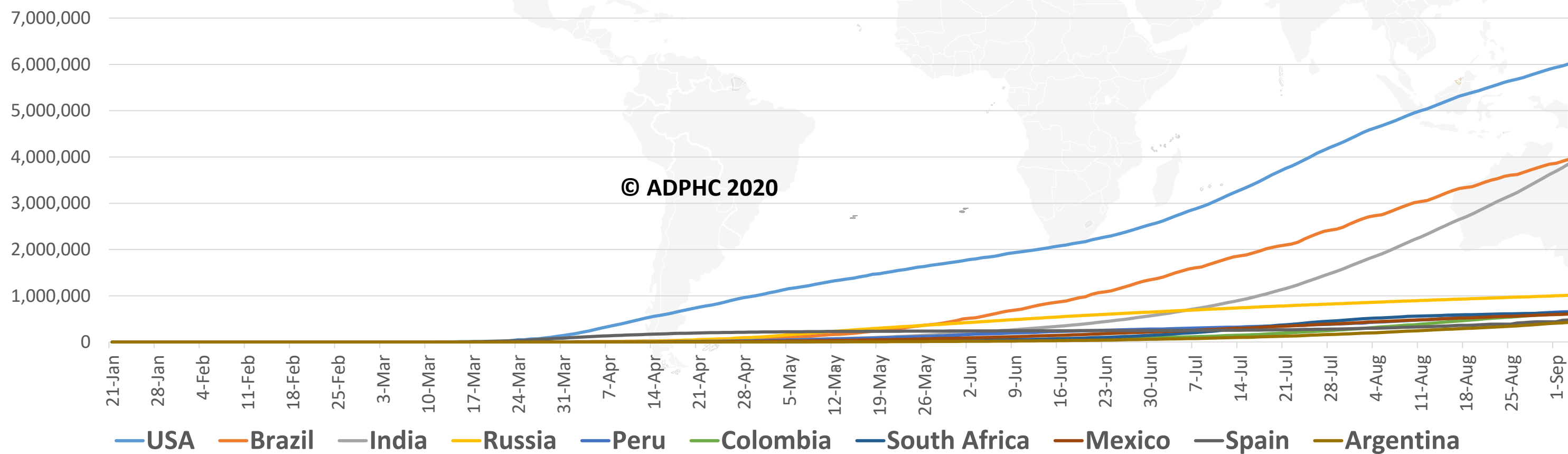
TOTAL DEATHS



DEATHS PER MILLION

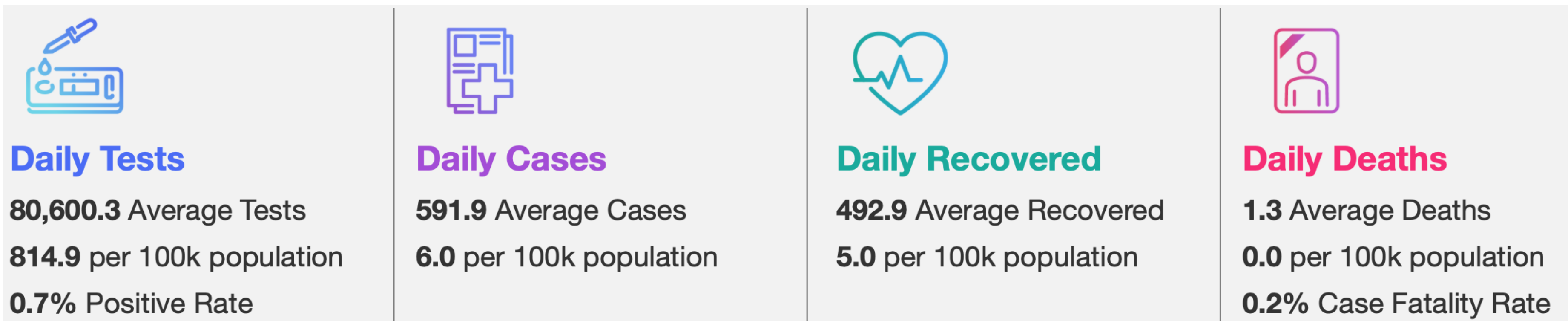


TOTAL INFECTED CASES



USA	6,095,007
Brazil	4,041,638
India	4,023,179
Russia	1,020,310
Peru	670,145
Colombia	641,574
South Africa	635,078
Mexico	616,894
Spain	498,989
Argentina	451,198

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

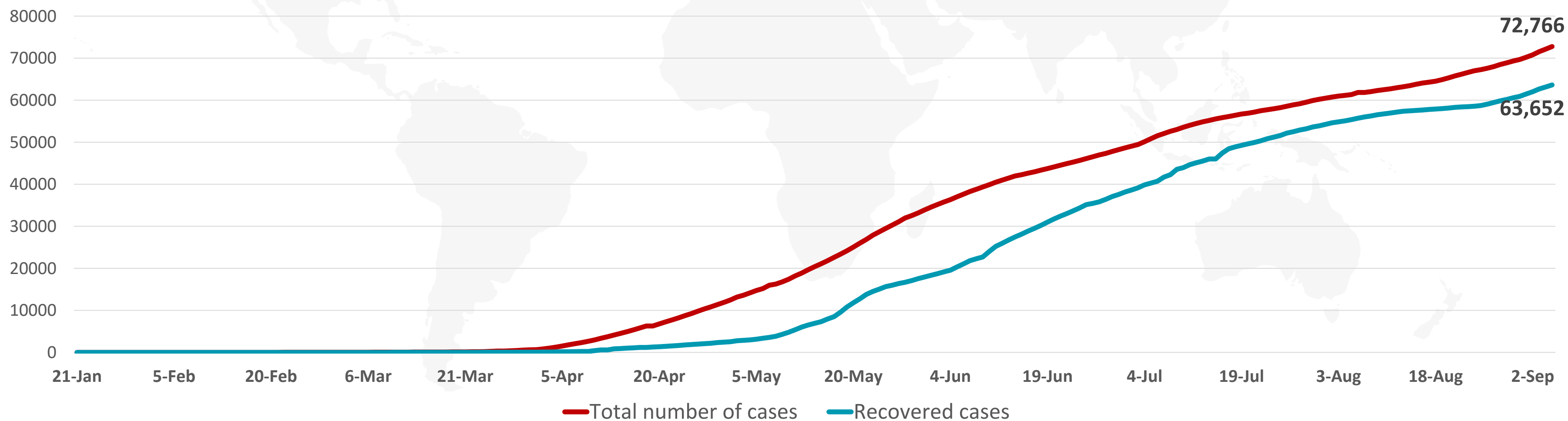


Figure 7A : Global Distribution of COVID-19 Cases

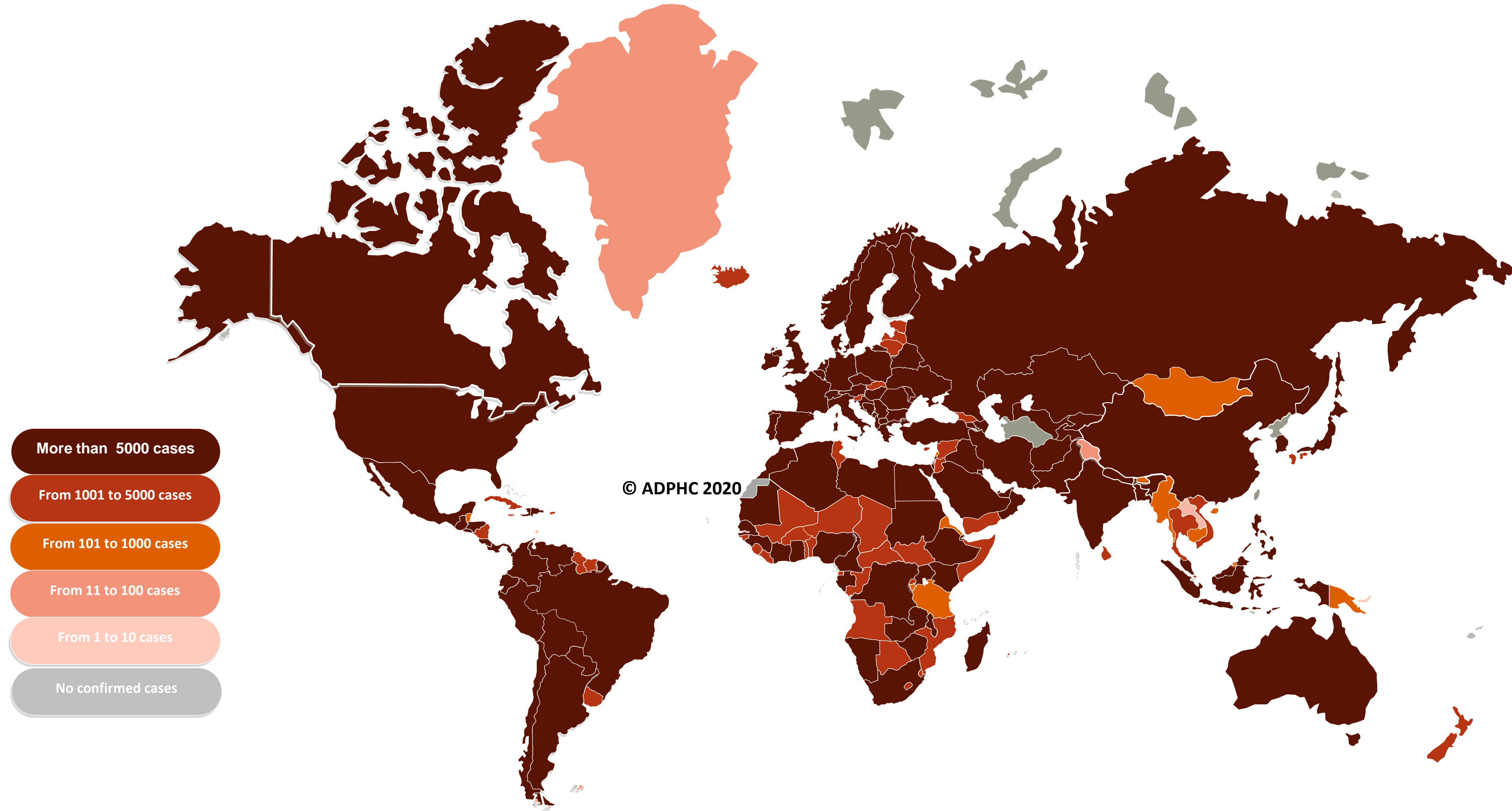
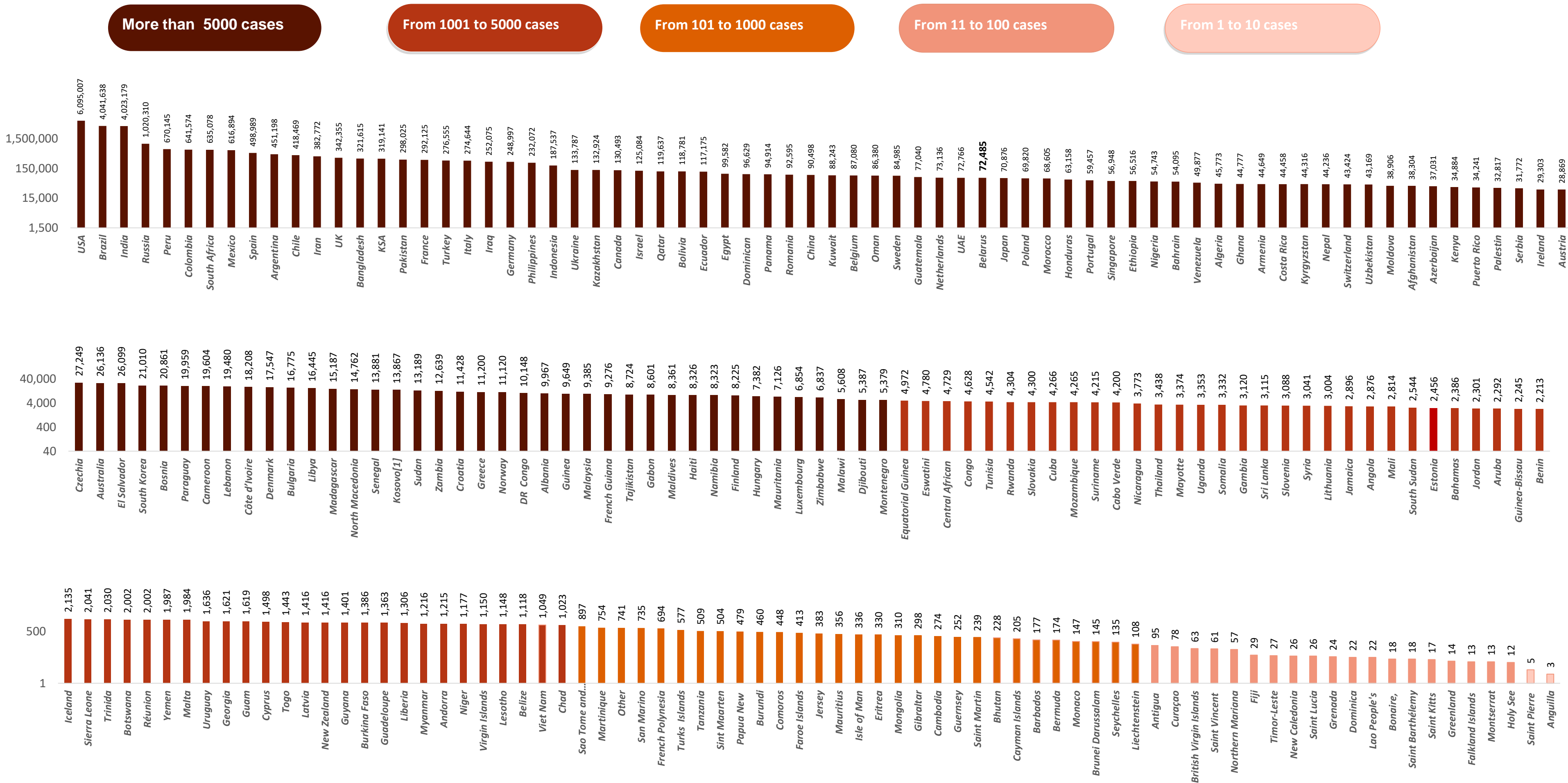


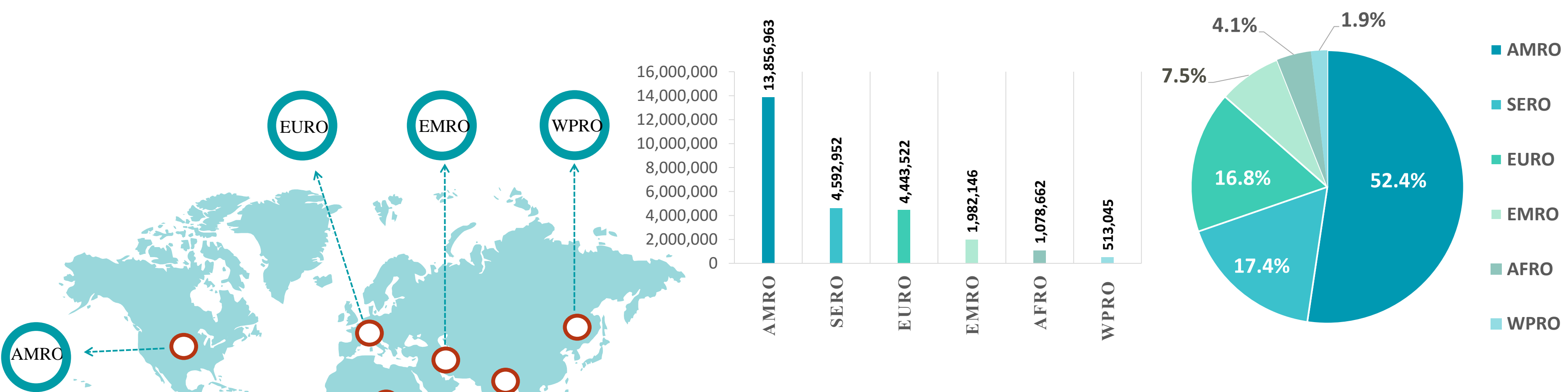
Figure 7B: Bar Chart Illustrates the Global Distribution of COVID19 Cases



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

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

INFECTED



DEATHS

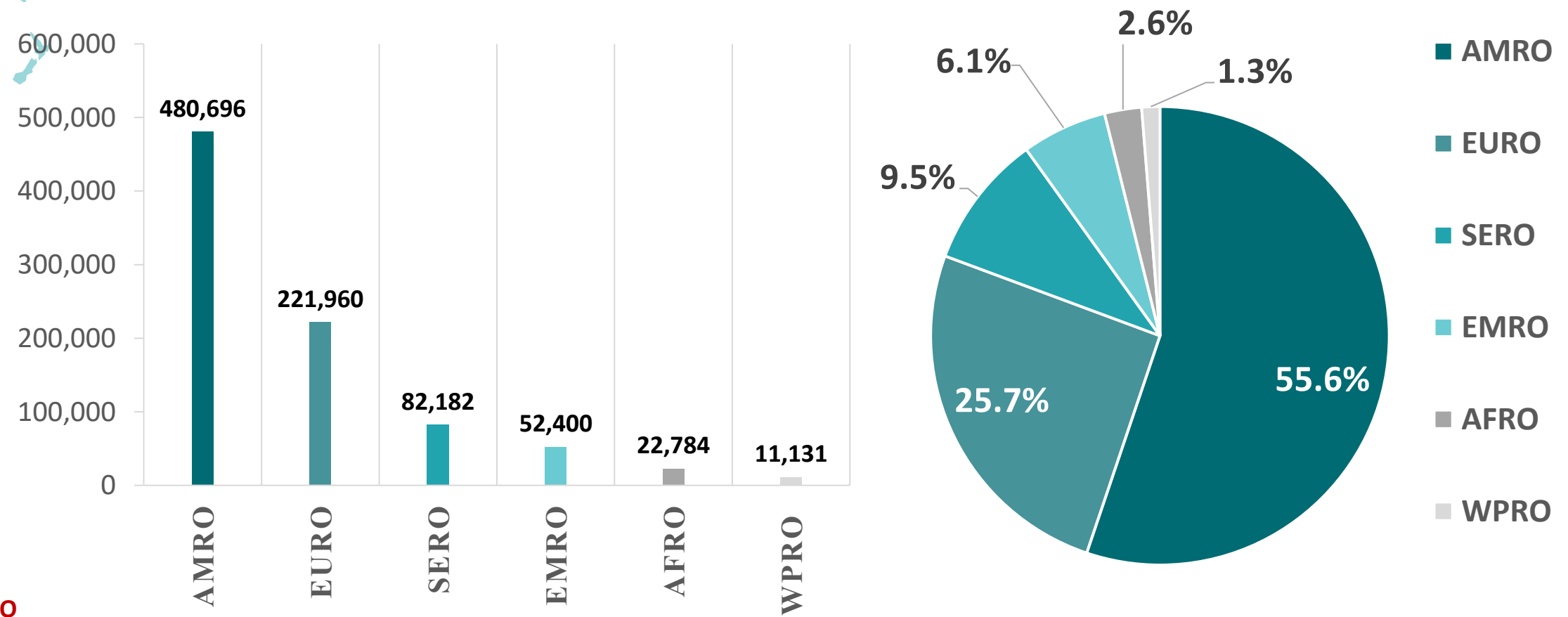
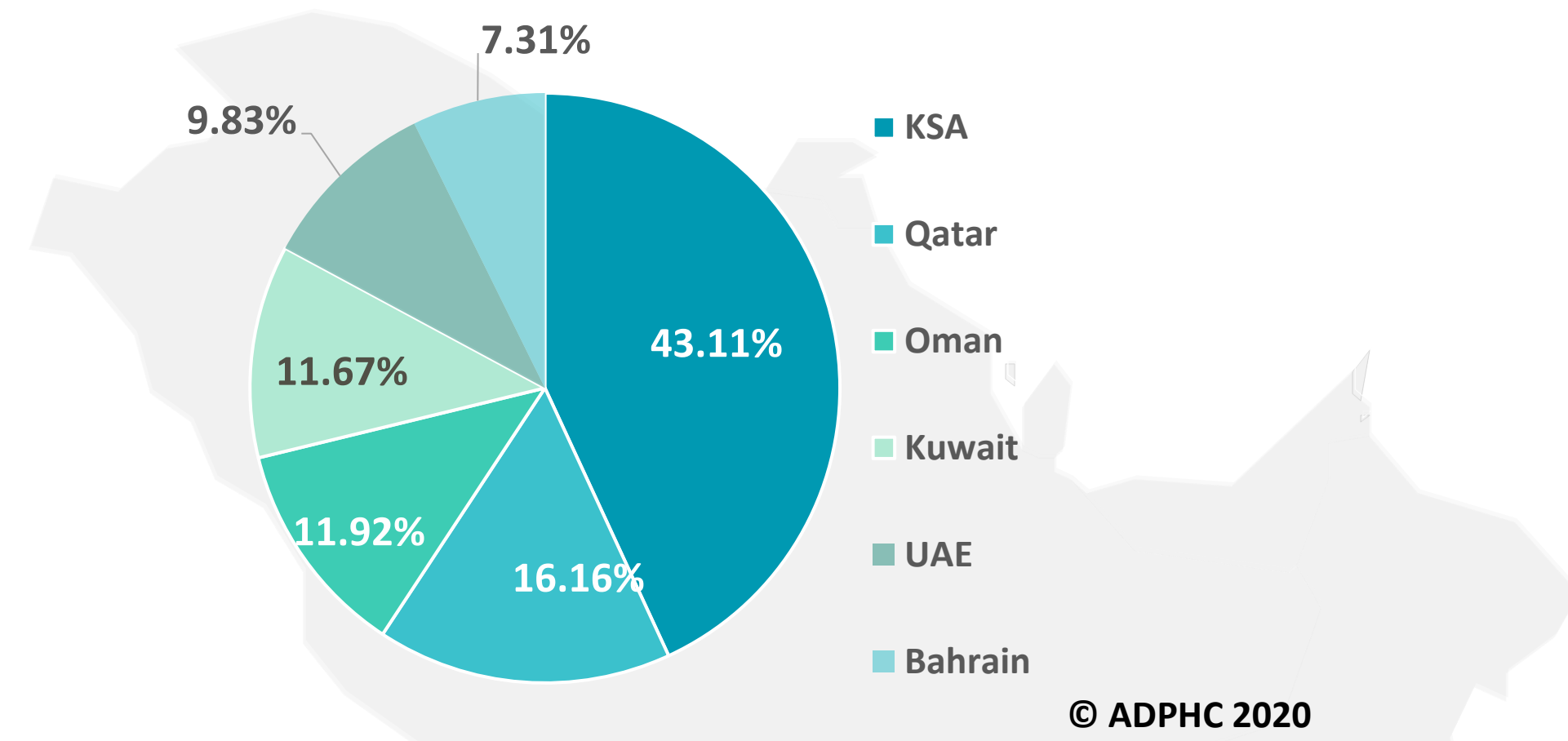
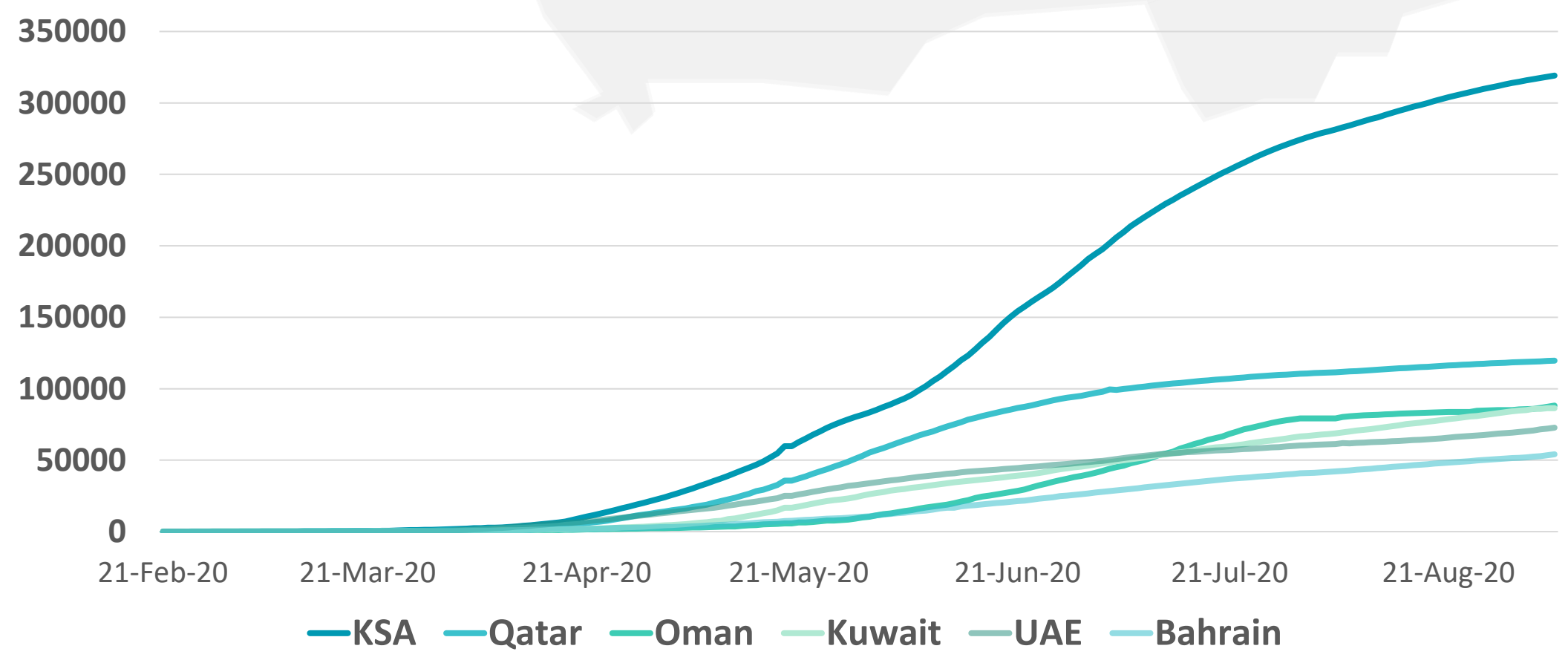
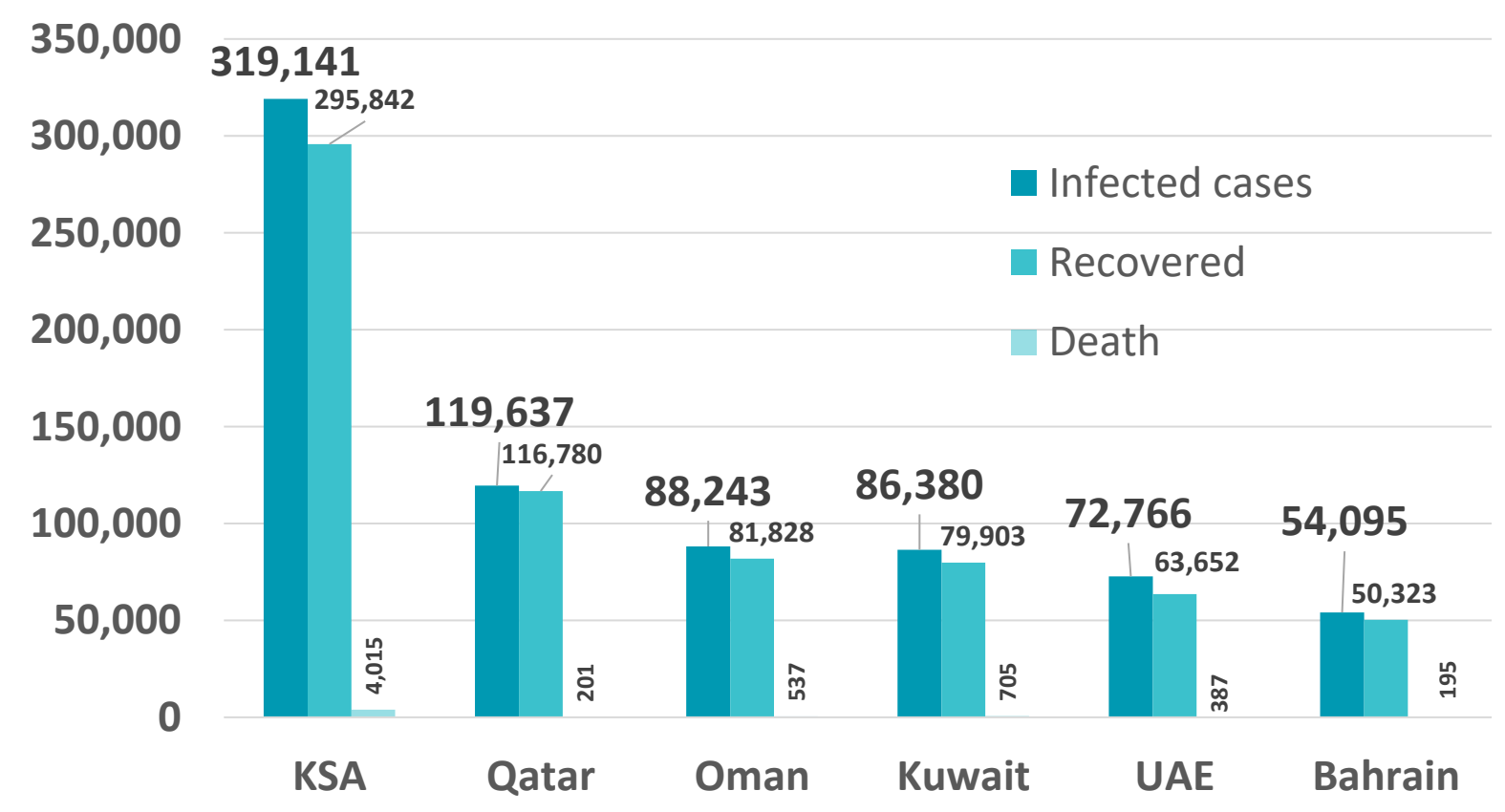


Figure 9: Comparative Analysis of the Distribution of COVID-19 Cases in GCC Countries

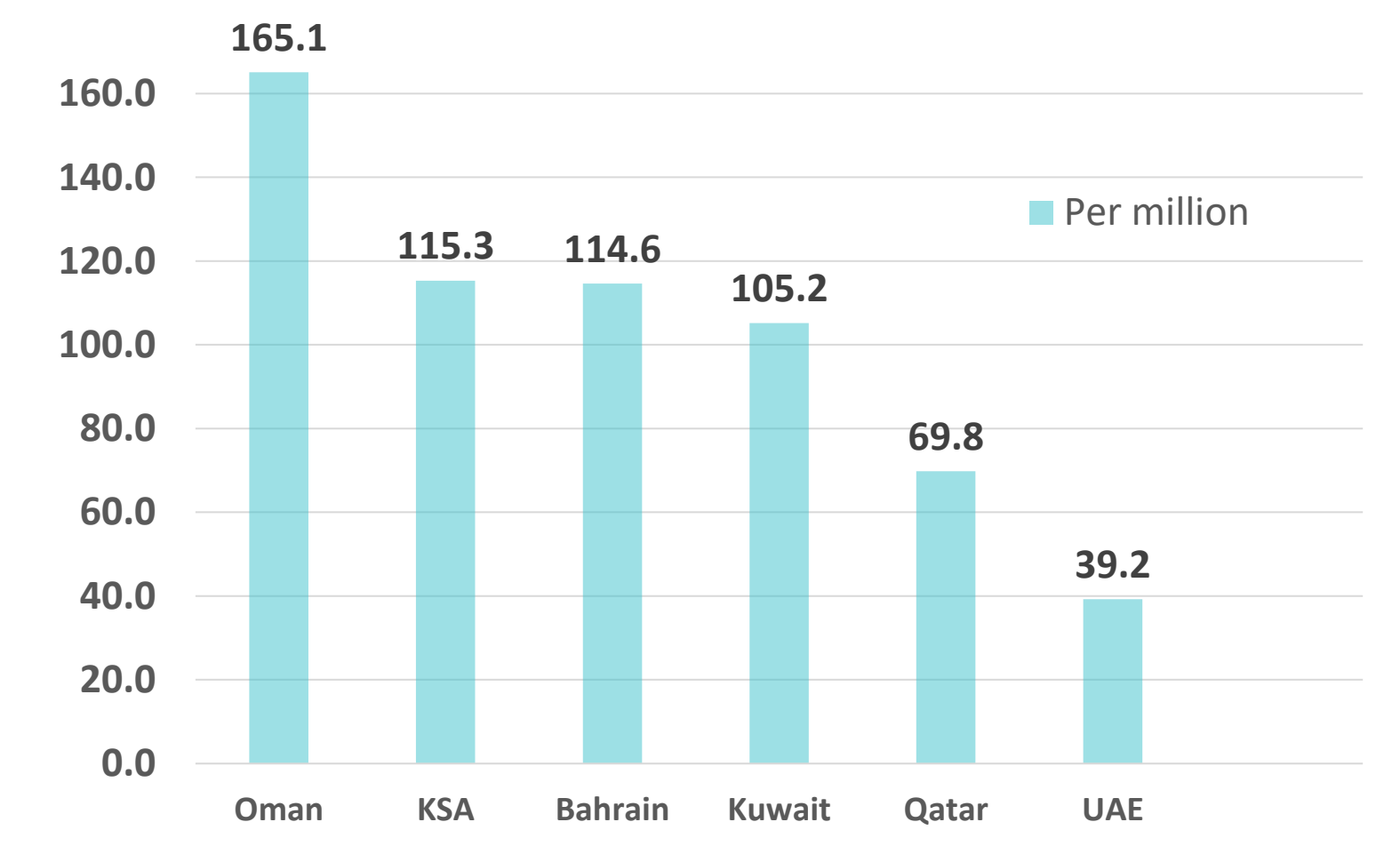
TOTAL NUMBER OF INFECTED CASES



TOTAL NUMBER OF INFECTED, RECOVERED AND DEATHS



DEATHS PER MILLION



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

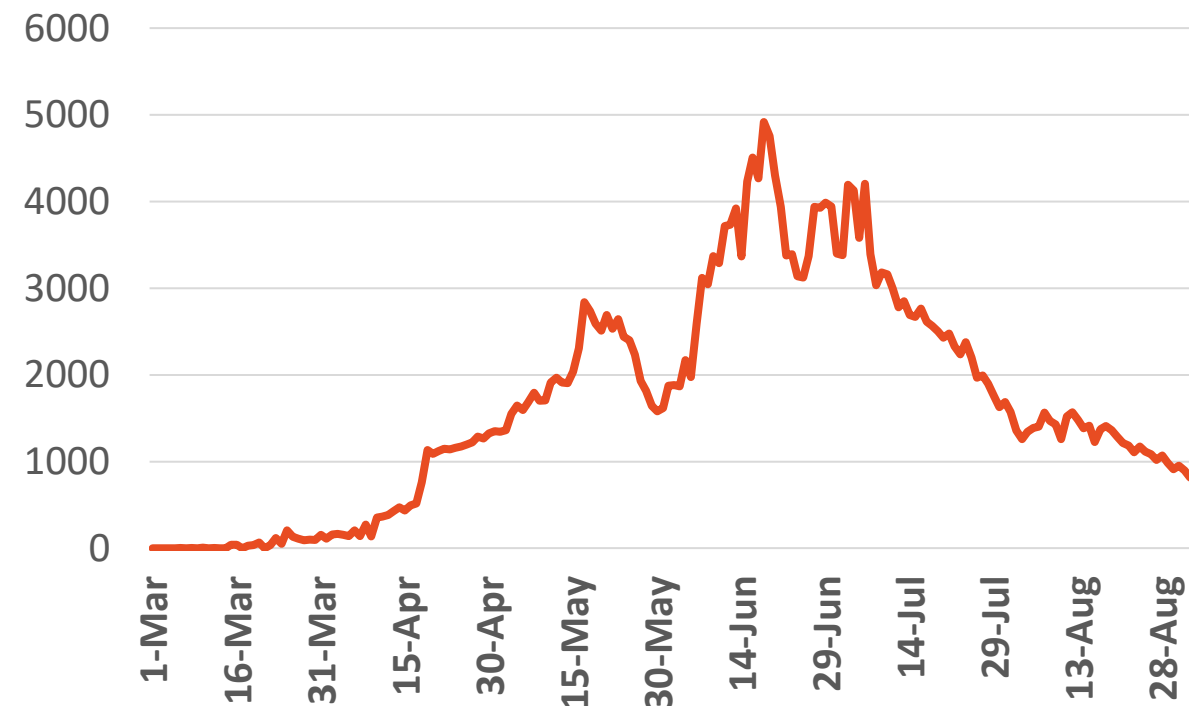
Figure 10: Comparative Analysis of the Distribution of COVID-19 New Cases in GCC Countries

UAE



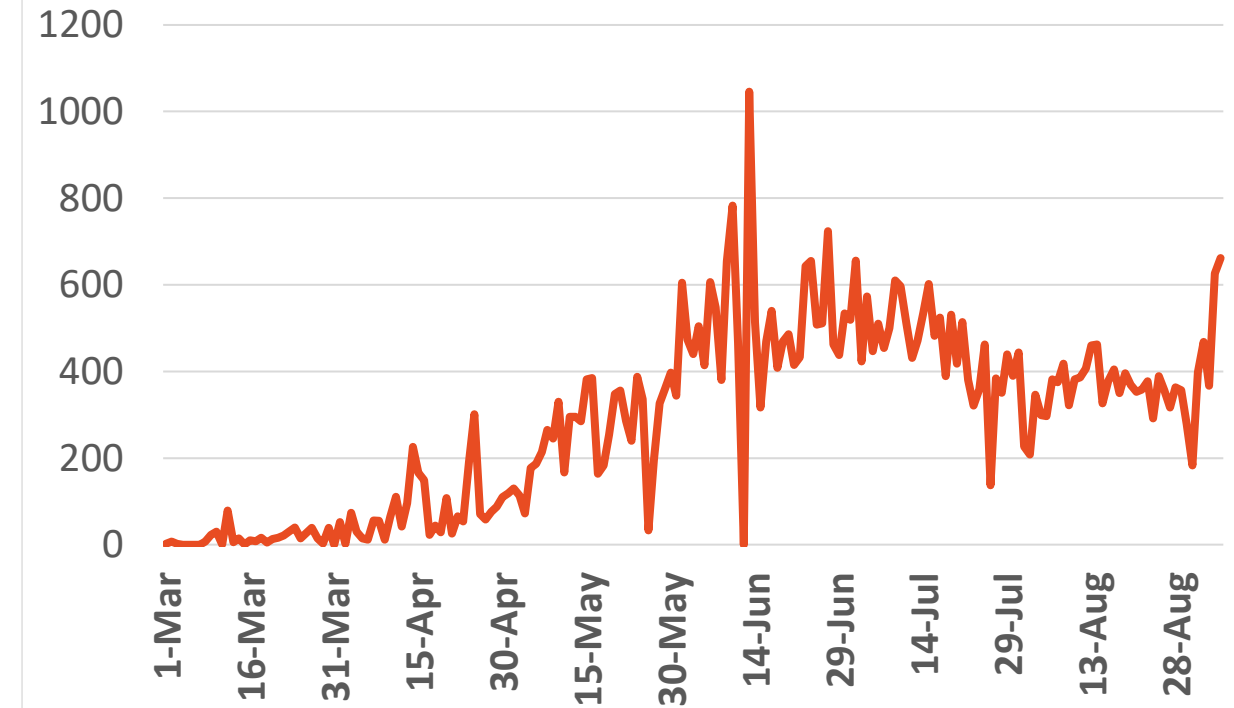
Source : National Emergency Crisis and Disaster Management Authority

KSA



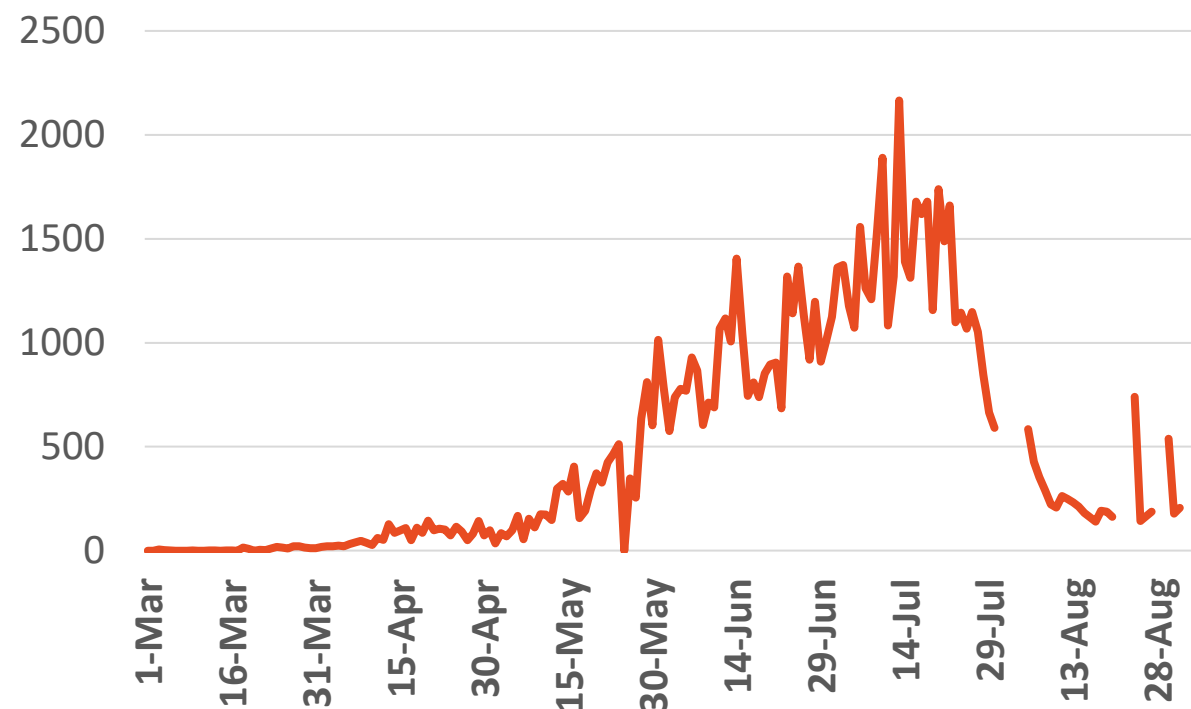
Source : KSA ministry of health

Bahrain



Source :WHO

Oman

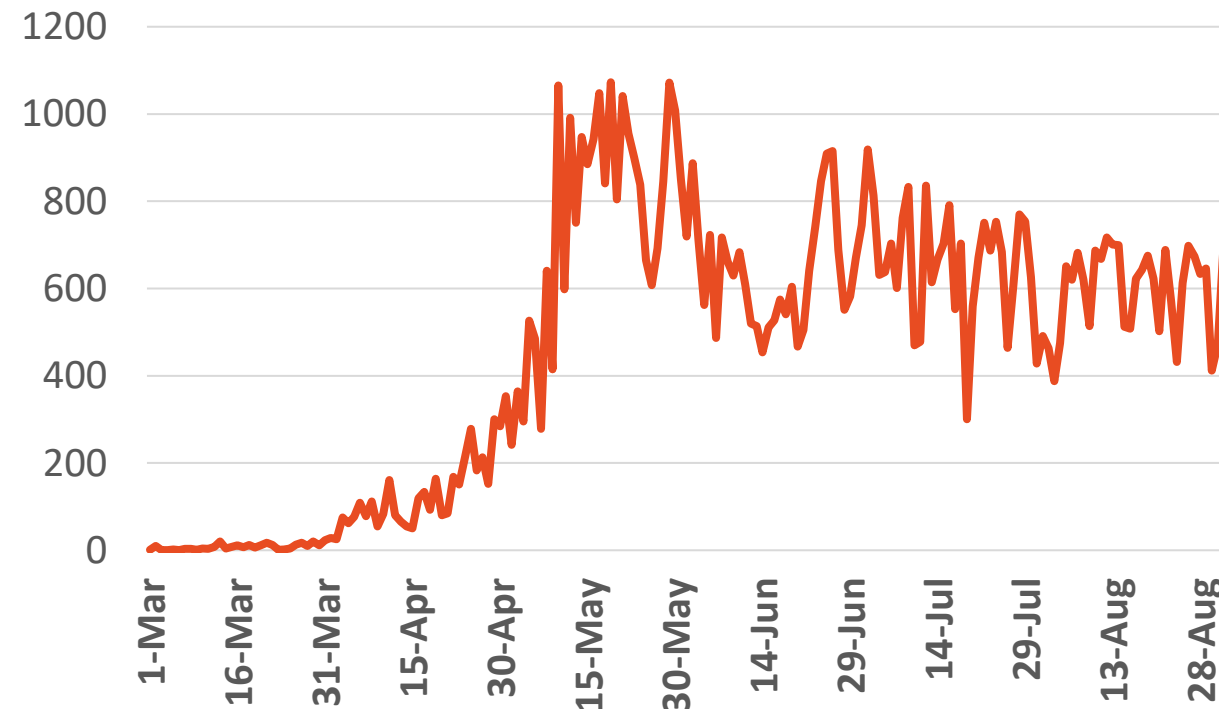


Source :Oman ministry of health

*No announced statistic data from 31 July to 4 August, 21 to 23 August & from 28 to 30 August, 2, 4& 5 September
*No announced statistic data on weekends and official holidays.

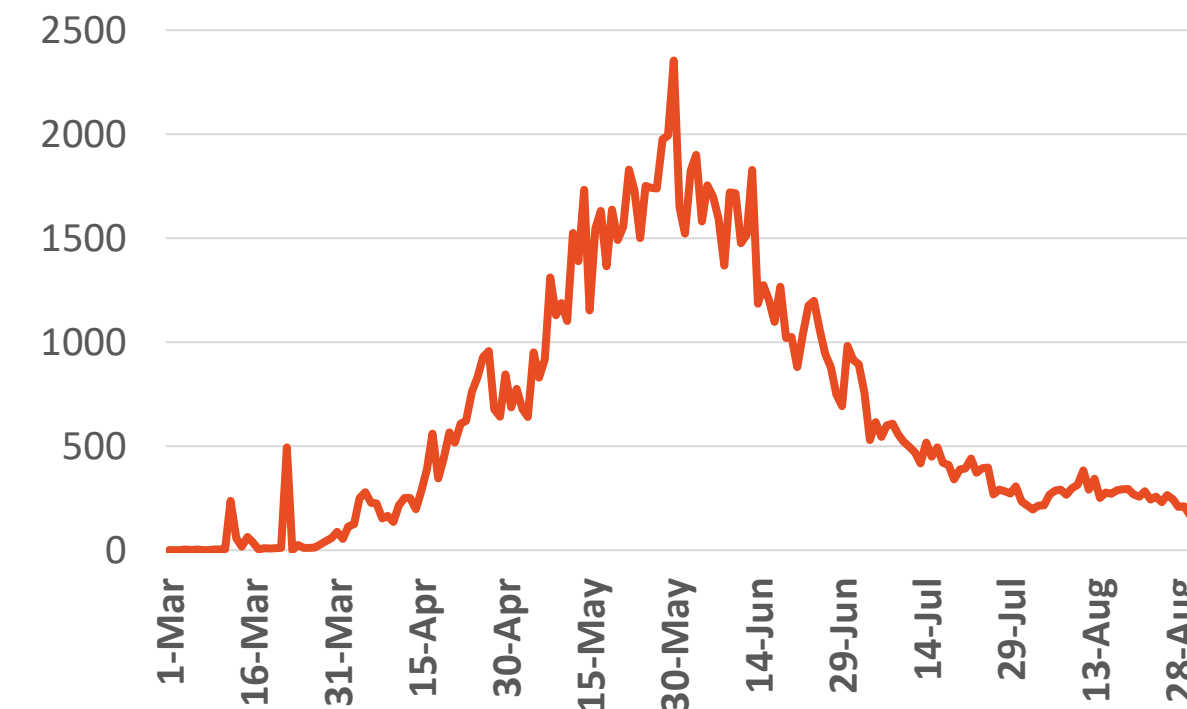
Kuwait

© ADPHC 2020



Source : Kuwait ministry of health

Qatar



Source : Qatar ministry of health

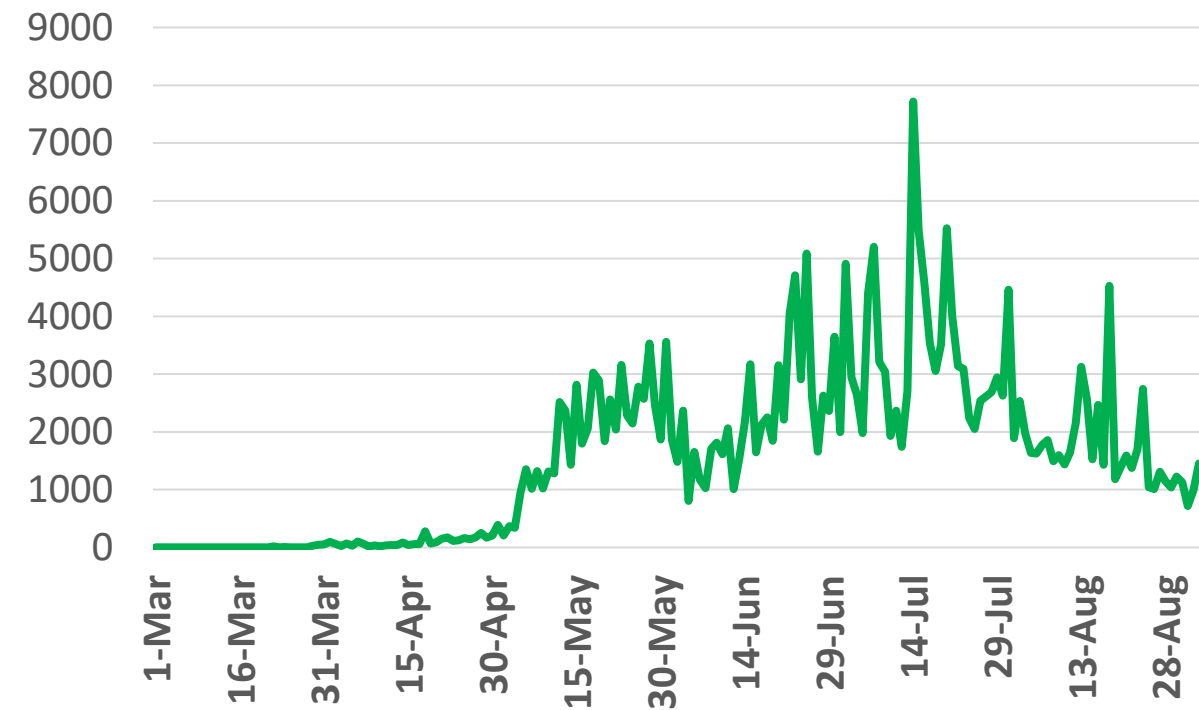
Figure 11: Comparative Analysis of the Distribution of COVID-19 Newly Recovered Cases in GCC Countries

UAE



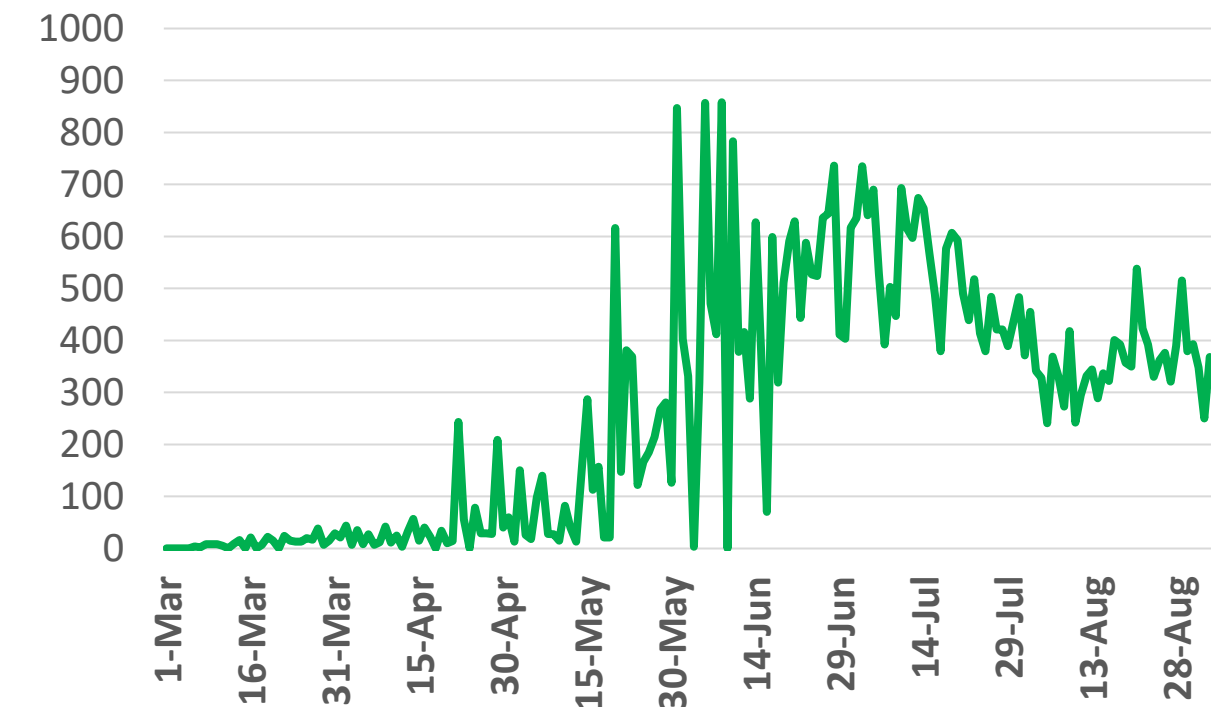
Source : National Emergency Crisis and Disaster Management Authority

KSA



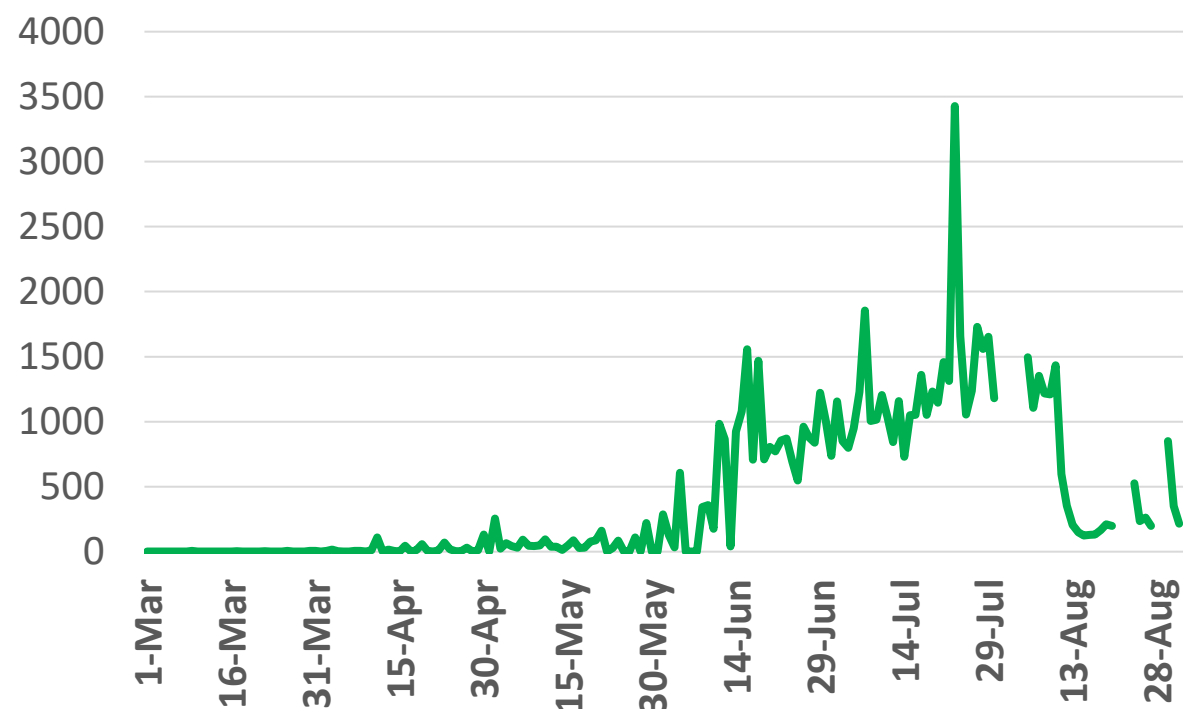
Source : KSA ministry of health

Bahrain



Source : Bahrain ministry of health

Oman



Source : Oman ministry of health

Kuwait

© ADPHC 2020



Source : Kuwait ministry of health

Qatar



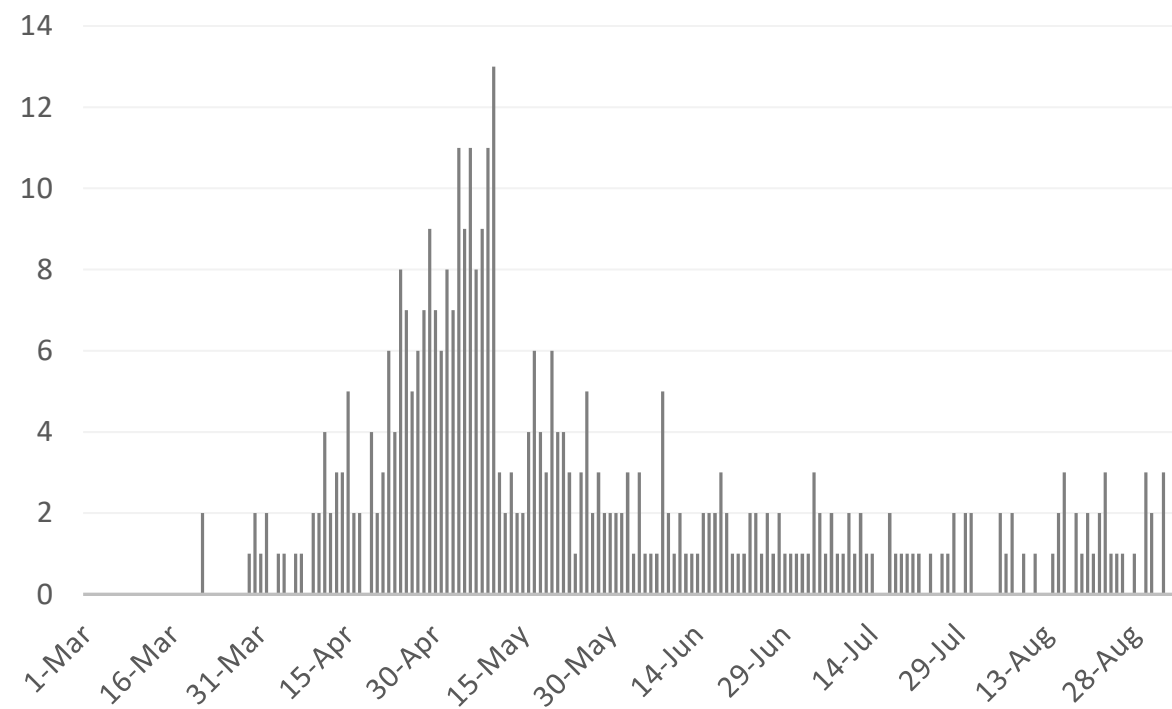
Source : Qatar ministry of health

*No announced statistic data from 31 July to 4 August, 21 to 23 August & from 28 to 30 August, 2, 4 & 5 September

*No announced statistic data on weekends and official holidays.

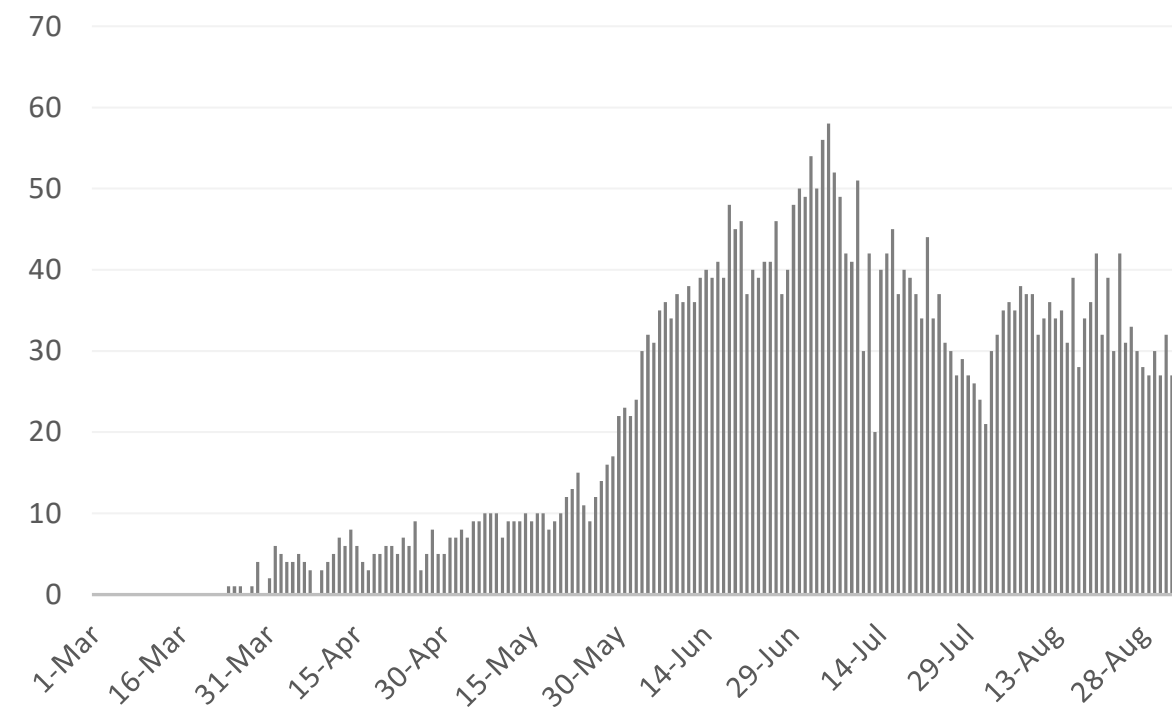
Figure 12: Comparative Analysis of the Distribution of COVID-19 New Death Cases in GCC Countries

UAE



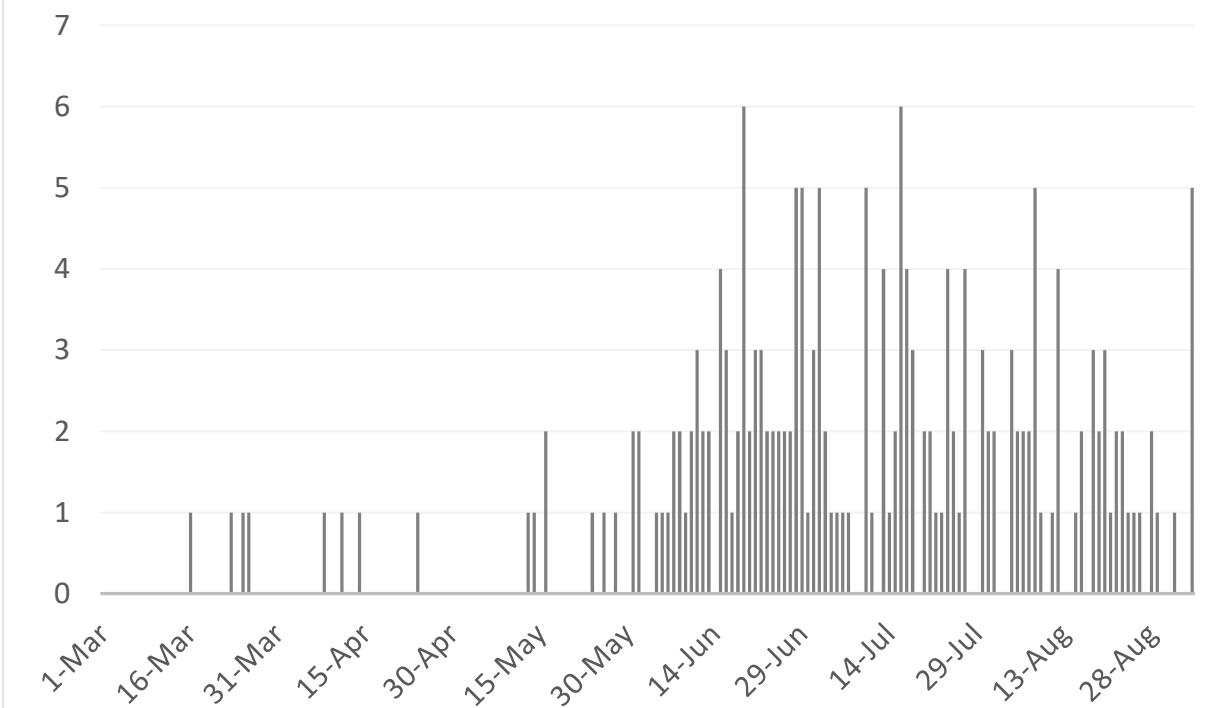
Source : National Emergency Crisis and Disaster Management Authority

KSA



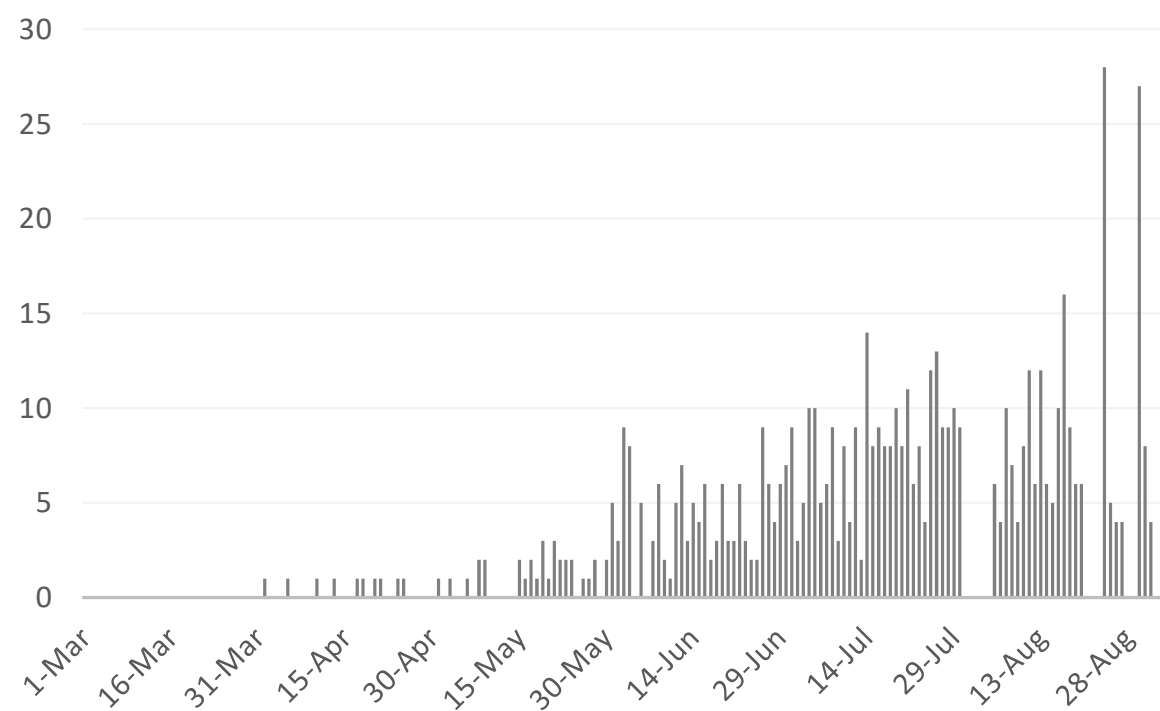
Source : KSA ministry of health

Bahrain



Source :WHO

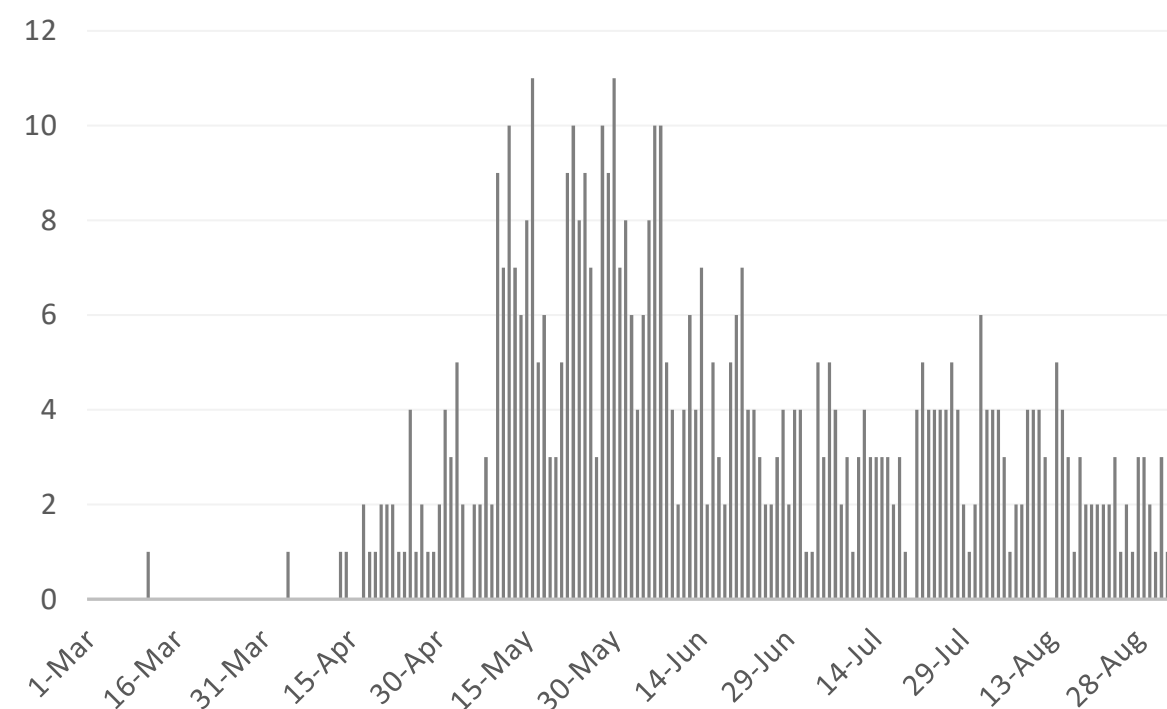
Oman



Source :Oman ministry of health

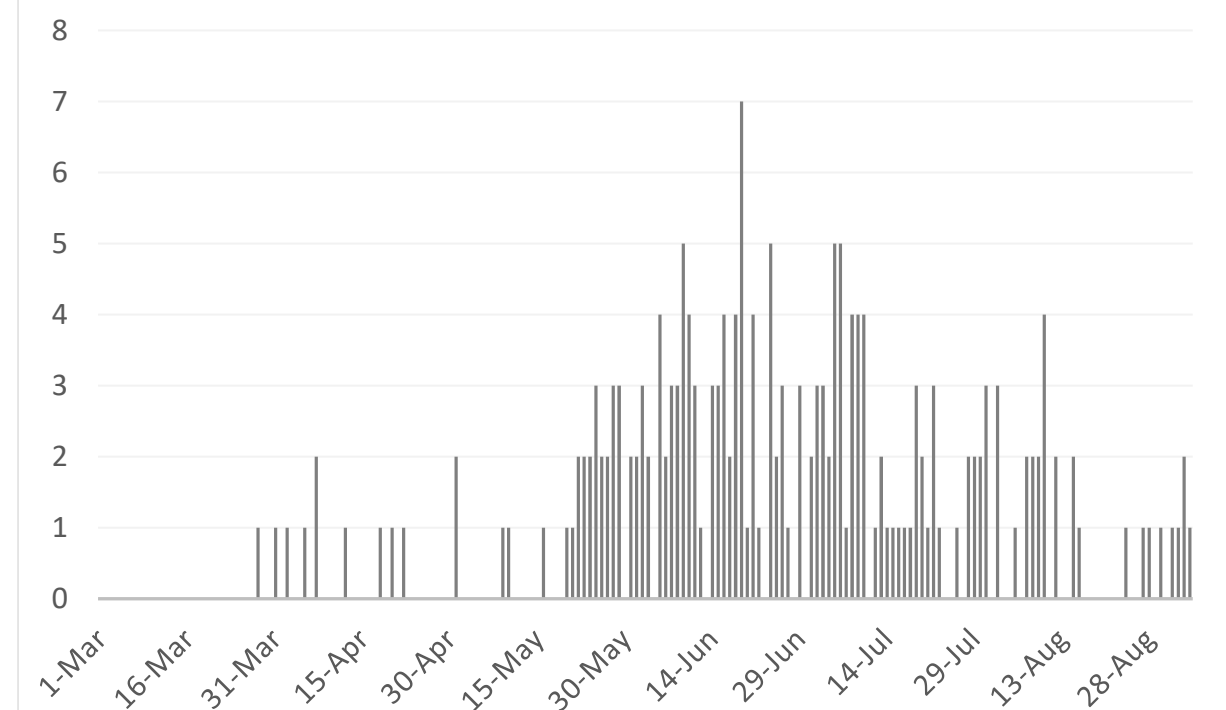
Kuwait

© ADPHC 2020



Source : Kuwait ministry of health

Qatar



Source : Qatar ministry of health

*No announced statistic data from 31 July to 4 August, 21 to 23 August & from 28 to 30 August, 2, 4 & 5 September

*No announced statistic data on weekends and official holidays.



Article 1

Published

28 August 2020 [THE LANCET](#)

Outcomes Following SARS-CoV-2 Infection in Liver Transplant Recipients: An International Registry Study

This multinational cohort study aims to assess the clinical outcomes with liver transplant patients affected by SARS-COV-2 infection. It was conducted between March 25 and June 26, 2020. Data were collected through 2 collaborating online registries. 151 included in the liver transplant recipients cohort, while 627 were included in a comparison cohort (non-liver transplant recipients). Clinicians were asked to submit clinical data at the end of the patient's disease course (resolution of clinical signs of COVID-19, discharge, or death).

Findings

- Liver transplantation was not associated with an increased risk of mortality when compared with a contemporaneous cohort of patients who had not received a liver transplant.
- Type of immunosuppressant used and the time from transplantation was not independently associated with mortality.
- Advanced age and medical comorbidities such as renal impairment were associated with SARS-CoV-2-related mortality.
- The findings suggested that liver transplant should not be a delayed and supportive care should not be limited to patients with existing liver transplants with COVID-19.

Limitations

- Generalizability of the results; was limited by the predominance of white patients from Europe and North America.
- No data on how immunosuppression regimens were altered during the disease course of SARS-CoV-2 infection.

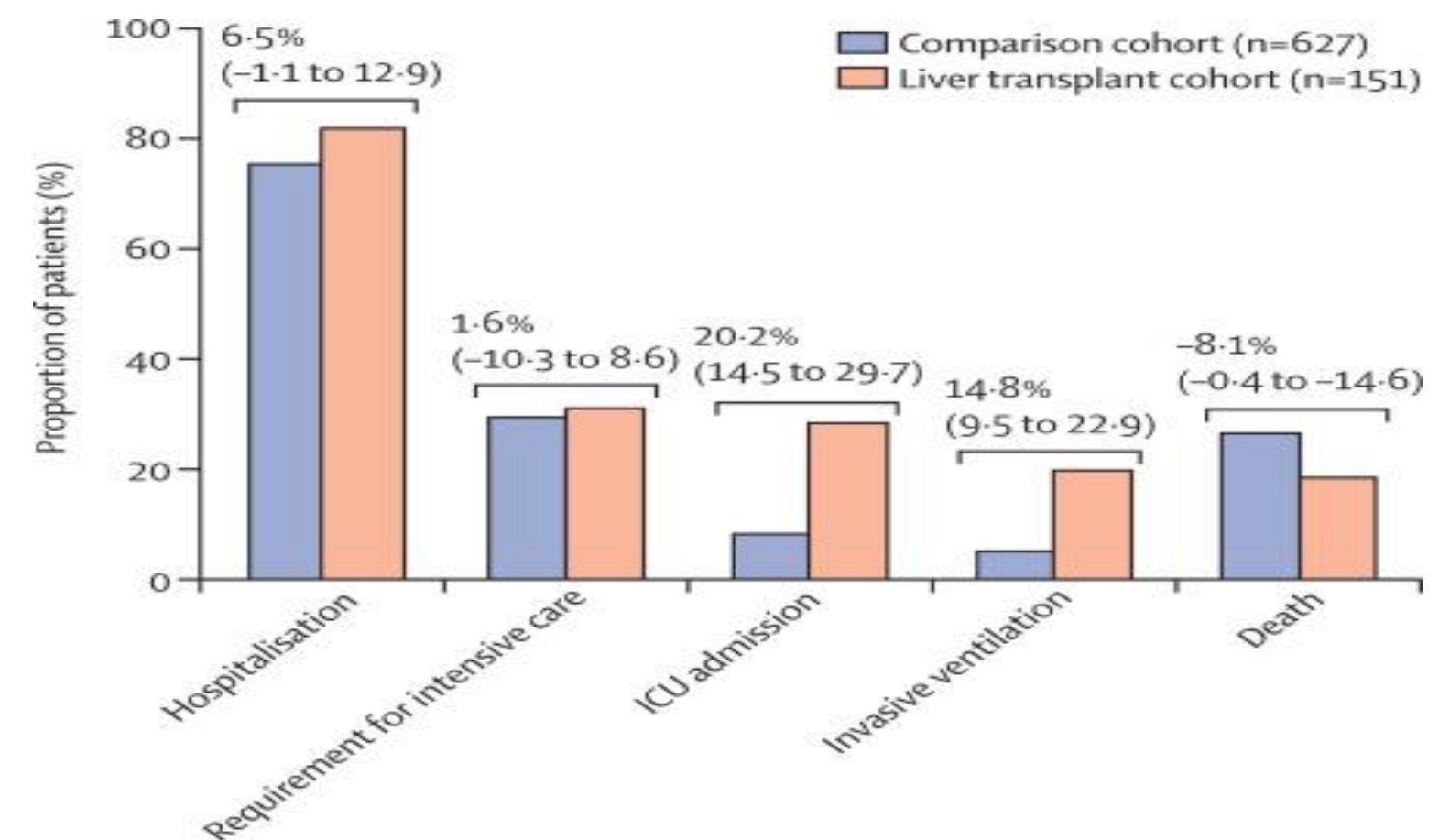


Figure 1: Major outcomes from severe acute respiratory syndrome coronavirus 2 infection in patients who have (n=151) and have not (n=627) undergone liver transplantation

Conclusion

- Traditional risk factors for adverse outcomes from COVID-19 should be preferentially considered when considering the risks and benefits of hospital attendance, immunosuppression, and social distancing requirements for liver transplant recipients during the ongoing COVID-19 pandemic.



Article 2

Symptomatic and Asymptomatic Viral Shedding in Pediatric Patients Infected With Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)

Published

26 August 2020 [JAMA](#)

Children are suitable for infection and might have primary and unique secondary inflammatory complications of infection. They play a role in potentially spread the infection. This case provided data from 22 centers throughout South Korea. 91 children with COVID-19 were included (median [range] age, 11 [0-18] years).

Finding

- Out of 91 children with COVID-19, 20 (22%) were asymptomatic. Out of 71 symptomatic patients, 47 (66%) had unrecognized symptoms before diagnosis, 18 (25%) developed symptoms after diagnosis, and only 6 (9%) were diagnosed at the time of symptom onset.
- All 91 children with COVID-19, were monitored for a mean (SD) of 21.9 (8) days.
- Three important points were addressed:
 - Onset of infection in children.
 - Duration of symptoms.
 - Viral shedding in both symptomatic and asymptomatic children (Table 1).

Conclusion

- Asymptomatic carriers may serve as an important reservoir that may facilitate silent spread through a community.
- Virus was detectable for a mean (SD) of 17.6 (6.7) days overall and was detectable for a prolonged period of time in all cohorts of children, whether symptoms were present or not.
- In this study, the authors estimate that 85 infected children (93%) would have been missed using a testing strategy focused on testing of symptomatic patients alone.
- 86 of 88 diagnosed children (98%) either had no symptoms or mild or moderate disease.



Continued

	Onset of symptoms	Duration of symptoms	Duration of viral shedding
Symptomatic children	Experienced symptoms a median (range) of 3 (1-28)days prior to being diagnosed.	<ul style="list-style-type: none"> Varies widely. The median range was (11[1-36]) days. 	There was no significant difference in the mean SD duration between upper respiratory infection (18.7[5.8]) and lower respiratory infection (19.9[5.6]) days.
Presymptomatic children	Remained symptom free for a median (range) of 2.5 (1-25) days before exhibiting any symptom.	Shortest median range (3.5[1-21]).	
Onset concomitant with diagnosis		Median range(6.5[1-12]) days.	
Asymptomatic children			<ul style="list-style-type: none"> Detectable virus for a mean (SD) of 14.1 (7.7) days. 4 asymptomatic children (20%) continued to have detectable virus 21 days after initial detection. Duration may be longer because the initial onset is unknown.

Table 1. Viral shedding in both symptomatic and asymptomatic children





Article 3

Pathophysiology of COVID-19-Associated Acute Respiratory Distress Syndrome: A Multicentre Prospective Observational Study

Published

26 August 2020 [THE LANCET](#)

- This multicenter prospective observational study was conducted in Italy between March 9-22, 2020. Consecutive, mechanically ventilated patients (>18 years) diagnosed with COVID-19 and who met (n=301) Berlin definition criteria for acute respiratory distress syndrome (ARDS), who were admitted to the intensive care unit (ICU) were enrolled.
- All patients were sedated, paralyzed, and ventilated in volume control mode with standard ICU ventilators and static respiratory system compliance. The ratio of the partial pressure of arterial oxygen to the fractional concentration of oxygen in inspired air ventilatory ratio and D-dimer concentrations were measured within 24 hours of ICU admission. Lung CT scans and CT angiograms were performed when clinically indicated.
- Median static compliance of the respiratory system was 28% higher in patients with COVID-19 than in those with classical ARDS ($p < 0.0001$). Total lung weight did not differ between patients with COVID-19 ARDS and classical ARDS.
- Patients with D-dimers equal to or less than the median had ventilatory ratios lower than those observed among patients with D-dimer concentrations greater than the median [1.66 vs. 1.90; $p = 0.0001$]. 28-day mortality was 36% (93 of 261 patients).
- Those who have high d-dimer and low compliance of the lung have had significantly higher 28-day mortality than the other three groups in the low lung compliance group, the low D-dimer and high compliance {LDHC} group.
- This study provides evidence confirming that patients with COVID-19-related ARDS have a form of injury similar to classical ARDS. The results also have implications for the design of clinical trials, because patients with the clinical picture characterized by low respiratory system compliance and high D-dimers have a high 28-day mortality rate.



THANK YOU

 ADPHCAE  ADPHC_AE  ADPHC_AE  ADPHC.AE  ADPHC-AE  056 2312171