مركز أبوظبي
للصحة العامة
ABU DHABI PUBLIC
HEALTH CENTRE

SCIENTIFIC RESEARCH MONITORING ON COVID-19

15 AUGUST 2020

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SCIENTIFIC RESEARCH MONITORING ON COVID-19 (ISSUE 195)

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ABU DHABI PUBLIC HEALTH CENTRE

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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Update

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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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Public Health Response

Comparison of Face-Touching Behaviors Before and During the Coronavirus Disease 2019 Pandemic

Public Health Response

Reopening Colleges During the Coronavirus Disease 2019 (COVID-19) Pandemic—One Size Does Not Fit All

Public Health Response

Case Rates, Treatment Approaches, and Outcomes in Acute Myocardial Infarction During the Coronavirus Disease 2019 Pandemic

- As previously indicated (Situation Report 203), starting this coming 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 epidemiological situation. All quantitative data will continue to be updated daily on the global COVID-19 dashboard, covid19.who.int. Important narrative updates will appear on the “Rolling updates” pages. Operational updates will continue to be shared through the “Weekly Operational Update on COVID-19”.

- In many countries, the response to the COVID-19 pandemic has incorporated lessons from other disease approaches, such as the work to protect communities against Ebola virus disease. In Nigeria’s Niger Delta, health workers have unified their surveillance strategy to improve the detection and reporting of infectious diseases such as measles, yellow fever, and COVID-19.

- On 13 August 2020, WHO updated guidance for the provision of care for patients with COVID-19 in a home setting. This replaces the previous version of the guidance published 17 March 2020. The full technical guidance is available here.

- Information for health workers and the general public about home care can be found here:

- Q&A: Home care and COVID-19 for health workers and administrators

- Q&A: Home care and COVID 19 for families and caregivers

- Information for the general public about home care for COVID-19 patients can be found here.

EPIDEMIOLOGY

FROM 21 JAN TO 14 AUG 2020

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

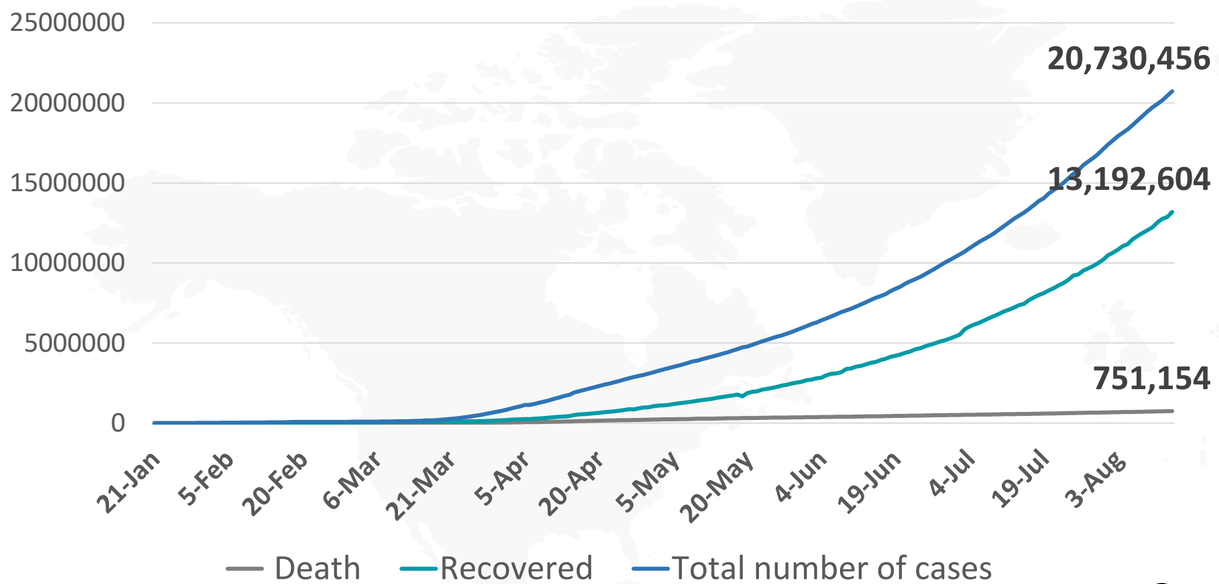


Figure 3: Total Number of Death Due to COVID-19 (china and result of the world)

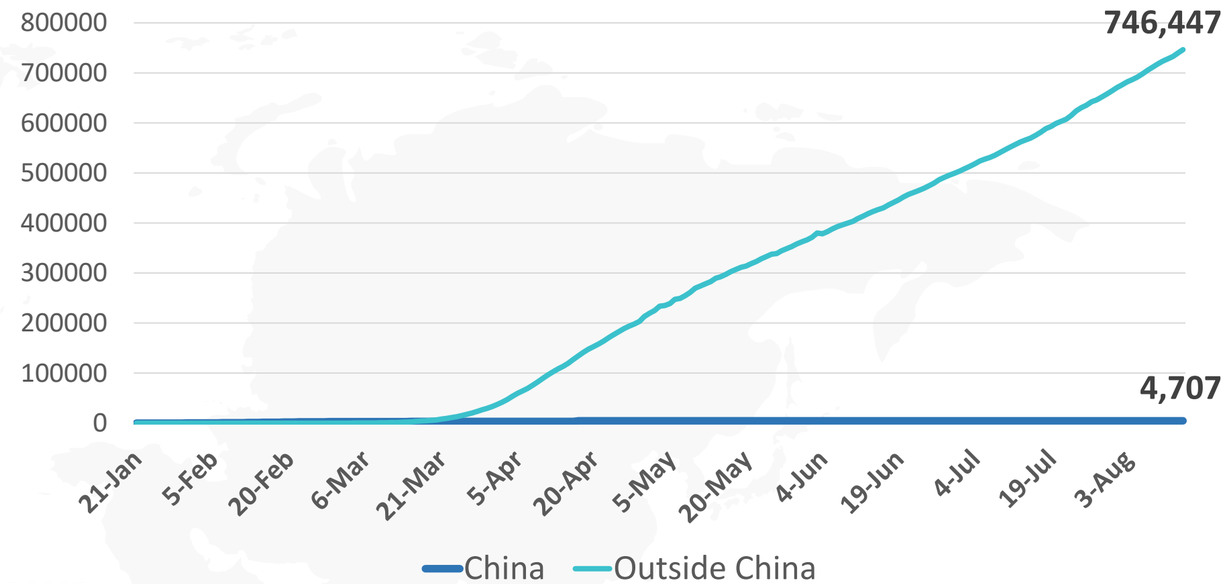


Figure 2: Daily New Infected COVID-19 Cases (China and rest of the world)

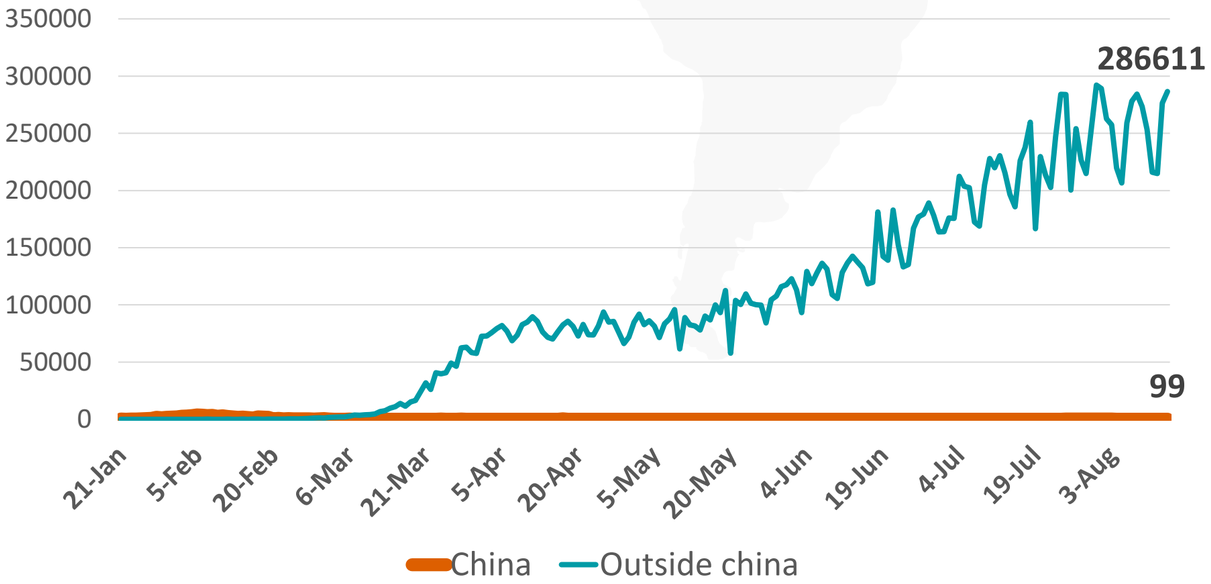
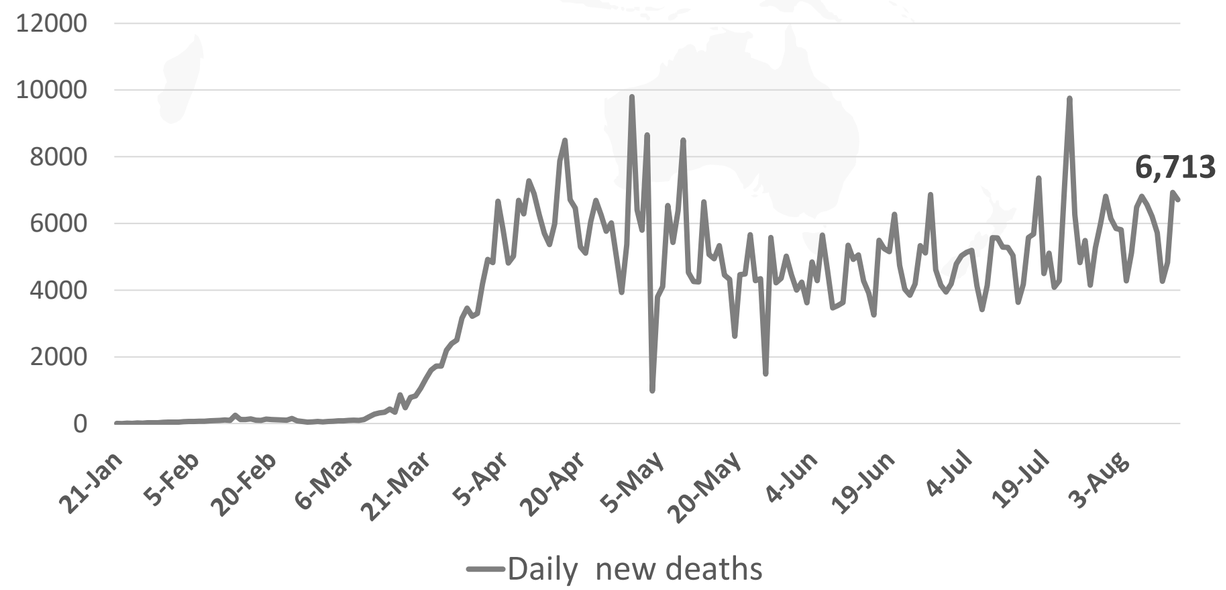


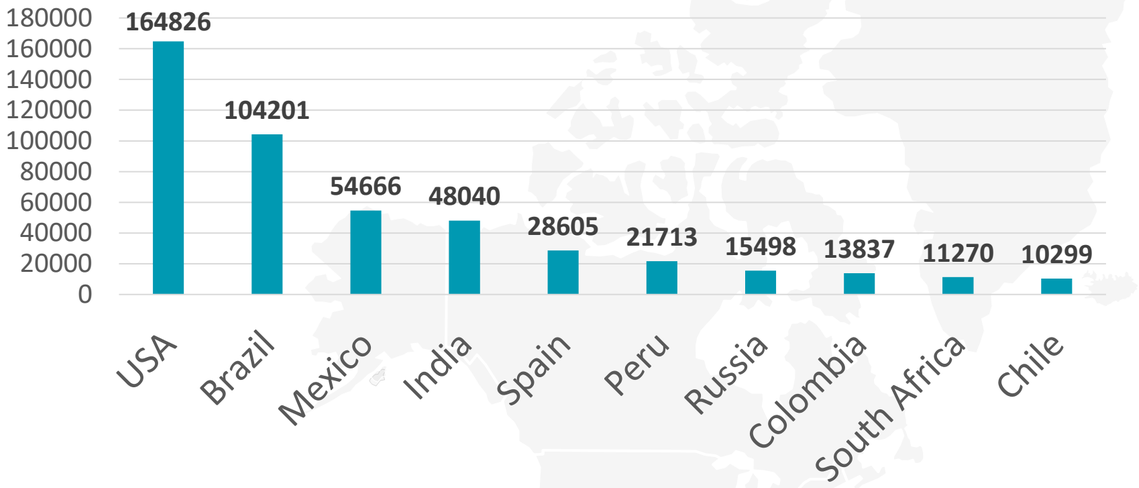
Figure 4: Global Daily New Deaths Due to COVID-19 (china and rest of the world)



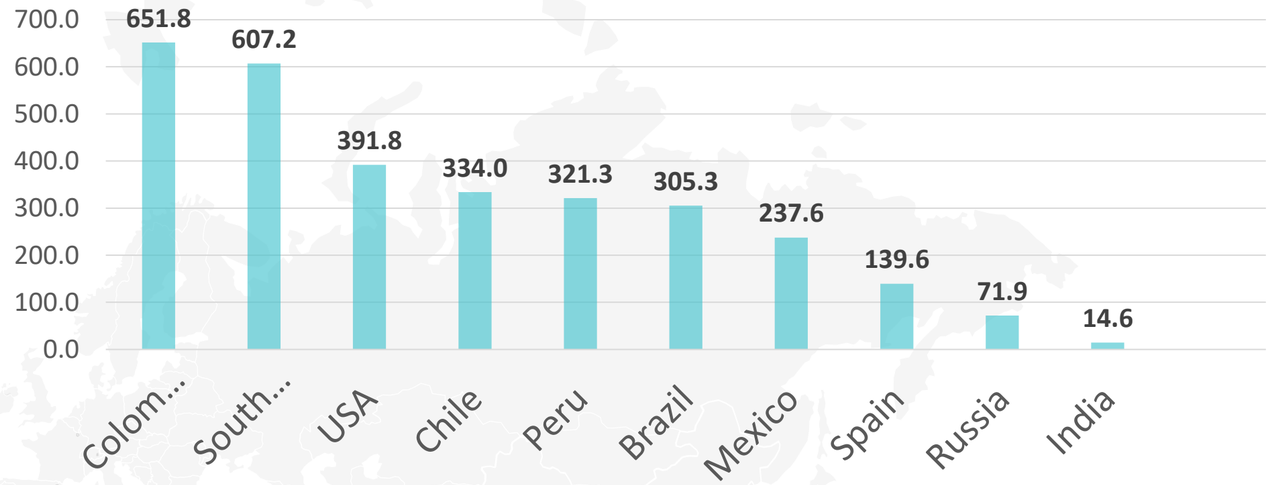
Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: WHO

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

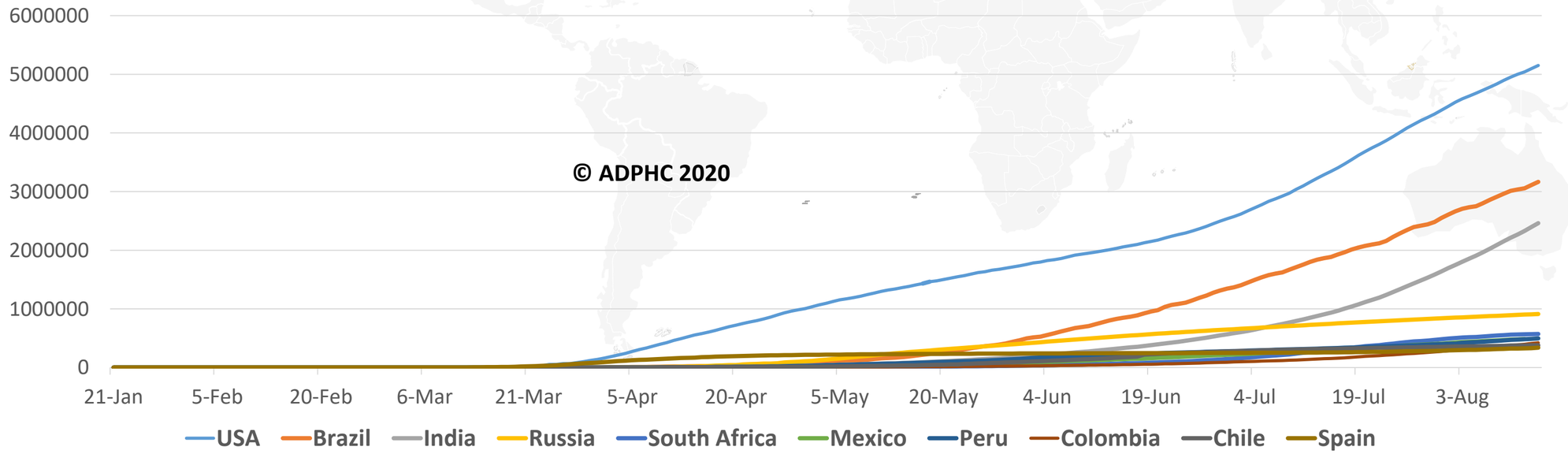
TOTAL DEATHS



DEATHS PER MILLION



TOTAL INFECTED CASES



USA	5150407
Brazil	3164785
India	2461190
Russia	912823
South Africa	572865
Mexico	498555
Peru	498380
Colombia	422519
Chile	380034
Spain	337334

Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: WHO

EPIDEMIOLOGY

FROM 21 JAN TO 14 AUG 2020

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

Daily Tests

67,476.7 Average Tests

682.2 per 100k population

0.4% Positive Rate

Daily Cases

251.1 Average Cases

2.5 per 100k population

Daily Recovered

208.3 Average Recovered

2.1 per 100k population

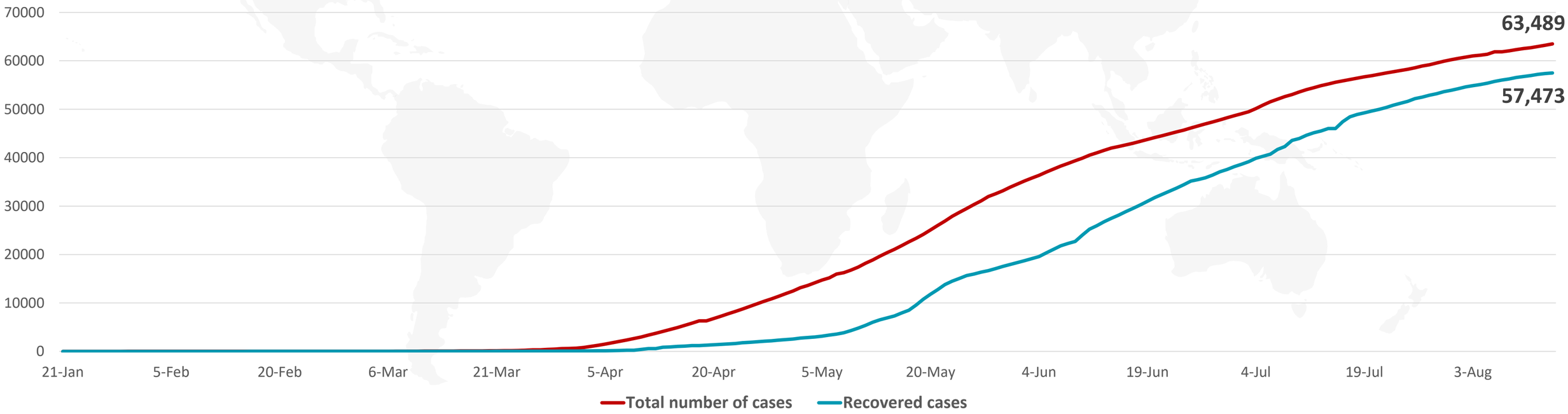
Daily Deaths

0.4 Average Deaths

0.0 per 100k population

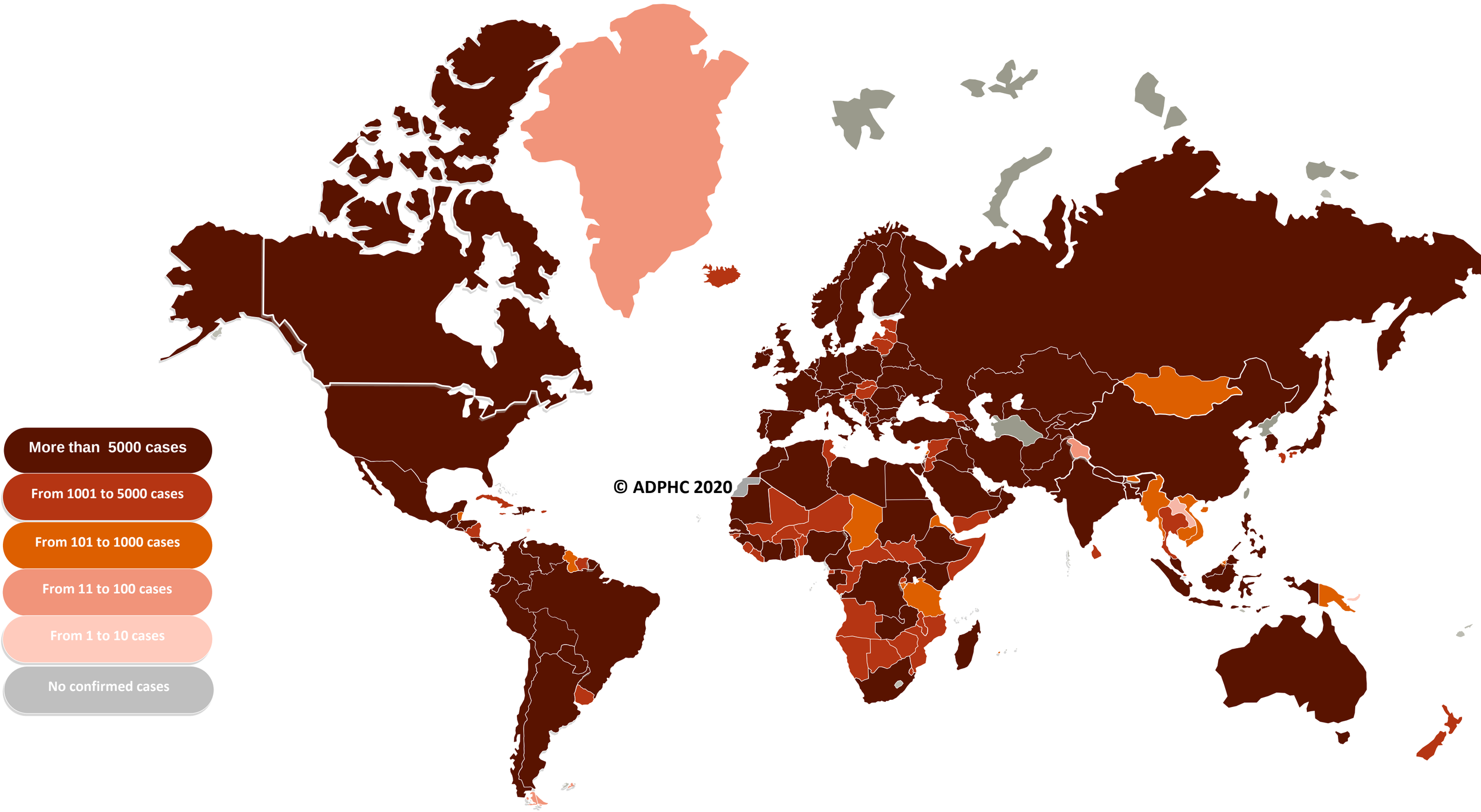
0.2% Case Fatality Rate

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



Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: FCSA, WHO,

Figure 7A : Global Distribution of COVID-19 Cases



Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: WHO

EPIDEMIOLOGY

Date: 14 AUG 2020

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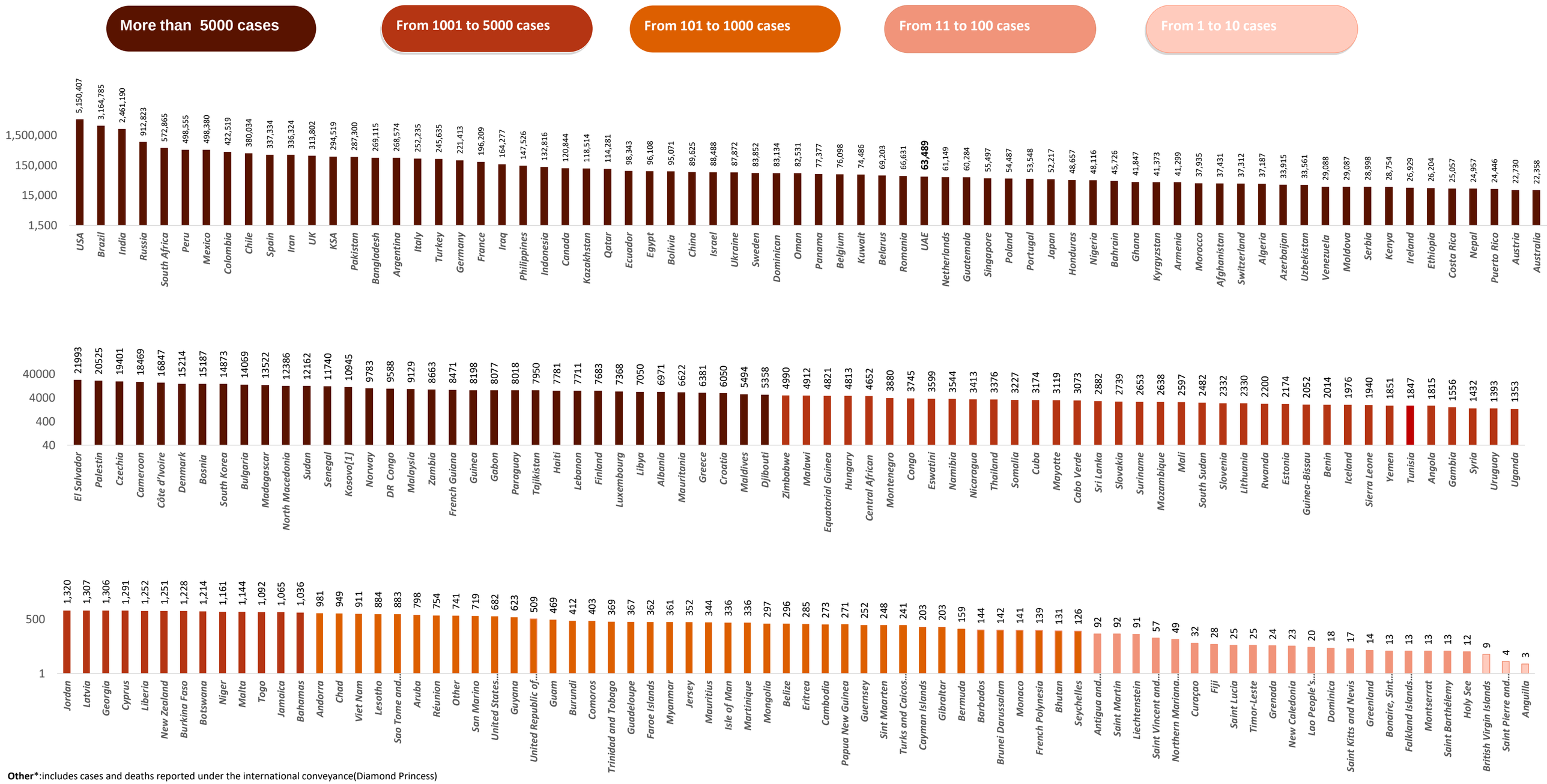
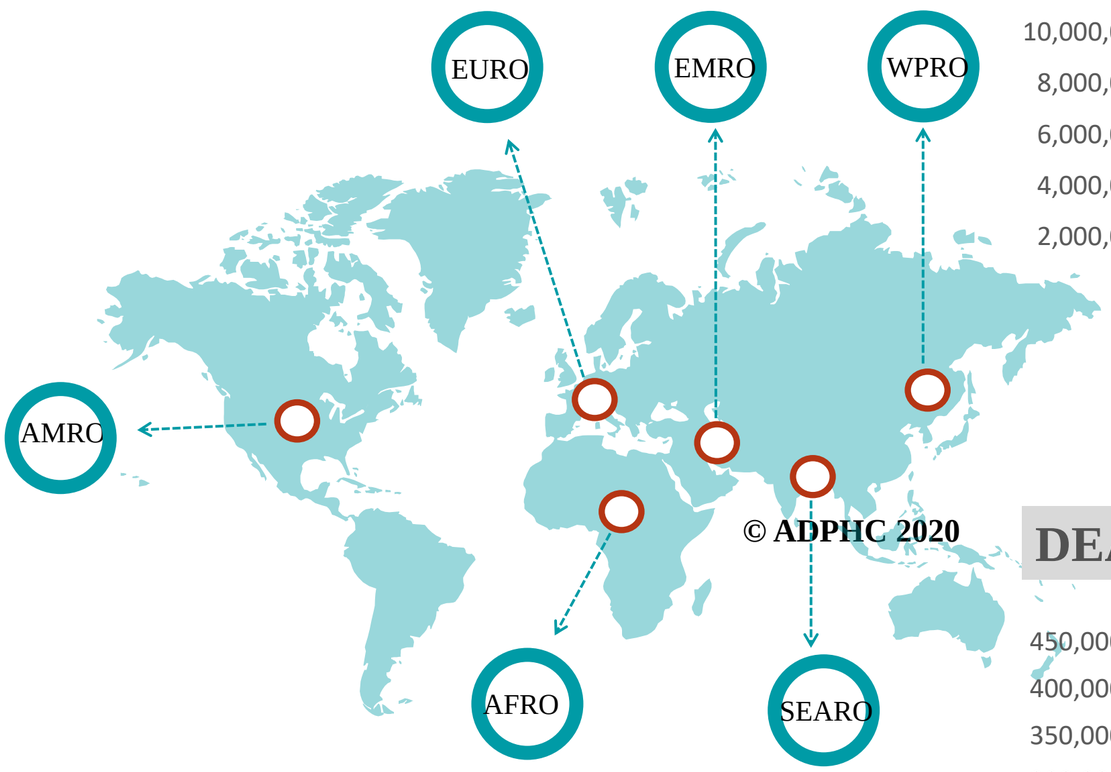
Figure 7B: Bar Chart Illustrates the Global Distribution of COVID19 Cases



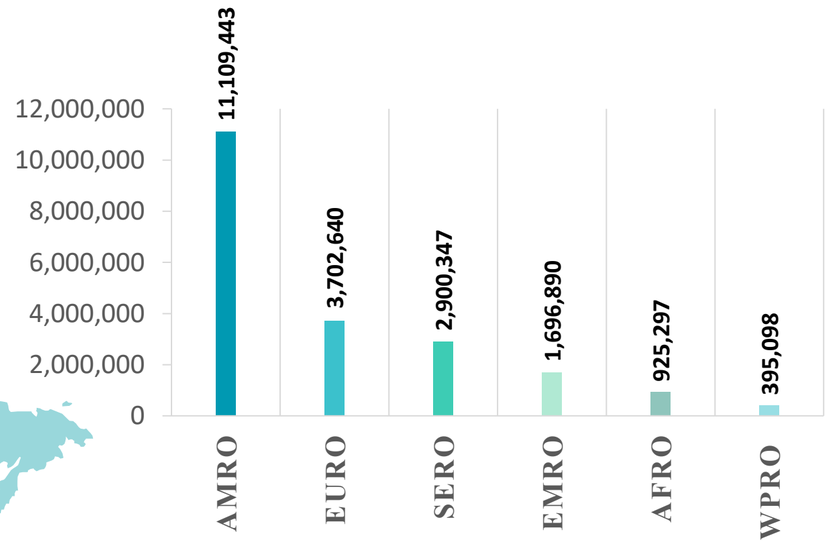
Other*:includes cases and deaths reported under the international conveyance(Diamond Princess)

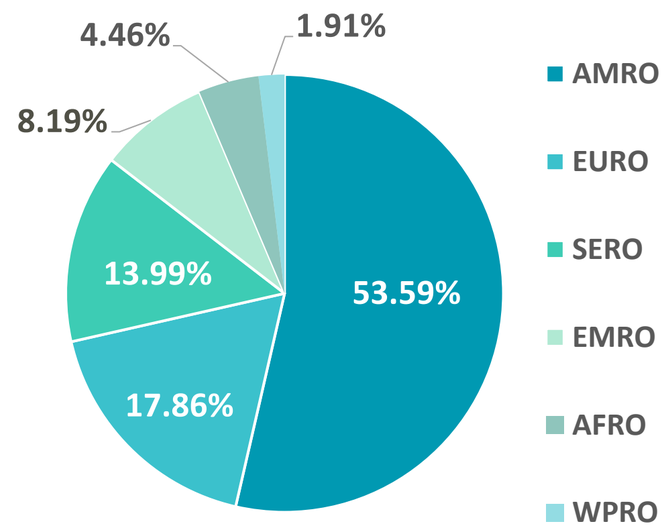
Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: WHO

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

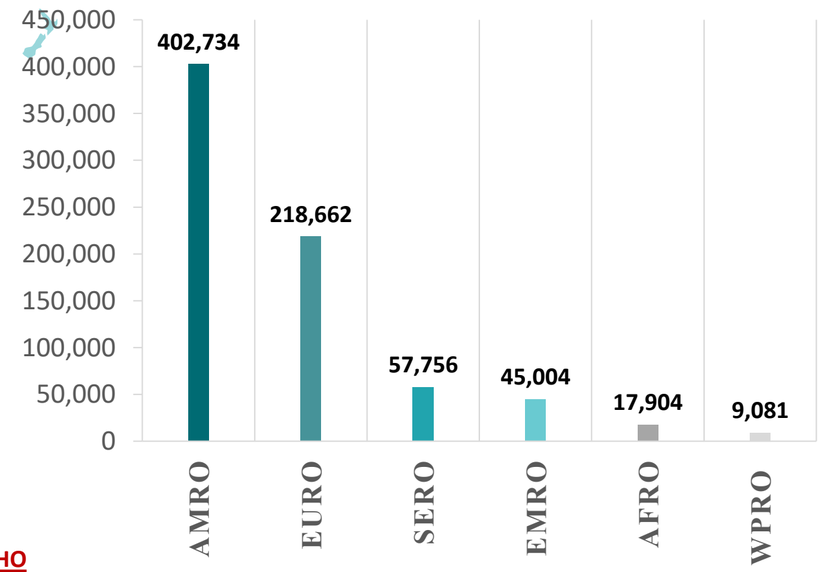


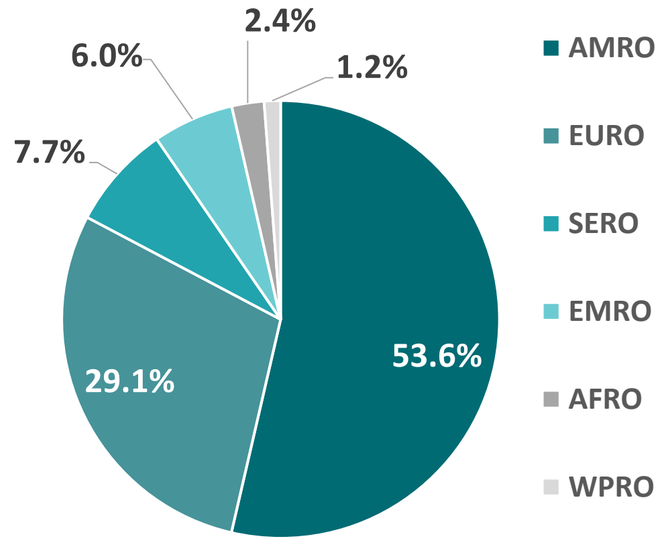
INFECTED





DEATHS

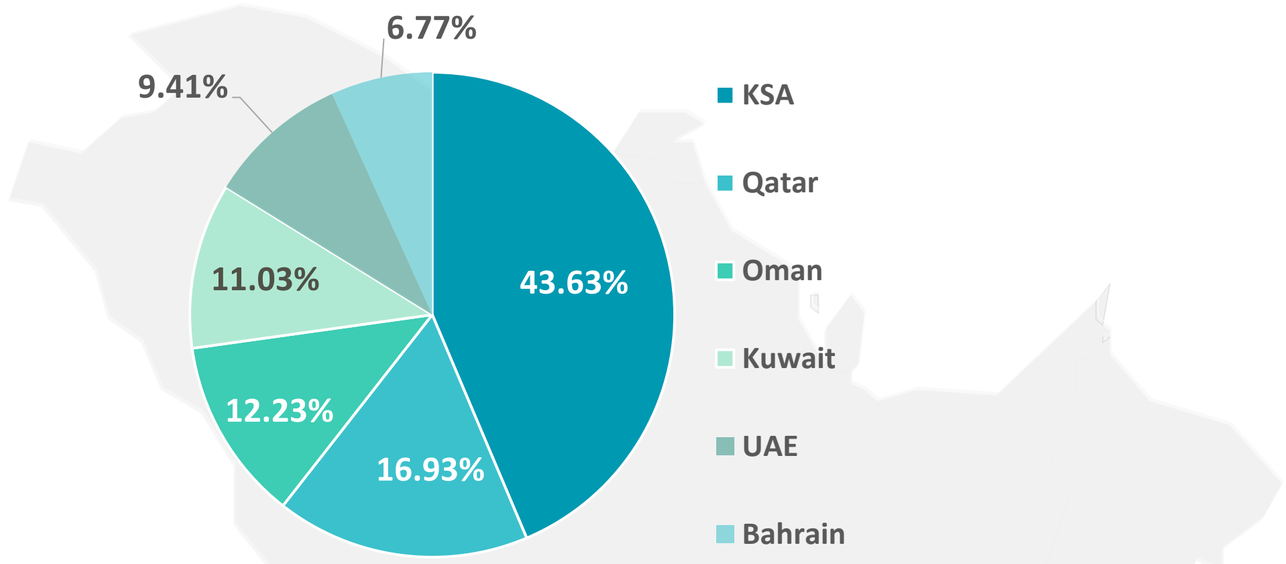


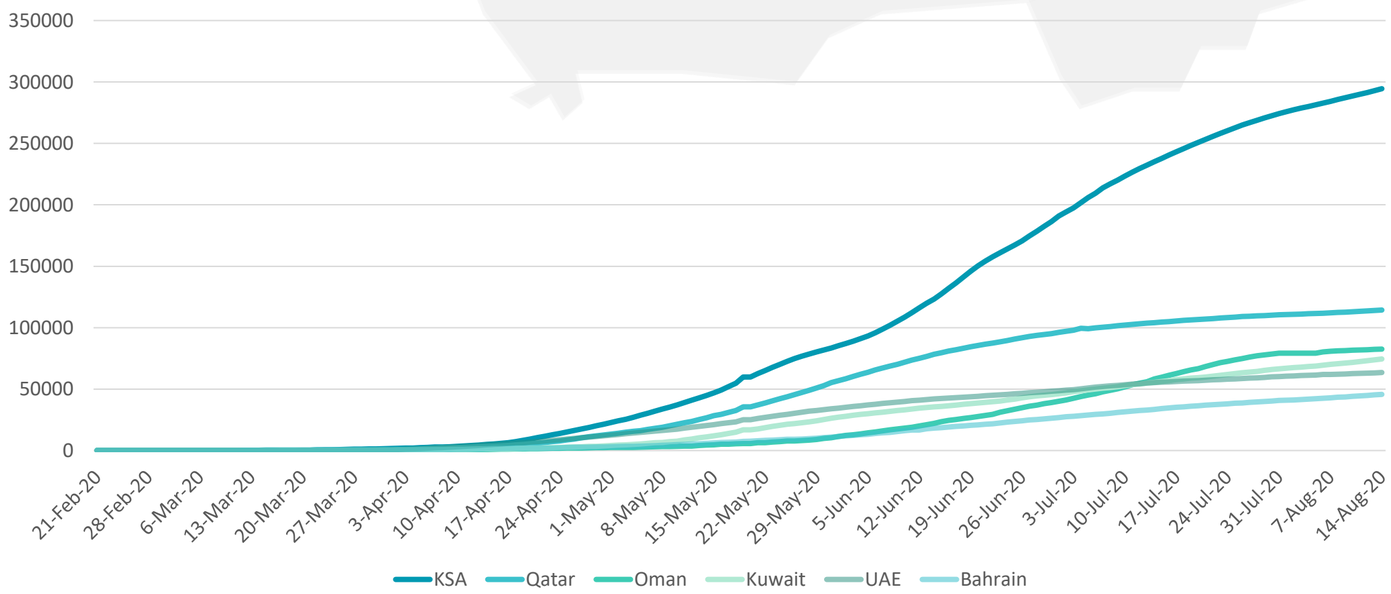


Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: WHO

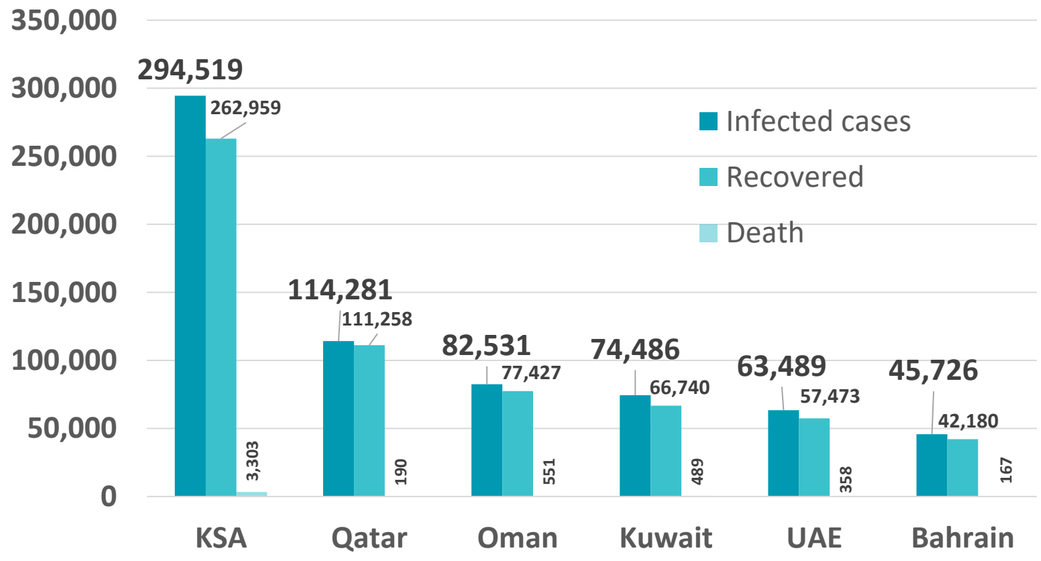
Figure 9: Comparative Analysis of the Distribution of COVID-19 Cases in GCC Countries

TOTAL NUMBER OF INFECTED CASES

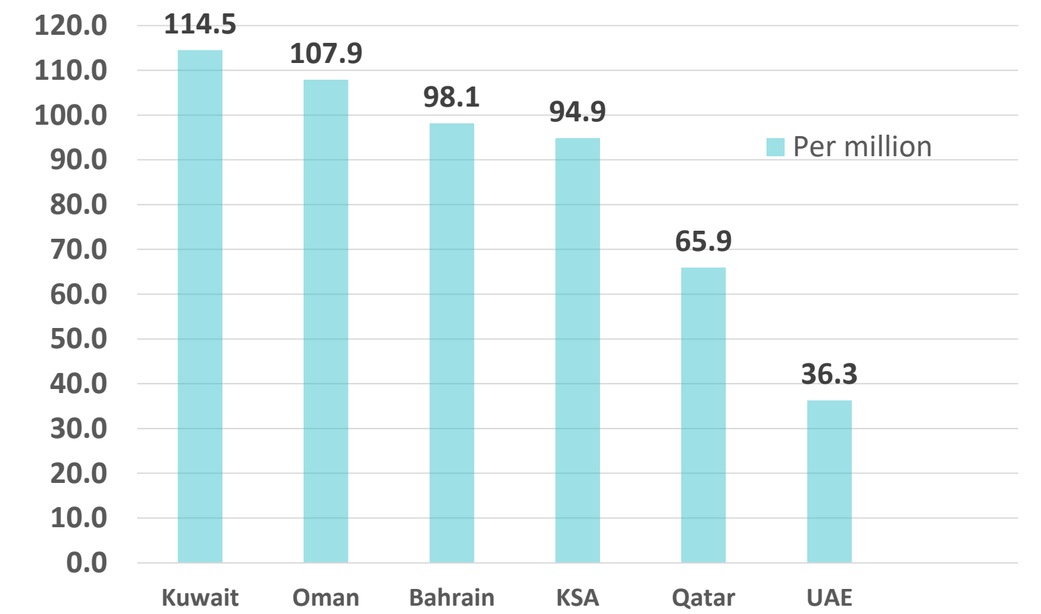




TOTAL NUMBER OF INFECTED, RECOVERED AND DEATHS



DEATHS PER MILLION



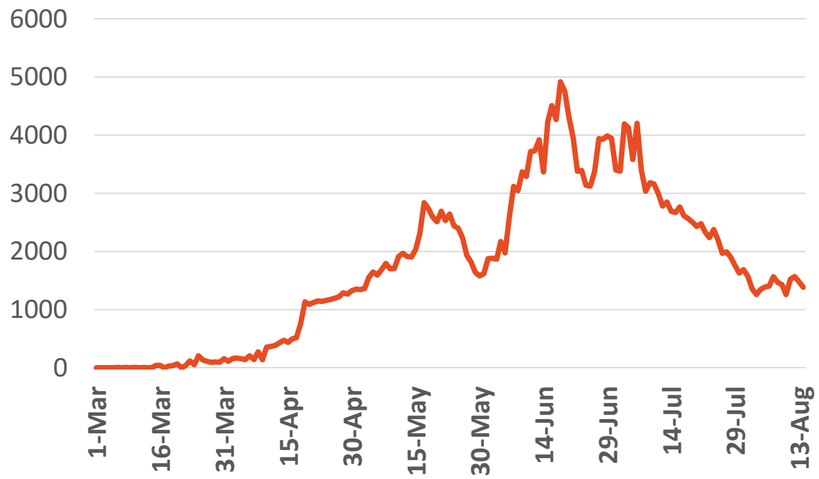
Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: WHO

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

UAE

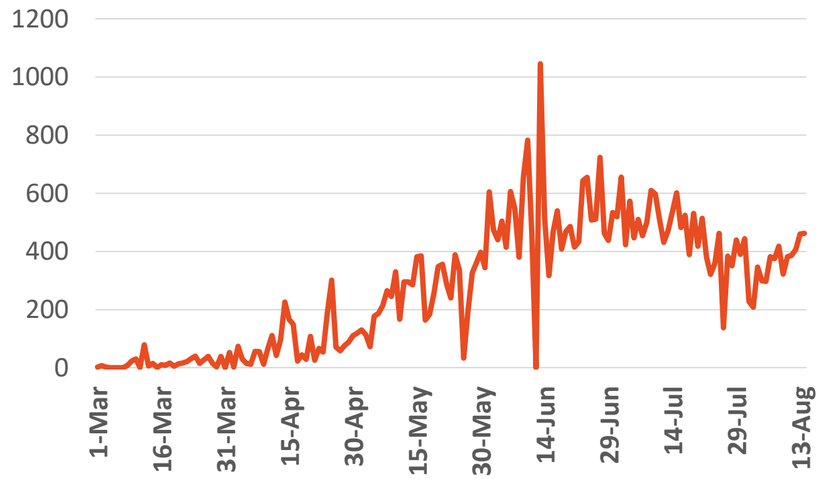
Source : National Emergency Crisis and Disaster Management Authority

KSA



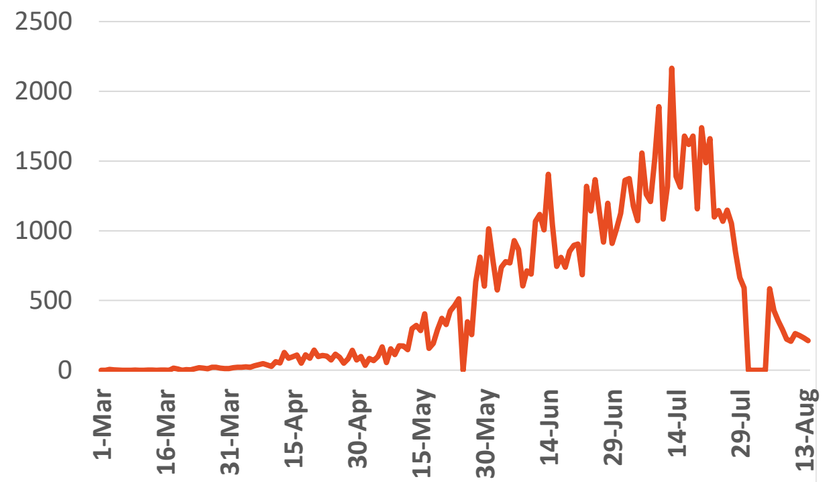
Source : KSA ministry of health

Bahrain



Source :WHO

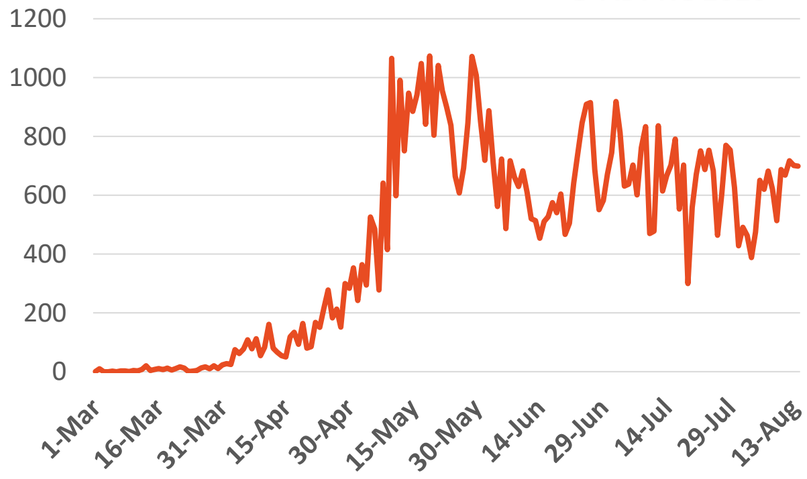
Oman



Source :Oman ministry of health

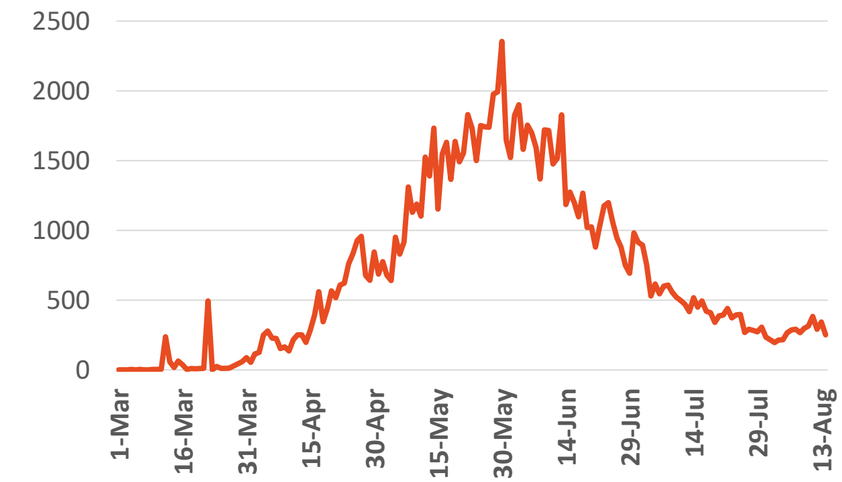
No announced statistic data from 31 July to 4 August

Kuwait



Source : Kuwait ministry of health

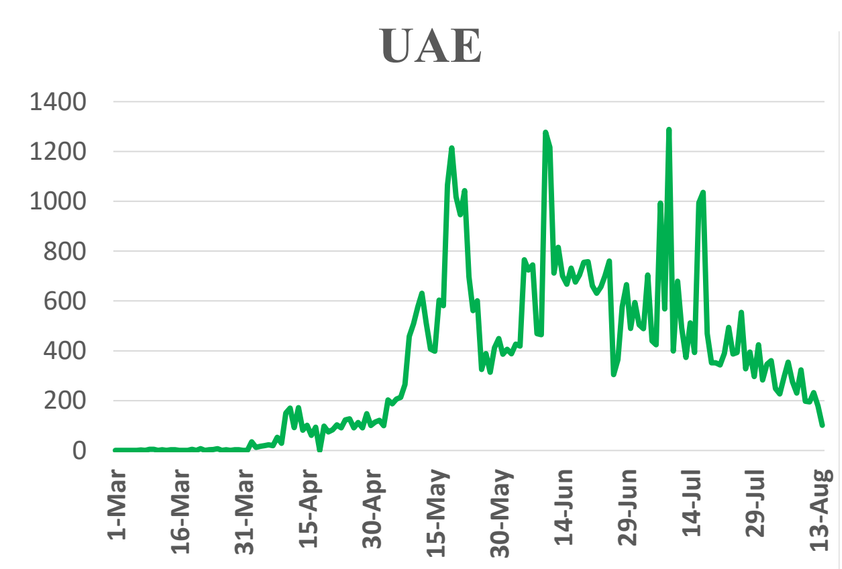
Qatar



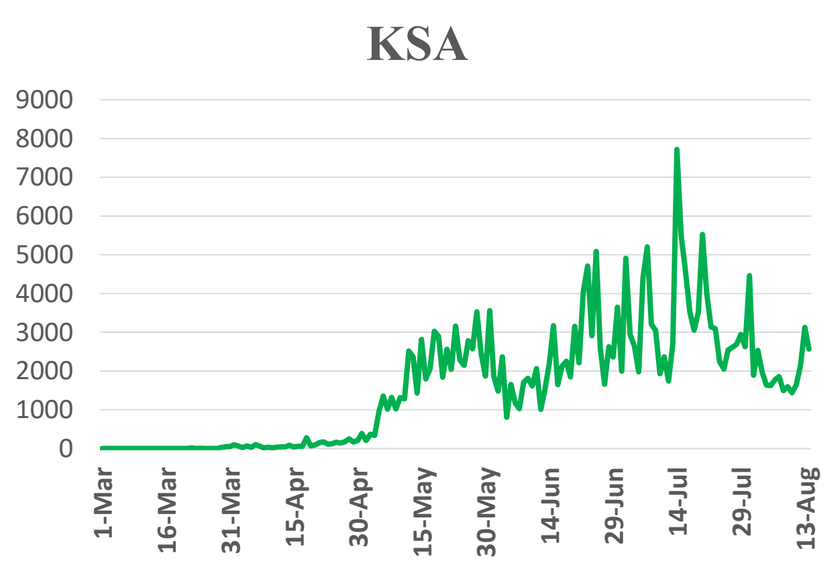
Source : Qatar ministry of health

Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: WHO

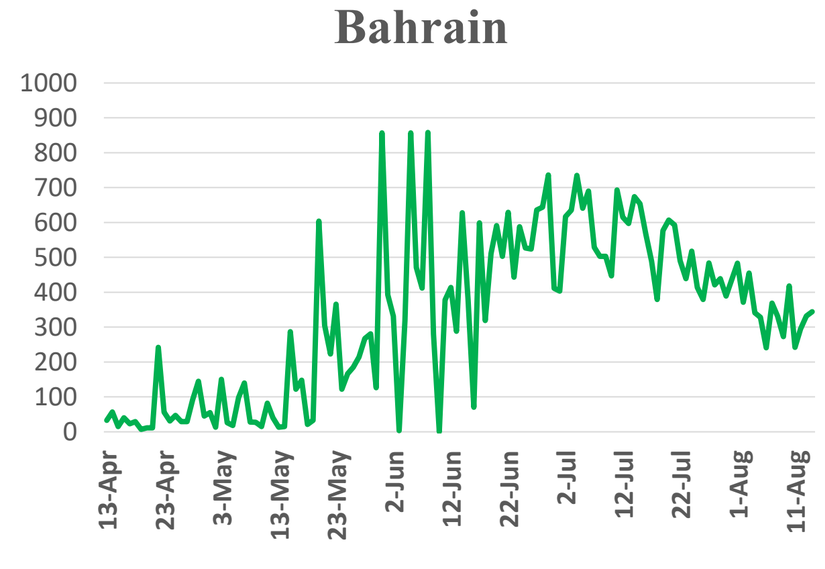
Figure 11: Comparative Analysis of the Distribution of COVID-19 Newly Recovered Cases in GCC Countries



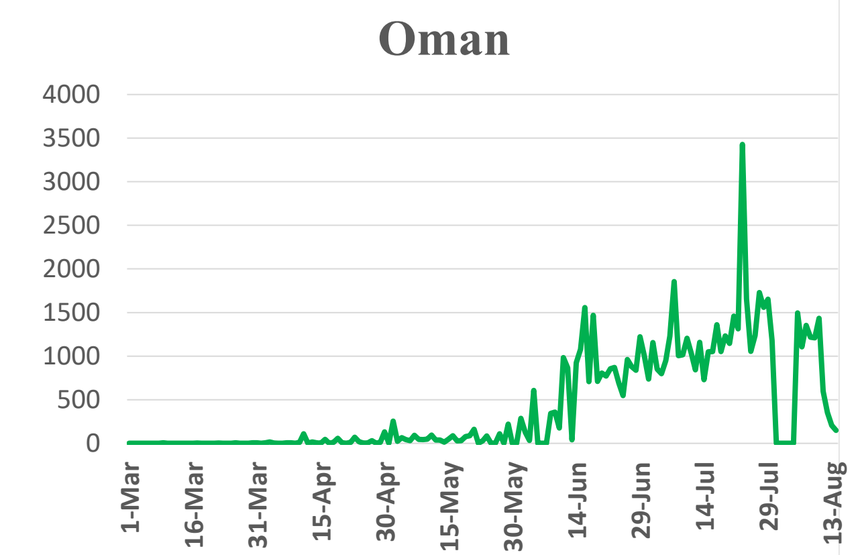
Source : National Emergency Crisis and Disaster Management Authority



Source : KSA ministry of health

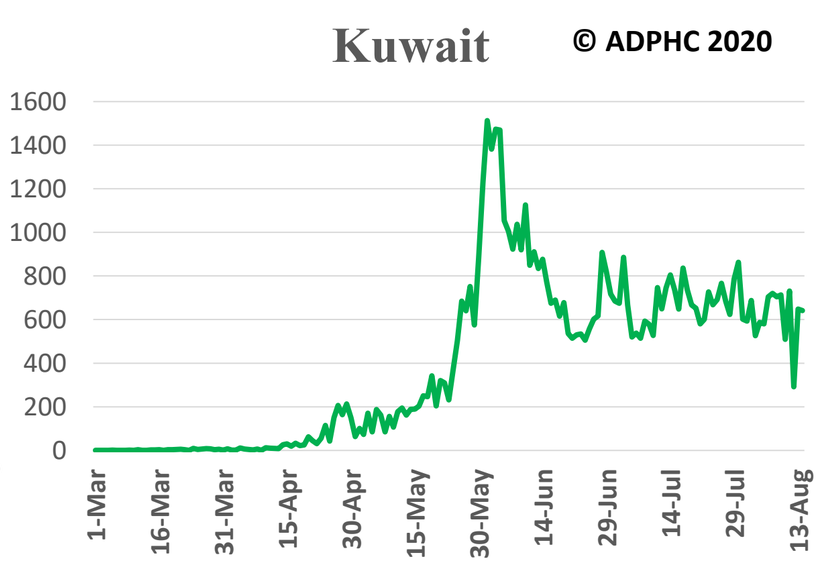


Source : GCCStat

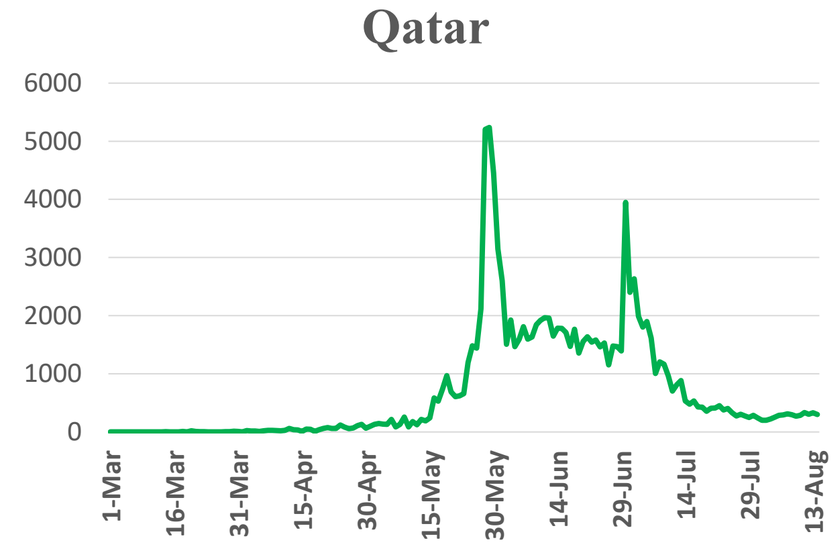


Source :Oman ministry of health

*No announced statistic data from 31 July to 4 August



Source : Kuwait ministry of health



Source : Qatar ministry of health

Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: WHO

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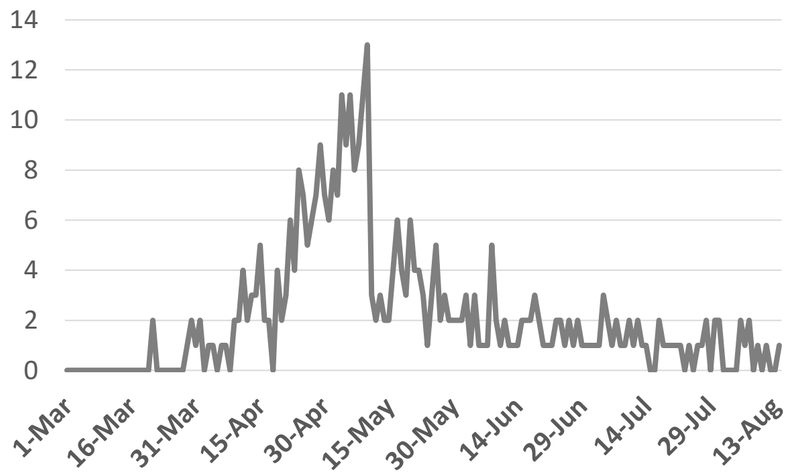
Figure 12: Comparative Analysis of the Distribution of COVID-19 New Death Cases in GCC Countries

UAE

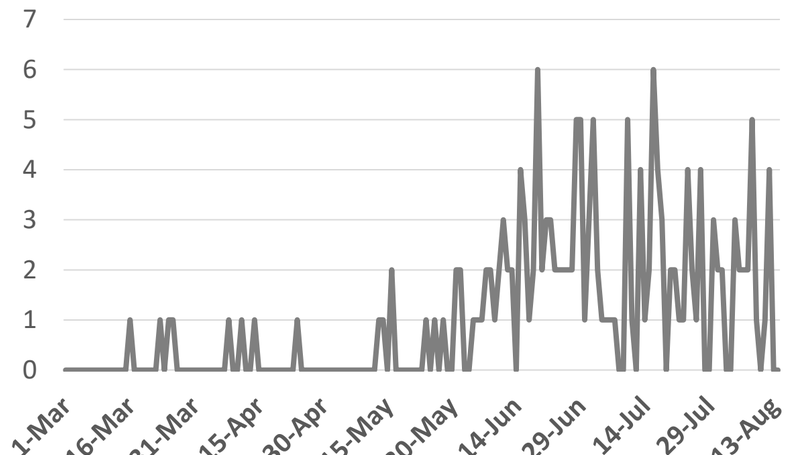


Source : National Emergency Crisis and Disaster Management Authority

KSA

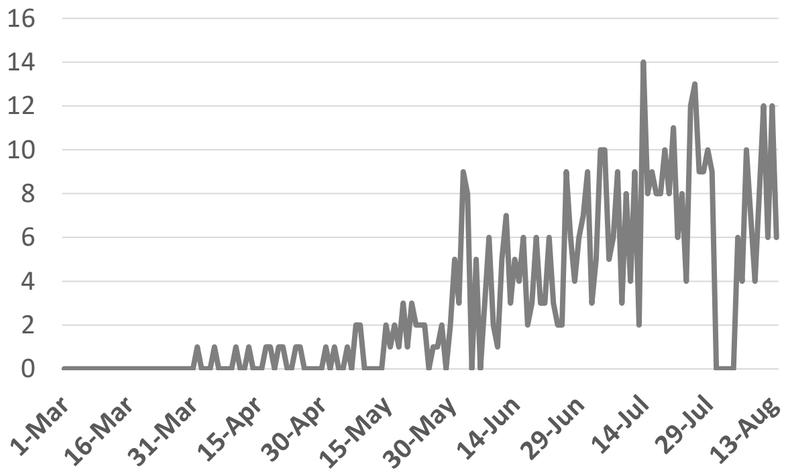
Source : KSA ministry of health

Bahrain



Source :WHO

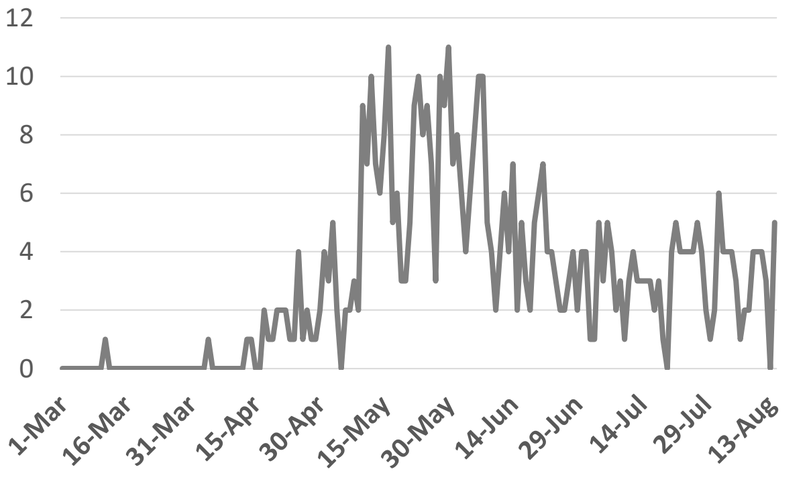
Oman



Source :Oman ministry of health

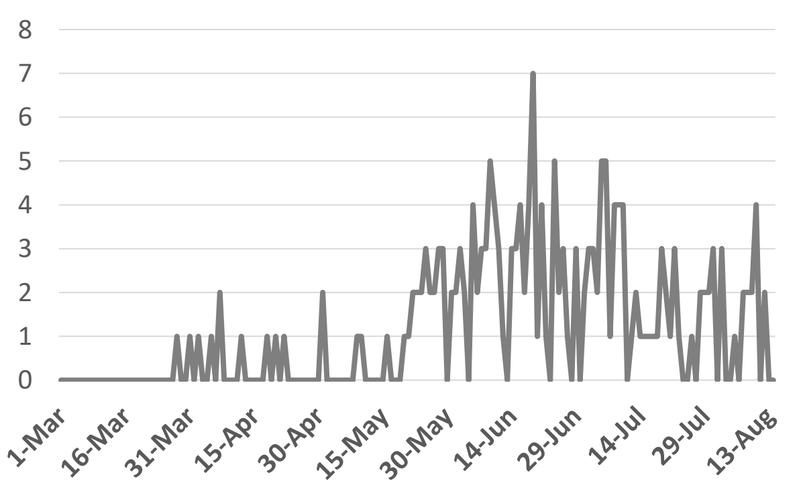
*No announced statistic data from 31 July to 4 August

Kuwait



Source : Kuwait ministry of health

Qatar



Source : Qatar ministry of health

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Article 1 Comparison of Face-Touching Behaviors Before and During the Coronavirus Disease 2019 Pandemic

Published 29 July 2020 JAMA

This cross-sectional study was done to evaluate the relation of wearing masks with face-touching behavior among the general population in public areas.

Background

- Droplet transmission is believed to be the main path for the spread of COVID-19. Accordingly, the WHO recommends avoiding touching the nose, mouth and eyes and wearing face masks among other measures to prevent the spread of COVID-19.

Methodology

- This study reviewed individual mask-wearing and face-touching behavior of the general populations in China, Japan, South Korea, Western Europe, and the US from videos of public areas before and during the COVID-19 pandemic.
- Videos chosen were those taken in streets, parks, and transport stations that were made with the intention of being used for tourism or introducing local lifestyle and those that displayed individuals' faces and face-touching by hands, cellular telephones, or other items, and eating.
- Videos before the pandemic where those taken between January 2018 and October 2019 while those taken during the pandemic ranged between February 2020 and March 2020.

Results

- Before the pandemic, 1.1% of 1745 individuals wore masks in China. 3.1% of 1422 in Japan, 0.8% of 717 in South Korea, 0.2% of 546 in Western Europe and 0.1% of 269 in the US.
- During the pandemic, China imposed mandatory face-mask wearing policy which increased the rate to 99.4% of 1097 individuals. South Korea made face-mask wearing mandatory. increasing the rate to 88.5% of 324 individuals. In Japan individuals increased face-mask wearing to 38.7% of 893.
- Western Europe and the US face-mask wearing during the pandemic remained low with no statistically significant difference.
- Face touching before the pandemic was high in South Korea, Western Europe and the US while low in China and Japan. However, during the pandemic, this decreased.
- As for the relation between decreased face touching and face-mask wearing, China and South Korea had the highest decrease especially the touching of the nose, mouth and eyes.

Conclusion

- This study showed that mandatory face-mask wearing policies decreased the incidence of face touching regardless of whether the mask was a cloth mask or a surgical mask.

PUBLIC RESPONSE

Continued

Table 1. Mask Wearing Before and During the Coronavirus Disease 2019 Pandemic

	Individuals, No. wearing masks/Total No. (%)					
Period	Mainland China	Japan	South Korea	Western Europe	US	*P* value[a]
Before	20/1745 (1.1)	44/1422 (3.1)	6/717 (0.8)	1/546 (0.2)	1/269 (0.4)	<.001
During	1090/1097 (99.4)	346/893 (38.7)	277/324 (85.5)	6/379 (1.6)	4/194 (2.1)	<.001
P value[b]	<.001	<.001	<.001	.02	.17	

[a] Comparison of mask wearing rates among regions.

[b] Comparison of mask wearing rates before and during the coronavirus disease 2019 pandemic.

Table 2. Mask Type Distribution

	Masks, No. (%)					
Mask types	Mainland China (n = 1110)	Japan (n = 390)	South Korea (n = 283)	Western Europe (n = 7)	US (n = 5)	*P* value
N95, KN95, or KF94 respirator	71 (6.4)	14 (3.6)	38 (13.4)	0	0	<.001
Fabric mask	50 (4.5)	371 (95.1)	240 (84.8)	6 (85.7)	5 (100)	<.001
Surgical mask	989 (89.1)	5 (1.3)	5 (1.7)	1 (14.3)	0	<.001

Table 3. Face-Touching Behavior Incidence Before and During the Coronavirus Disease 2019 Pandemic

	Incidents, No./total observations, No. (%)					
Period	Mainland China	Japan	South Korea	Western Europe	United States	*P* value[a]
Before	72/1745 (4.1)	58/1422 (4.1)	80/717 (11.2)	62/546 (11.4)	33/269 (12.3)	<.001
During	12/1097 (1.1)	31/893 (3.5)	7/324 (2.2)	23/379 (6.1)	15/194 (7.7)	<.001
P value[b]	<.001	.48	<.001	.01	.15	

[a] Comparison of mask wearing rates among regions.

[b] Comparison of mask wearing rates before and during the coronavirus disease 2019 pandemic.

Article 2

Reopening Colleges During the Coronavirus Disease 2019 (COVID-19) Pandemic—One Size Does Not Fit All

Published 31 July 2020 JAMA

- This article discusses frequent testing for college reopening and how this should be tailored bases on college situation and capability.
- In their modeling study, *Paltiel* and colleagues conclude that to open safely; colleges need to test students every two days. However, colleges that can achieve adherence to behavioral guidelines, the Rt may be lower and less frequent testing may be required. The authors' model was applied using assumptions that are realistic for Vassar College, which could still maintain a controllable number of infections due to using different strategies.
- Before diverting resources from other interventions to testing every two days, we should consider a broader perspective. The best-prepared campuses will implement a set of interlocking strategies that together aim to reduce the influx of COVID-19 from outside and to limit its spread once on campus.
- To further limit the influx of COVID-19 on to campus, the density of employees can be reduced through telework programs, use social distancing, wear masks, report symptoms daily and limit the number of visitors.
- Colleges can also control the influx from outside through requiring negative COVID-19 test prior to moving in, and keeping students on campus.
- Although this approach requires sacrifice, community commitment, and monitoring, it may be more practical than testing every 2 days.
- Not all colleges can pursue a strategy of keeping students on campus as many students live off-campus. In this case, colleges can benefit from working with local officials to increase safety in the surrounding area. If a college is unable to reduce the influx of COVID-19 from outside and limit Rt on campus, far more testing is needed than current guidelines require. The implications of the study by Paltiel and colleagues are important as they did the field a great service by making their model interactive and available online.
- In summary, inexpensive testing is a key ingredient of reopening colleges safely. A balanced approach is needed. Testing is important; however, successful colleges will be those that embrace inclusive leadership to reduce the influx of new infections and to limit spread.

Article 3

Case Rates, Treatment Approaches, and Outcomes in Acute Myocardial Infarction During the Coronavirus Disease 2019 Pandemic

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Methodology

- This was a cross-sectional study retrospectively that analyzed AMI hospitalizations that occurred between December 30, 2018, and May 16, 2020, in 1 of the 49 hospitals in the Providence St Joseph Health system located in 6 states (Alaska, Washington, Montana, Oregon, California, and Texas). Segmented regression analysis was performed to assess changes in weekly case volumes.
- Cases were grouped into 1 of 3 periods: before COVID-19 (December 30, 2018, to February 22, 2020), early COVID-19 (February 23, 2020, to March 28, 2020), and later COVID-19 (March 29, 2020, to May 16, 2020). In-hospital mortality was risk-adjusted using an **observed to expected (O/E) ratio** and covariate-adjusted multivariable model.

Conclusion

- The cohort included 15 244 AMI hospitalizations with 4955 were for STEMI [33%] and 10 289 for NSTEMI [67%]) involving 14 724 patients (mean [SD] age of 68 [13] years and 10 019 men [66%]).
- Beginning February 23, 2020, AMI-associated hospitalizations decreased at a rate of –19.0 (95% CI, –29.0 to –9.0) cases per week for 5 weeks (early COVID-19 period).
- Thereafter, AMI-associated hospitalizations increased at a rate of +10.5 (95% CI, +4.6 to +16.5) cases per week (later COVID-19 period).
- No appreciable differences in patient demographics, cardiovascular comorbidities, and treatment approaches were observed across periods.
- The O/E mortality ratio for AMI increased during the early period (1.27; 95% CI, 1.07-1.48), which was disproportionately associated with patients with STEMI (1.96; 95% CI, 1.22-2.70).
- Although the O/E mortality ratio for AMI was not statistically different during the later period (1.23; 95% CI, 0.98-1.47), increases in the O/E mortality ratio were noted for patients with STEMI (2.40; 95% CI, 1.65-3.16) and after risk adjustment (odds ratio, 1.52; 95% CI, 1.02-2.26).

Observed to Expected (O/E) **ratio** = **observed** rate / **expected** rate. If a hospital's **observed** rate for an indicator is higher than its **expected** rate (an O/E **ratio** greater than 1), then the hospital performed worse than the reference population with an equivalent patient case mix