

SCIENTIFIC RESEARCH MONITORING ON COVID-19

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SCIENTIFIC RESEARCH MONITORING ON COVID-19

(ISSUE 235)

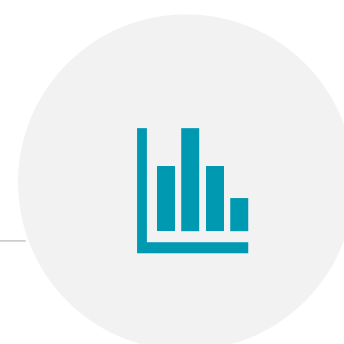


Abu Dhabi Public Health Center (ADPHC) is gathering the latest scientific research updates and trends on coronavirus disease (COVID-19) in a daily report. The report provides summaries on breakthrough or updated research on COVID-19 to allow health care professionals and public health professionals get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

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Research
Update



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).

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Clinical Features

**A Case of Probable
Parkinson's Disease After
SARS-CoV-2 Infection**

Transmission

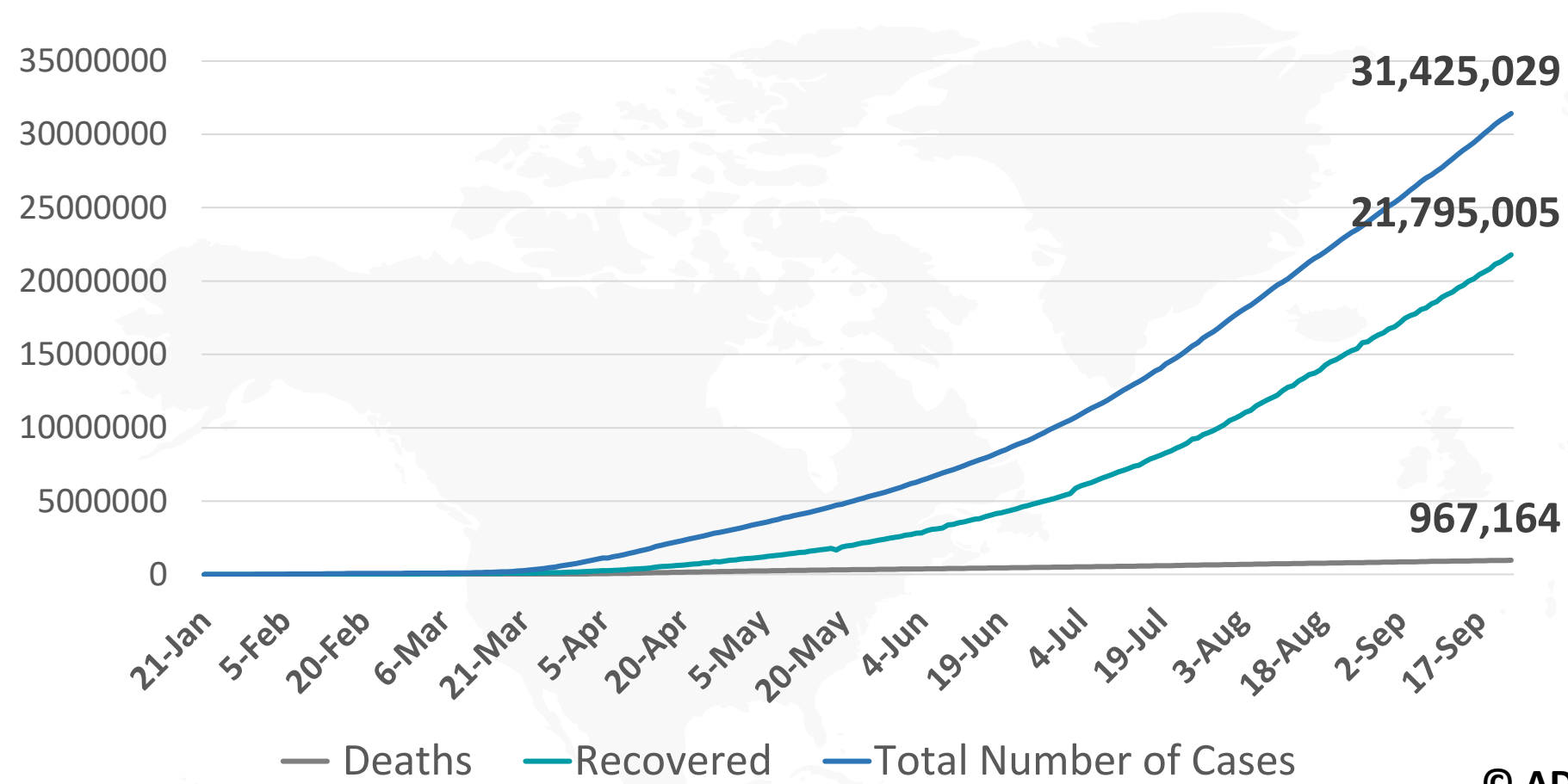
**Association of Daily Wear of
Eyeglasses with Susceptibility
to Coronavirus Disease 2019
Infection**

Diagnosis

**Assessing a Novel, Lab-Free,
Point-of-Care Test for SARS-
CoV-2 (CovidNudge): A
Diagnostic Accuracy Study**



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 result of the world)

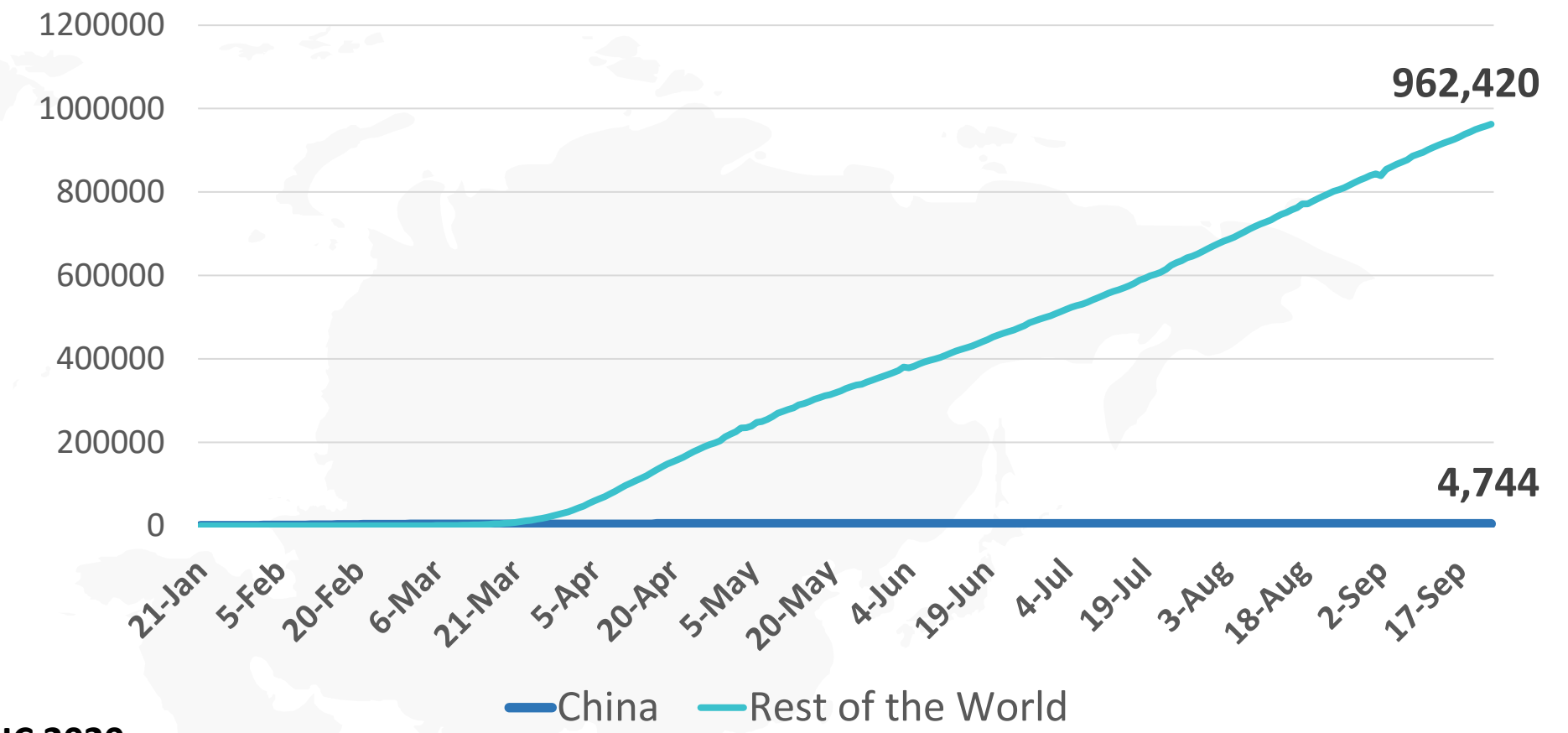


Figure 2: Daily New Infected COVID-19 Cases (China and rest of the world)

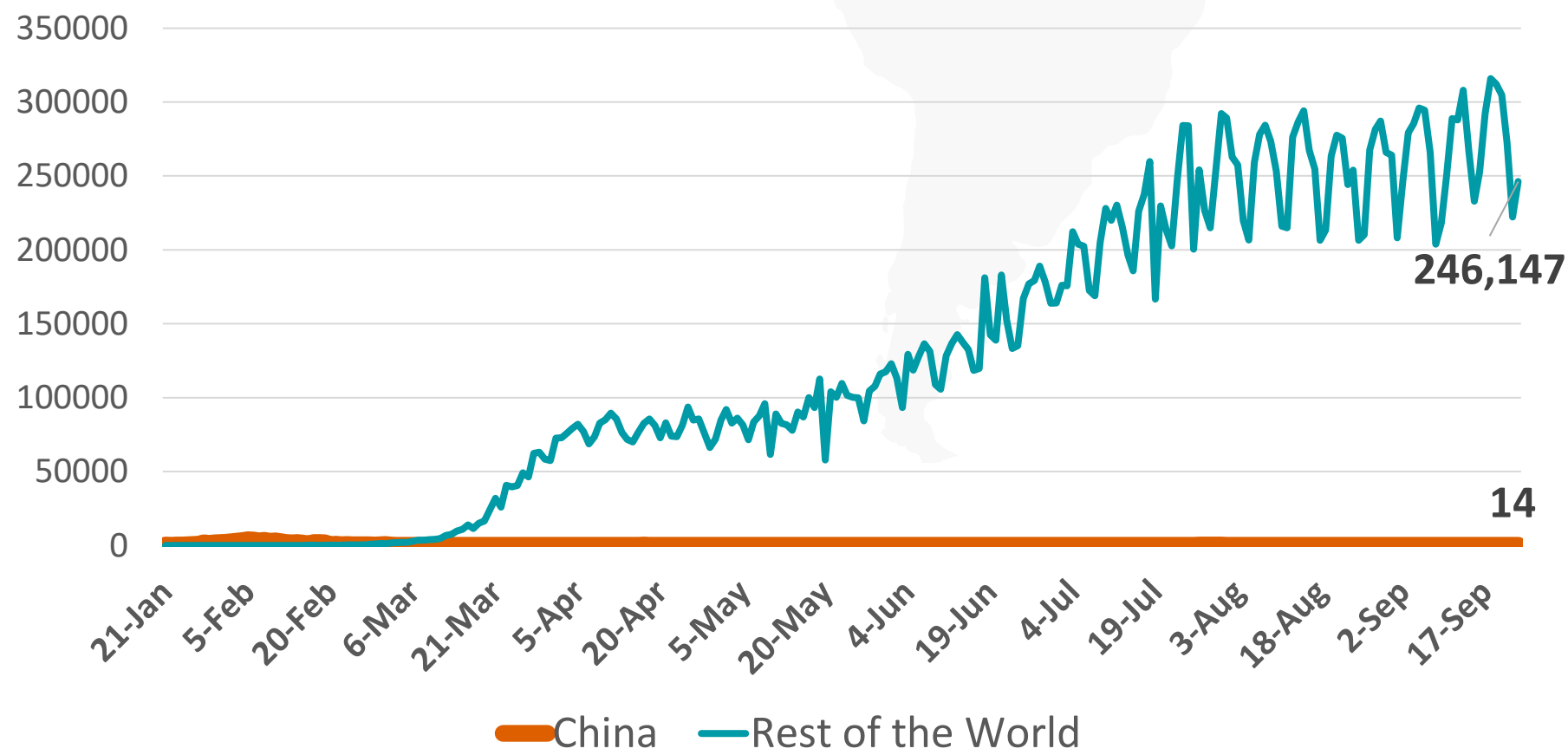


Figure 4: Global Daily New Deaths Due to COVID-19 (china and rest of the world)

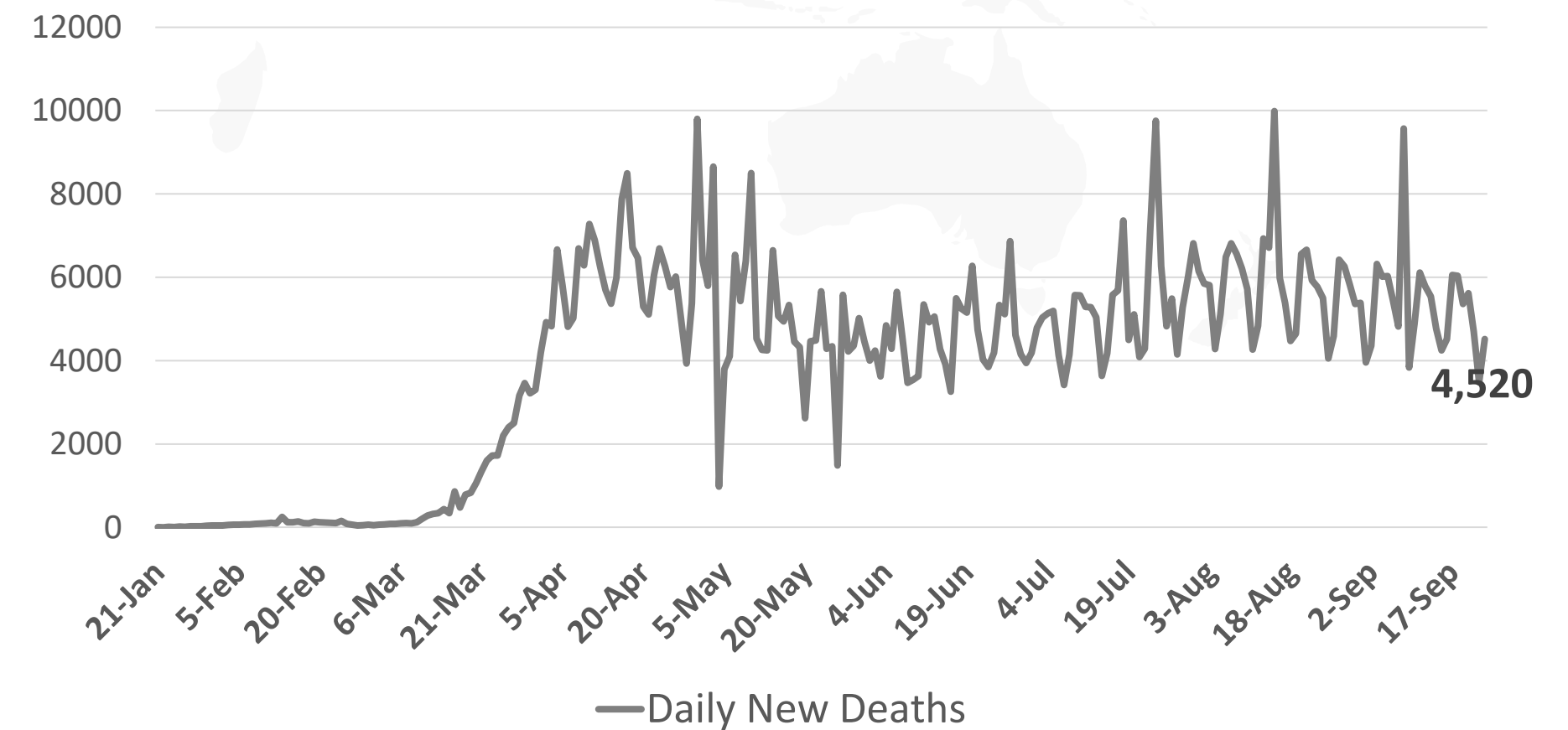


Figure 5: Top 10 Countries in the Total Number of Cases Due to COVID-19

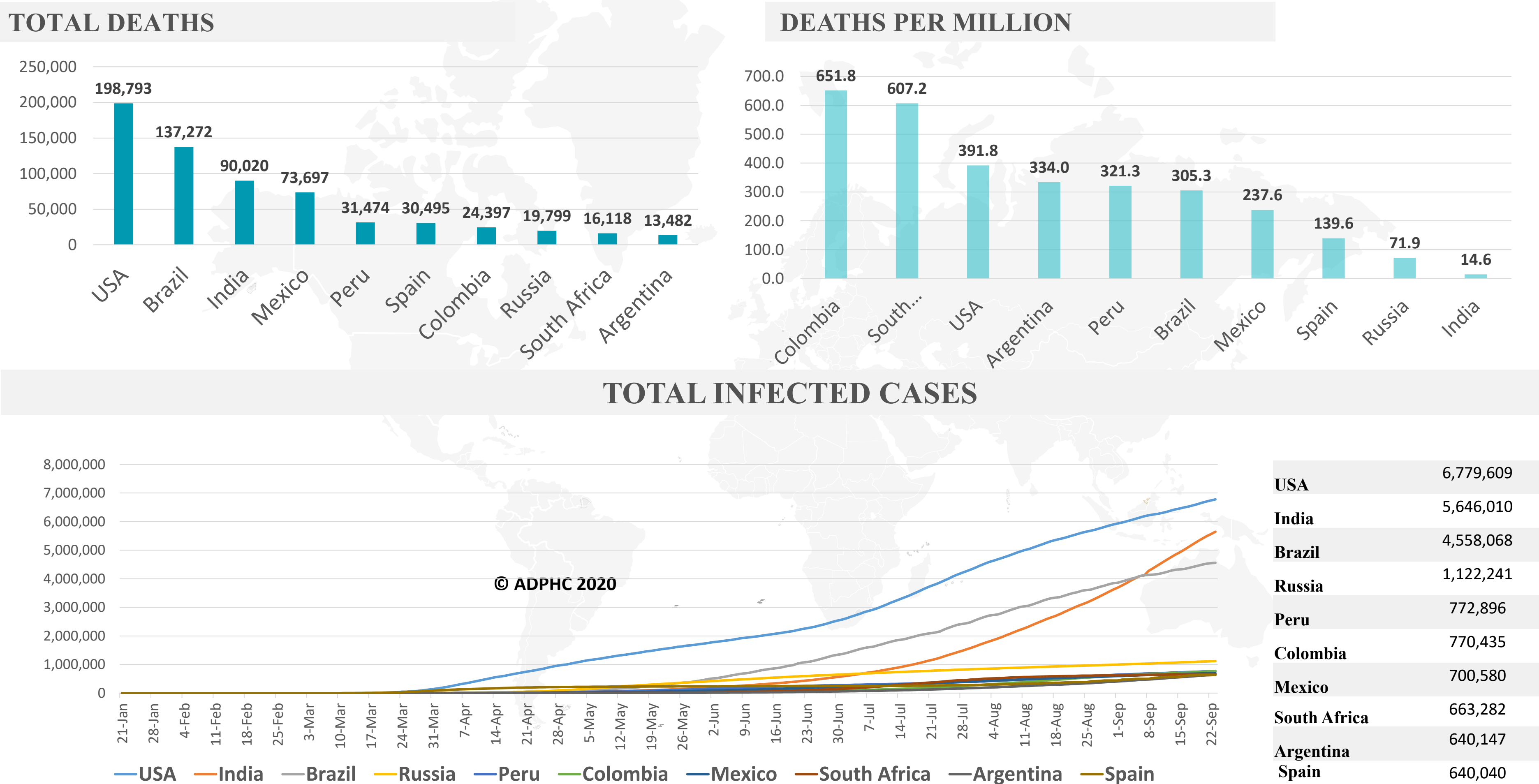
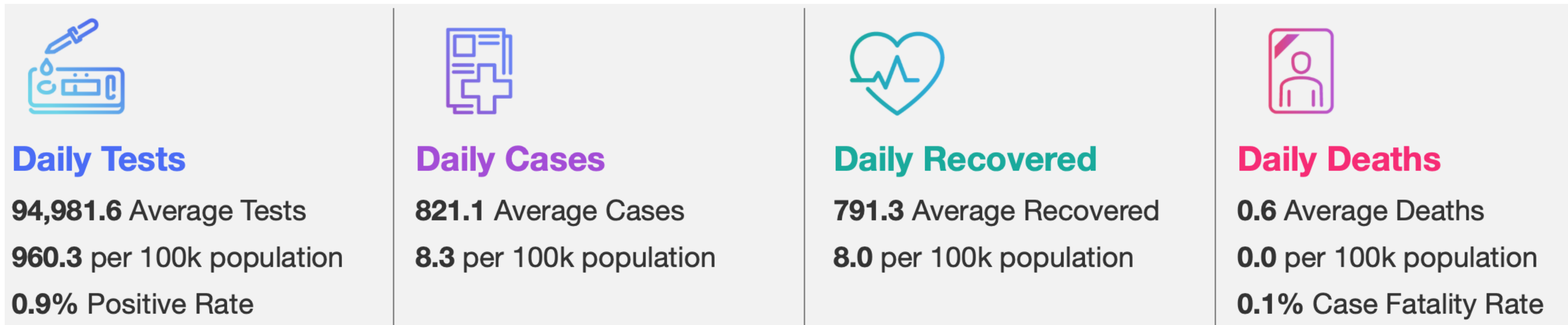


Figure 6: COVID-19 Status in the UAE (Federal Competitiveness and Statistics Authority Dashboard)



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

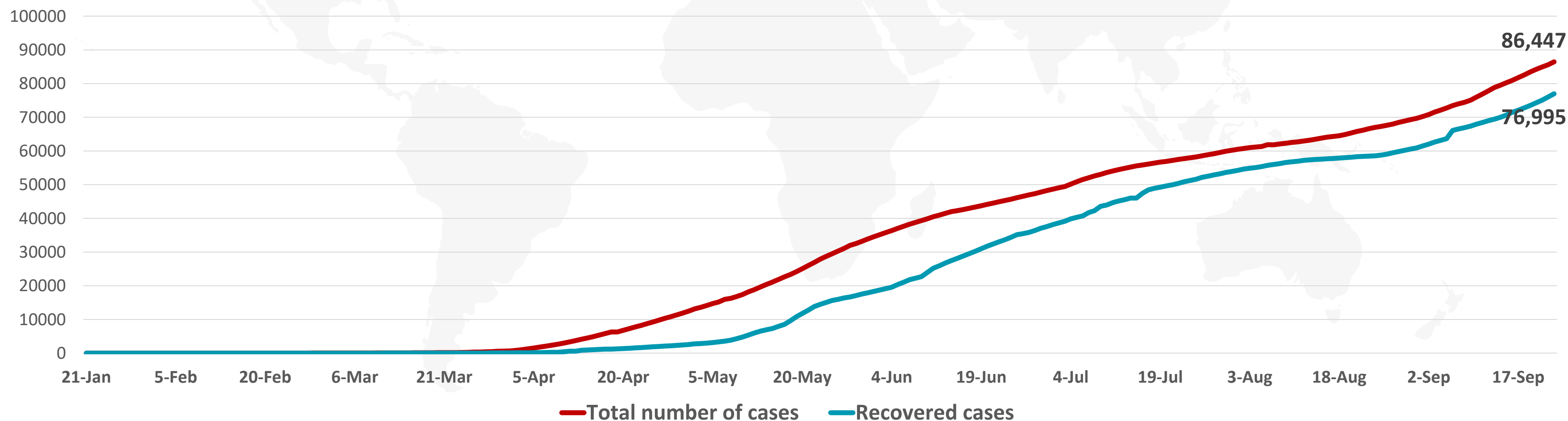
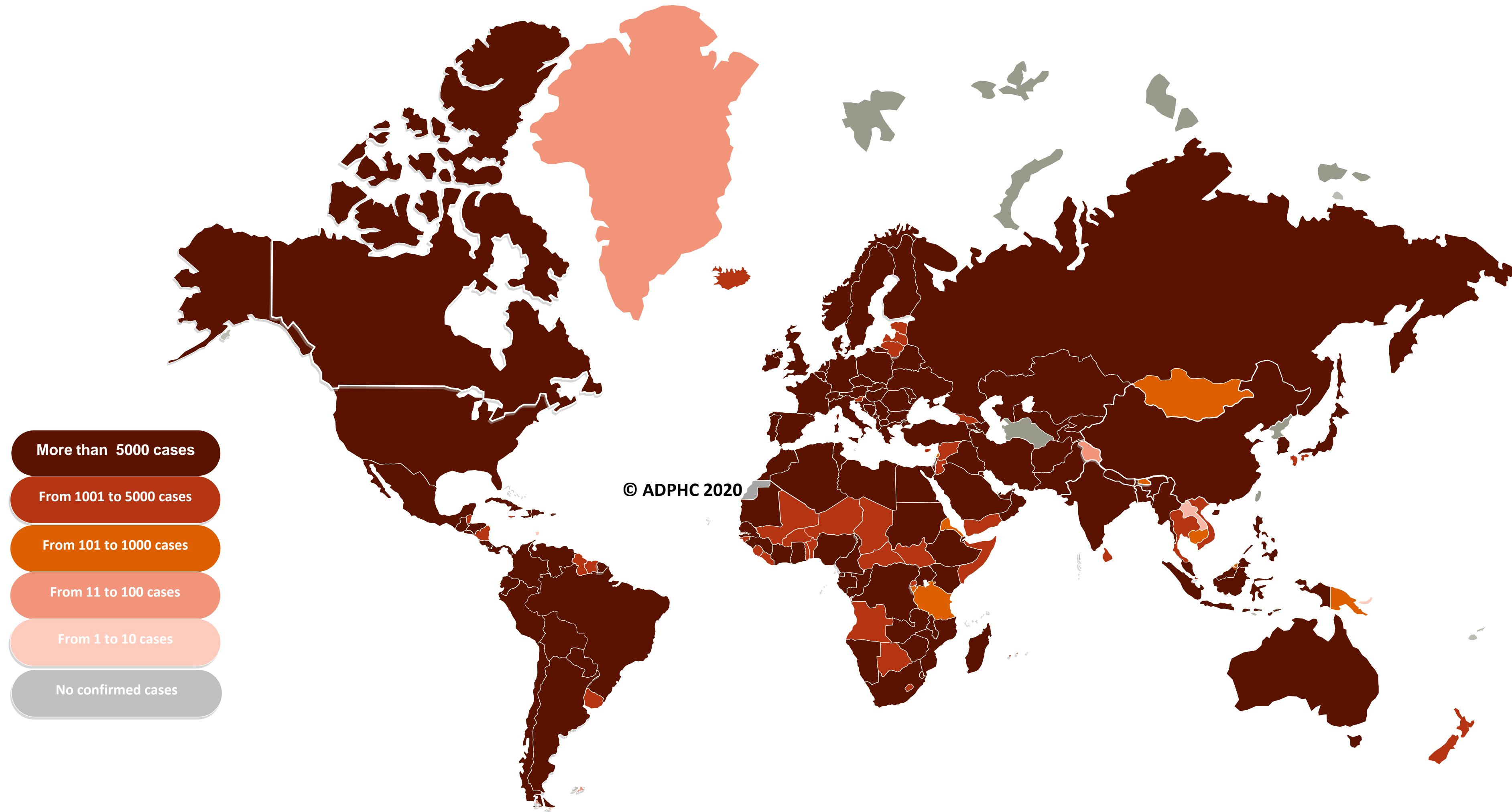


Figure 7A : Global Distribution of COVID-19 Cases



More than 5000 cases

From 1001 to 5000 cases

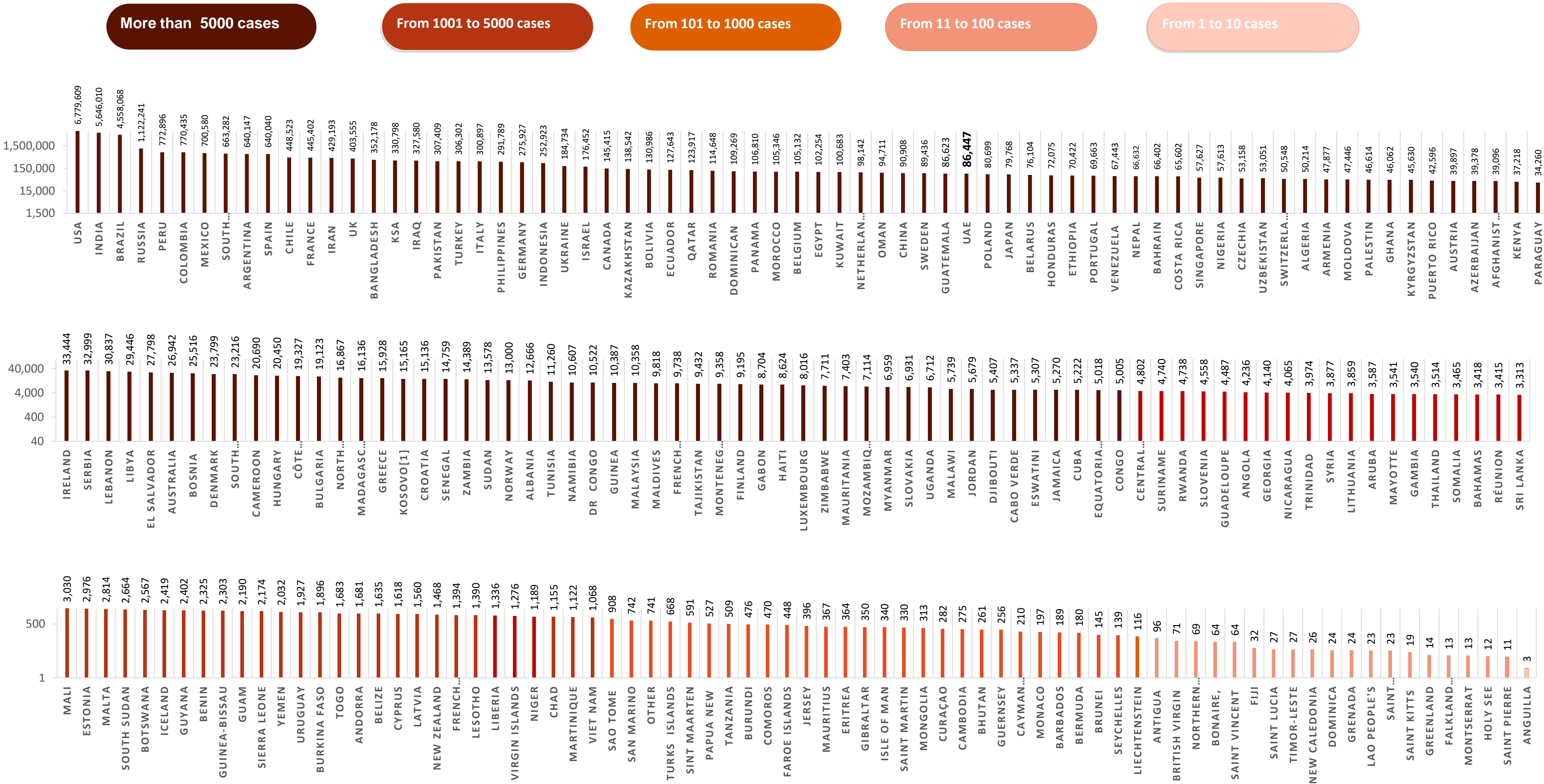
From 101 to 1000 cases

From 11 to 100 cases

From 1 to 10 cases

No confirmed cases

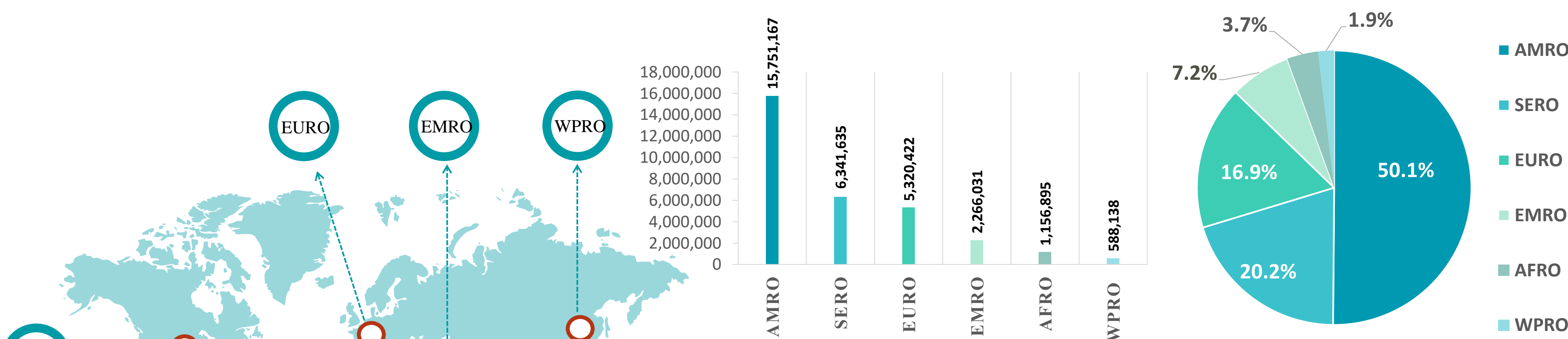
Figure 7B: Bar Chart Illustrates the Global Distribution of COVID19 Cases



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

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

INFECTED



DEATHS

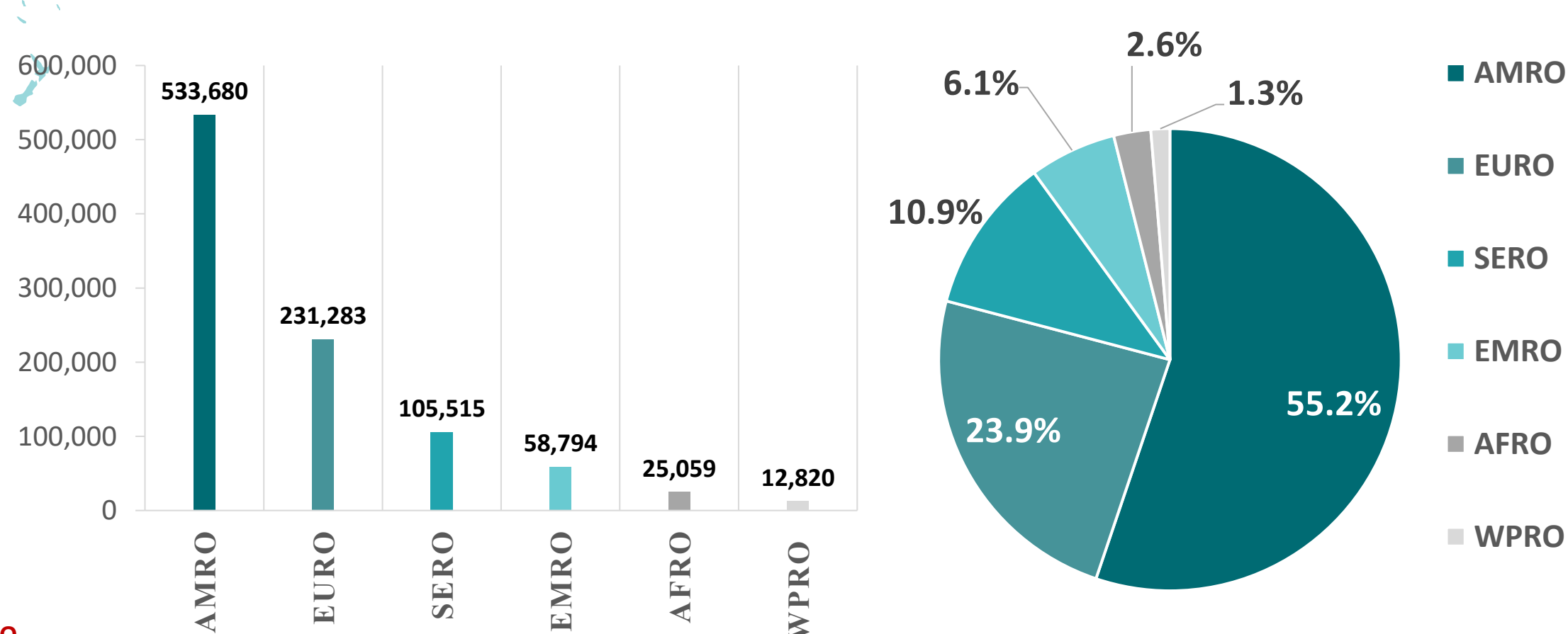
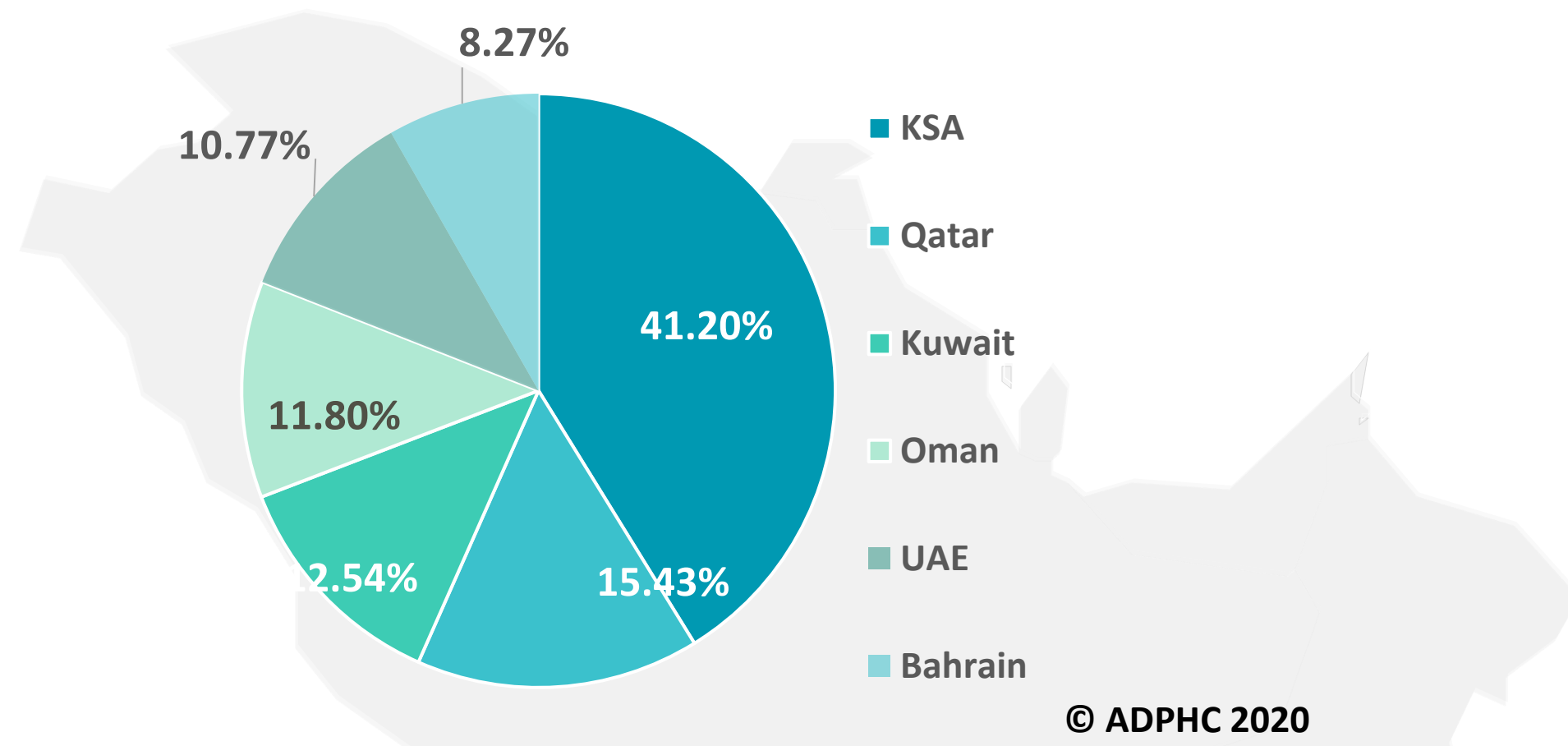
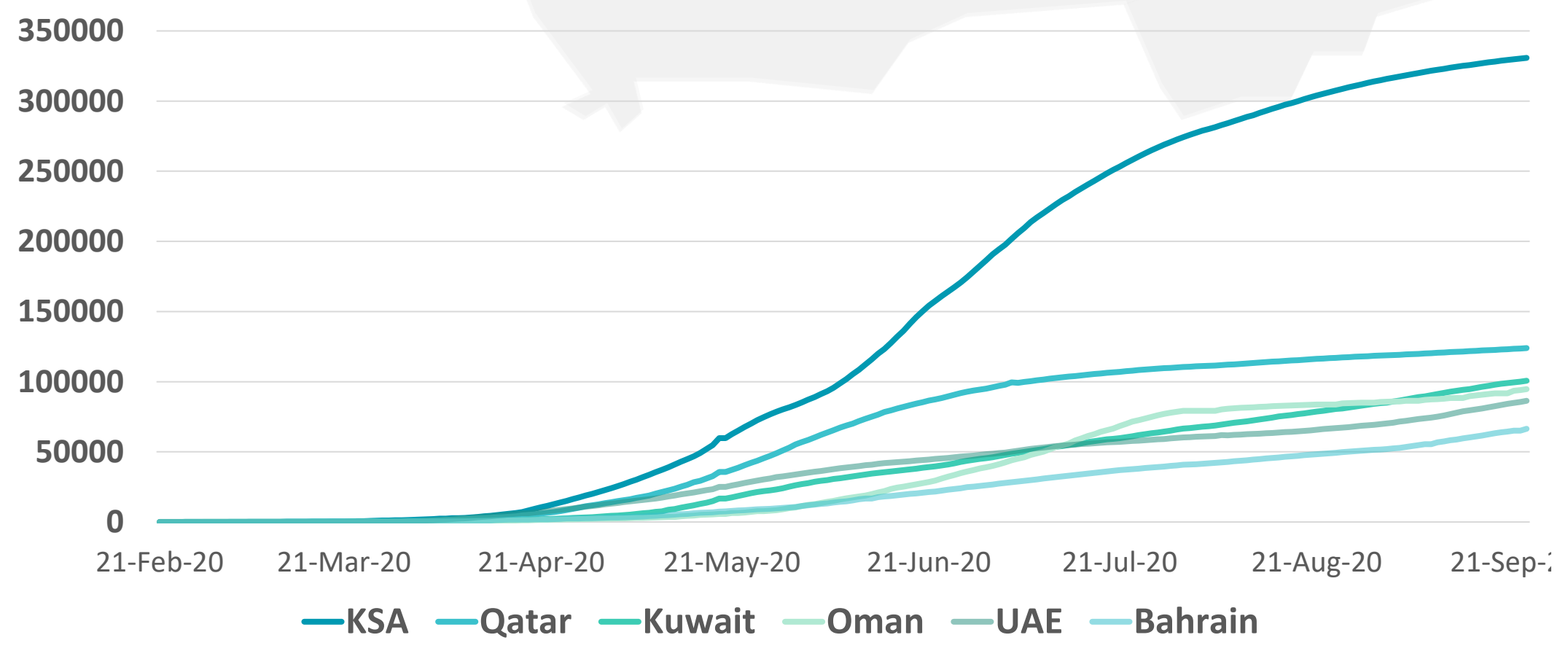
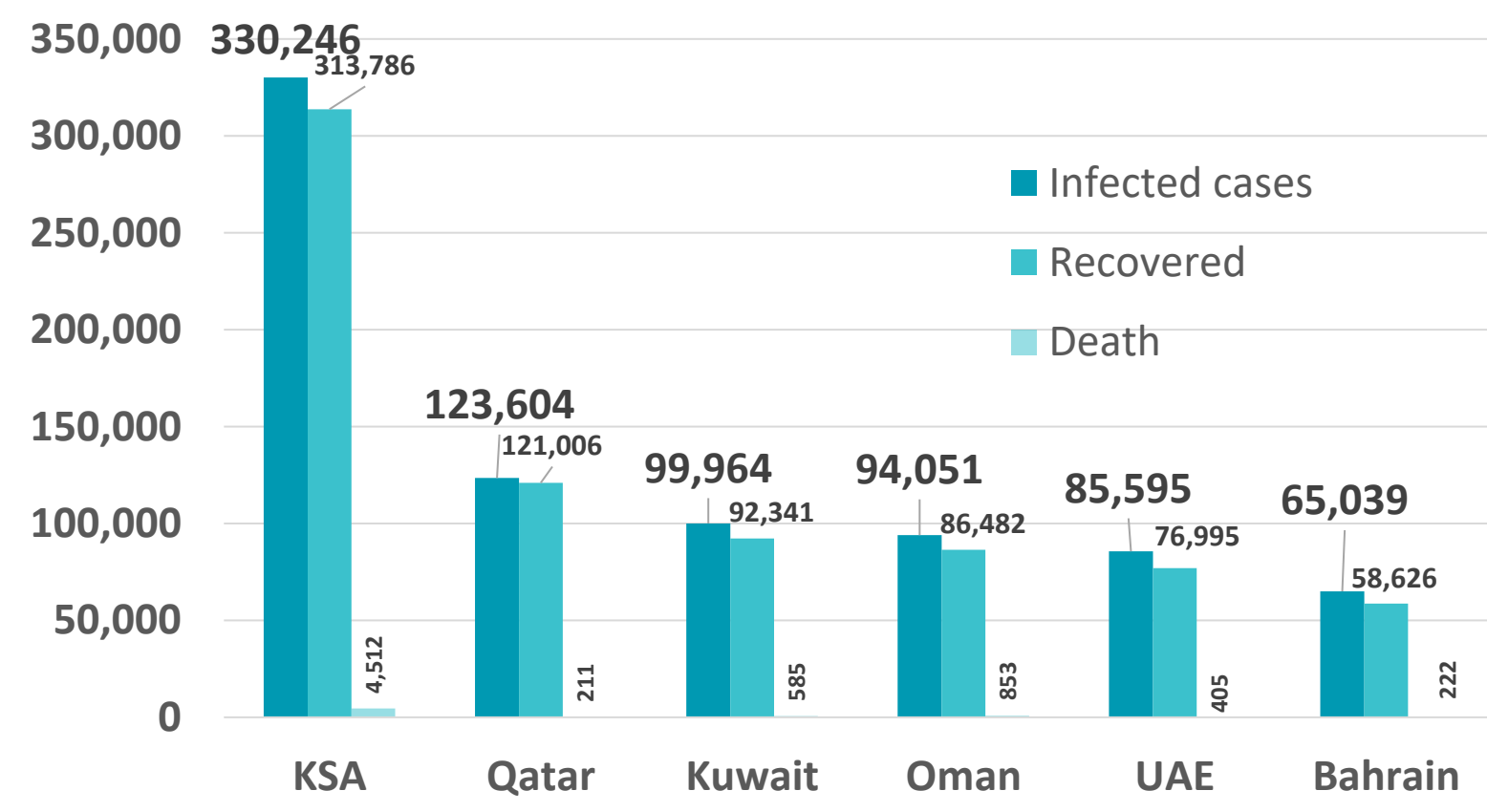


Figure 9: Comparative Analysis of the Distribution of COVID-19 Cases in GCC Countries

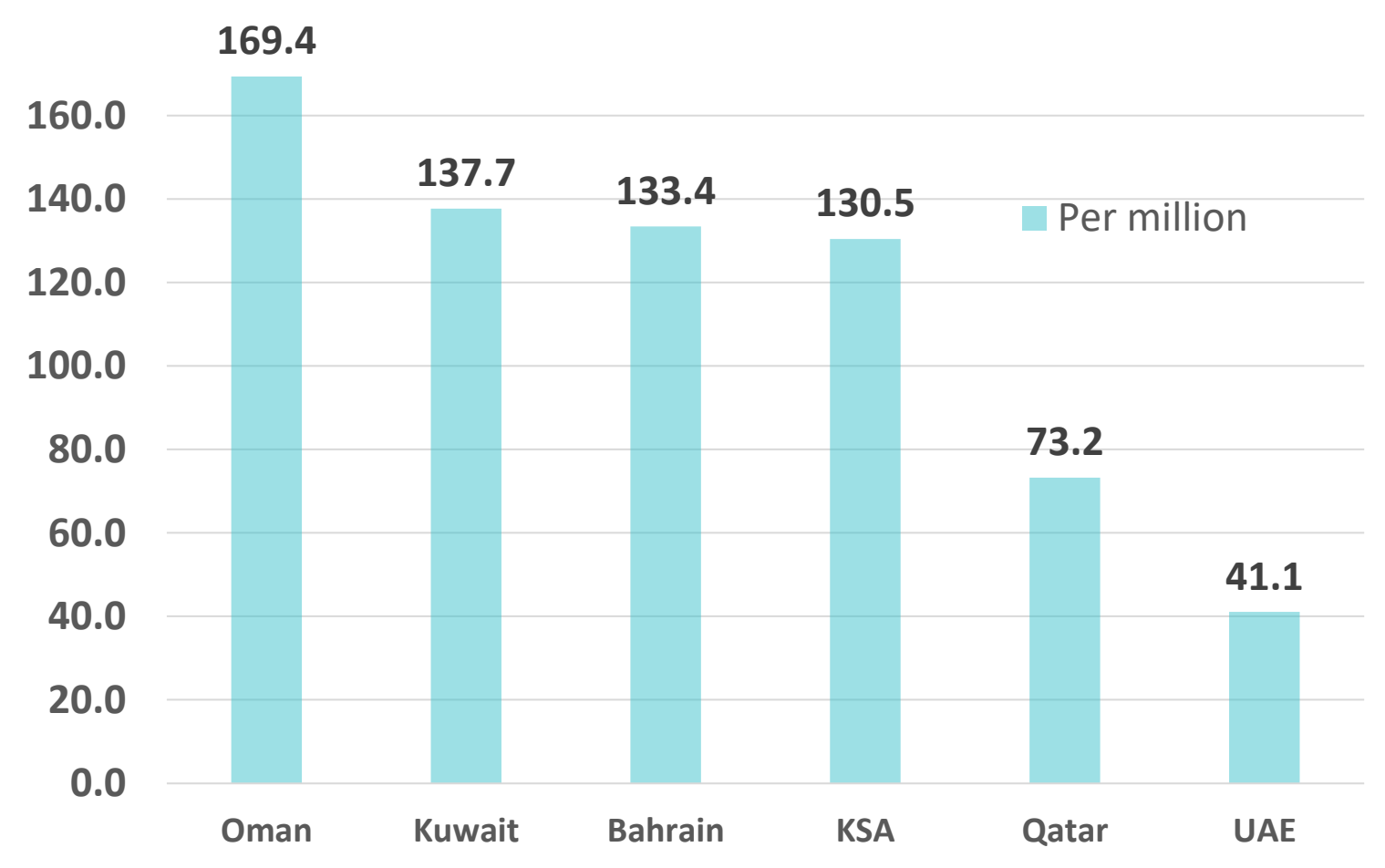
TOTAL NUMBER OF INFECTED CASES



TOTAL NUMBER OF INFECTED, RECOVERED AND DEATHS



DEATHS PER MILLION



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

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

UAE



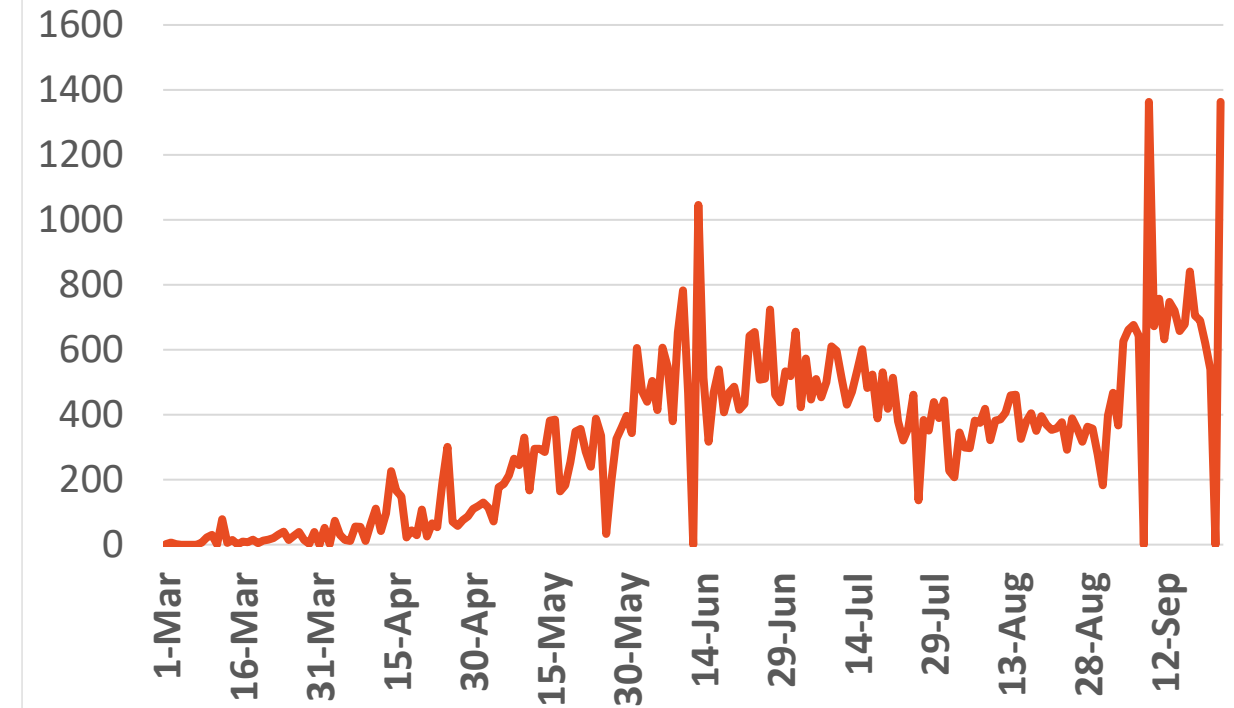
Source : National Emergency Crisis and Disaster Management Authority

KSA



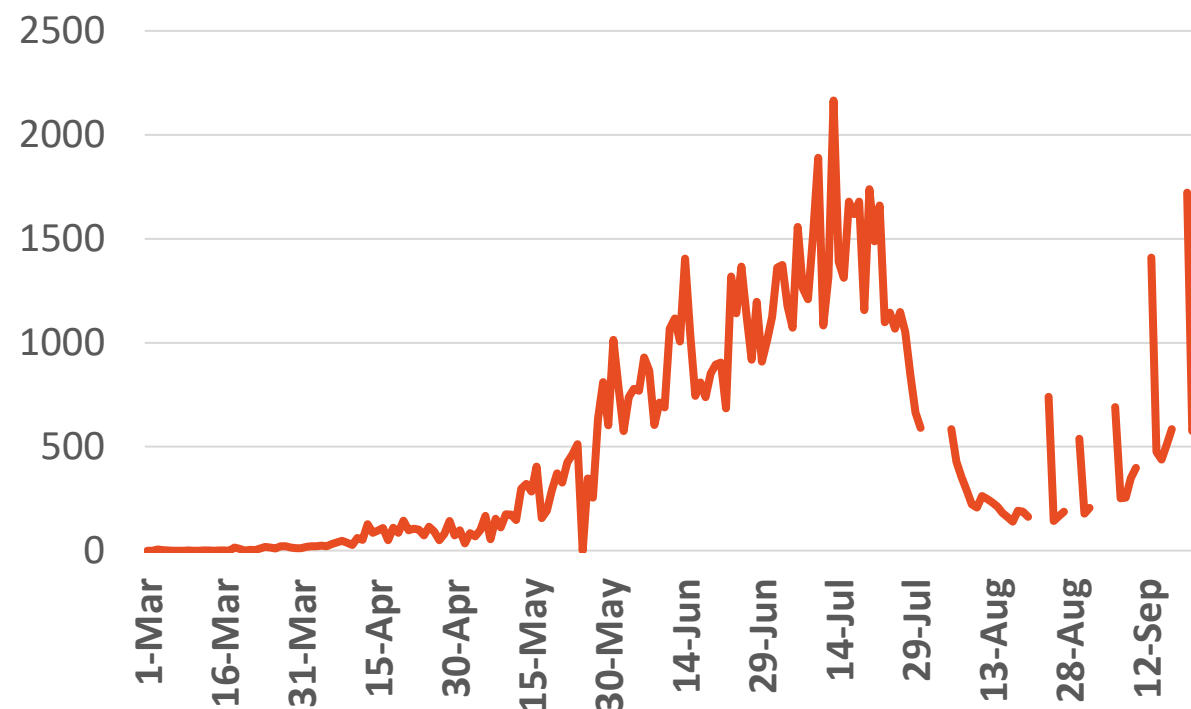
Source : KSA ministry of health

Bahrain



Source :WHO

Oman

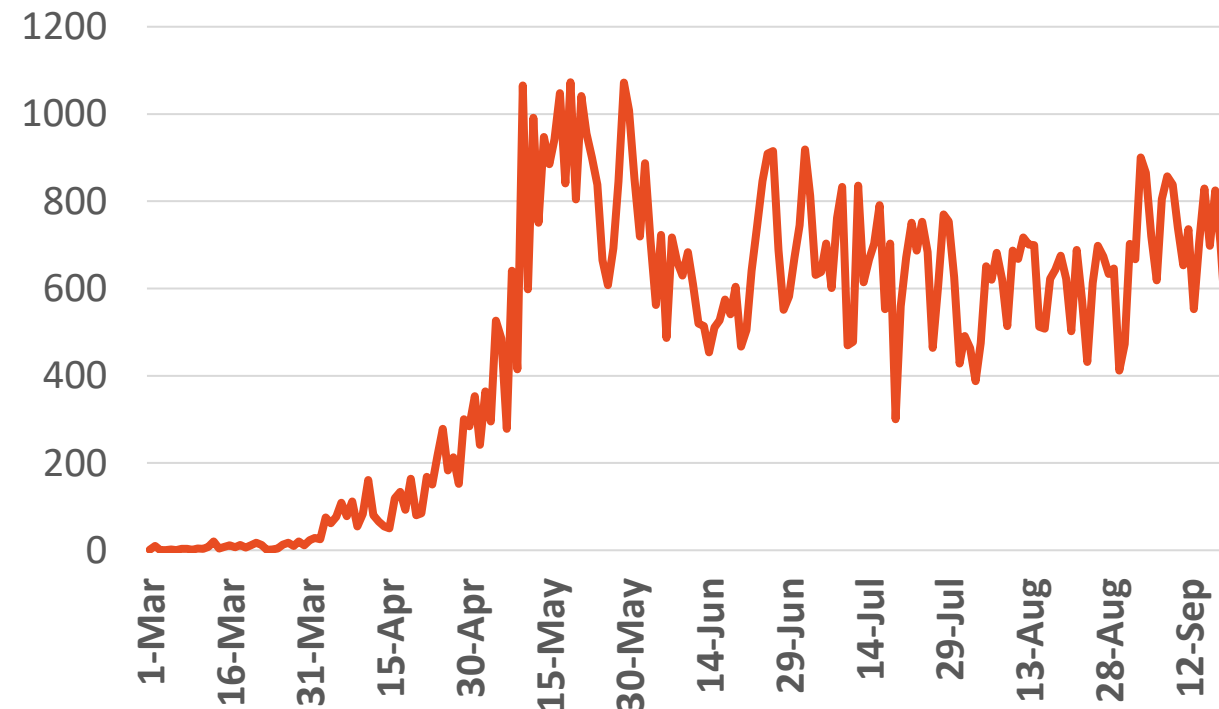


Source :Oman ministry of health

*No announced statistic data from 31 July to 4 August, 21,23,28,30 August, 2, 4, 5,11,12,18 & 19 September
*No announced statistic data on weekends and official holidays.

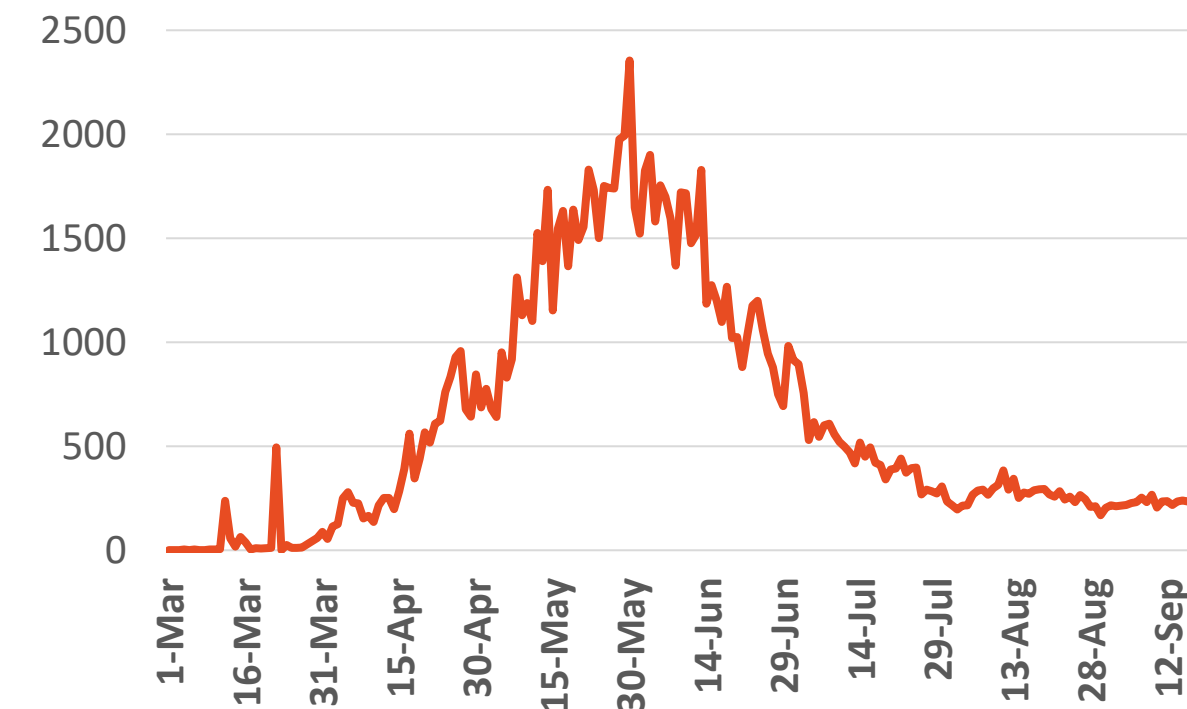
Kuwait

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Source : Kuwait ministry of health

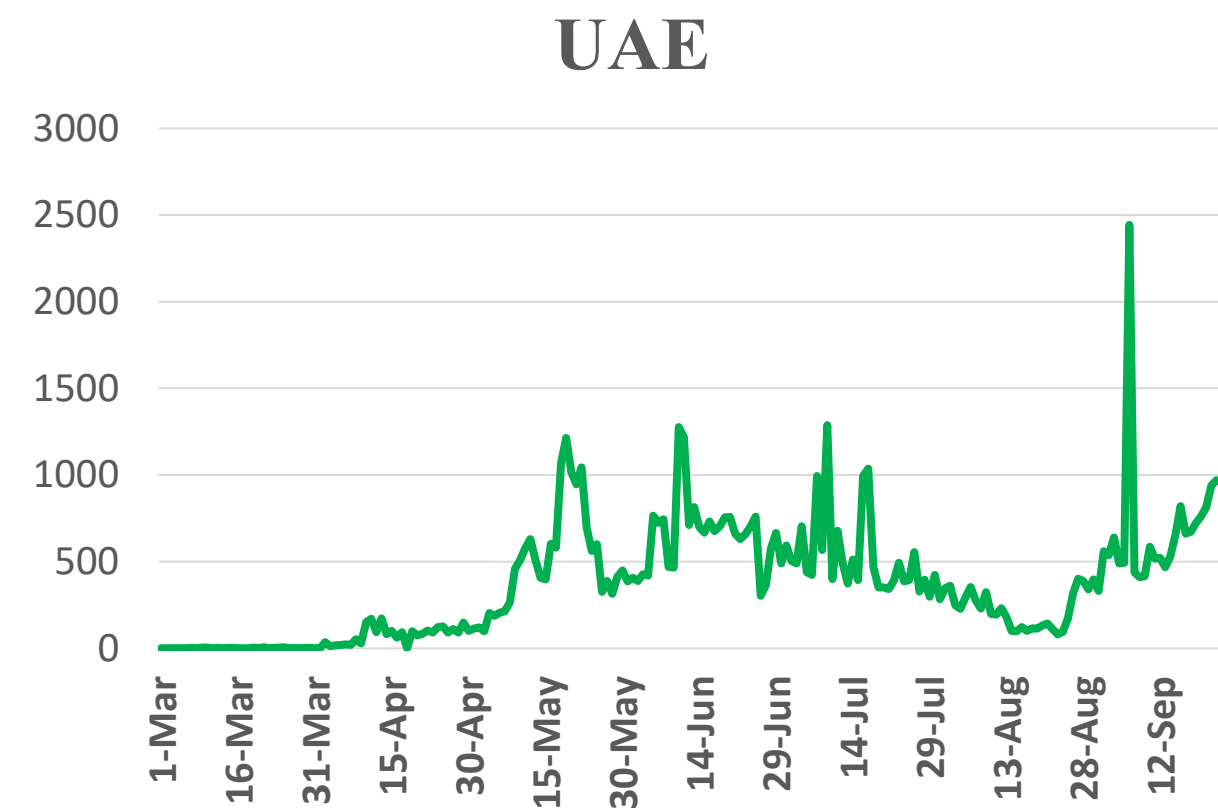
Qatar



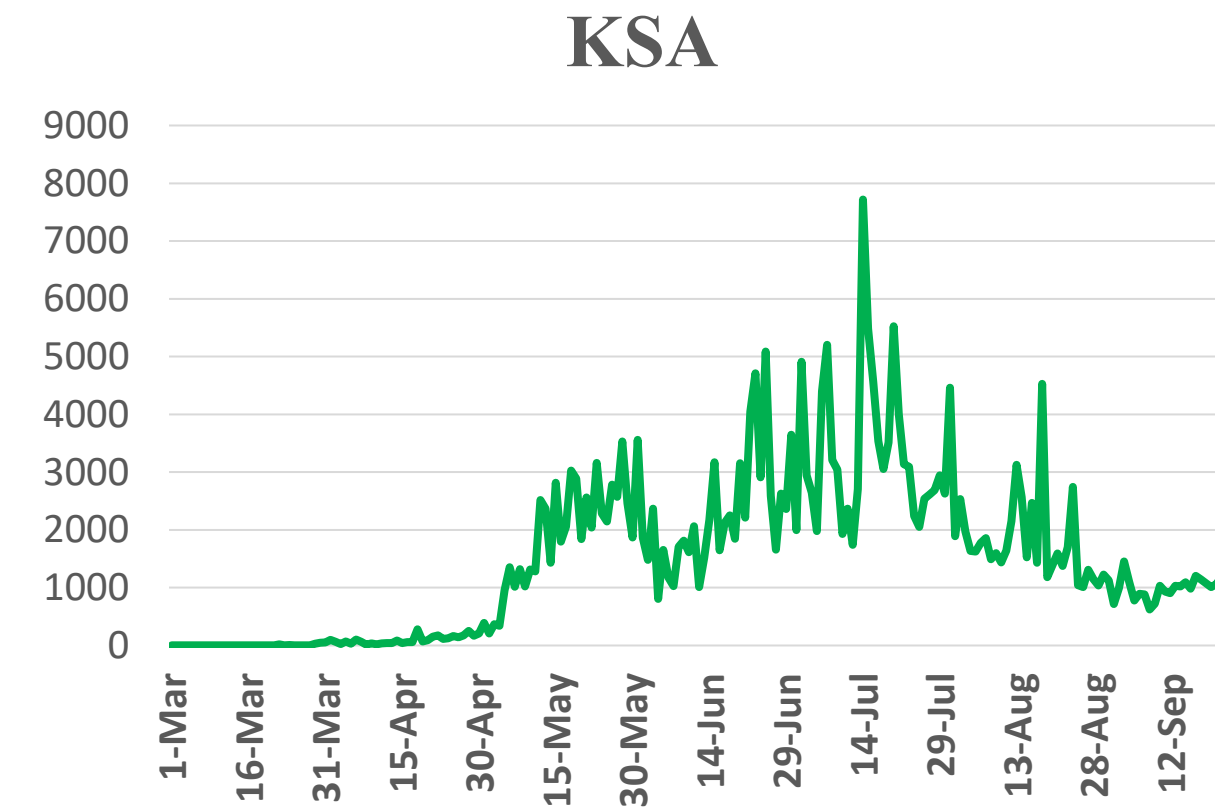
Source : Qatar ministry of health



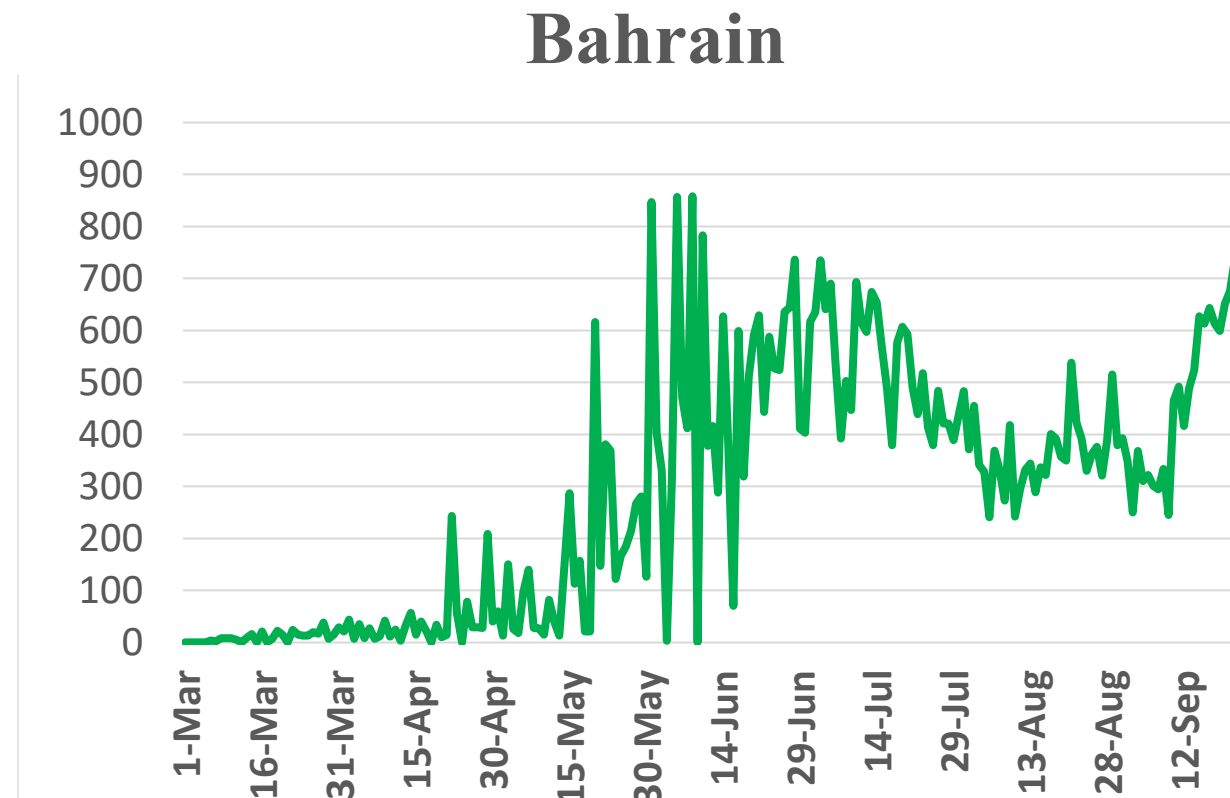
Figure 11: Comparative Analysis of the Distribution of COVID-19 Newly Recovered Cases in GCC Countries



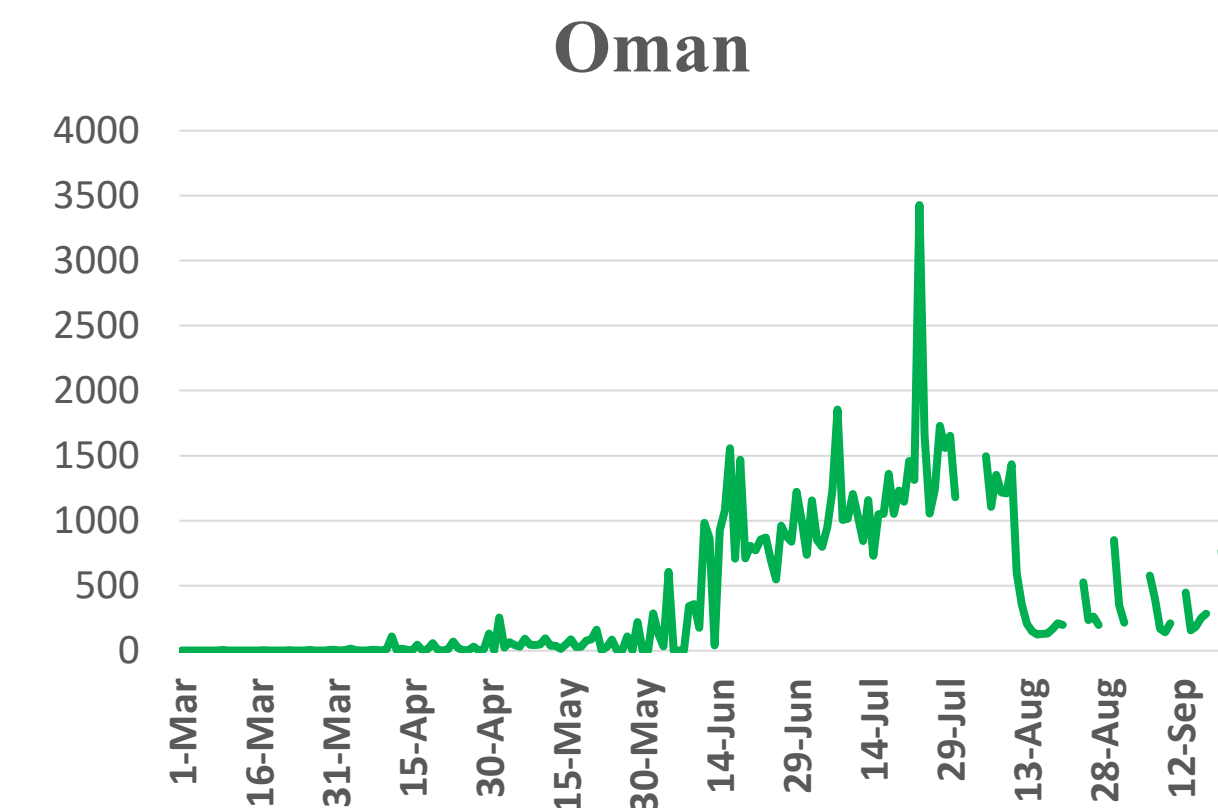
Source : National Emergency Crisis and Disaster Management Authority



Source : KSA ministry of health

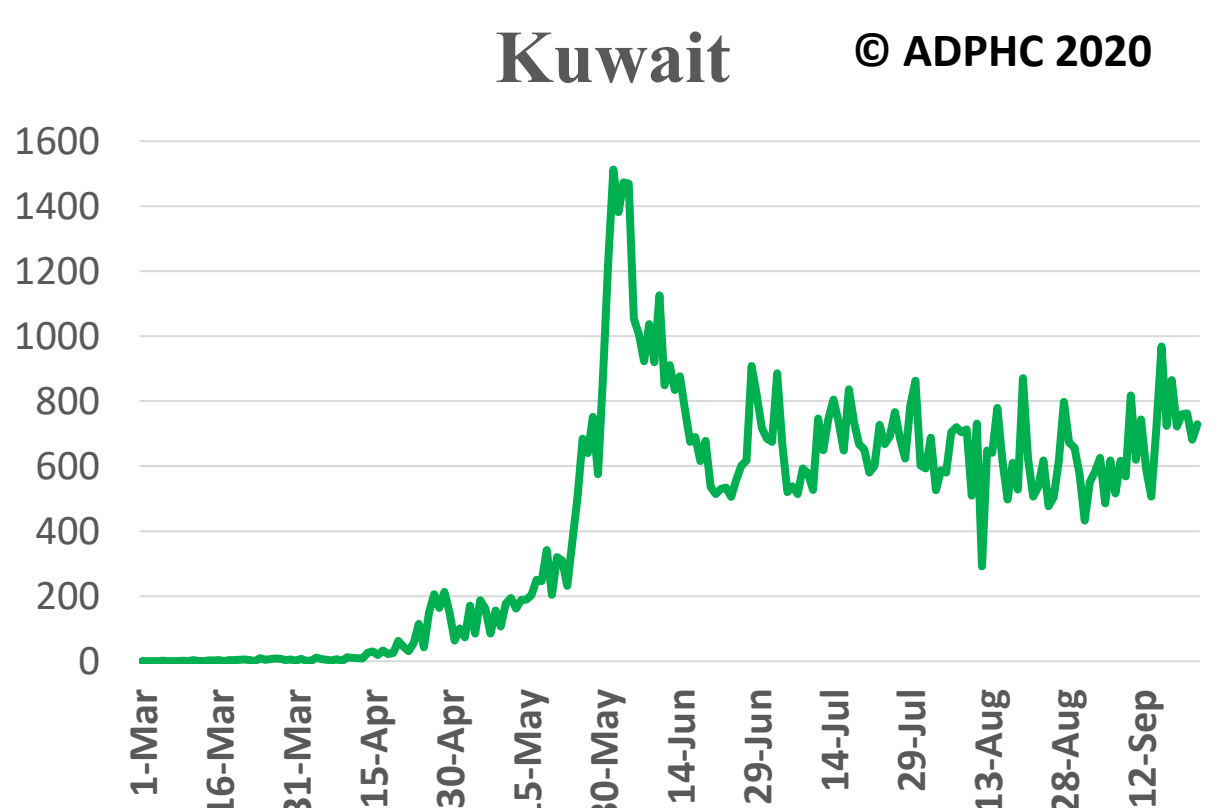


Source : Bahrain ministry of health



Source : Oman ministry of health

*No announced statistic data from 31 July to 4 August, 21,23,28,30 August, 2, 4, 5,11,12,18 & 19 September



Source : Kuwait ministry of health



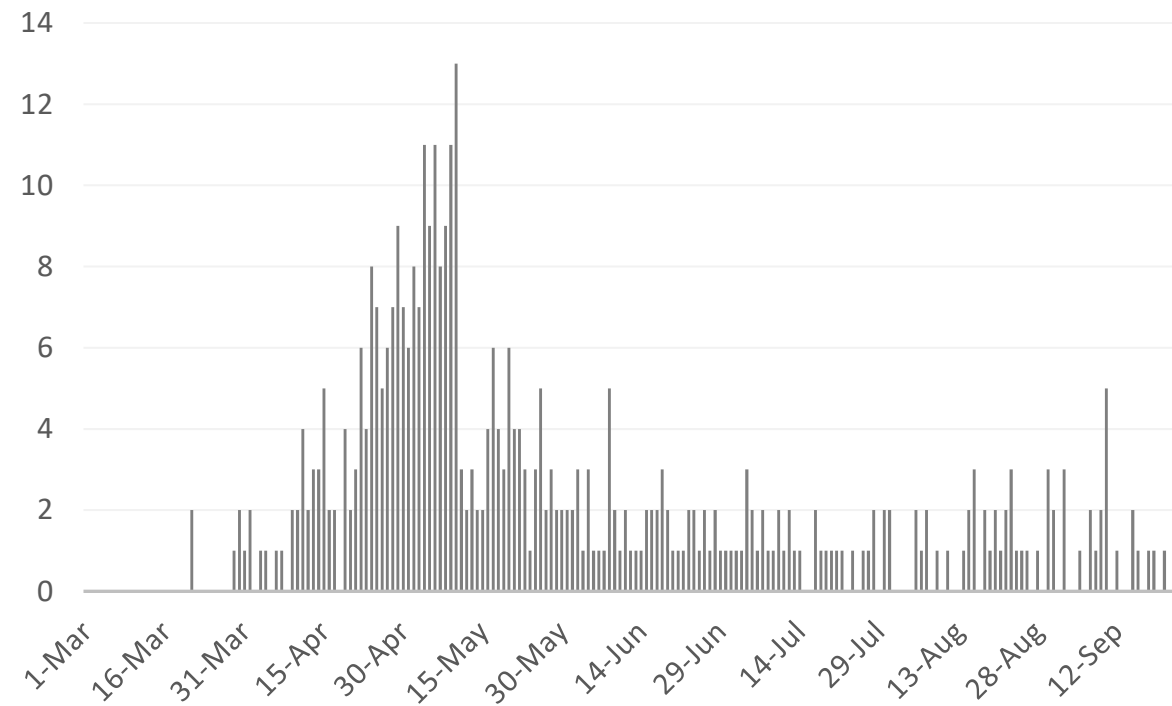
Source : Qatar ministry of health

*No announced statistic data on weekends and official holidays.



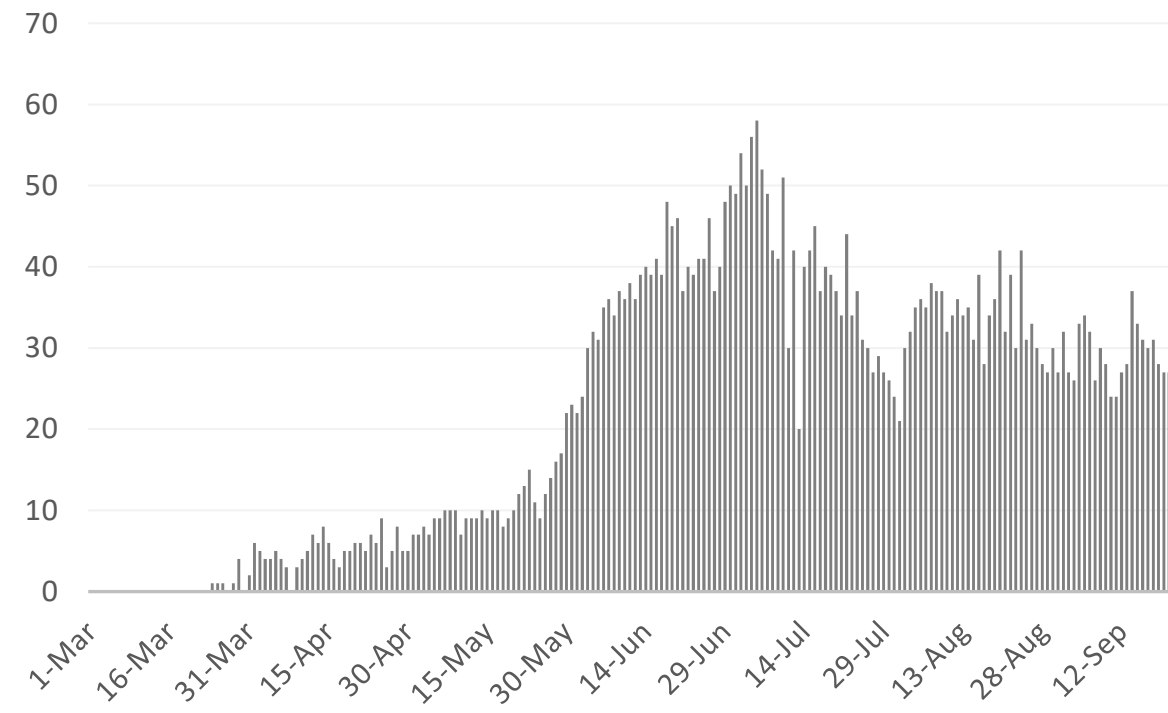
Figure 12: Comparative Analysis of the Distribution of COVID-19 New Death Cases in GCC Countries

UAE



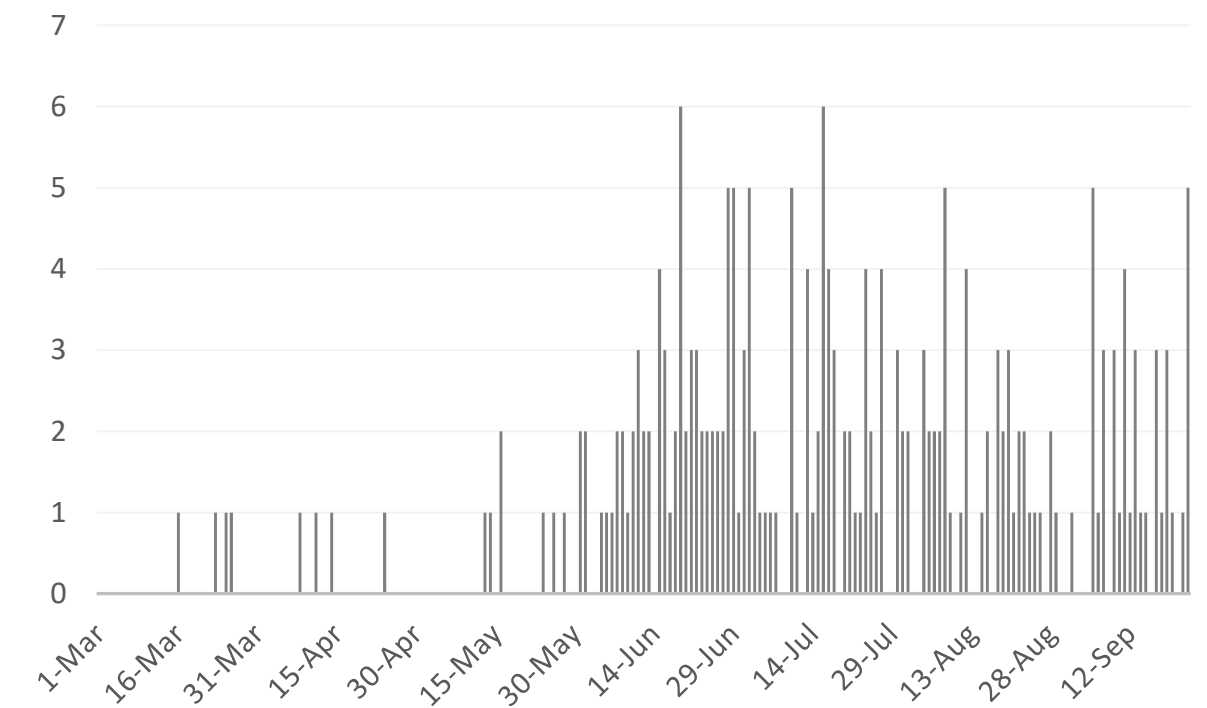
Source : National Emergency Crisis and Disaster Management Authority

KSA



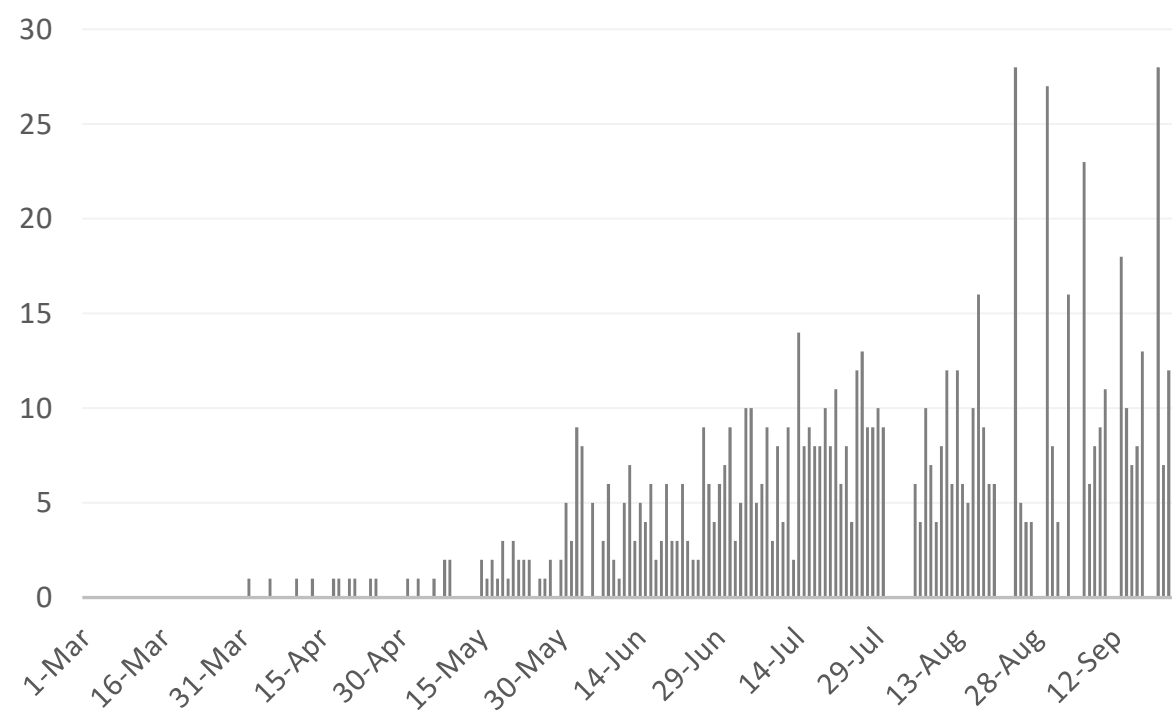
Source : KSA ministry of health

Bahrain



Source :WHO

Oman



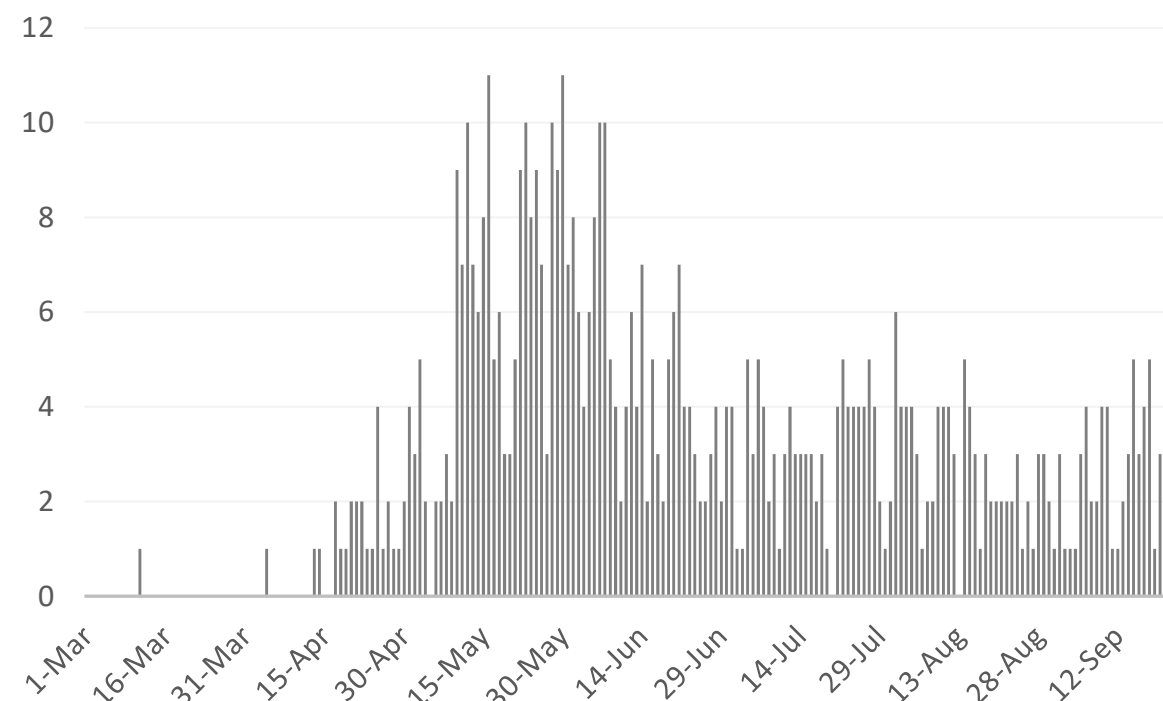
Source :Oman ministry of health

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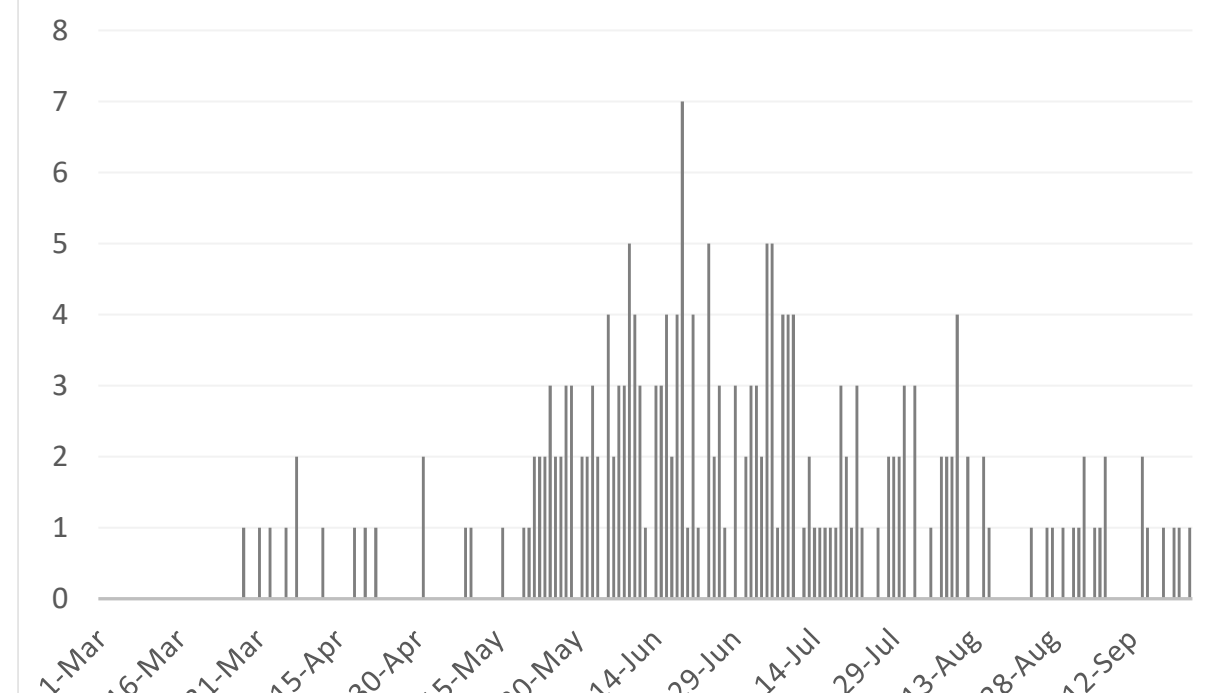
Kuwait

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Source : Kuwait ministry of health

Qatar



Source : Qatar ministry of health





Article 1

A Case of Probable Parkinson's Disease After SARS-CoV-2 Infection

Published

Sept 16, 2020 [NEJM](#)

This correspondence discusses the case of a post-COVID-19 patient diagnosed with Parkinson's disease.

- A 45 years old Ashkenazi-Jewish man was hospitalized for COVID-19 on March-17, with symptoms of hypertension and asthma. On March 20, he was isolated in a COVID-19 facility and discharged after two negative results on nasopharyngeal swabs.
- During the isolation period, the patient showed symptoms of Parkinson's disease, which led to his readmission.
- The examinations resulted in:
 - Anti-SARS-COV-2 IgG detection in serum, but not in cerebrospinal fluid (CSF), and a negative result on common neuronal antibodies (GABA type B receptors, NMDA receptors, etc.).
 - Decrease uptake on some brain markers related to Parkinson's disease.
- Mechanism hypothesis:
 - It was suspected that genetic makeup made the patient vulnerable to immunologically mediated neurological injury.
 - Anosmia (loss of smell) is a common feature between Parkinson's disease and SARS-COV-2.
 - The temporal association between the episode of SARS-CoV-2 infection and parkinsonian symptoms, which appeared during the acute infection, is intriguing.
 - The possibility of SARS-COV-2 entering CNS can not be excluded as there is smell sense involvement.



Article 2

Association of Daily Wear of Eyeglasses with Susceptibility to Coronavirus Disease 2019 Infection

Published

September 16, 2020 [JAMA](#)

This study examined the association between the daily wear of eyeglasses and chances of having Covid-19.

Background

- Normal people involuntarily touch their eyes about 10 times per hour.
- The eye is considered an important route of infection because Covid-19 has been proven to be transmitted mainly through droplets and contact.

Methodology

- This cohort study enrolled all inpatients with Covid-19 in Suizhou Zengdu Hospital, China, from January 27 to March 13, 2020.
- Patients were specifically asked about the reason they wore eyeglasses, the length of time that they wore eyeglasses during daily activities, and whether they wore contact lenses or had ever undergone refractive surgery.
- The proportion of people with myopia who wore eyeglasses in Hubei province was based on data from a previous study.
- People who wore glasses for more than 8 hours a day were defined as long-term wearers.

Results

- A total of 276 patients with Covid-19 were enrolled.
- All those who wore glasses for more than 8 hours a day had myopia and included 16 of 276 patients (5.8%).
- The proportion of people with myopia in Hubei province, based on a previous study, was 31.5%, which was much higher than the proportion of patients with Covid-19 who had myopia in this sample.

Public Health Message

- The daily wearers of eyeglasses (>8 hours/day) may have a low chance to be infected with Covid-19.
- Eyeglasses may prevent or discourage wearers from touching their eyes, thus avoiding transferring the virus from the hands to the eyes.
- Everyone must wash their hands frequently and avoid touching the eyes with the hands.





DIAGNOSIS

Article 3

Published

Assessing a Novel, Lab-Free, Point-of-Care Test for SARS-CoV-2 (CovidNudge): A Diagnostic Accuracy Study

September, 17, 2020 [THE LANCET](#)

- Since the publication of the first genome sequence of SARS-CoV-2 in January 2020, several in-house and commercial diagnostic kits have been deployed globally. Point-of-care diagnostics was determined to be the key priority to tackle COVID-19. There were approximately 90 point-of-care near-patient or mobile tests for viral detection of SARS-CoV-2. However, sample handling limits their wide. Laboratory RT-PCR testing is the current standard of care but usually requires a centralised laboratory and significant infrastructure.
- The authors of this research assessed a new rapid point-of-care real-time RT-PCR (CovidNudge test) which does not require laboratory handling or sample pre-processing. The investigators obtained two nasopharyngeal swab samples from individuals in three hospitals in London between April and May 2020
- The nasopharyngeal swabs were inserted directly into a cartridge which contains all reagents and components required for RT-PCR reactions, including multiple technical replicates of seven SARS-CoV-2 gene targets (rdrp1, rdrp2, e-gene, n-gene, n1, n2 and n3) and human ribonuclease P (RNaseP) as sample adequacy control. Swab samples were tested in parallel using the CovidNudge platform and with standard laboratory RT-PCR using swabs in viral transport medium for processing in a central laboratory.
- The authors reported that out of 386 paired samples, 67 tested positive on the CovidNudge point-of-care platform and 71 with standard laboratory RT-PCR. The overall sensitivity of the point-of-care test compared with the standard laboratory-based testing was 94% (95% CI 86–98) with an overall specificity of 100% (99–100).
- The authors concluded that the CovidNudge platform was a sensitive, specific, and rapid point of care test for the presence of SARS-CoV-2 without laboratory handling or sample pre-processing. Since May 2020, the system has been implemented in UK hospitals.





DIAGNOSIS

Continued

	Tested (n)	Laboratory testing		Point-of-care testing		Prevalence	Sensitivity (95% CI)	Specificity (95% CI)	Positive predictive value (95% CI)	Negative predictive value (95% CI)	Negative likelihood ratio (95% CI)
		Positive	Negative	Positive	Negative						
Total	386	71	315	67	319	0.18 (0.15–0.23)	94% (86–98)	100% (99–100)	1.00 (0.94–1.00)	0.99 (0.97–1.00)	0.06 (0.02–0.15)
Sample context											
Symptomatic staff testing	280	61	209	57	213	0.23 (0.18–0.28)	93% (84–98)	100% (98–100)	1.00 (0.94–1.00)	0.98 (0.95–0.99)	0.07 (0.03–0.17)
Emergency department	15	5	10	5	10	0.33 (0.12–0.62)	100% (48–100)	100% (69–100)	1.00 (0.48–1.00)	1.00 (0.69–1.00)	0.00 (NC)
All hospital admissions	91	3	88	3	88	0.03 (0.01–0.09)	100% (29–100)	100% (96–100)	1.00 (0.29–1.00)	1.00 (0.96–1.00)	0.00 (NC)
Sample period											
April, 2020	272	68	204	64	208	0.25 (0.20–0.31)	94% (86–98)	100% (98–100)	1.00 (0.94–1.00)	0.98 (0.95–0.99)	0.06 (0.02–0.16)
May, 2020	114	3	111	3	111	0.03 (0.01–0.07)	100% (29–100)	100% (97–100)	1.00 (0.29–1.00)	1.00 (0.97–1.00)	0.00 (NC)

Data are for paired samples collected contemporaneously. 24 samples that were invalid on the point of care test and eight that were invalid on the NHS laboratory test were not included. Results are presented according to location of testing, context of testing, laboratory platform, and period of testing. All samples were collected via nasopharyngeal swabs. SARS-CoV-2=severe acute respiratory syndrome coronavirus 2. NC=not calculable.

Table: Clinical assessment of point of care testing for SARS-CoV-2 compared with laboratory RT-PCR



THANK YOU

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