

SCIENTIFIC RESEARCH MONITORING ON COVID-19

19 JULY 2020

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SCIENTIFIC RESEARCH MONITORING ON COVID-19

(ISSUE 168)

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

Association Between Universal Masking in a Health Care System and SARS-CoV-2 Positivity Among Health Care Workers

Diagnosis

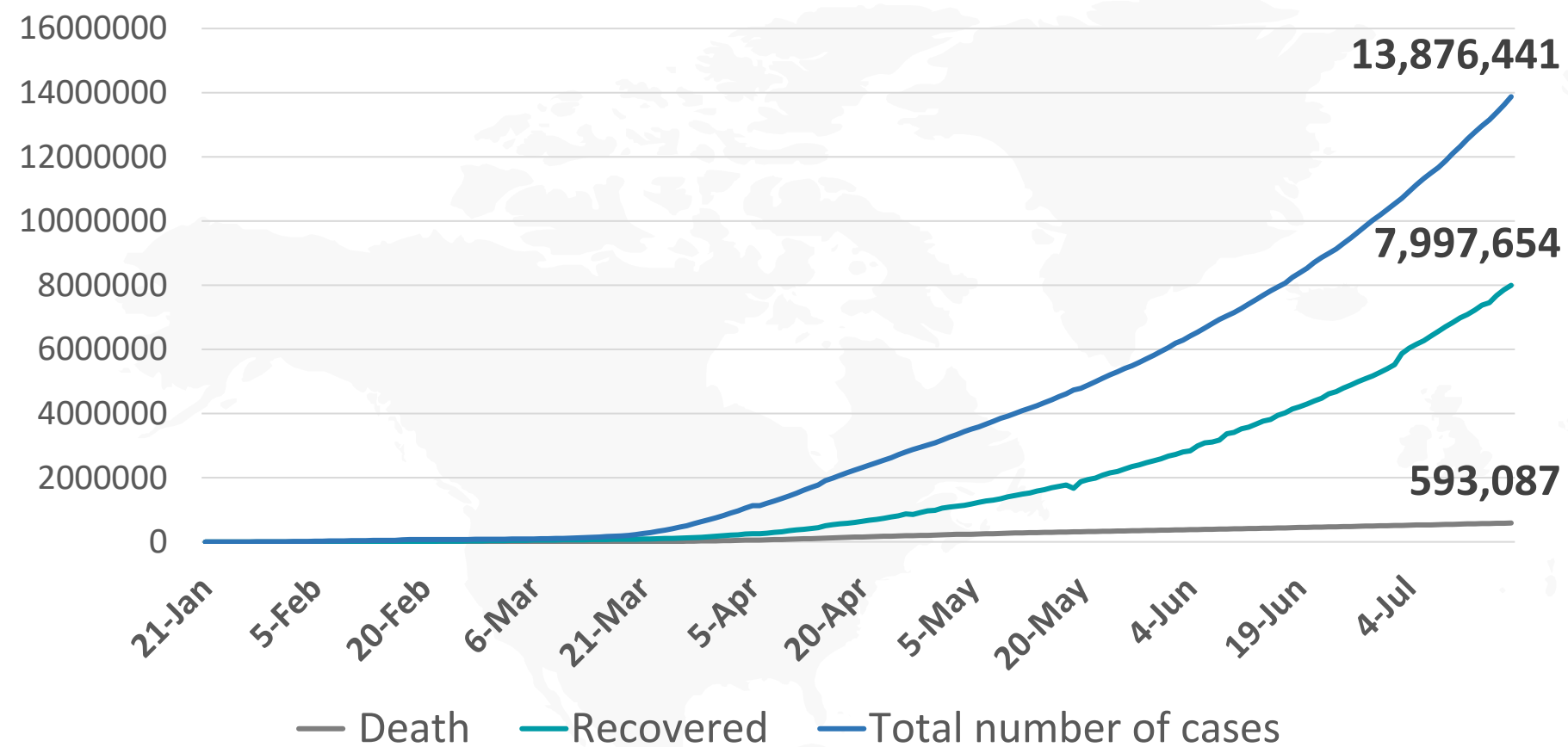
The Explosion of New Coronavirus Tests That Could Help to End the Pandemic



- WHO has published an interim checklist for local authorities on **Practical actions in cities to strengthen preparedness for the COVID-19 pandemic and beyond**. The checklist accompanies the interim guidance on **Strengthening preparedness for COVID-19 in cities and urban settings**.
- The WHO Regional Office for Europe joined the International Labour Organization (ILO) and UNICEF to issue a **policy paper** on how to **strengthen protection against, and address, social and economic shocks such as those caused by the pandemic**.
- Ghana's nurses are delivering child healthcare services to communities in need amid COVID-19. Segla, a community nurse who provides preventive healthcare to children in the north of Accra, emphasized the **importance of visiting households if pediatric patients do not attend clinics due to COVID-19**.



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)

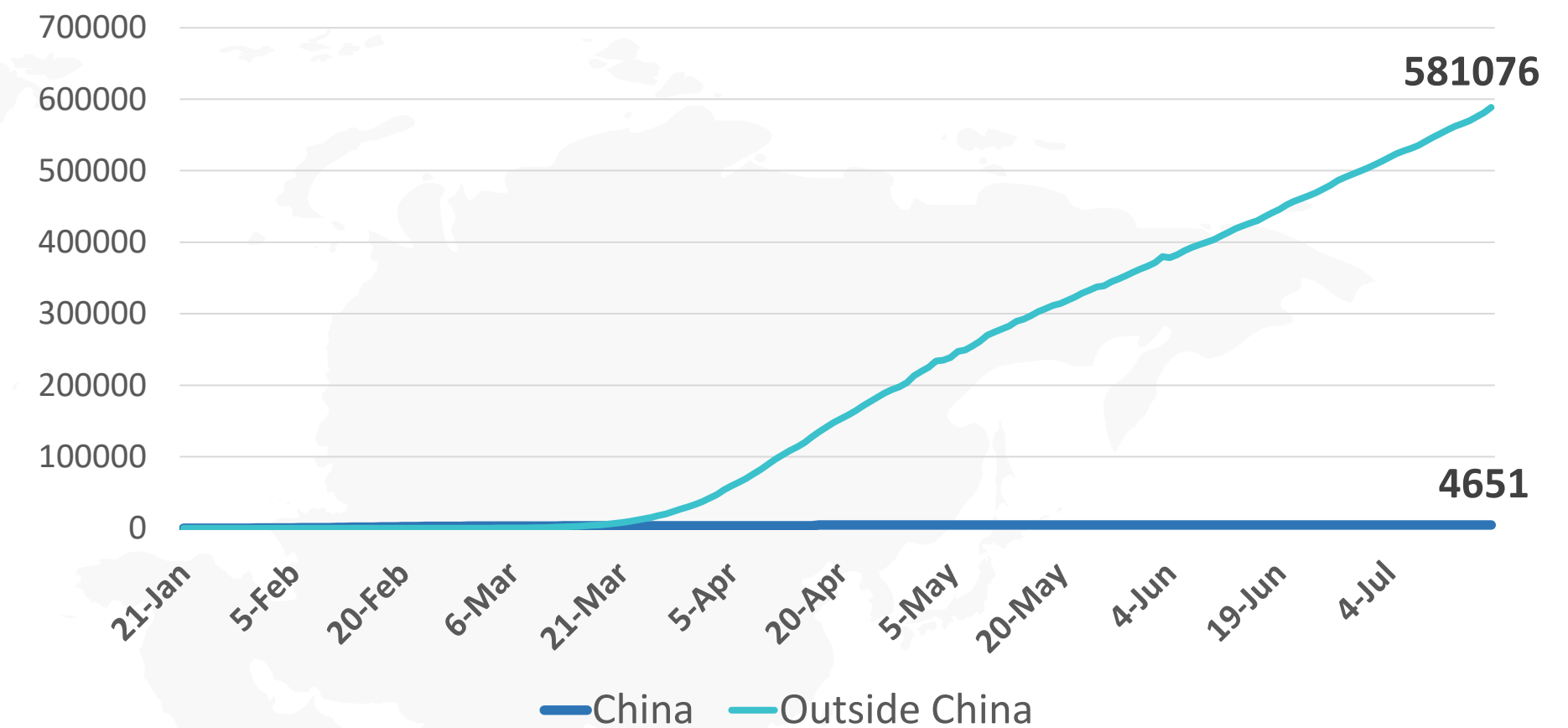
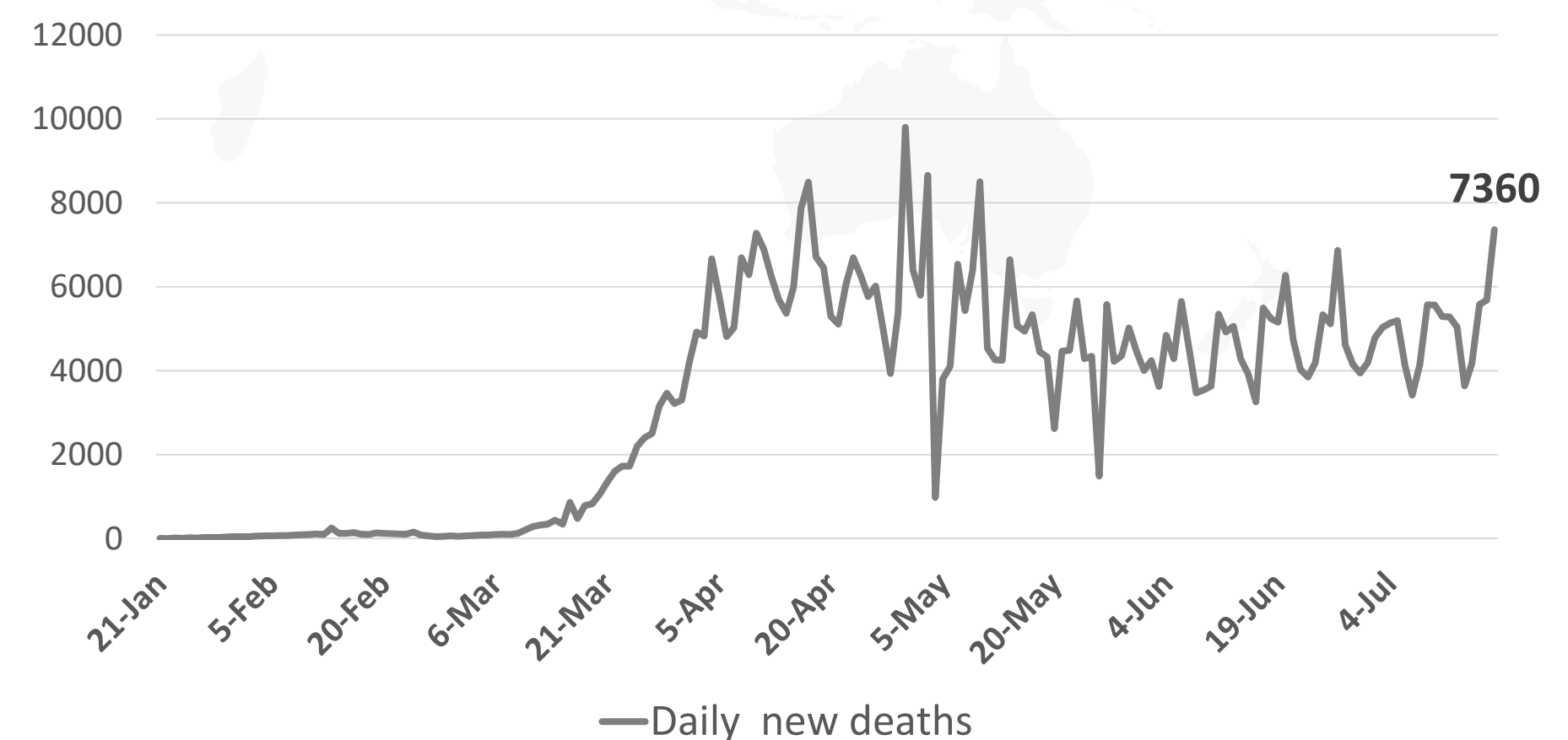


Figure 2: Daily new infected COVID-19 cases (china and the rest of the world)



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



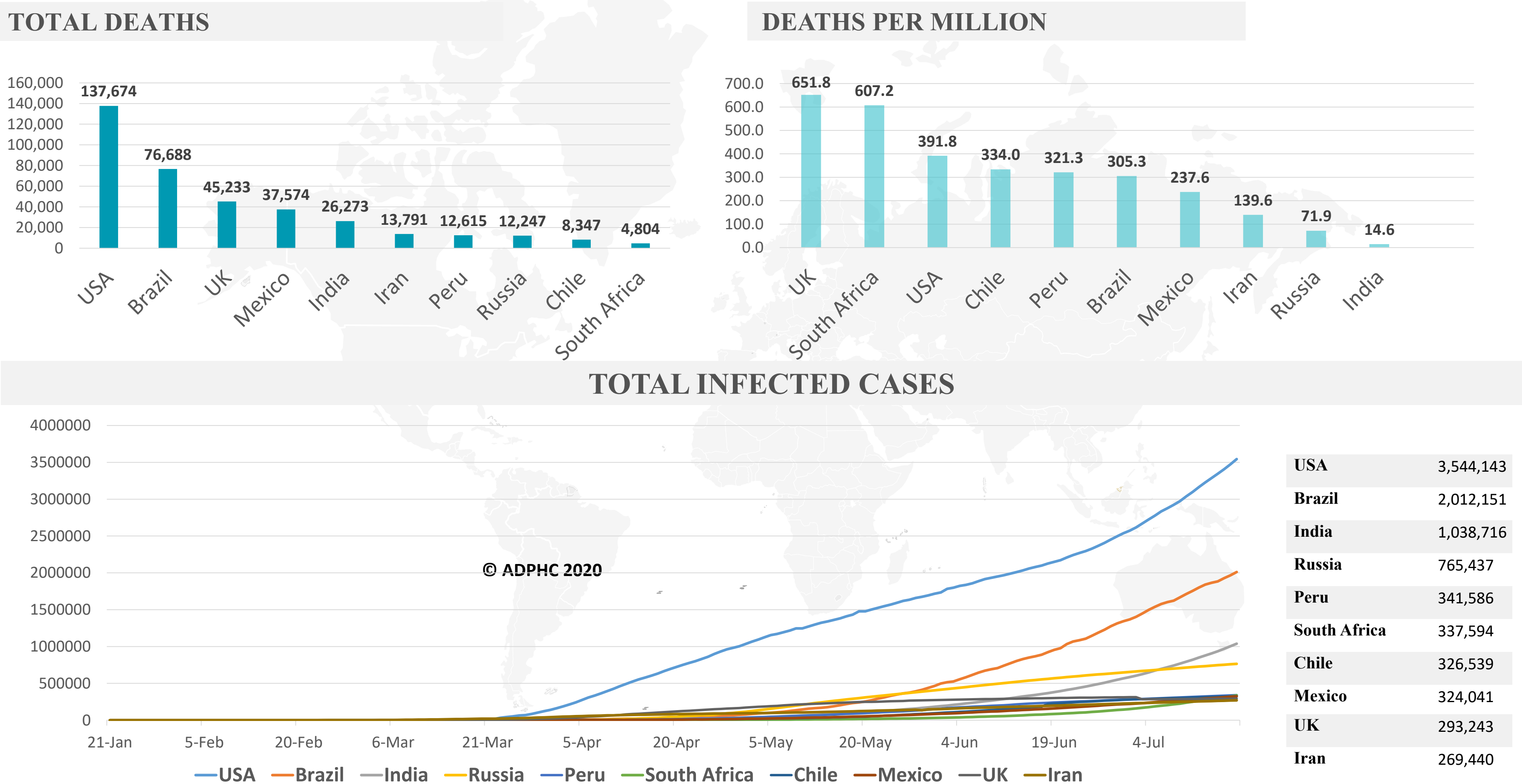
Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: [WHO](https://www.who.int/)

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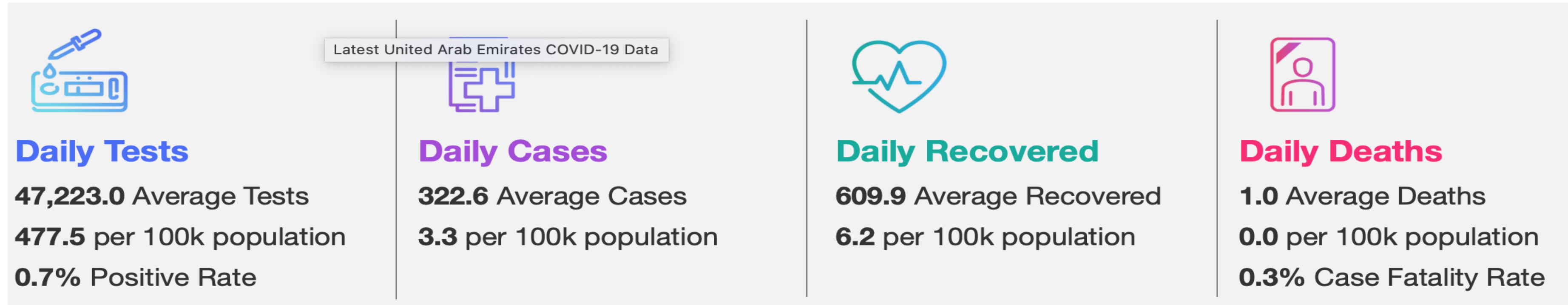
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Figure 3: Top 10 countries in the total number of cases due to COVID-19



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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

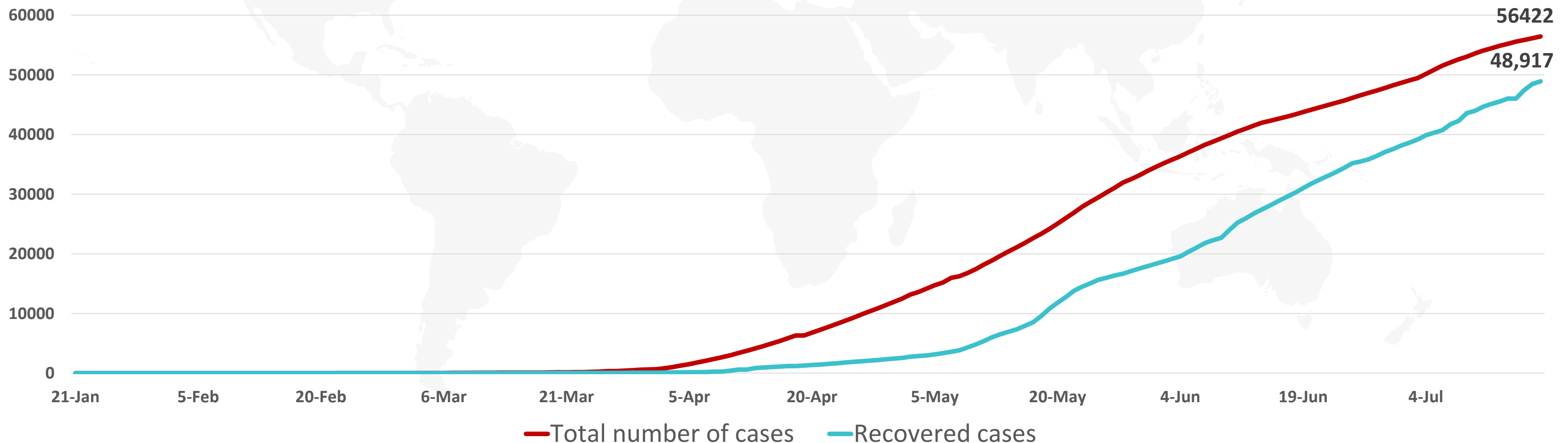
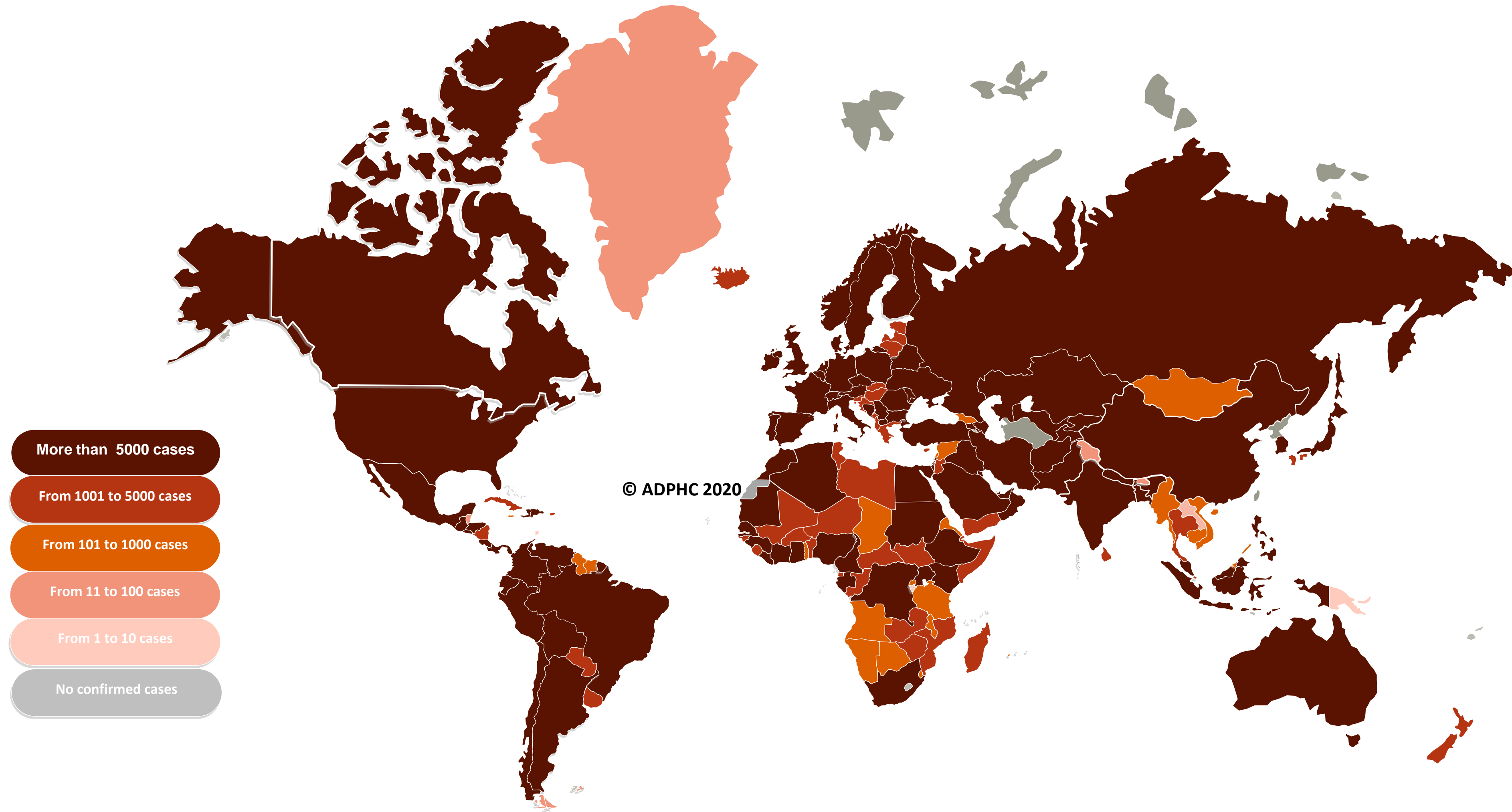


Figure 7A : Global distribution of COVID-19 cases



More than 5000 cases

From 1001 to 5000 cases

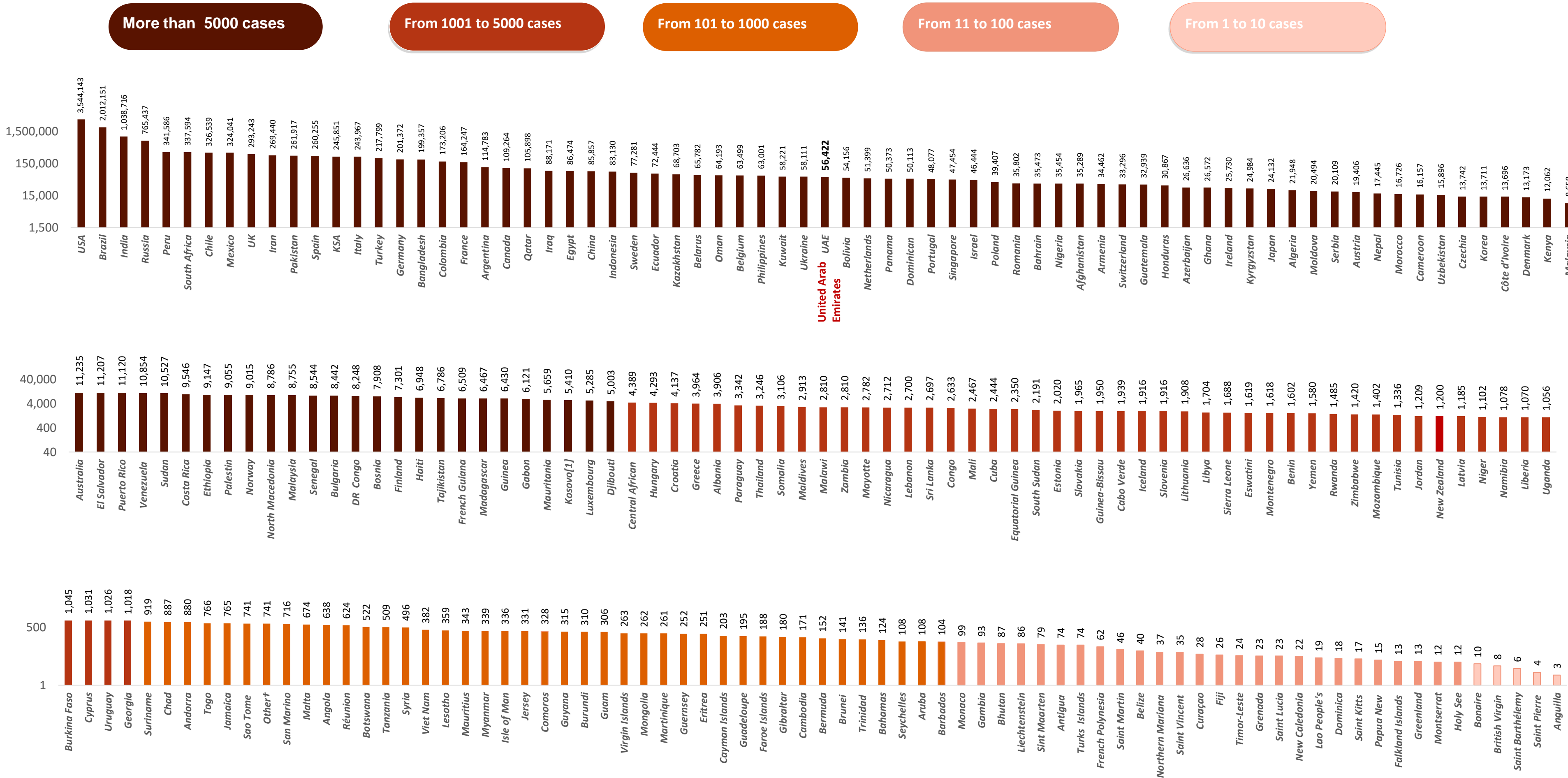
From 101 to 1000 cases

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

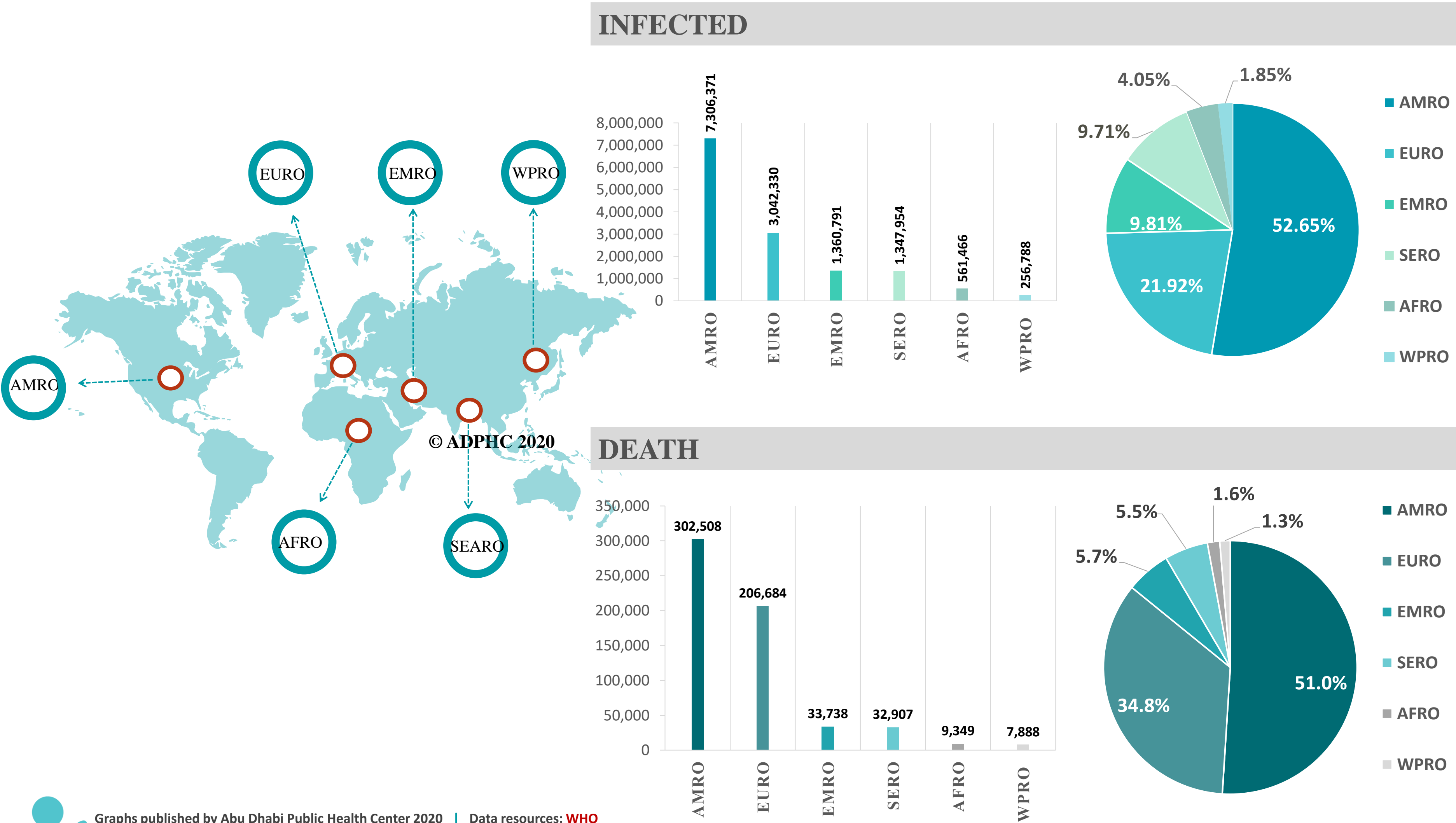
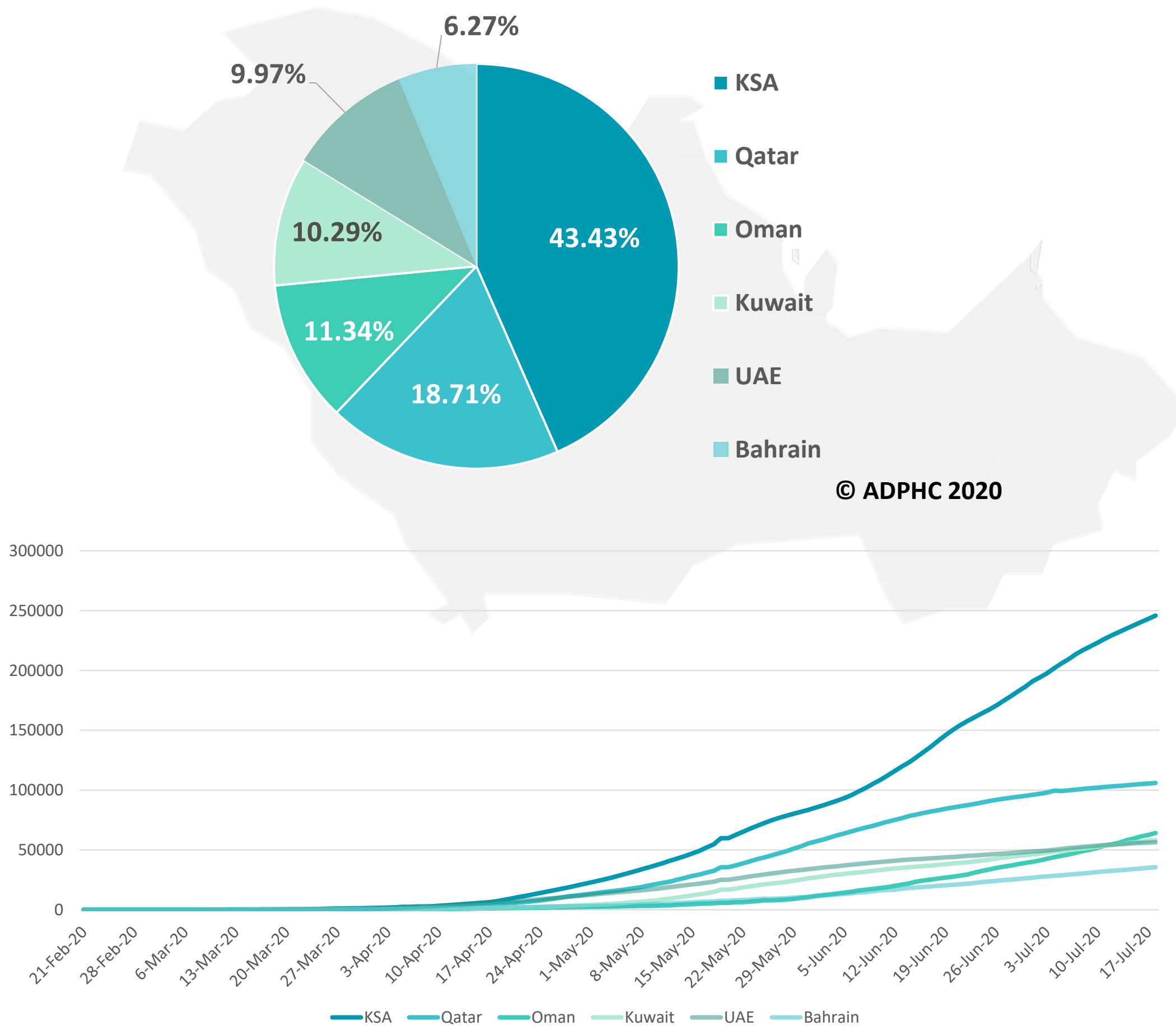
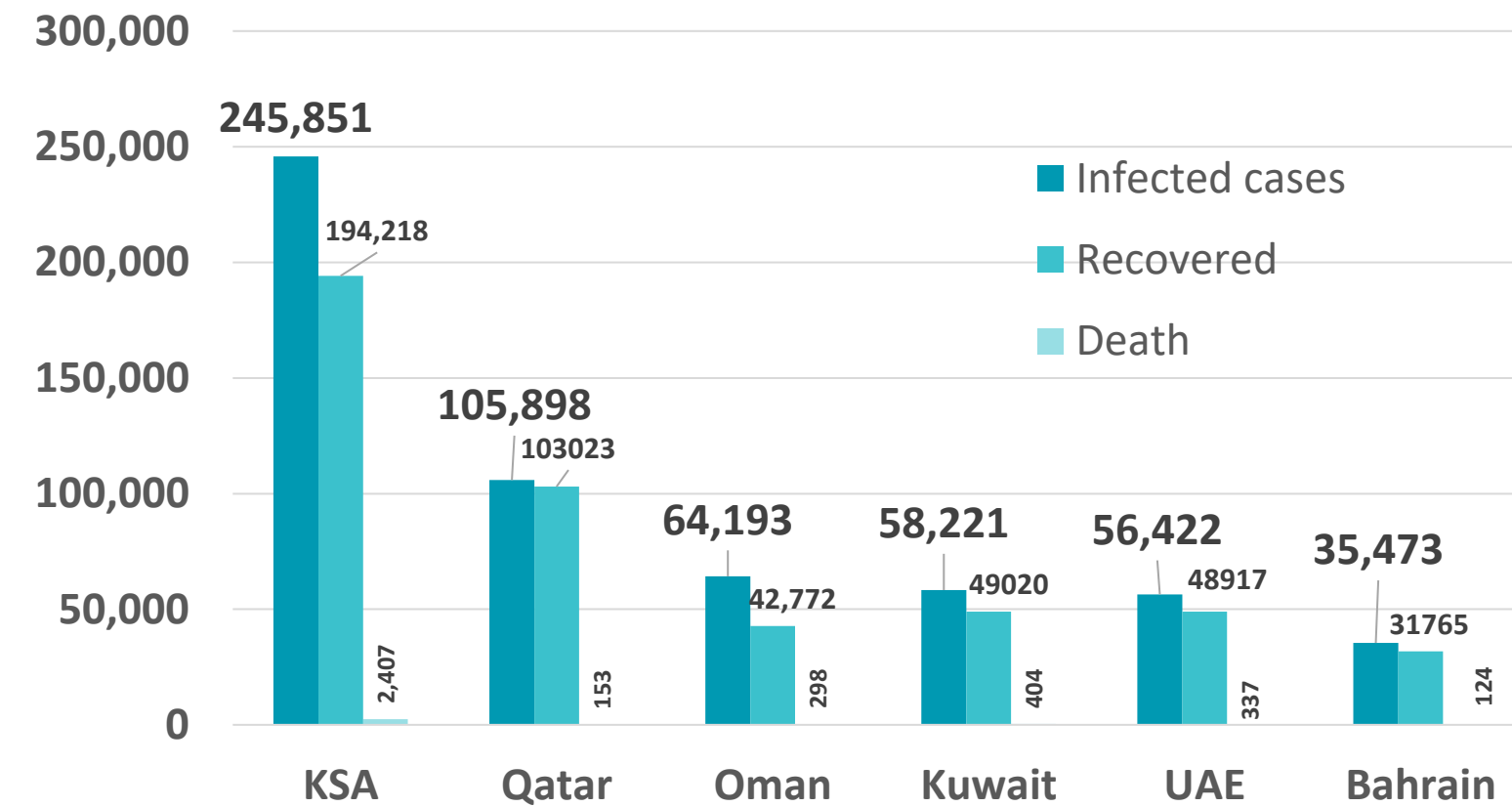


Figure 9: Comparative analysis of the distribution of COVID19 cases in GCC countries

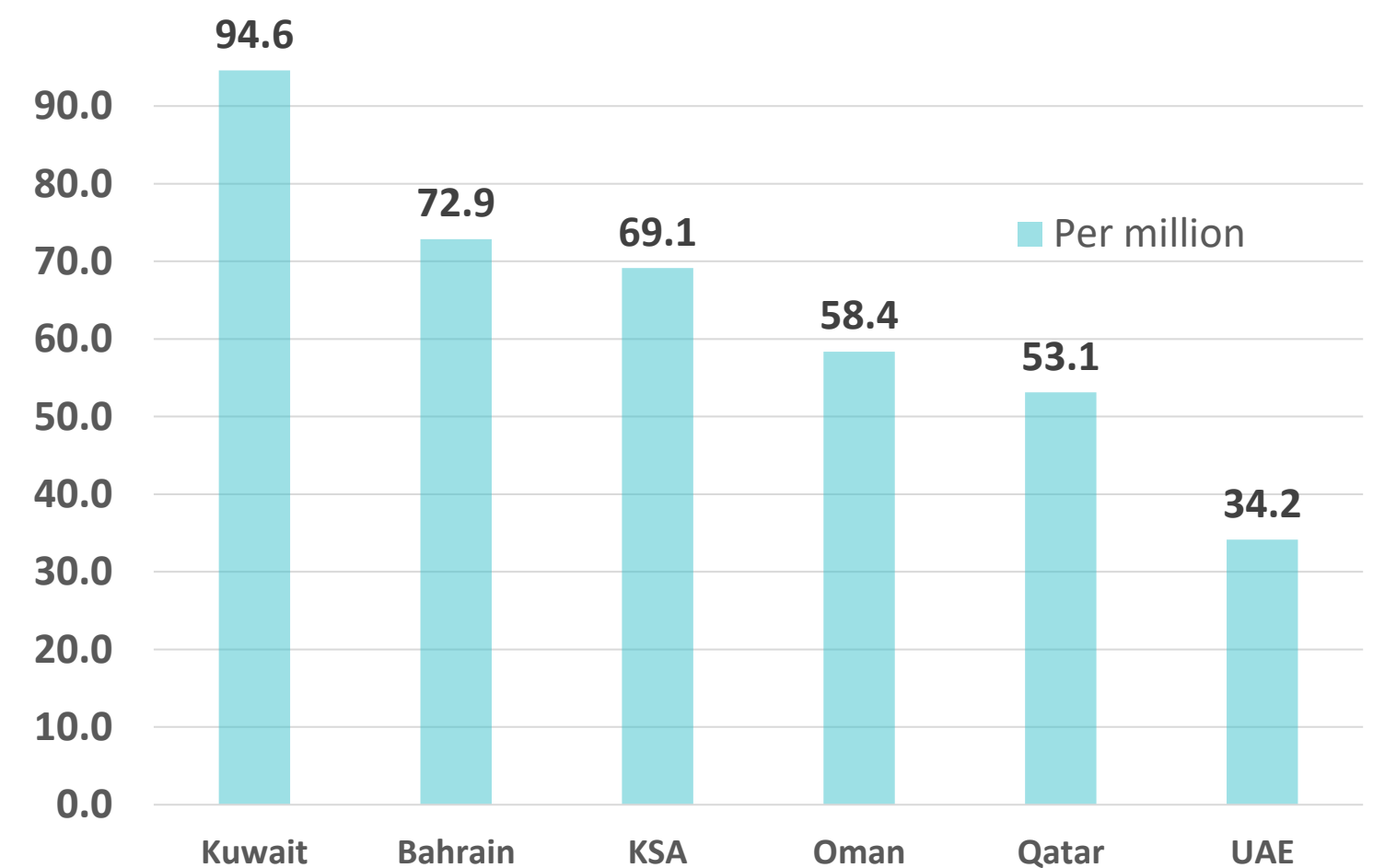
TOTAL NUMBER OF INFECTED CASES



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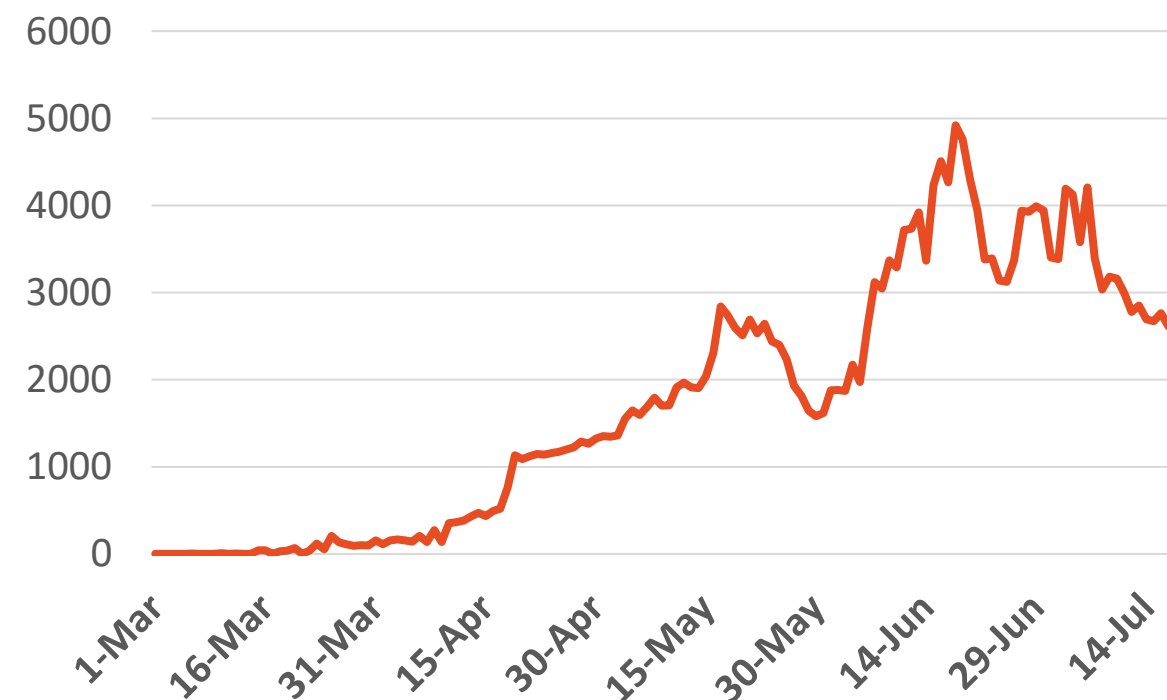
Figure 10: Comparative analysis of the distribution of COVID19 new cases in GCC countries

UAE



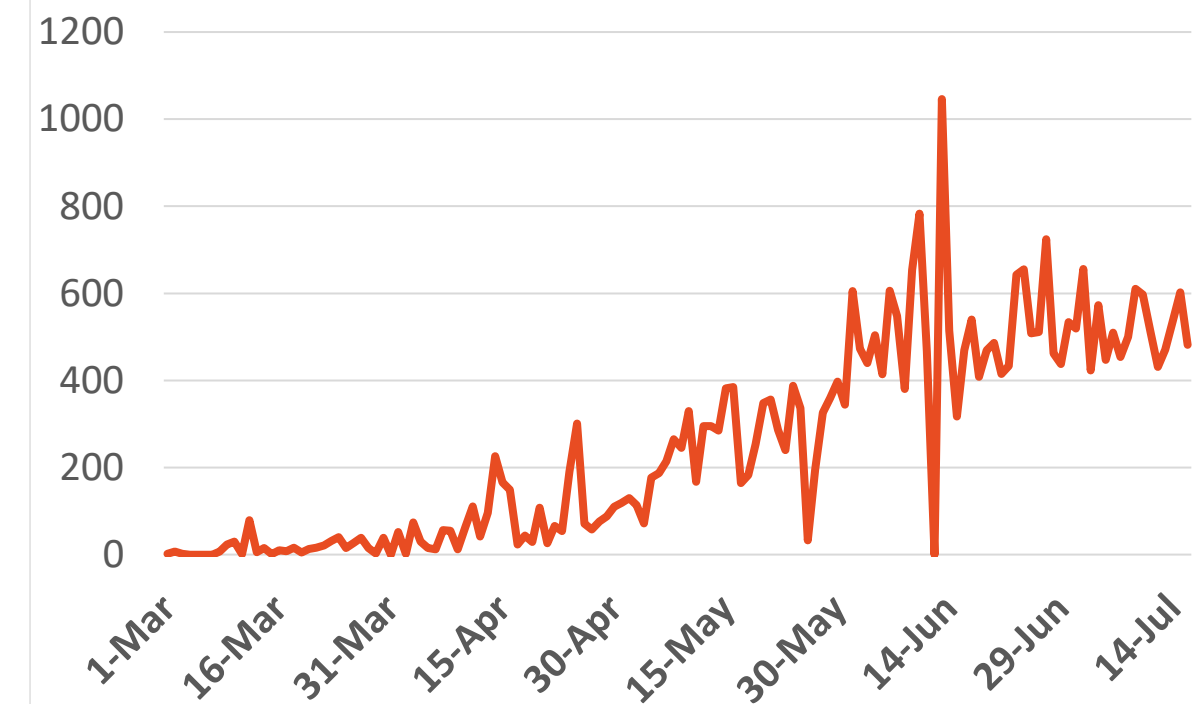
Source : National Emergency Crisis and Disaster Management Authority

KSA



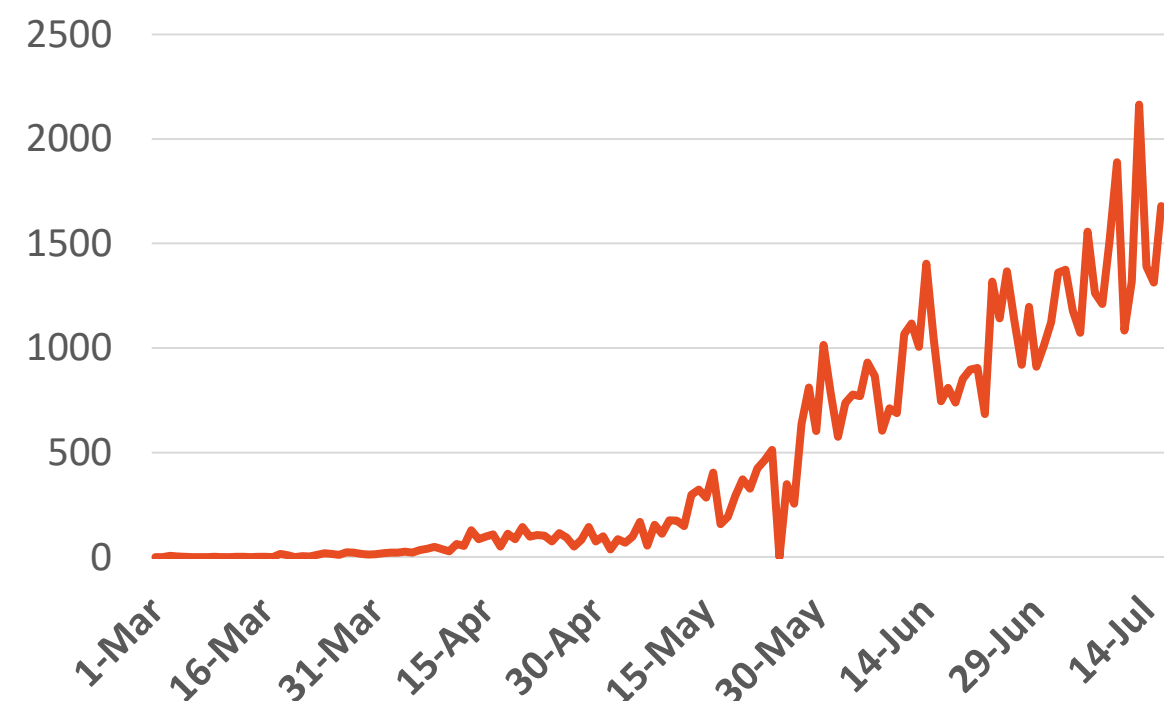
Source : KSA ministry of health

Bahrain



Source :WHO

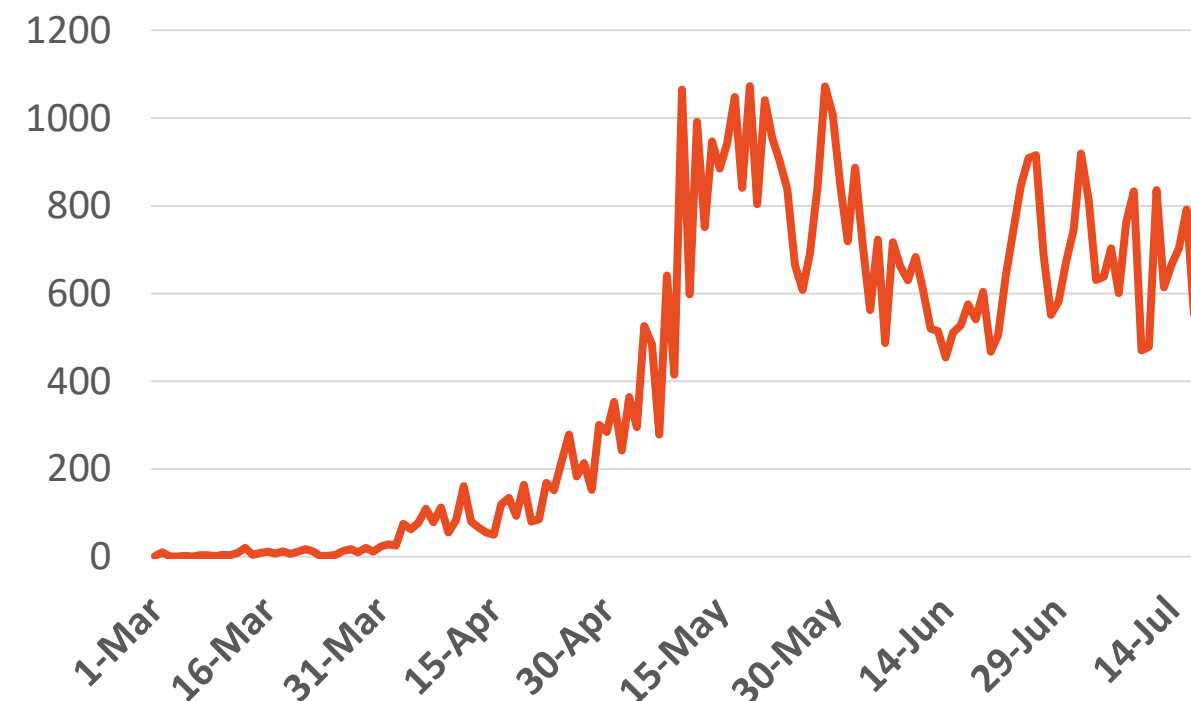
Oman



Source :Oman ministry of health

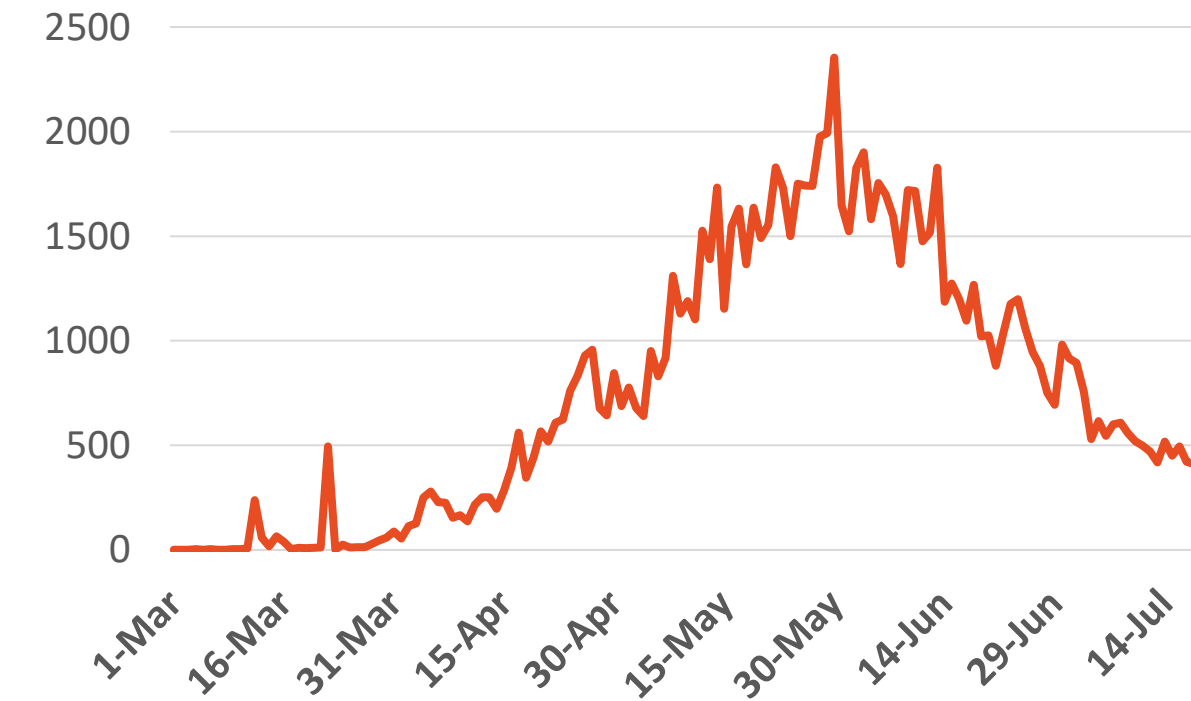
Kuwait

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Source : Kuwait ministry of health

Qatar



Source : Qatar ministry of health

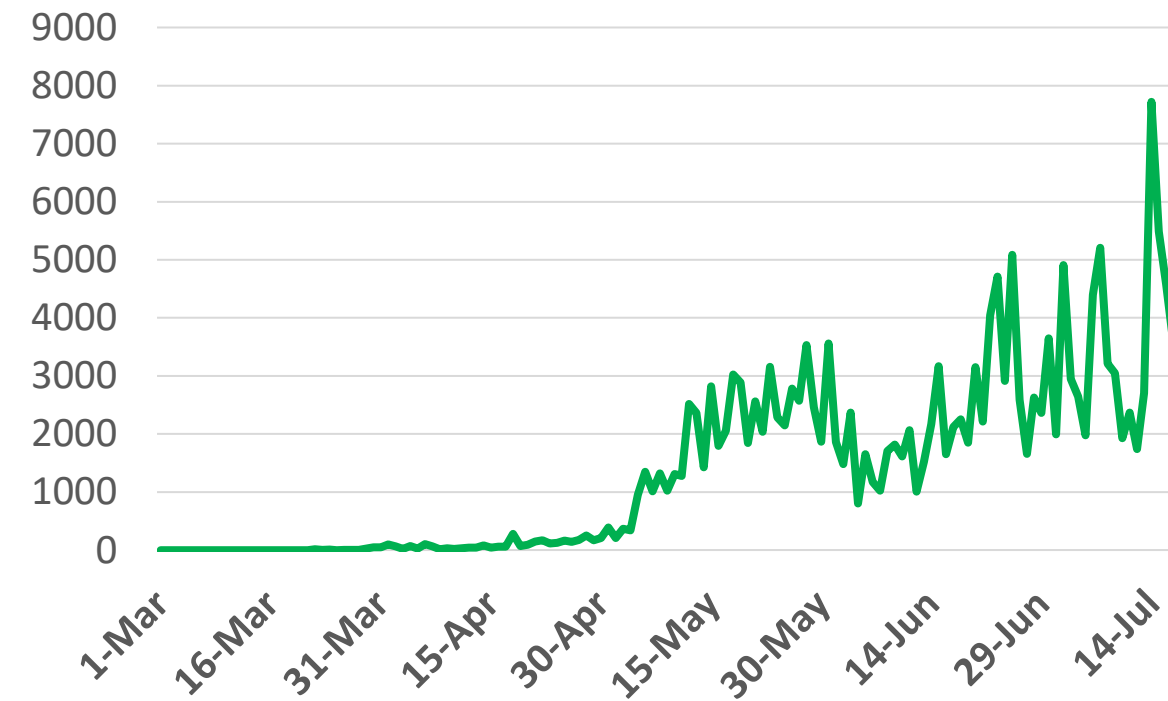
Figure 11: Comparative analysis of the distribution of COVID19 newly recovered cases in GCC Countries

UAE



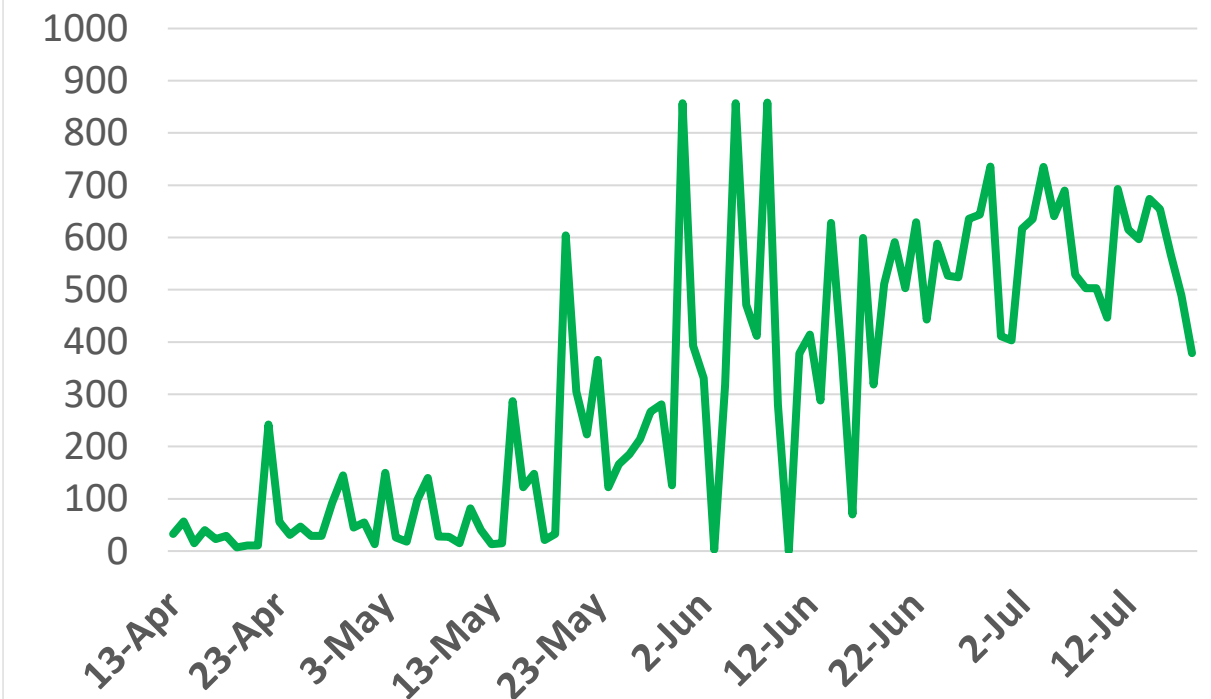
Source : National Emergency Crisis and Disaster Management Authority

KSA



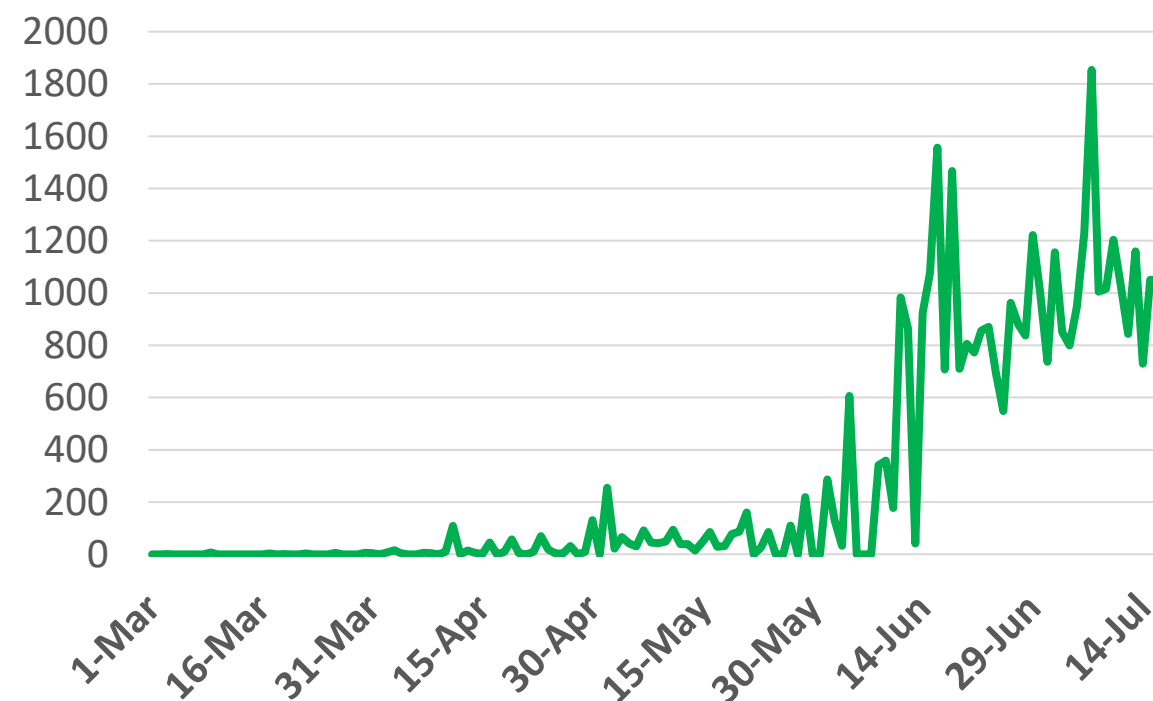
Source : KSA ministry of health

Bahrain



Source : GCCStat

Oman



Source : Oman ministry of health

Kuwait

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Source : Kuwait ministry of health

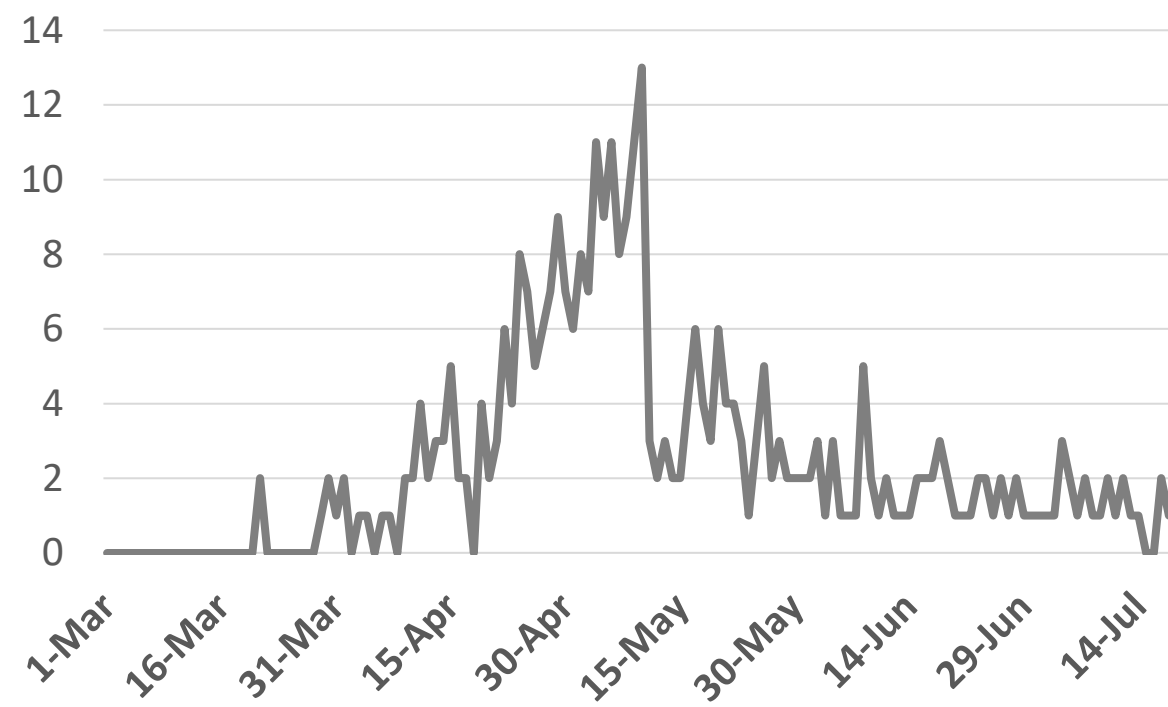
Qatar



Source : Qatar ministry of health

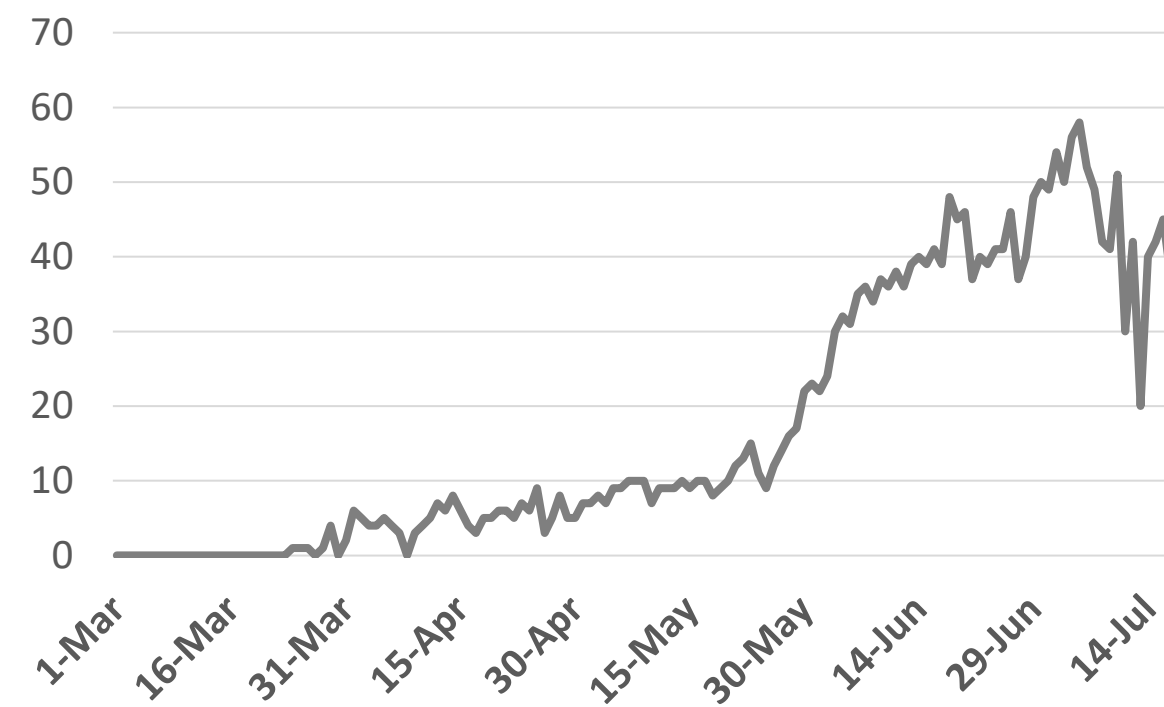
Figure 12: Comparative analysis of the distribution of COVID19 newly death cases in GCC countries

UAE



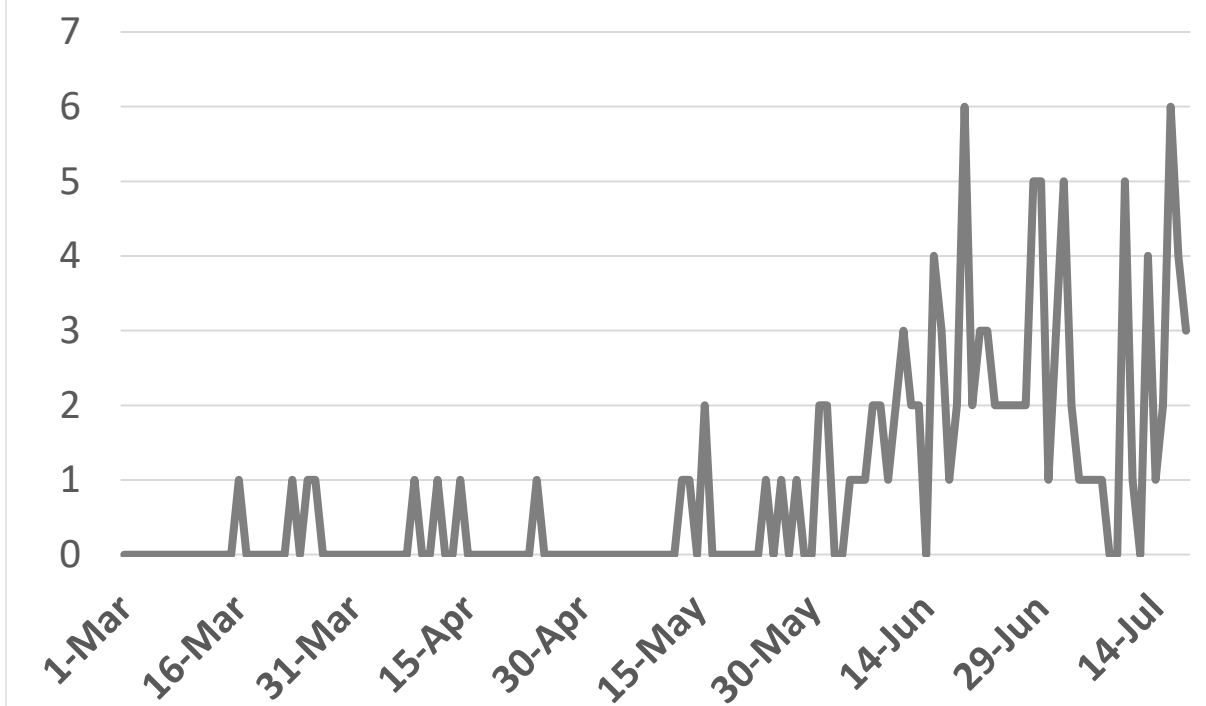
Source : National Emergency Crisis and Disaster Management Authority

KSA



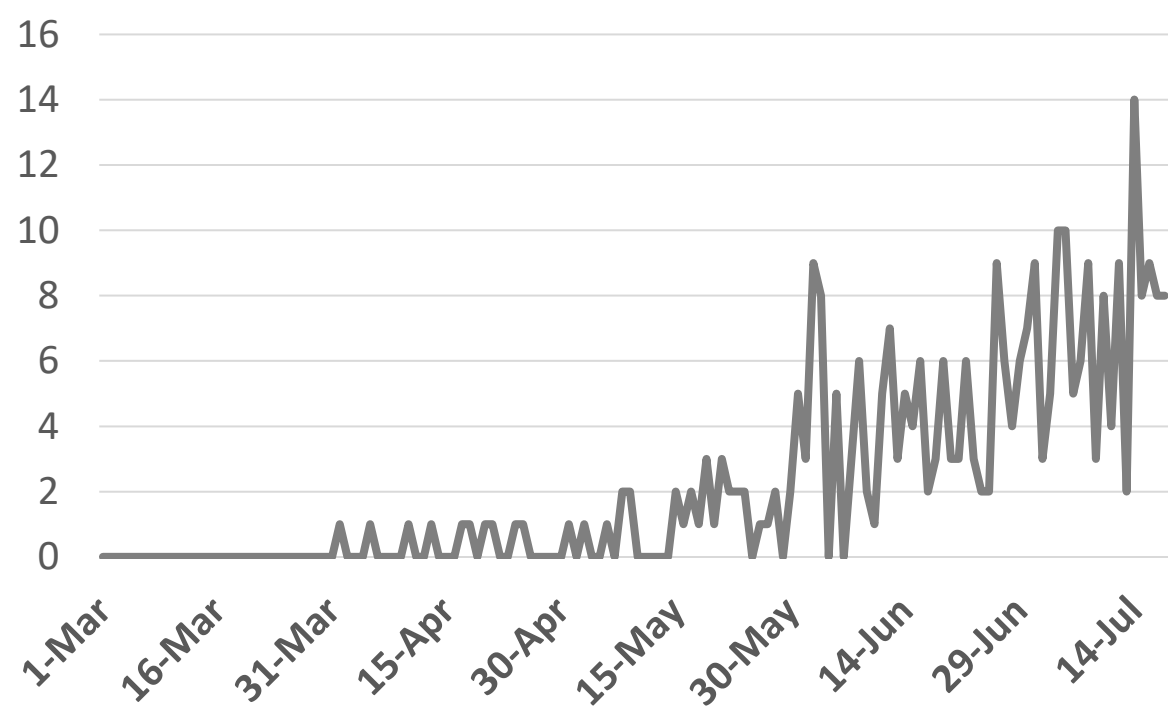
Source : KSA ministry of health

Bahrain



Source :WHO

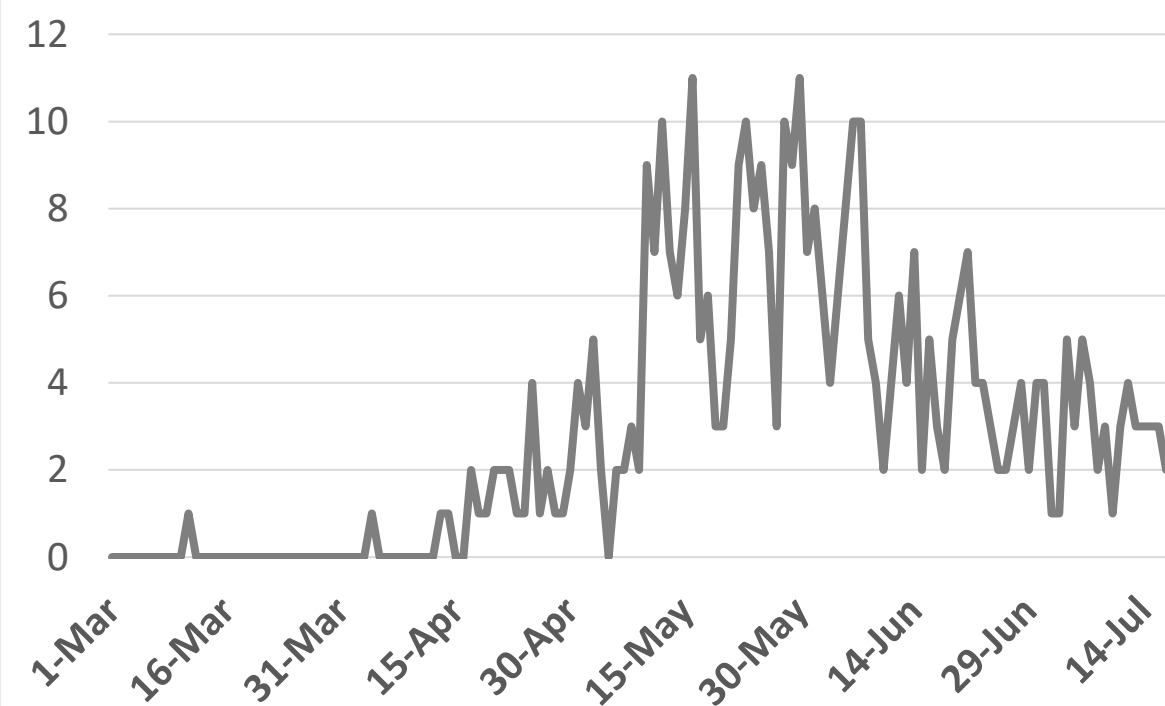
Oman



Source :Oman ministry of health

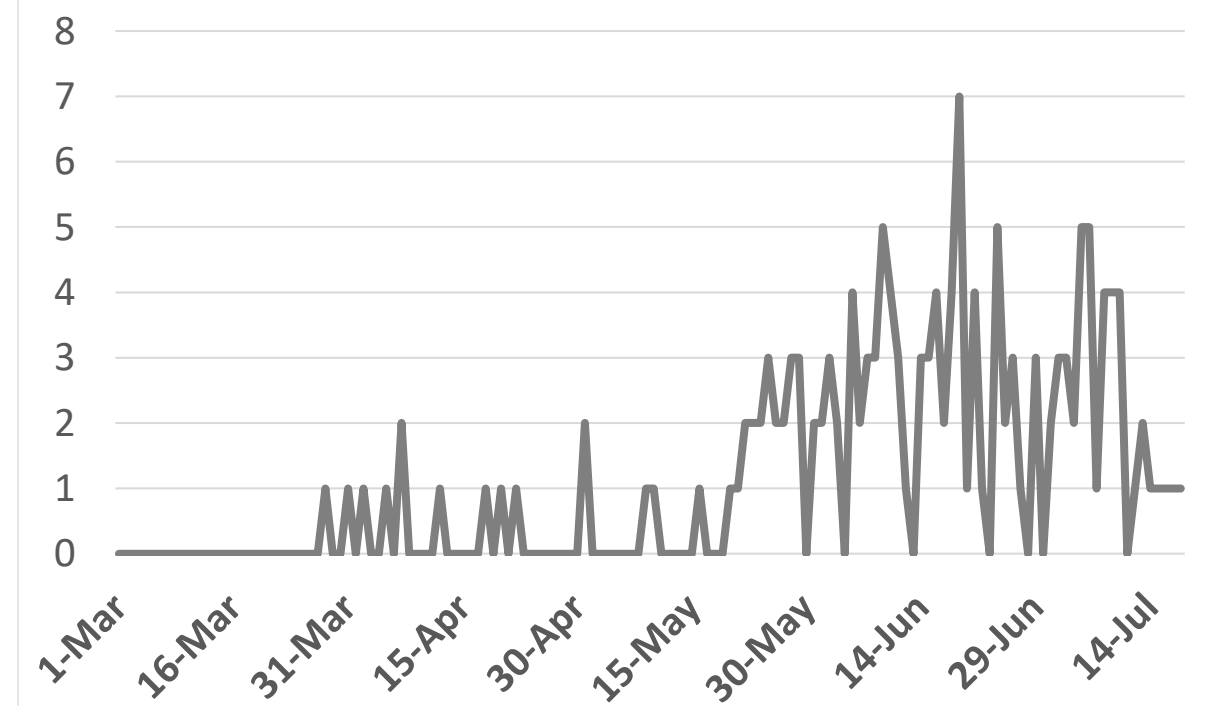
Kuwait

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Source : Kuwait ministry of health

Qatar



Source : Qatar ministry of health

Article 1: Association Between Universal Masking in a Health Care System and SARS-CoV-2 Positivity Among Health Care Workers

Published

13 July 2020 [JAMA](#)

- The article discusses how coronavirus disease 2019 (COVID-19) pandemic, has severely affected health care workers and how hospital systems began testing and implementing infection control measures to mitigate workforce depletion and prevent disease spread and the association of hospital masking policies with the SARS-CoV-2 infection rate among health care workers.
- Mass General Brigham (MGB) is the largest health care system in Massachusetts, with 12 hospitals and more than 75 000 employees. In March 2020, MGB implemented a multipronged infection reduction strategy involving systematic testing of symptomatic health care workers and universal masking of all healthcare workers and patients with surgical masks.
- **The study found that during the preintervention period, SARS-CoV-2 positivity rate increased exponentially from 0% to 21.32%, with a weighted mean increase of 1.16% per day and a case doubling time of 3.6 days.**
- The study concluded that universal masking was associated with significantly lower rate of SARS-CoV-2 positivity amongst health care workers.



Article 2: The Explosion of New Coronavirus Tests That Could Help to End the Pandemic

Published

17 July 2020 [NATURE](#)

- It has been reported that mass testing for SARS-CoV-2 requiring millions of tests per country per week is the most practical way out of the current crisis. However, countries are struggling to build up testing. One reason is that the standard test (RT-PCR) requires trained personnel, specific chemical supplies and expensive instruments that take hours to provide results. This limits the number of tests that can be done, particularly in developing countries.
- This article discusses how research groups across the world have produced tests that go beyond PCR. All these tests detect viral material in different ways, some of these diagnostic methods are still in development, others are being validated using clinical samples and some are already being used at the clinics.

CORONAVIRUS ASSAYS ASSESSED

Test name*	Type of test	Minimum detectable RNA copies	Samples in one run**	Time per run (minutes)	Accuracy (number of samples tested, n)
CDC PCR test	RT-PCR	1	Up to hundreds	110	100% (n = 20)
ID NOW, Abbott	PCR-like	125	1	5–13	100% (n = 65)
iLACO, Pelechano <i>et al.</i>	LAMP-based ²	10	Up to hundreds	20–40	90% (n = 248)
DxSeq, Salis lab	Next-generation sequencing	Not reported	19,200	1,200	Not reported
Zhang <i>et al.</i>	CRISPR-based [†]	10	Up to 190 a day	~60	Not reported
Sofia 2, Quidel	Antigen [‡]	595 (viral particles)	1	15	80% (n = 143)

*Selected examples only; other tests of this type exist. [†]See go.nature.com/2oxwh2e for details.

[‡]See go.nature.com/32sx8ni for details. **Processed by a single worker or instrument. CDC, US Centers for Disease Control and Prevention; LAMP, loop-mediated isothermal amplification; PCR, polymerase chain reaction; RT-PCR, reverse-transcriptase PCR.

THANK YOU

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