

SCIENTIFIC RESEARCH MONITORING ON COVID-19

6 JULY 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>

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

CONTENT

To View content clinic on icon



Today
highlights



WHO
report



Statistic



Article
summaries

v

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

HIGHLIGHT

All articles presented in this report represents the authors' views and not necessarily represents Abu Dhabi Public Health Center views or directions.

Today's Research Updates

Clinical Feature

**Multisystem
Inflammatory
Syndrome in
U.S. Children
and Adolescents**

Public Health Response

**Development of
Potential
COVID-19
Vaccines
Continues to
Accelerate**

Public Health Response

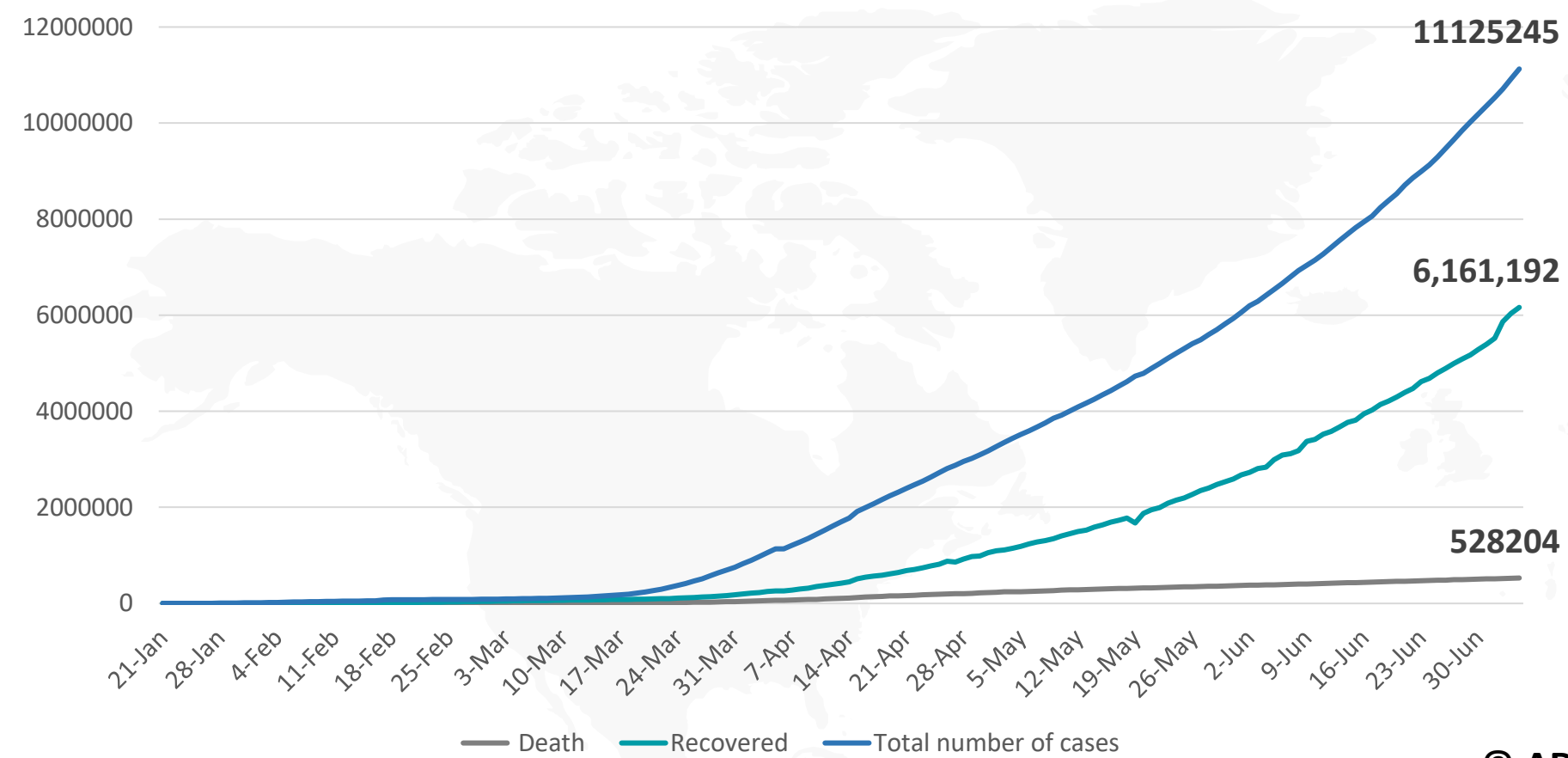
**Reopening US
Schools in the
Era of COVID-
19: Practical
Guidance from
other Nations**



- **WHO accepted the recommendation from the Solidarity Trial’s International Steering Committee to discontinue the trial’s hydroxychloroquine and lopinavir/ritonavir treatment arms for COVID-19.**
- WHO Regional Director for the Western Pacific, Dr. Takeshi Kasai spoke of a ‘new normal’, one that improves both health and livelihoods during a virtual press conference with the World Economic Forum on COVID-19. He added “This ‘new future’ is the dividend of COVID-19 which WHO hopes for.”
- The Regional Office for the Americas/PAHO has launched a new site for donations to its COVID-19 Response Fund. The resources will help PAHO support countries and territories throughout the Americas.
- The Regional Office for Europe is launching a new podcast service entitled: Health in Europe. WHO works with thousands of inspiring individuals and groups, and this podcast series highlights their stories and how they might impact your day-to-day life.



Figure 1: Total number of infected, recovered, and death cases



© ADPHC 2020

Figure 3: Total number of death due to COVID-19 (china and the result of the world)

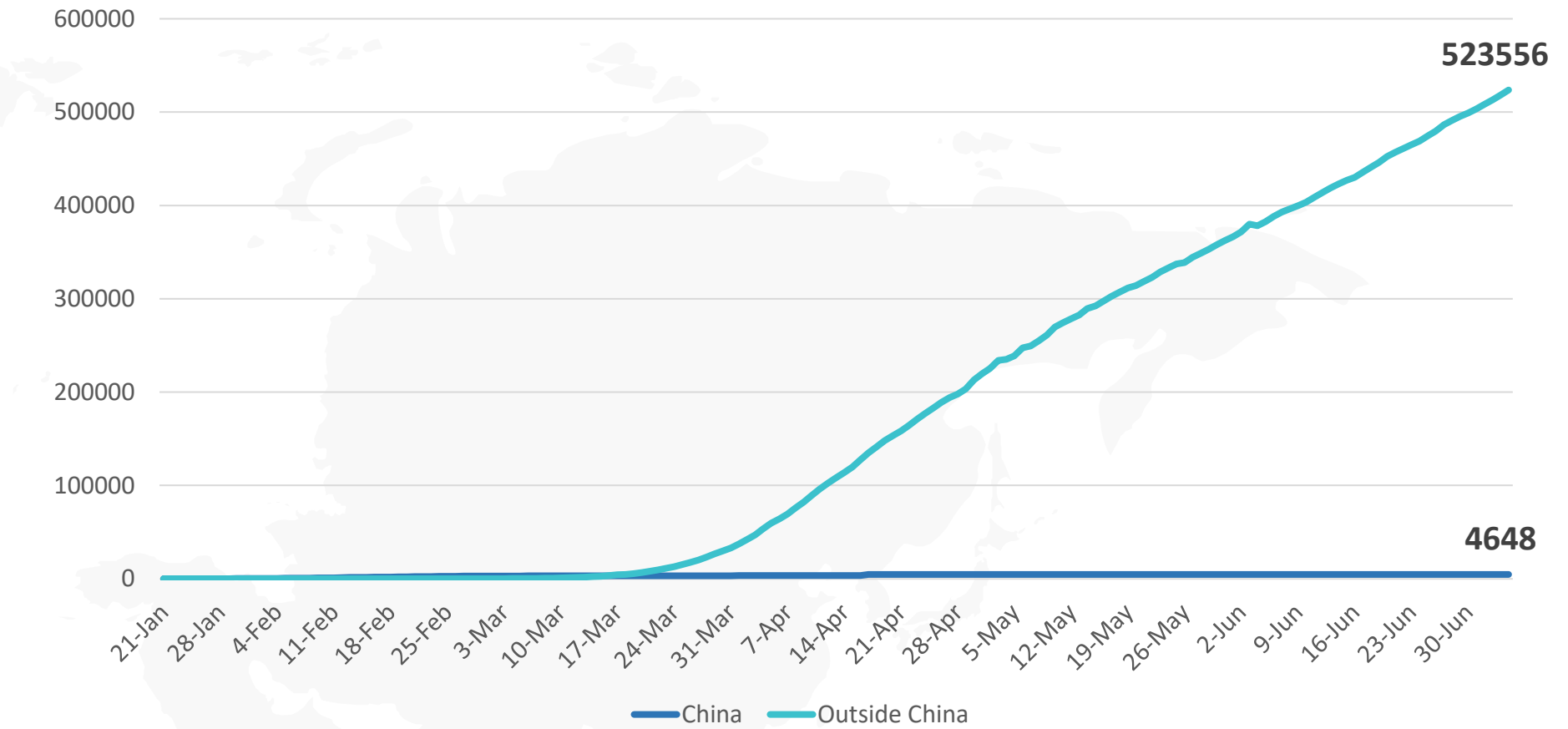


Figure 2: Daily new infected COVID-19 cases (china and the rest of the world)

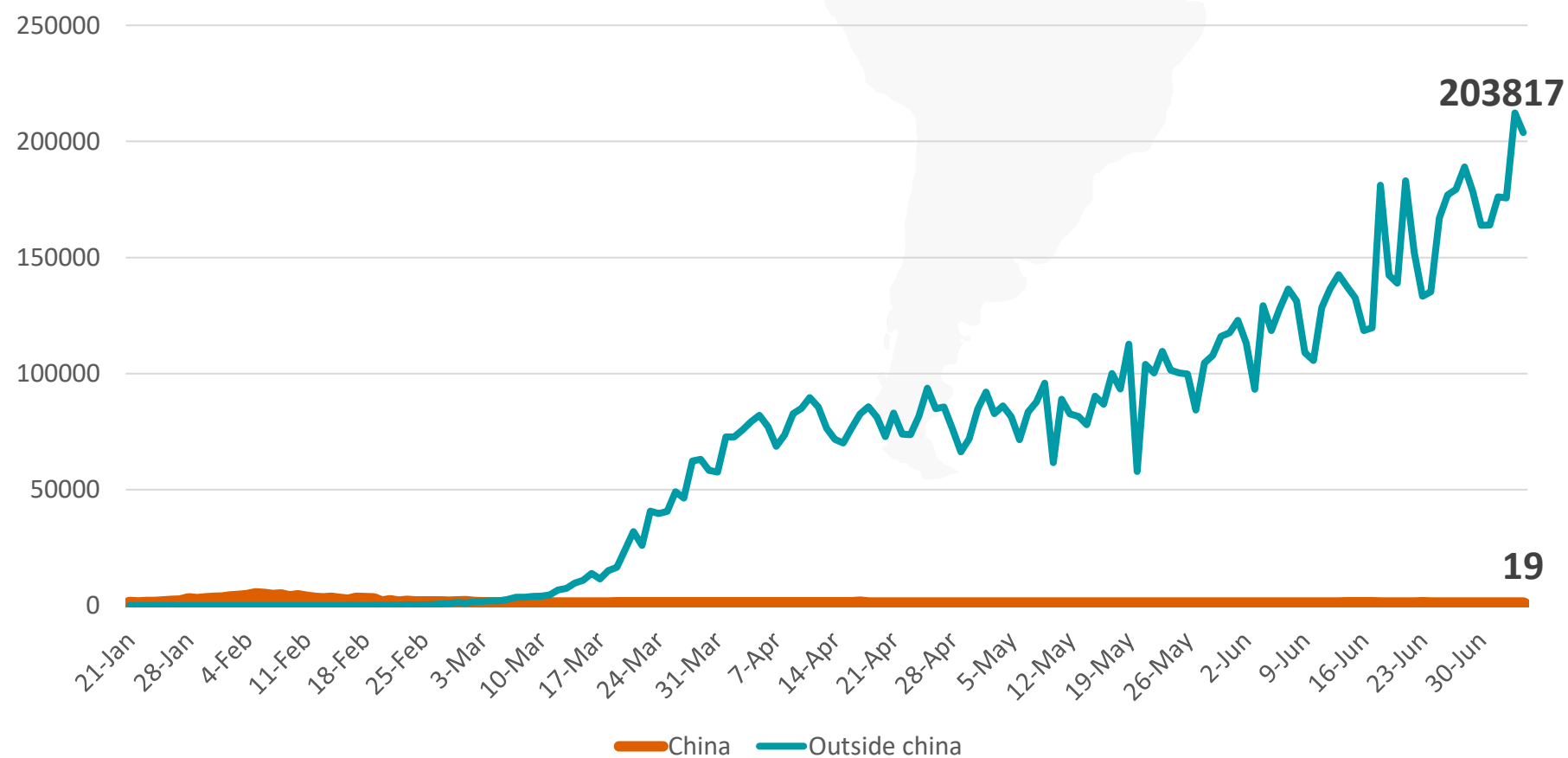


Figure 4: Global daily new deaths due to COVID-19 (china and rest world)

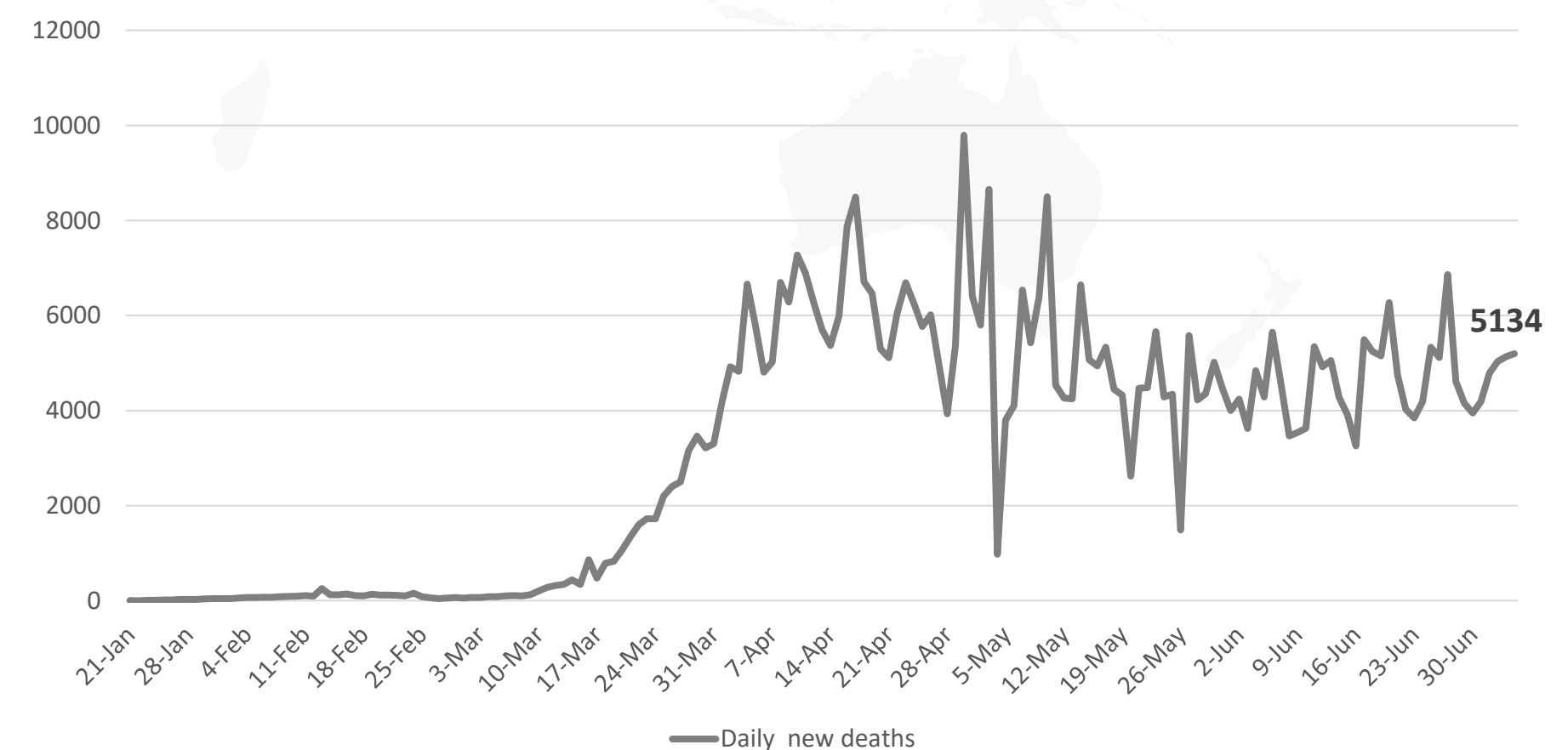
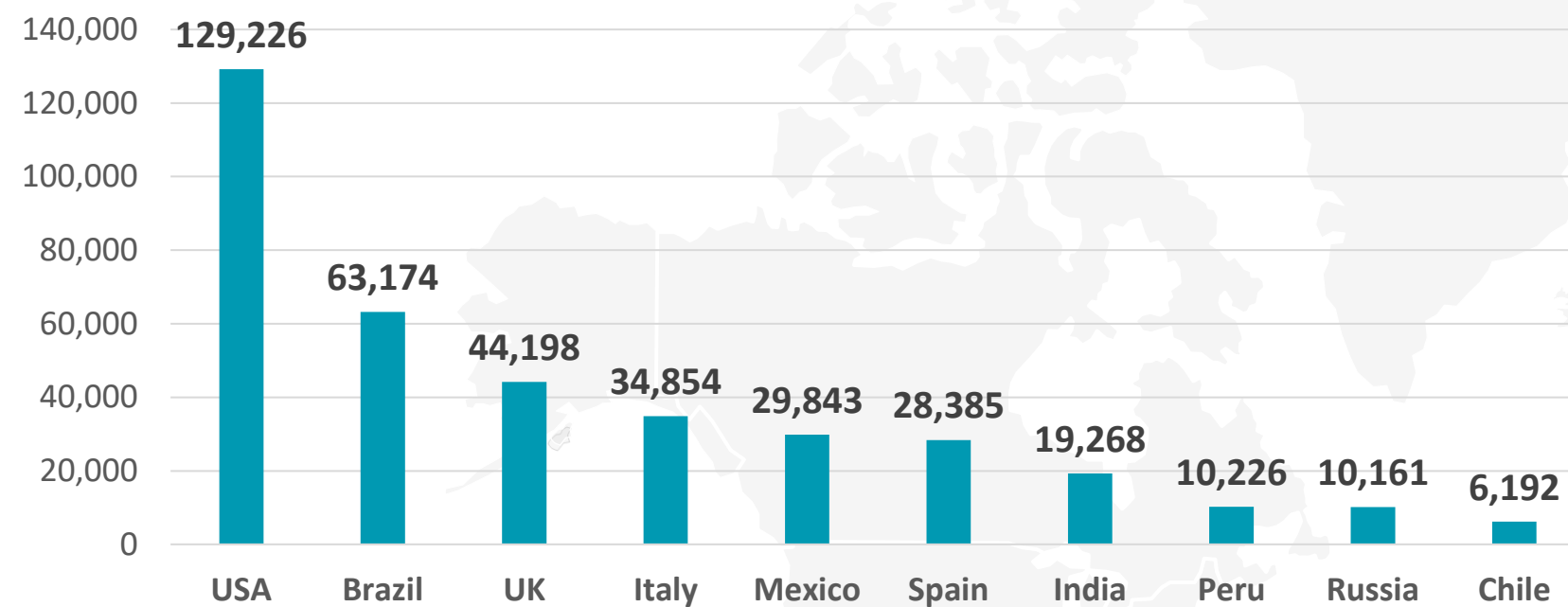
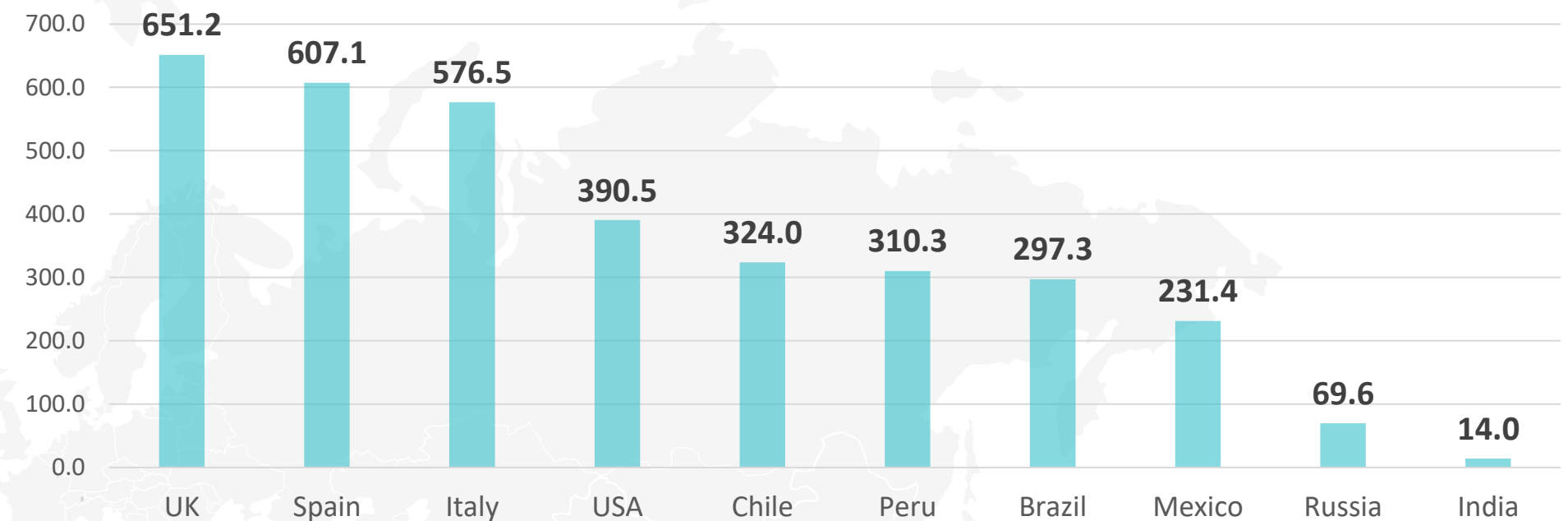


Figure 3: Top 10 countries in the total number of cases due to COVID-19

TOTAL DEATHS



DEATHS PER MILLION



TOTAL INFECTED CASES

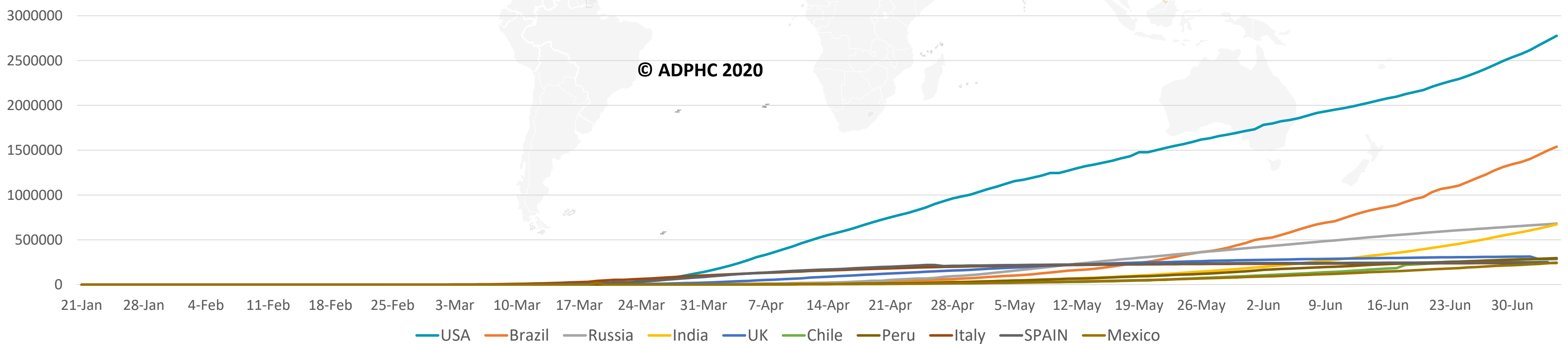


Figure 5: Total number of death due to COVID-19 reported by the UAE

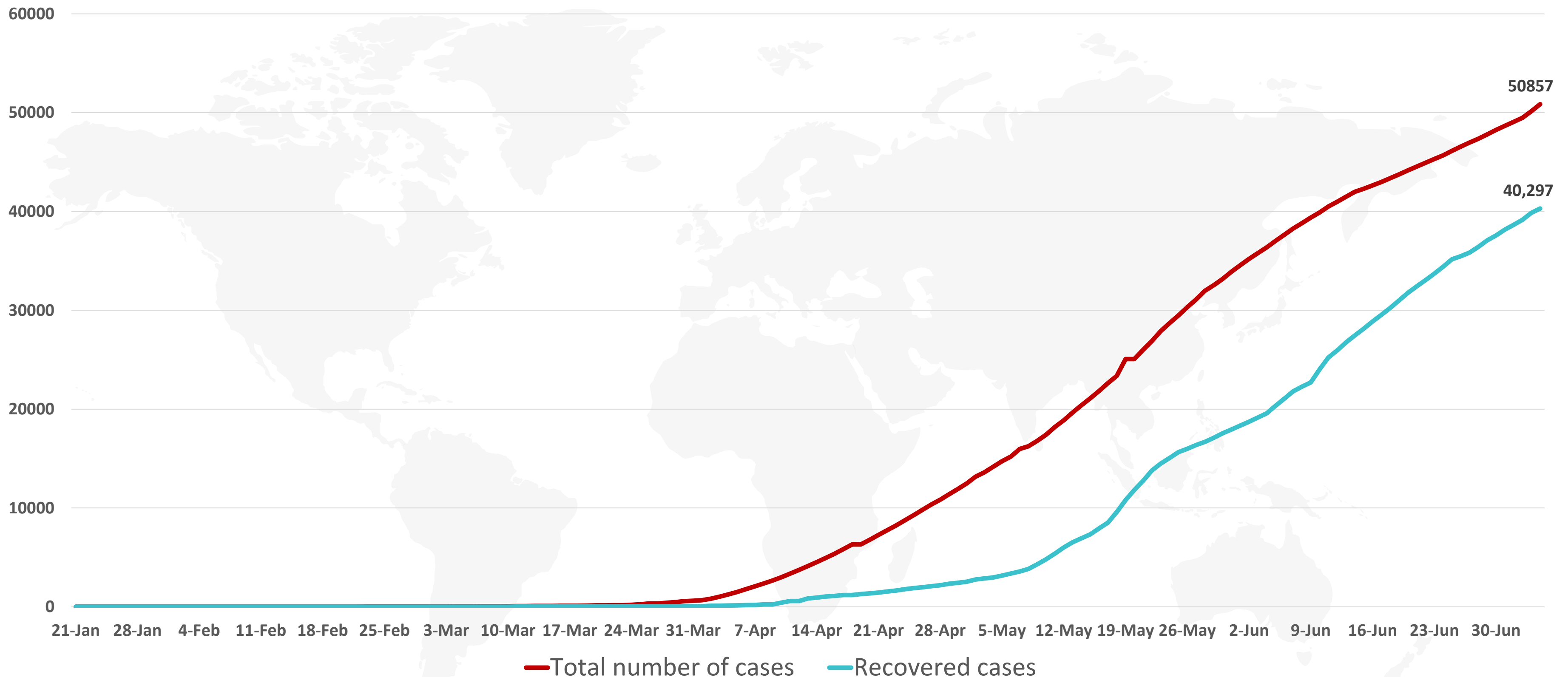


Figure 7A : Global distribution of COVID-19 cases

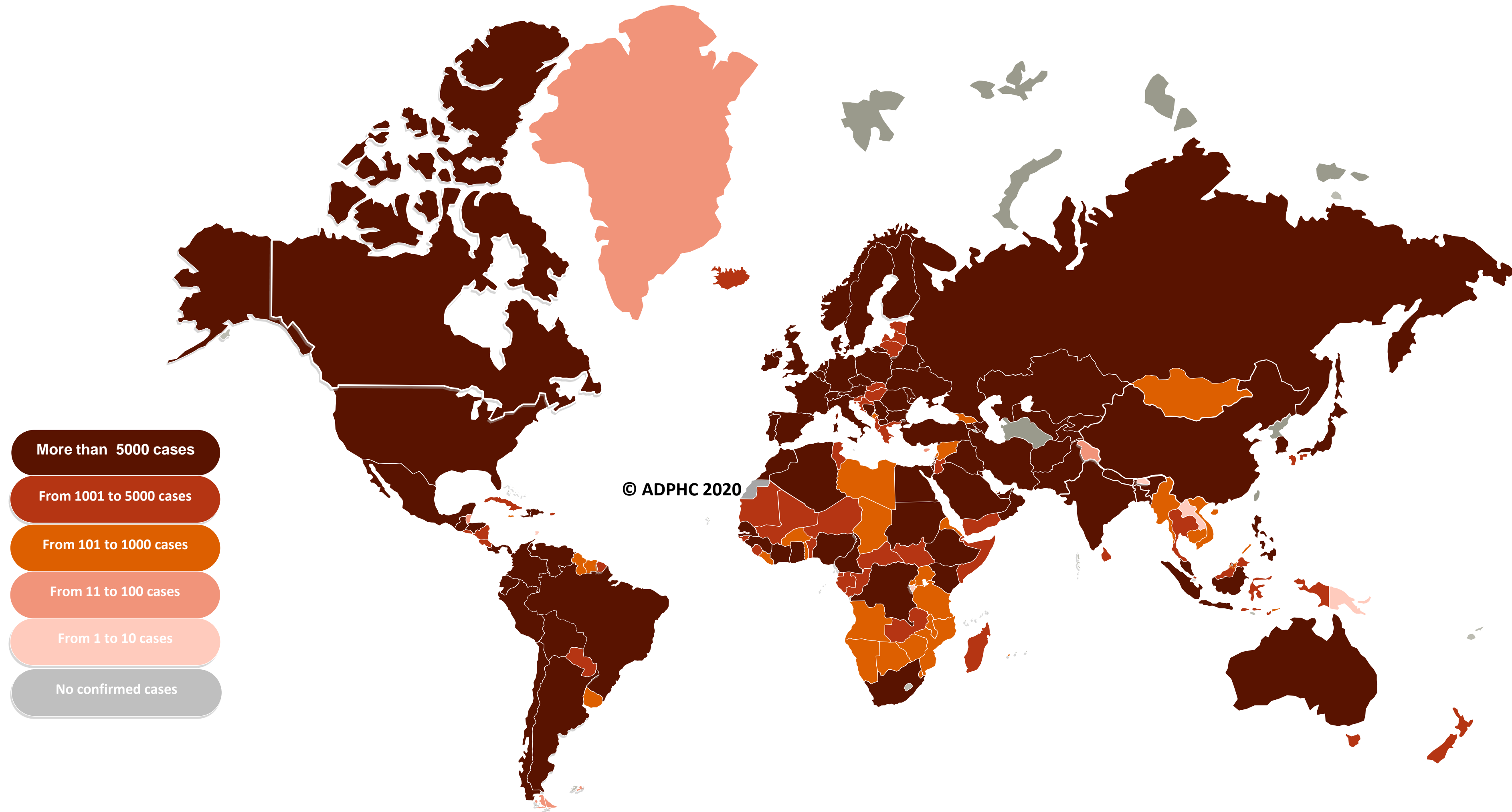
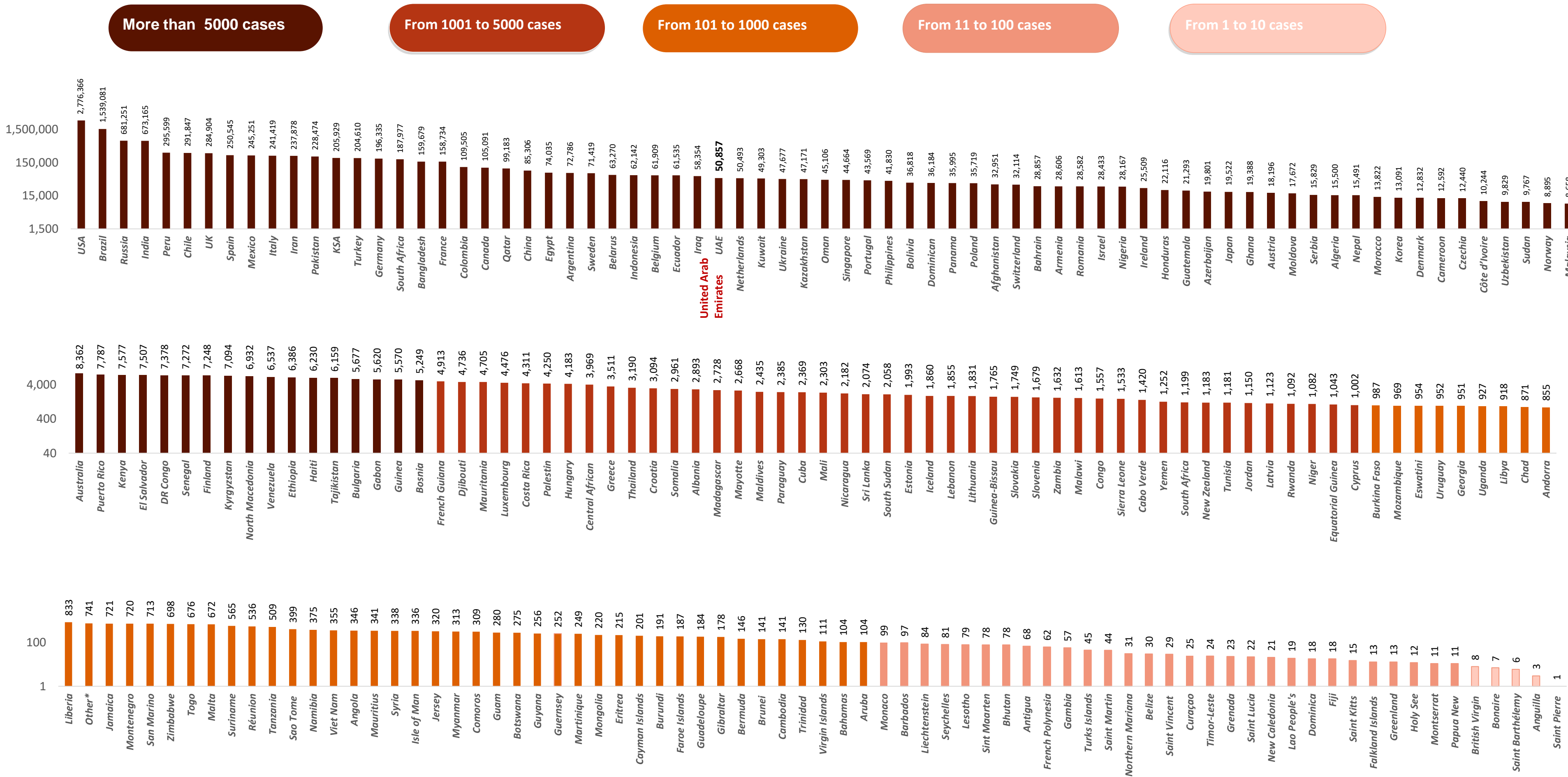
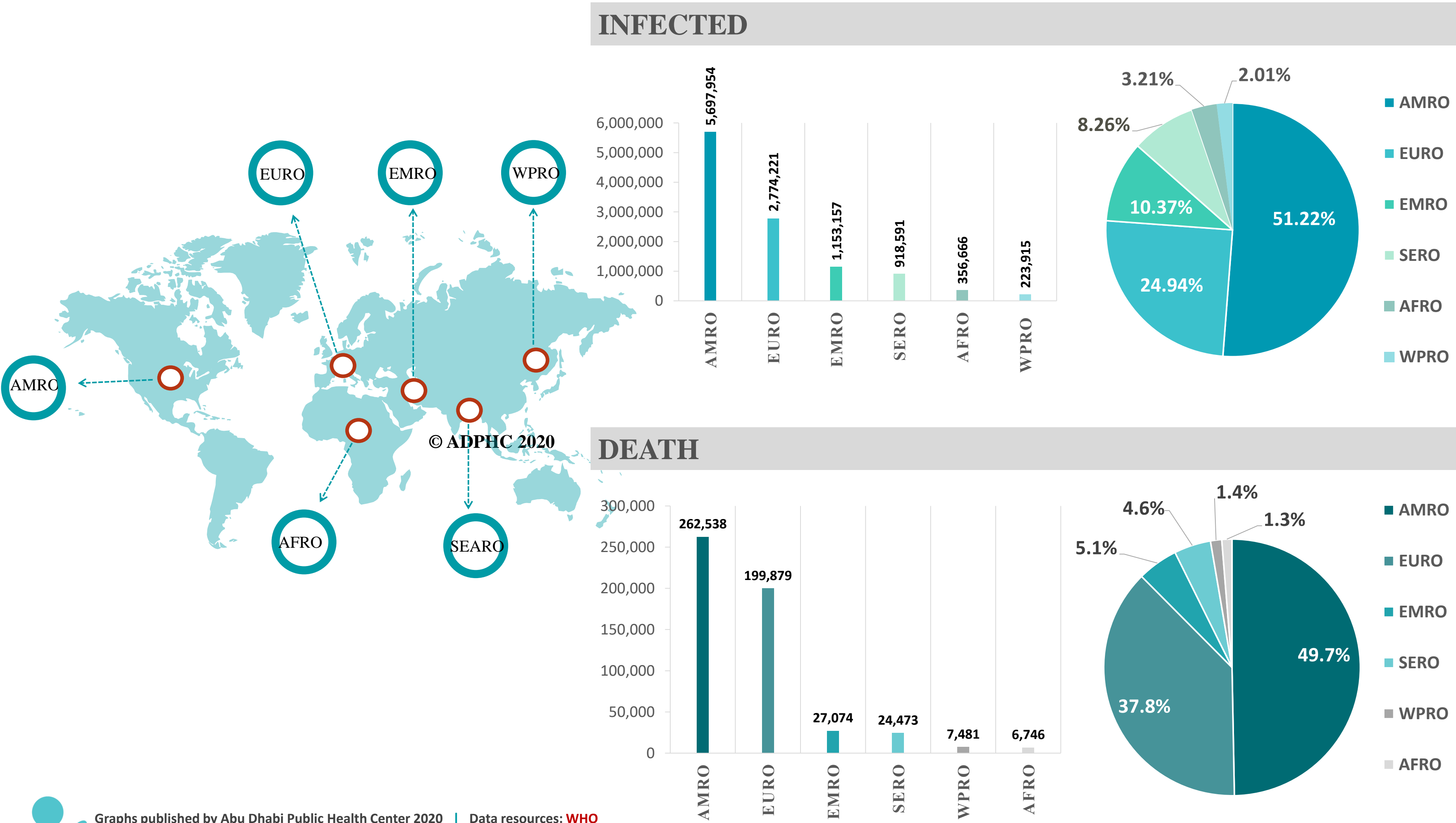


Figure 7B: Bar chart illustrate the global distribution of COVID19 cases



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

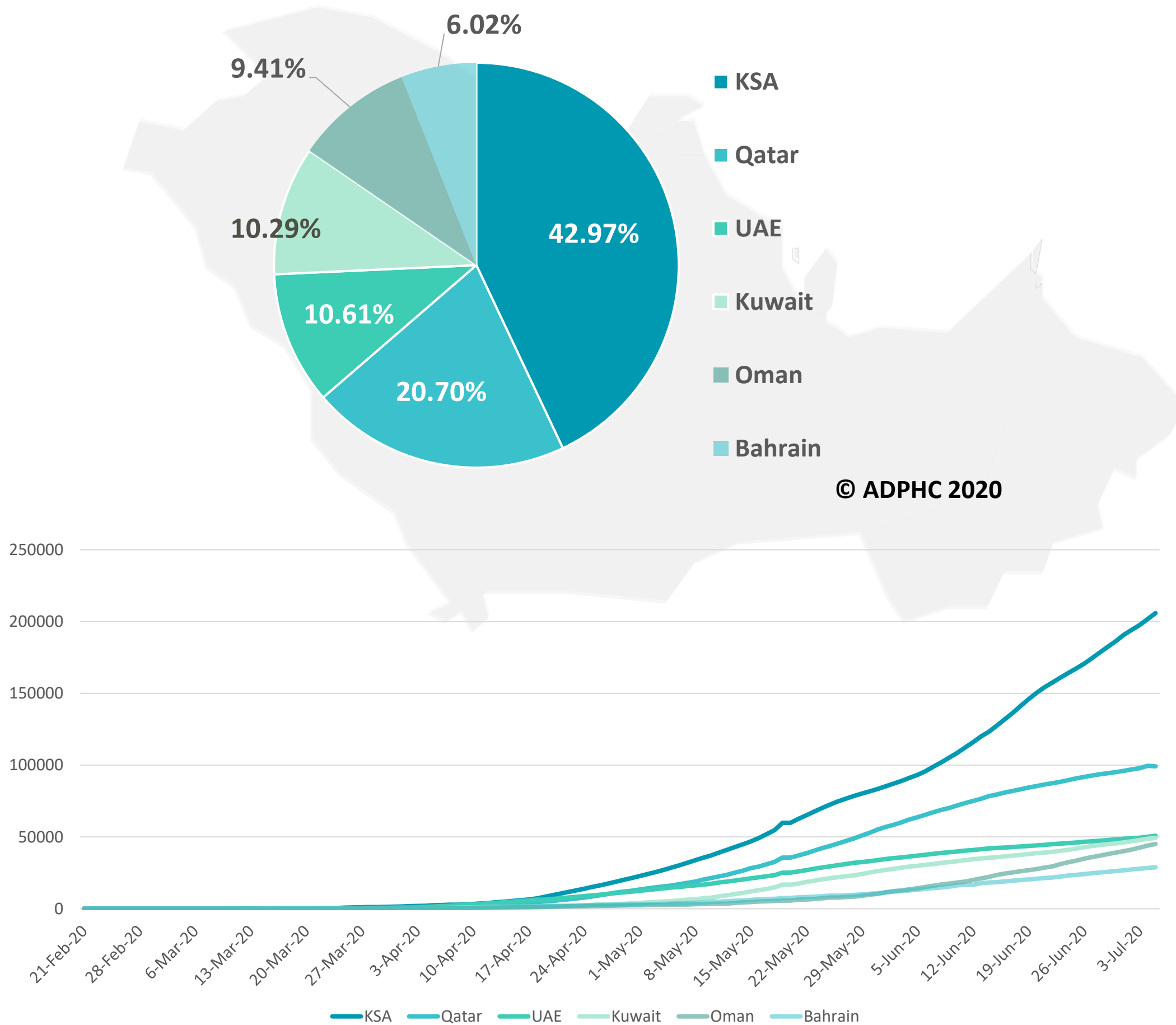
Figure 8: illustrate the Global distribution of COVID19 cases per region



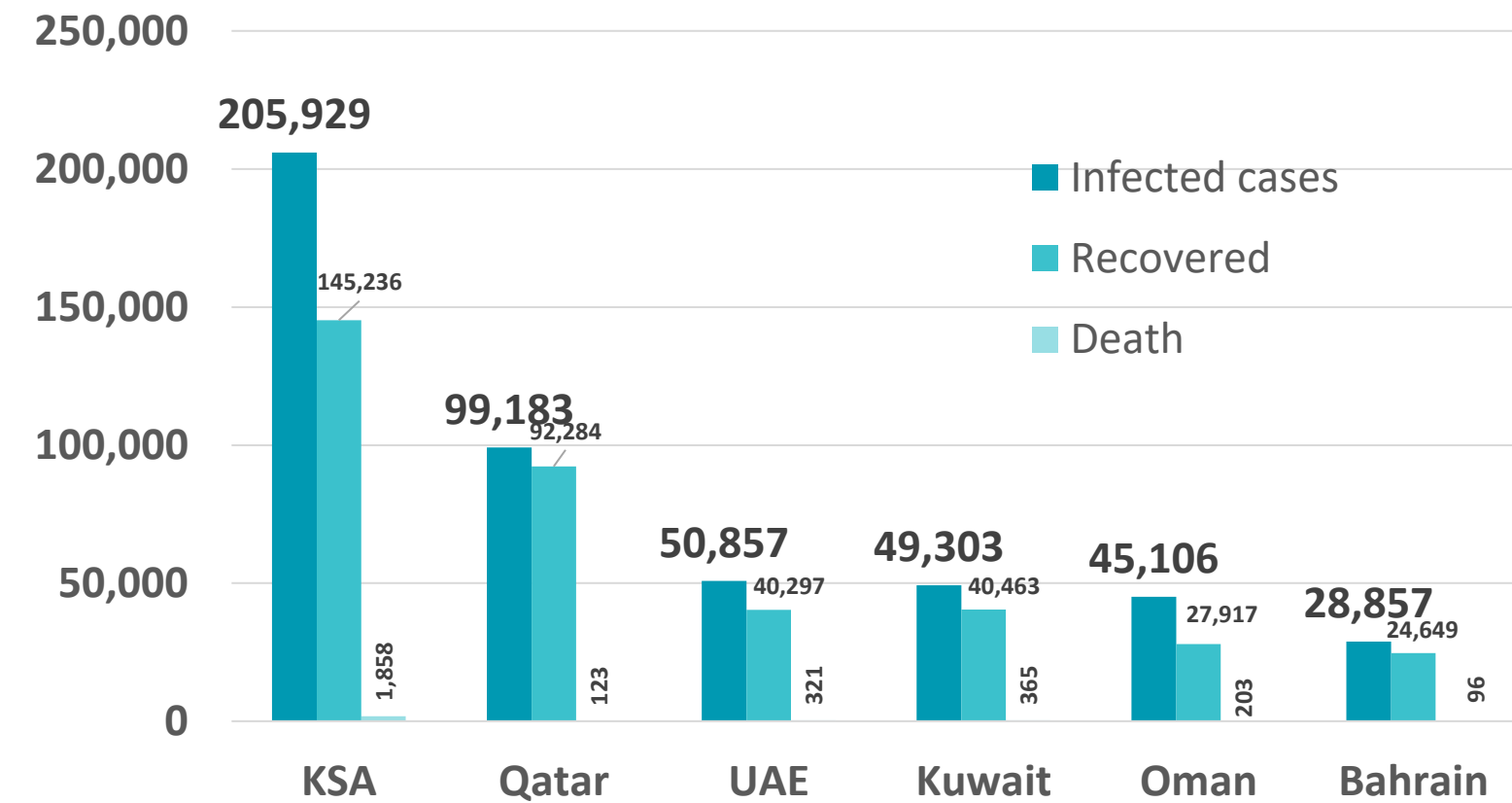
Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: [WHO](#)

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

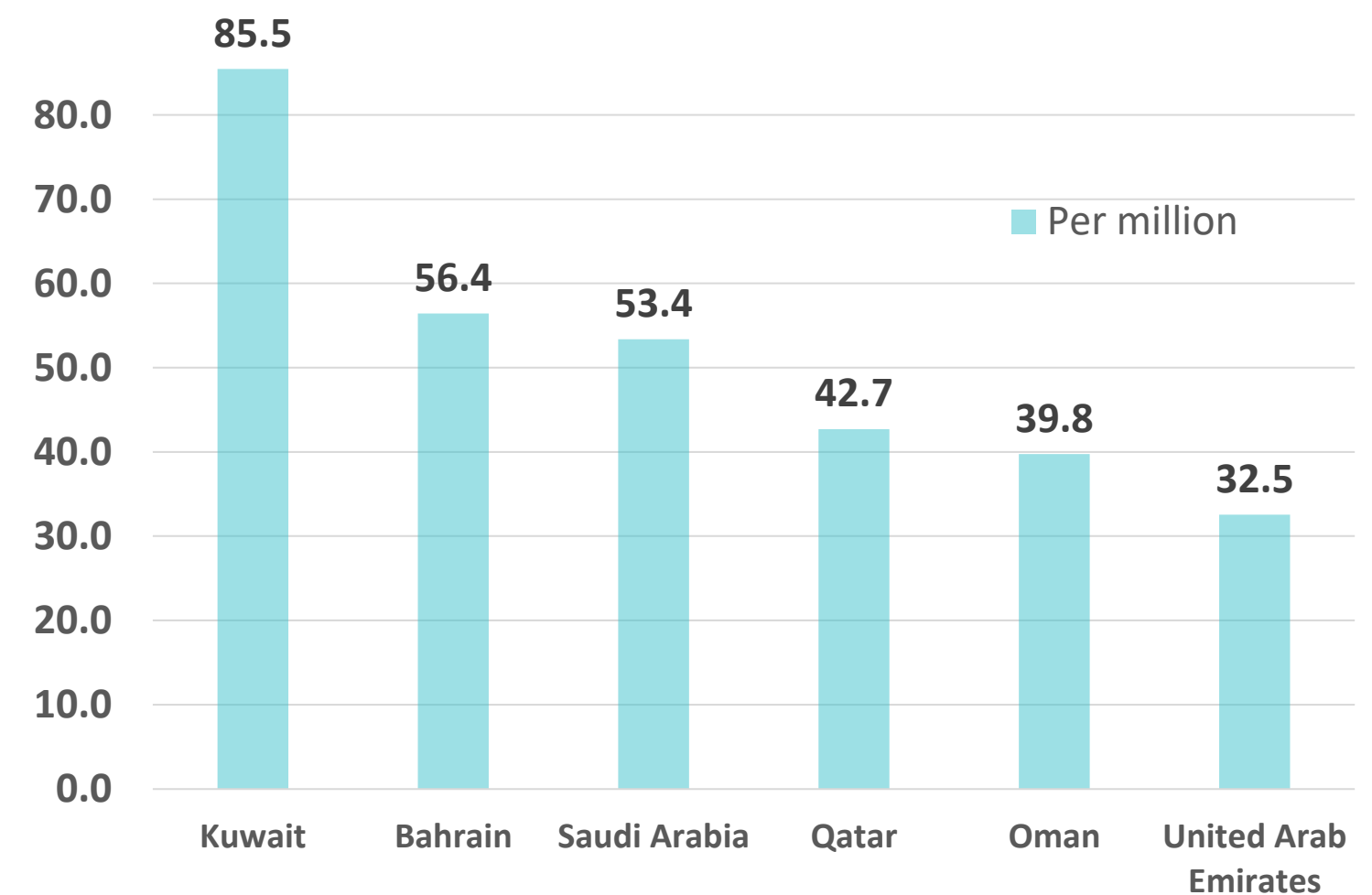


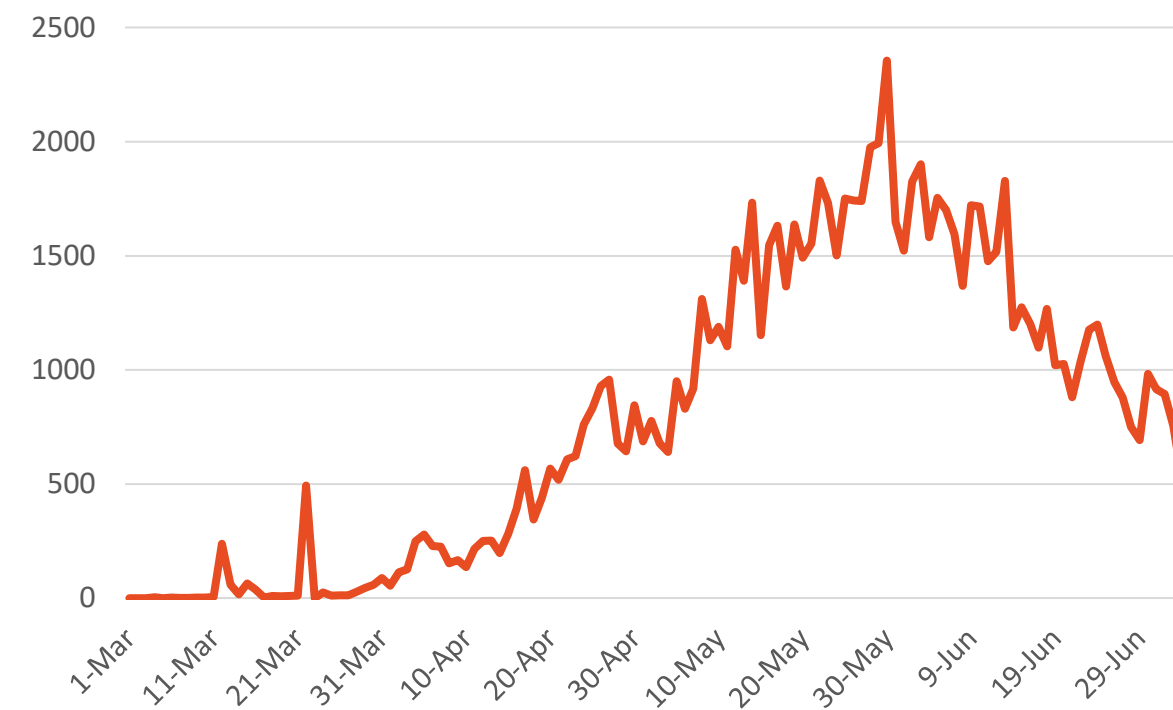
Figure 10: Comparative analysis of the distribution of COVID19 new cases in GCC countries

KSA



Source : [KSA ministry of health](#)

Qatar



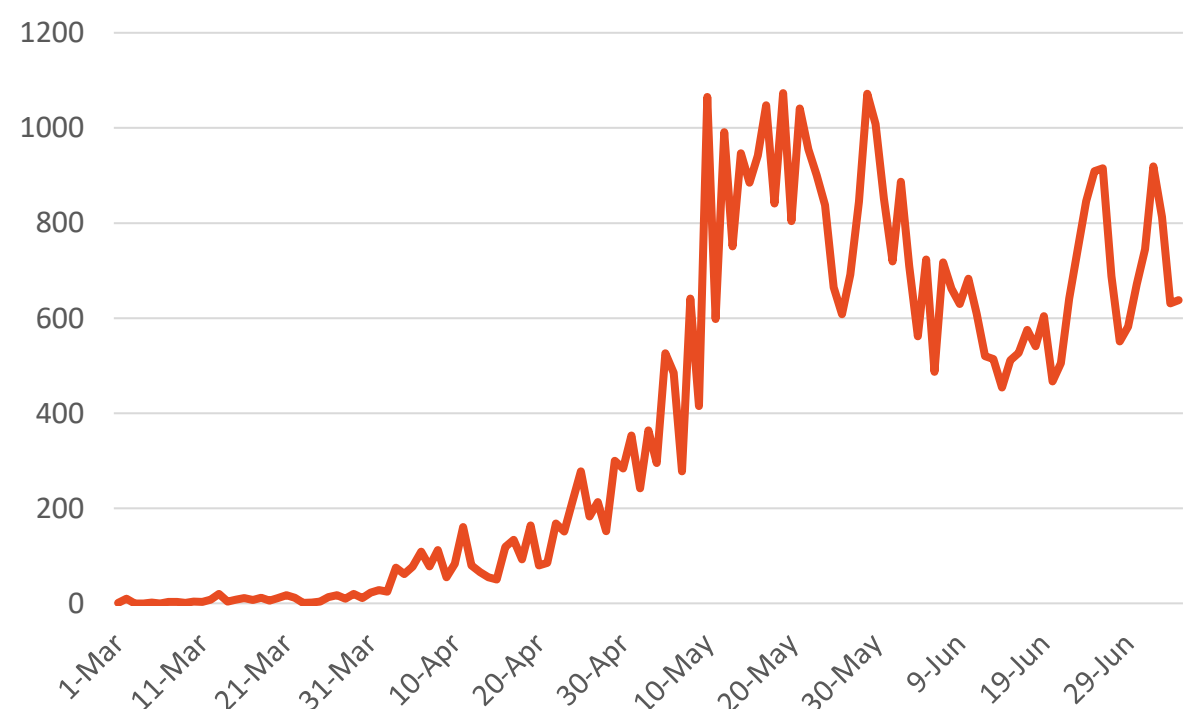
Source : [Qatar ministry of health](#)

UAE



Source : [National Emergency Crisis and Disaster Management Authority](#)

Kuwait



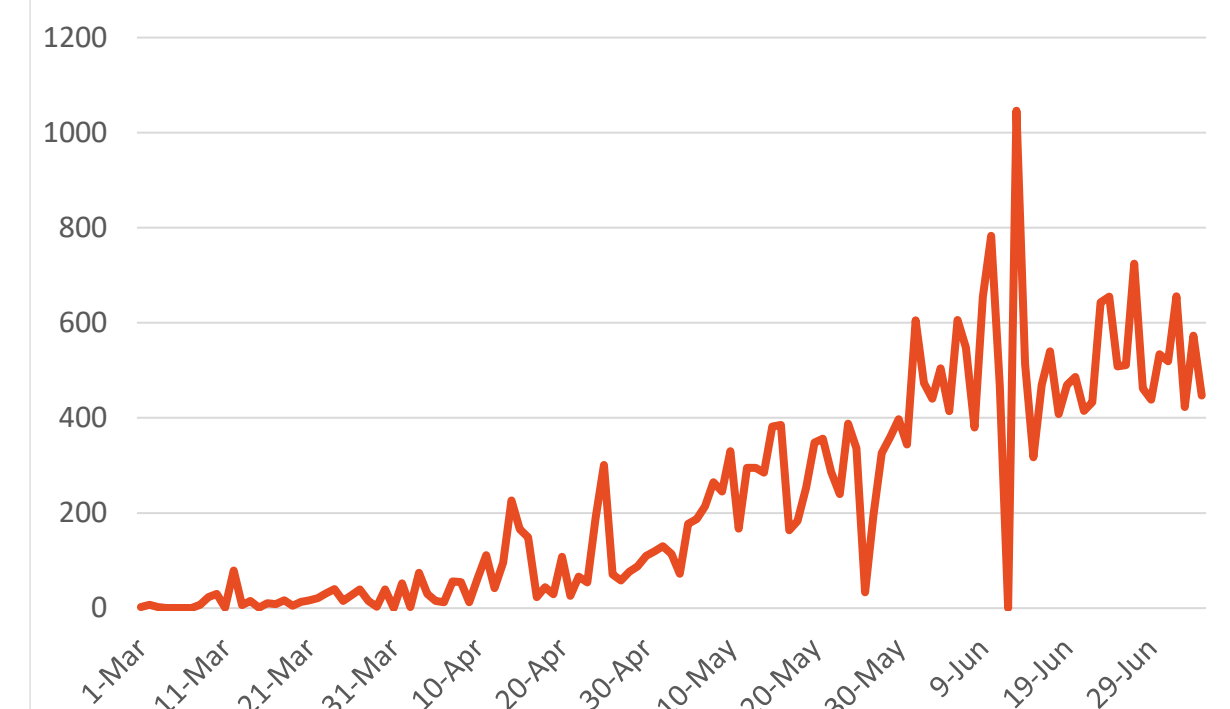
Source : [Kuwait ministry of health](#)

Oman © ADPHC 2020



Source : [Oman ministry of health](#)

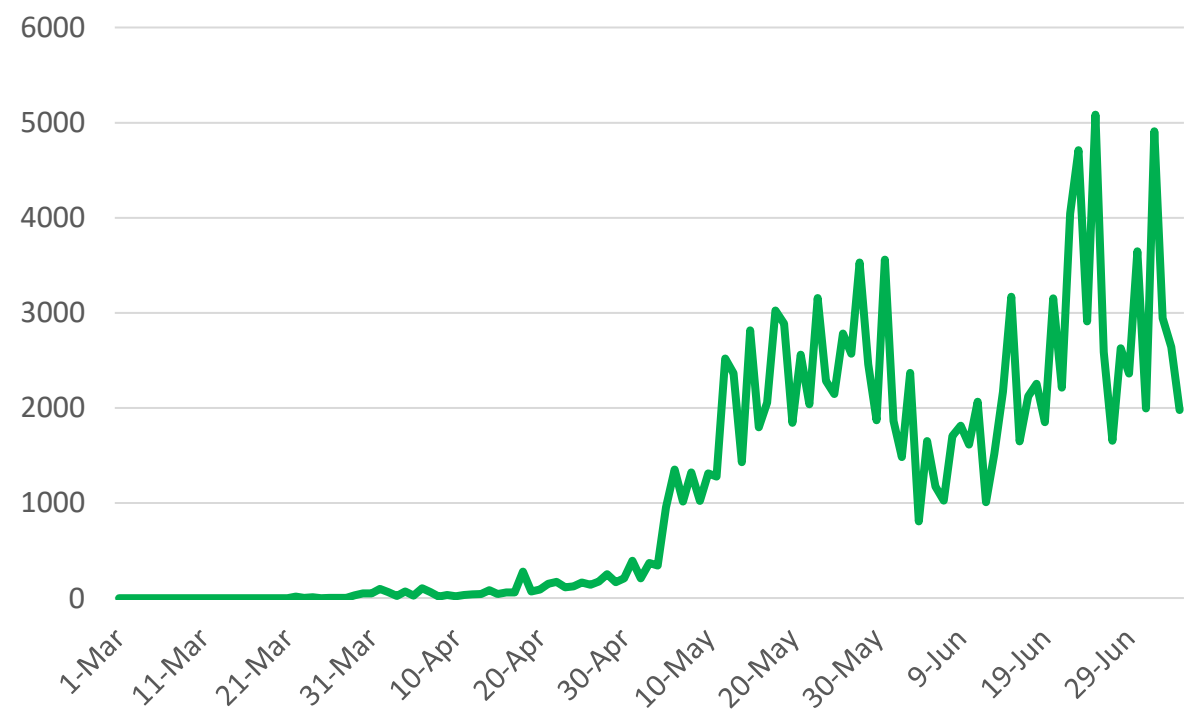
Bahrain



Source : [WHO](#)

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

KSA



Source : [KSA ministry of health](#)

Qatar



Source : [Qatar ministry of health](#)

UAE



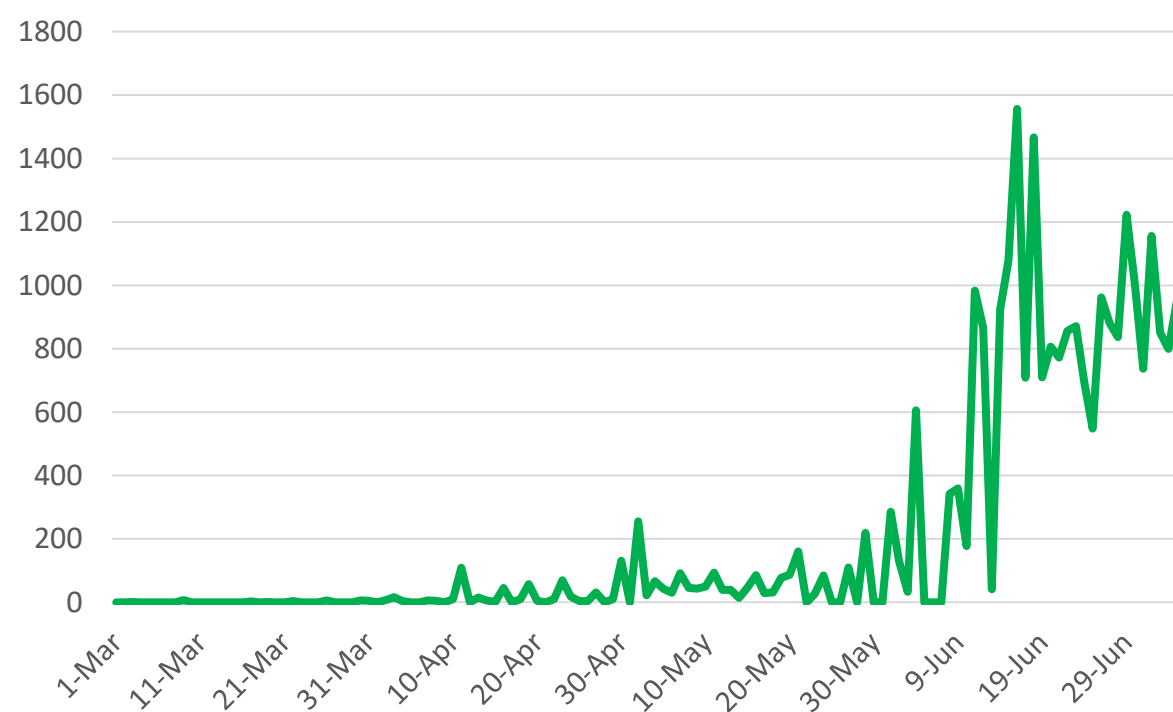
Source : [National Emergency Crisis and Disaster Management Authority](#)

Kuwait



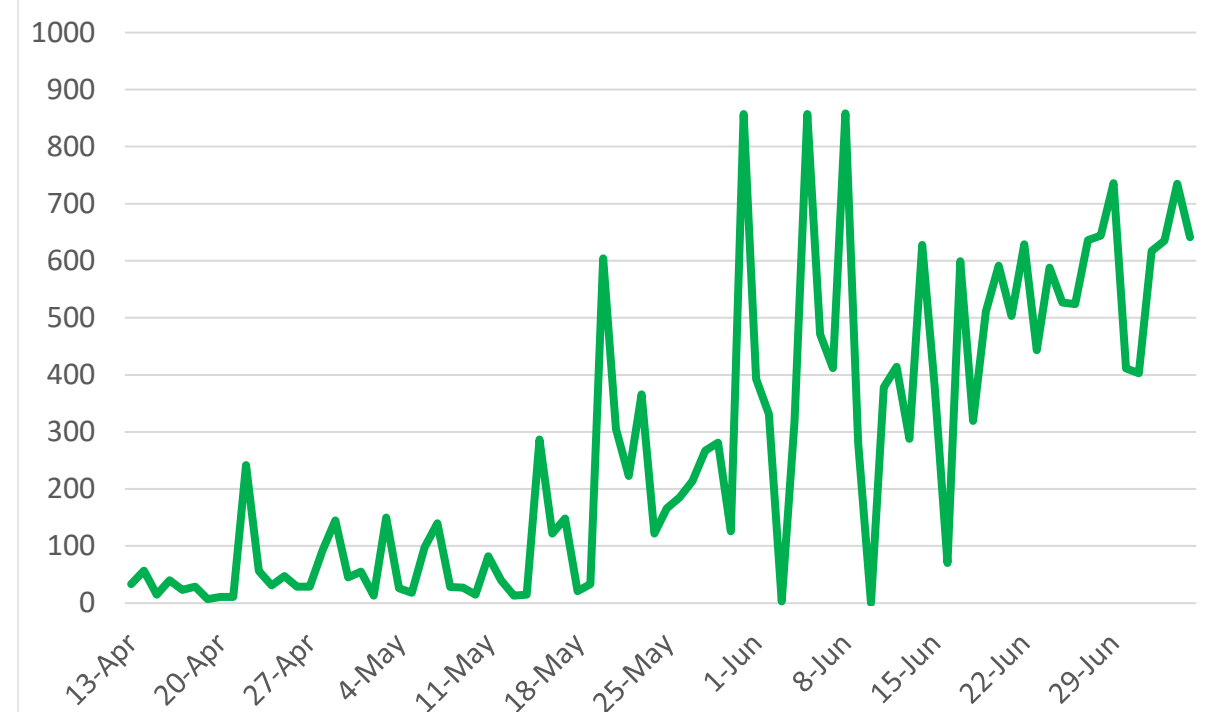
Source : [Kuwait ministry of health](#)

Oman © ADPHC 2020



Source : [Oman ministry of health](#)

Bahrain



Source : [GCCStat](#)



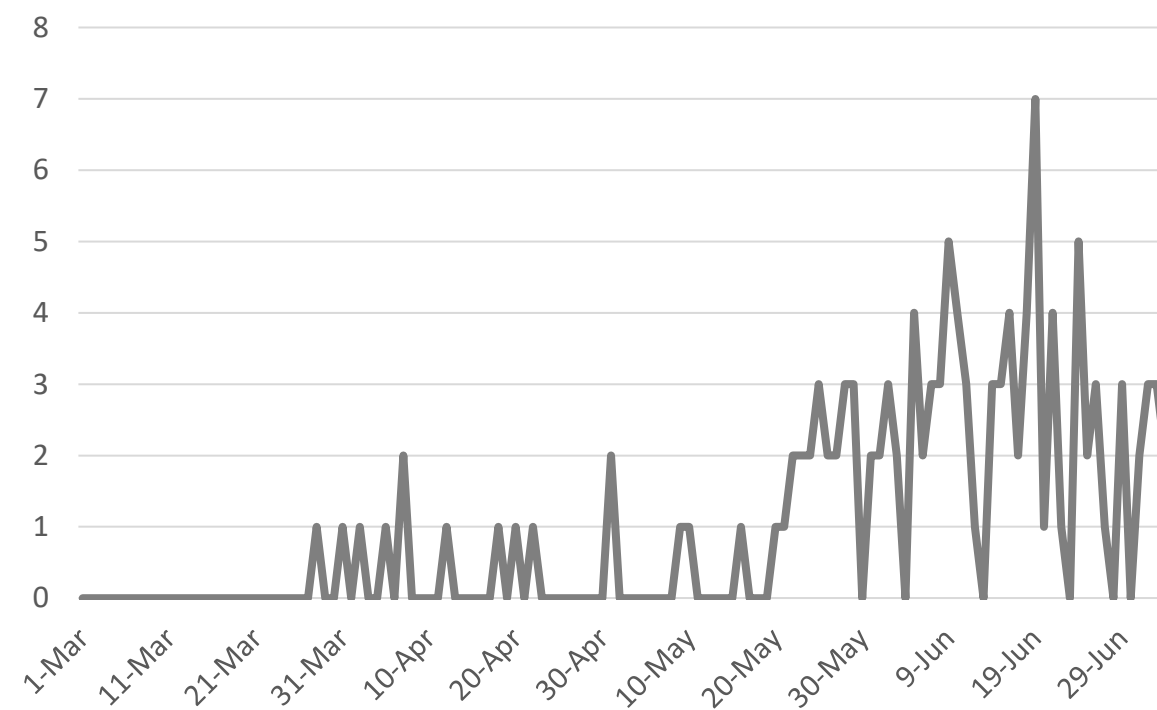
Figure 12: Comparative analysis of the distribution of COVID19 newly death cases in GCC countries

KSA



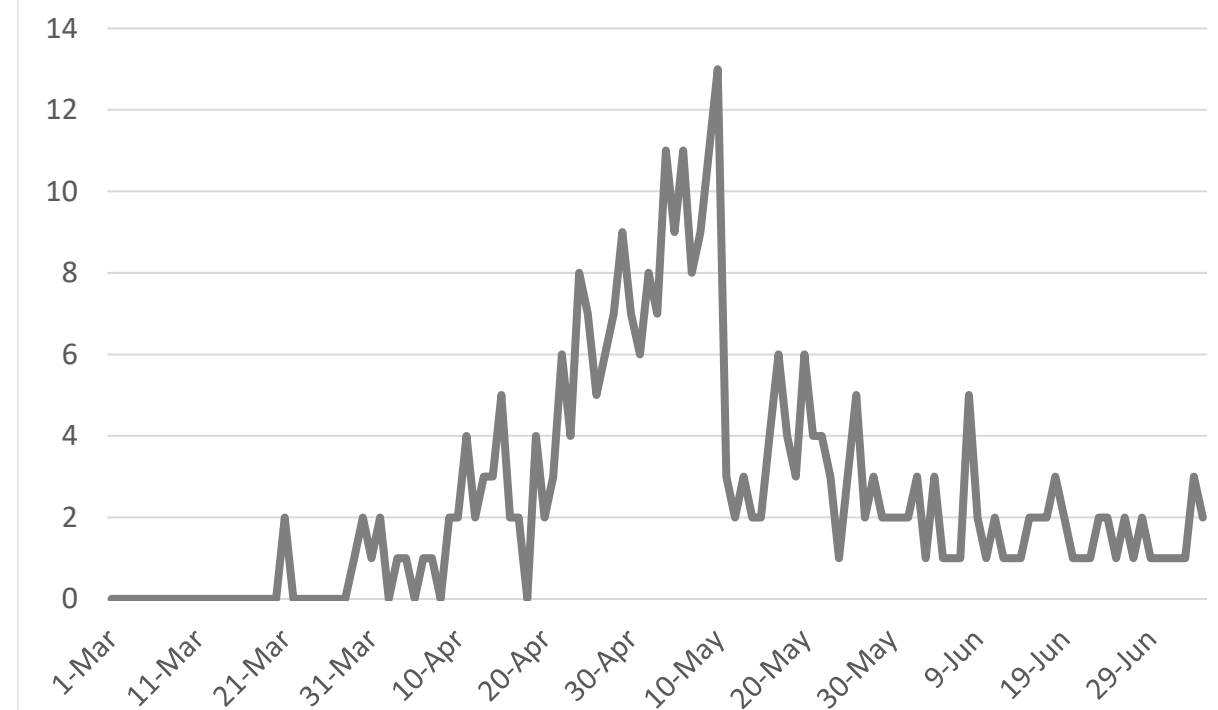
Source : [KSA ministry of health](#)

Qatar



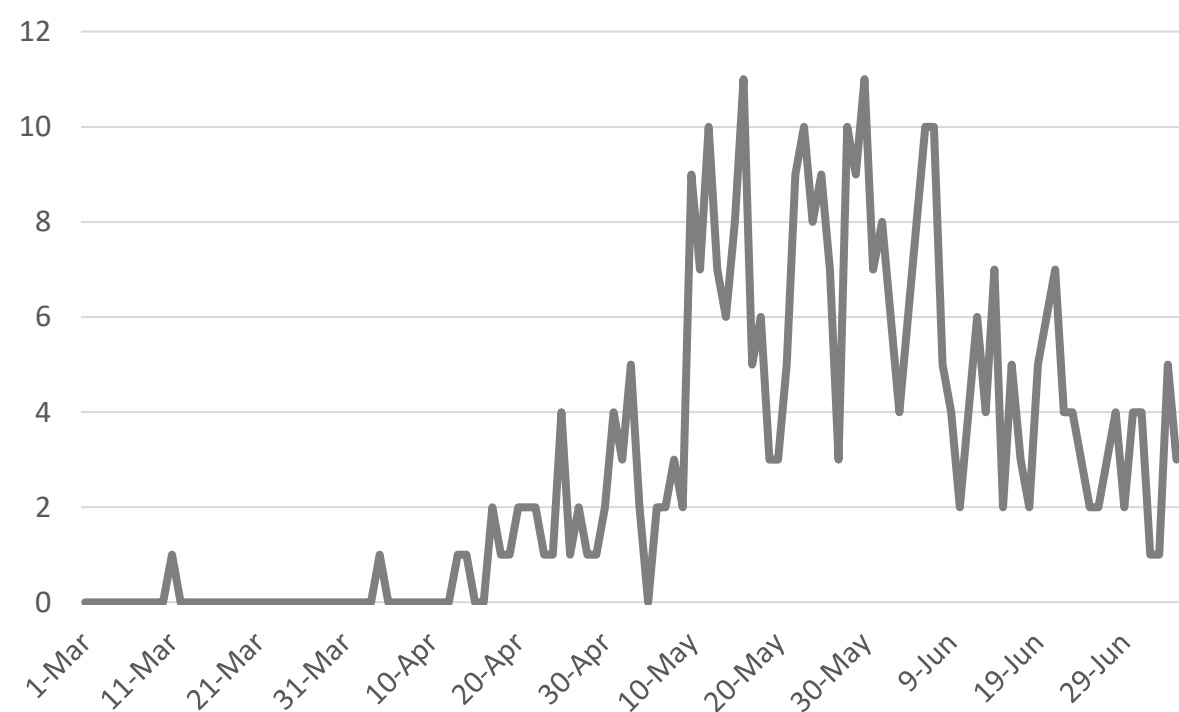
Source : [Qatar ministry of health](#)

UAE



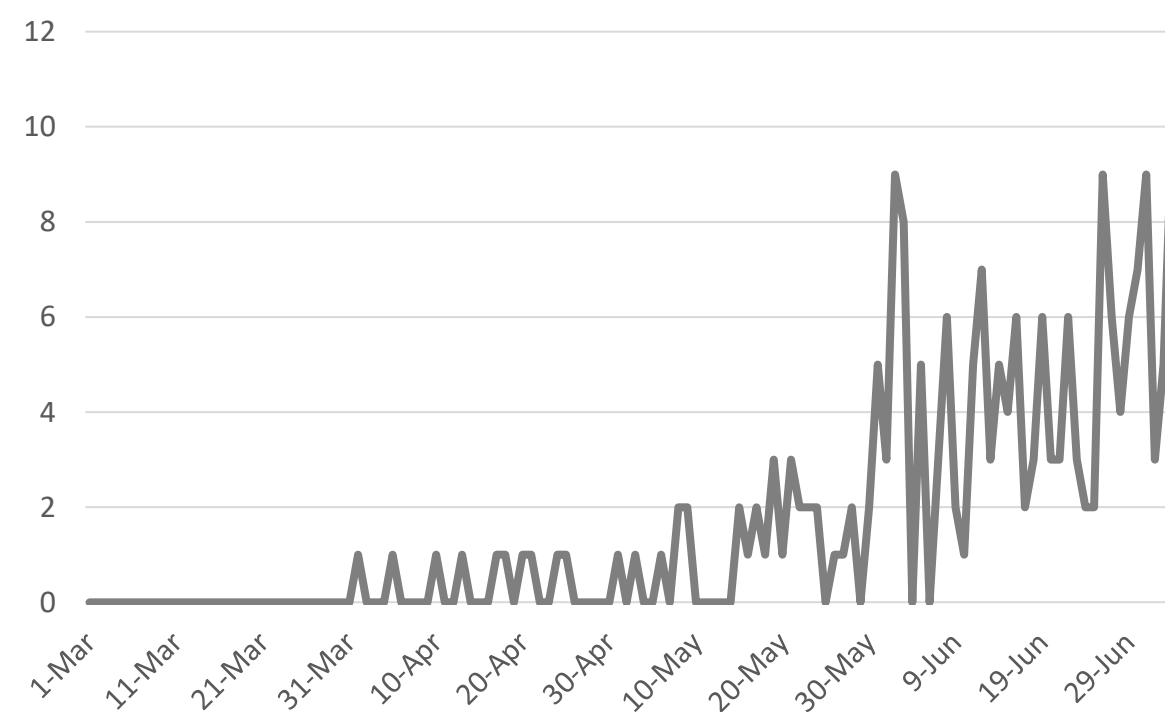
Source : [National Emergency Crisis and Disaster Management Authority](#)

Kuwait



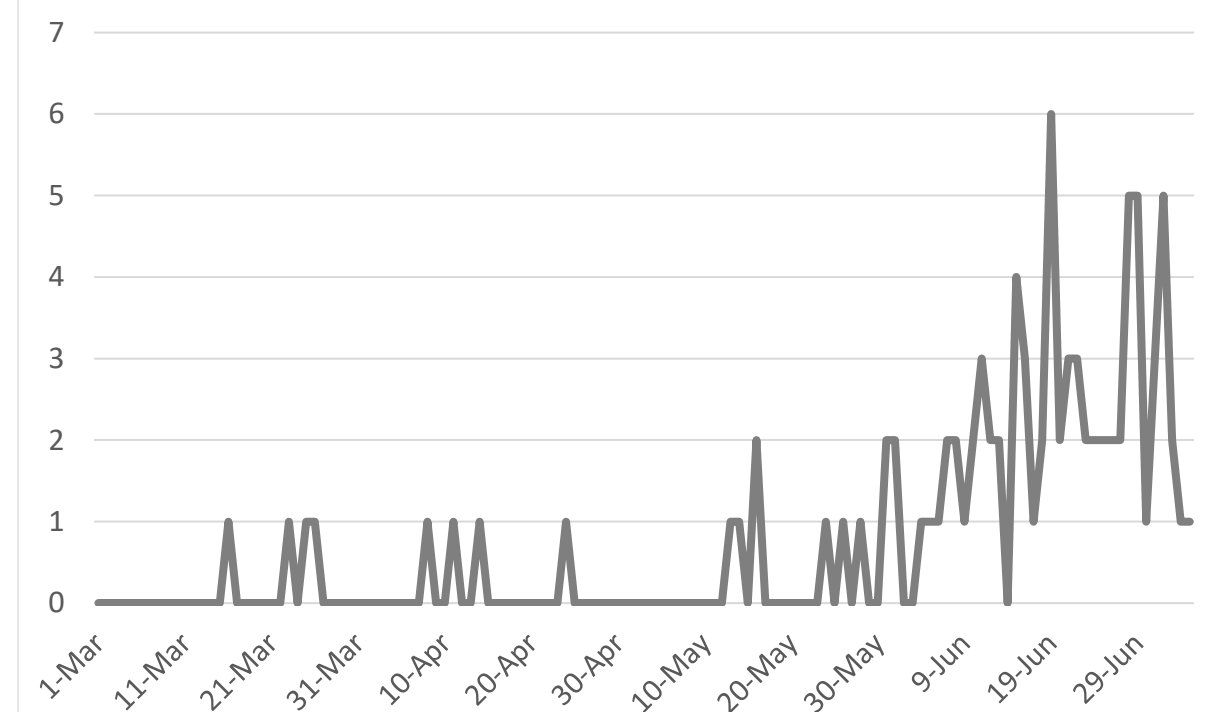
Source : [Kuwait ministry of health](#)

Oman © ADPHC 2020



Source : [Oman ministry of health](#)

Bahrain



Source : [WHO](#)



Article 1:

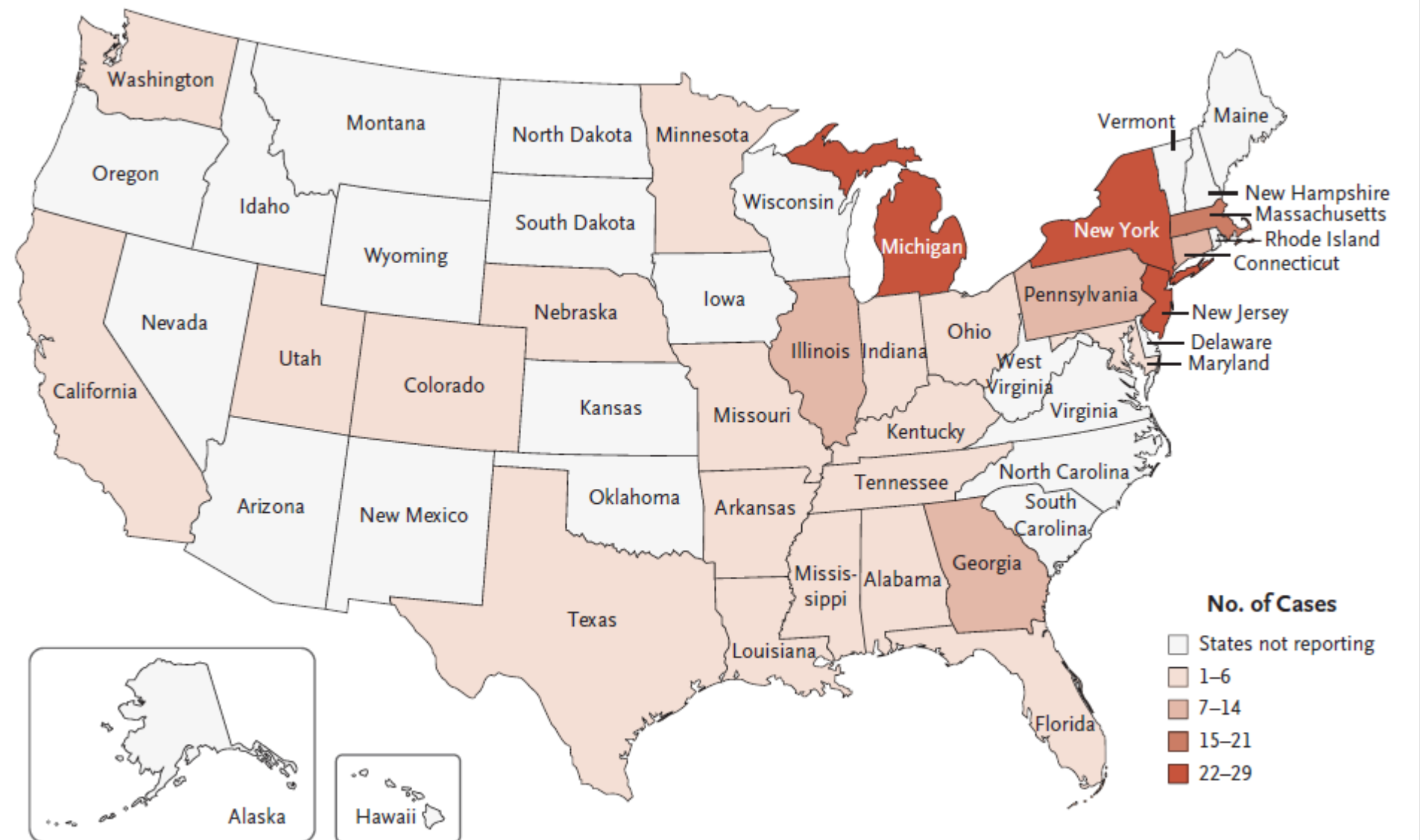
Published

Multisystem Inflammatory Syndrome in U.S. Children and Adolescents

02 July 2020 [The NEJM](#)

- SARS-CoV-2 infection in children and adolescents is mild and usually does not lead to medical Intervention. In the UK, clinicians reported a cluster of eight previously healthy children presenting with cardiovascular shock, fever, and hyperinflammation in April 2020. Understanding the epidemiology and clinical course of multisystem inflammatory syndrome in children is important.
- Investigators conducted a targeted surveillance on multisystem inflammatory syndrome in children between March 15 to May 20, 2020, in the US. They reported that 186 child/adolescent had multisystem inflammatory syndrome in 26 states. The median age was 8.3 years, 62% were male, 73% had previously been healthy, and 70% were positive for SARS-CoV-2.
- Organ-system involvement included the gastrointestinal system in 171 patients (92%), cardiovascular (80%), hematologic (76%), mucocutaneous (74%), and respiratory (70%).

A Cases of MIS-C According to State



- **Outcomes:** The median duration of hospitalization was 7 days; 80% were admitted to intensive care units, 20% received mechanical ventilation, and 4 (2%) died. Kawasaki's disease-like features were documented in 74 (40%). Most patients (92%) had elevations in at least four biomarkers indicating systemic inflammation. Intravenous immune globulin was used in 144 (77%), glucocorticoids in 91 (49%), and interleukin-6 or 1RA inhibitors in 38 (20%).

Article 1: CONT.,

Published

02 July 2020 [The NEJM](#)

- The 4 patients who died were 10 to 16 years of age; 2 had diagnoses of underlying conditions, and 3 received ECMO support.
- In a small subgroup of patients, a median interval of 25 days was reported between the onset of COVID-19 symptoms and hospitalization for MIS-C.
- The MIS-C cases were observed in March and April. The recent emergence of reported cases in several countries during the descent of the COVID-19 epidemic in those locations suggests that the increased detection of MIS-C in the later part of surveillance period reflects a delayed onset after infection rather than an increase in community transmission.
- The investigators concluded that multisystem inflammatory syndrome in children infected with SARS-CoV-2 led to serious and life-threatening illness in previously healthy children and adolescents.

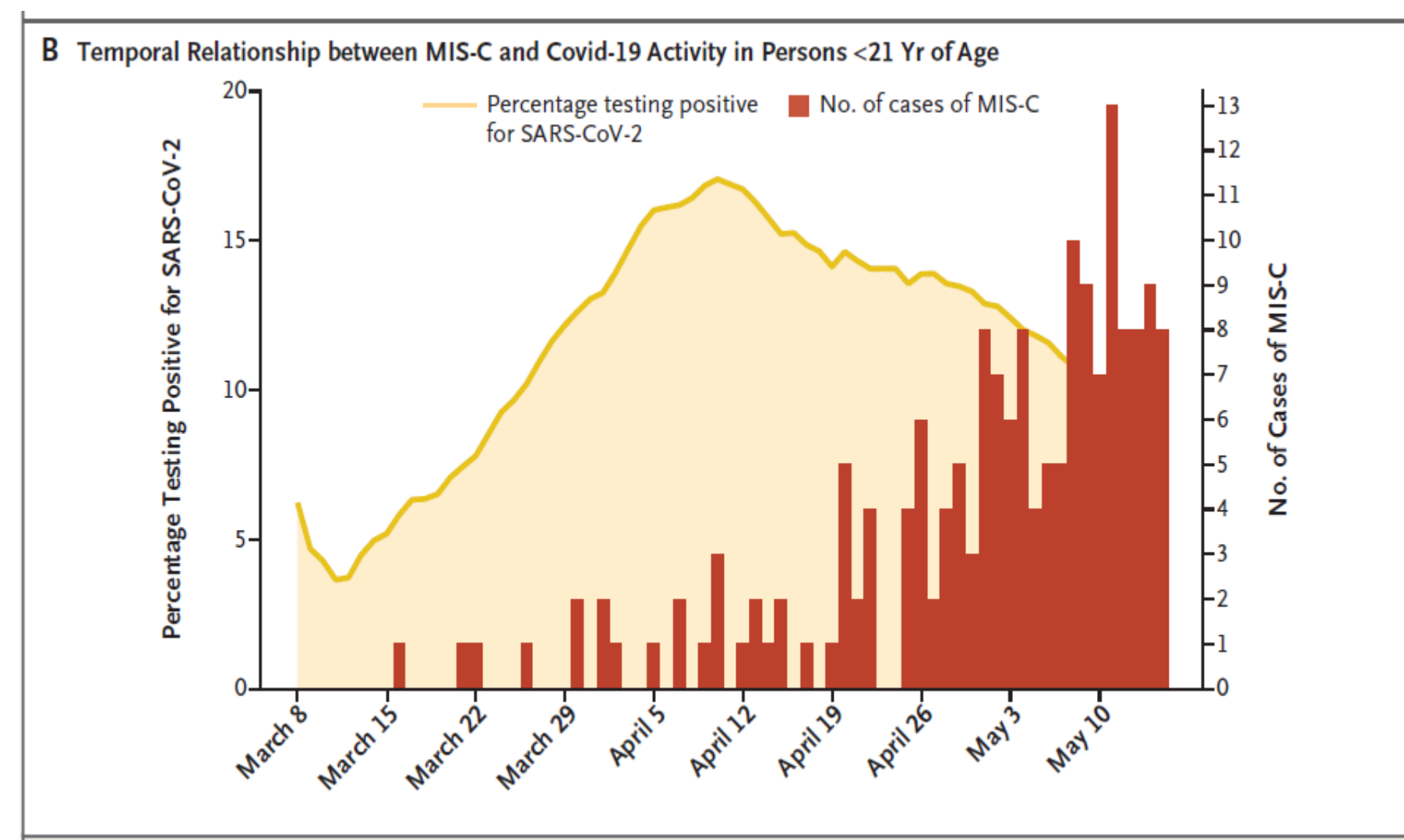


Table 1. (Continued.)

Characteristic	Laboratory Confirmation of SARS-CoV-2 Infection (N=131)		Epidemiologic Link to Person with Covid-19 (N=55)*	All Patients (N=186)
	RT-PCR Positive (N=73)†	Antibody Test Positive, RT-PCR Negative or Unknown (N=58)		
Outcome — no. (%)				
Still hospitalized as of May 20, 2020	26 (36)	19 (33)	7 (13)	52 (28)
Discharged alive	44 (60)	39 (67)	47 (85)	130 (70)
Died	3 (4)	0	1 (2)	4 (2)



Article 2: Development of Potential COVID-19 Vaccines Continues to Accelerate

Published

July 2020 [THE LANCET](#)

- In the United Kingdom (UK), a recombinant vaccine AZD1222 from the University of Oxford and AstraZeneca in which a replication deficient chimpanzee adenovirus is used to carry DNA for the spike antigen protein of SARS-CoV-2 that enables the virus to infect human cells. Currently this vaccine has entered phase 2 and 3 trials in the UK although decreasing transmission in the UK indicates that efficacy needs to be assessed in other phase 3 trials (in Brazil).
- Another vaccine from Imperial College London, UK is made of RNA that instructs muscle cells in the body to produce the distinctive spike protein present on the surface of SARS-CoV-2. It is anticipated that these proteins will trigger the immune response that would be able to kill the virus. Currently a combined phase 1/2 trial in the UK is in progress. If it is shown to be safe, the phase 3 trials will be conducted in a country where community transmission is high.
- In the United States (US), the mRNA 1273 vaccine by Moderna has been created using mRNA technology still to be used in vaccine production. The phase 1 trial produced an immune response with levels of neutralizing antibodies similar to those found in people previously infected with COVID-19. A phase 2 study of this vaccine is underway, and it has been declared that phase 3 trial will be conducted with 30,000 participants across the US.
- Imperial's vaccine would require a dose 50-100 times smaller than the Moderna vaccine and lowering the cost. AstraZeneca that has received significant funding from the US and UK Governments, and the Center for Epidemic Preparedness and Innovation (CEPI) has agreed to distribute the Oxford University vaccine at cost.



PUBLIC HEALTH RESPONSE

Article 3 :

Published

Reopening US Schools in the Era of COVID-19: Practical Guidance from other Nations

30 June 2020 [JAMA Network](#)

The US Centers for Disease Control and Prevention recently released guidelines for reopening schools in the United States, the onus of responsibility falls on states and school districts to implement these recommendations. To facilitate that, this article addresses the important lessons can be learned from the experiences of countries that have already reopened schools.

- **Child-friendly national infrastructure to support widespread rapid testing is needed:**
Germany: Providing self-administered viral tests with overnight results.
China, Taiwan, Vietnam, and Japan: Checking students' temperatures at school exits and entrances.
- Child safety to and from schools is critical, private transportation should be used whenever possible:
China: Increasing the number of bus routes, diversifying pick-up and drop-off locations.
- Safety precautions within schools could aim to maximally limit movement:
Germany: Attendance could be alternated between coming to class and learning remotely with 1-day-on, 1-day-off schedules.
Israel and Japan: Staggered arrival times on campus.
Norway: Reduced their class sizes to groups of no more than 15 students.
Denmark: Temporarily closed shared spaces, such as libraries and gyms.
Some European Countries: Demarcated playgrounds to discourage students from mixing more than necessary.
Taiwan: Implemented a policy encouraging children to eat lunch at their desks.
Other Countries: Using the cafeteria but serving lunch at different times, lunch tables have partitions Installed, and students sit in rows or in a zigzag pattern.



PUBLIC HEALTH RESPONSE

Article 3:

CONT.,

Published

30 June 2020 [JAMA Network](#)

- **Operational upgrades could enhance social distancing by spacing desks 6 feet apart and installing plastic tabletop partitions.:**
South Africa: School reopening timeline was delayed after backlash from teacher unions and governing associations owing to inadequate access to personal protective equipment.
British, Israeli, and Danish: Provided remote work options to whoever self-identifies as more susceptible to infection.
- **If a phased approach to reopening is used, schools must decide which cohorts of children should attend first:**
Denmark and Norway: Opened elementary schools.
Germany: Opened schools for graduating high school seniors.

The article stated that despite taking adequate precautions, schools need to have a contingency plan to address a spike in new cases. Within the past month, dozens of reopened schools in **Israel, Japan, and South Korea** have closed and reverted to virtual learning when new COVID-19 clusters emerged. On the other hand, none of the **22 European nations** that have reopened schools have observed an increase in infections among children, parents, or staff. Therefore, best practices and successful implementation strategies from some of these countries could be adapted in the United States.



THANK YOU

 ADPHCAE  ADPHC_AE  ADPHC_AE  ADPHC.AE  ADPHC-AE  056 2312171