

SCIENTIFIC RESEARCH MONITORING ON COVID-19

30 JUNE 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>



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Scientific Research

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- **Public Health Response:** Community Health Centers and Covid-19 — Time for Congress to Act (page 18)
- **Clinical Feature and Transmission:** Covid-19: Prolonged and Relapsing Course of Illness has Implications for Returning Workers (page 19)



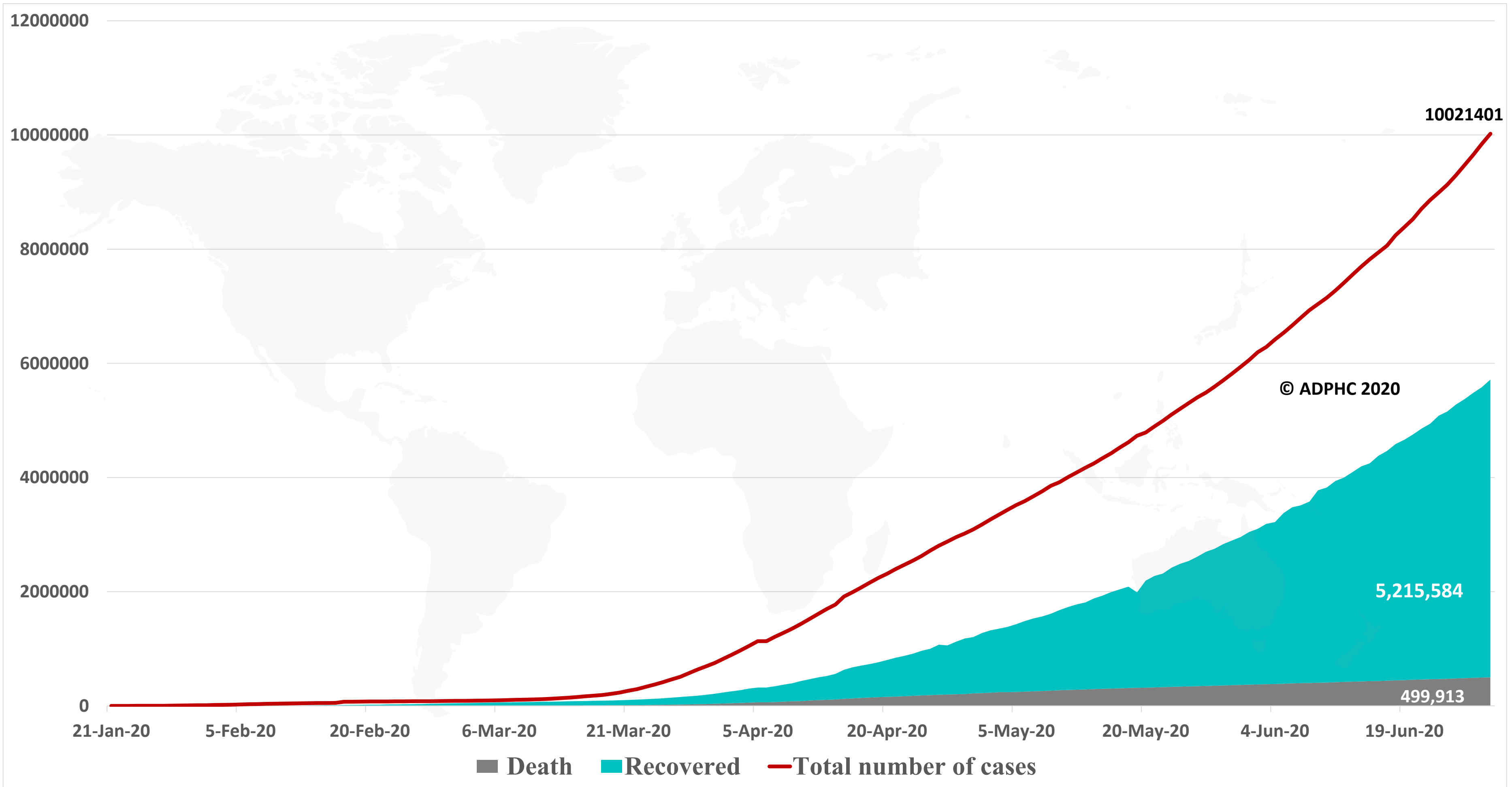


- 10 million cases and nearly 500000 deaths of COVID-19 have now been reported globally. This comes amidst recent record numbers of new cases, with several countries reporting their highest number of new cases in a 24-hour period. As some countries start to reopen their societies and economies, WHO strongly encourages individuals, communities, and nations to take measures to reduce transmission, extend testing and contact tracing, and provide optimal care for every case. WHO has published advice for the public and an extensive range of guidance documents and is working across the globe to support countries in the response to the pandemic.
- WHO has released a timeline of the response to the COVID-19 pandemic [listing some milestones](#) and events since the start of the outbreak 6 months ago.





Figure 1: Total number of infected, recovered, and death cases (January 21st to Jun 29, 2020)



Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)

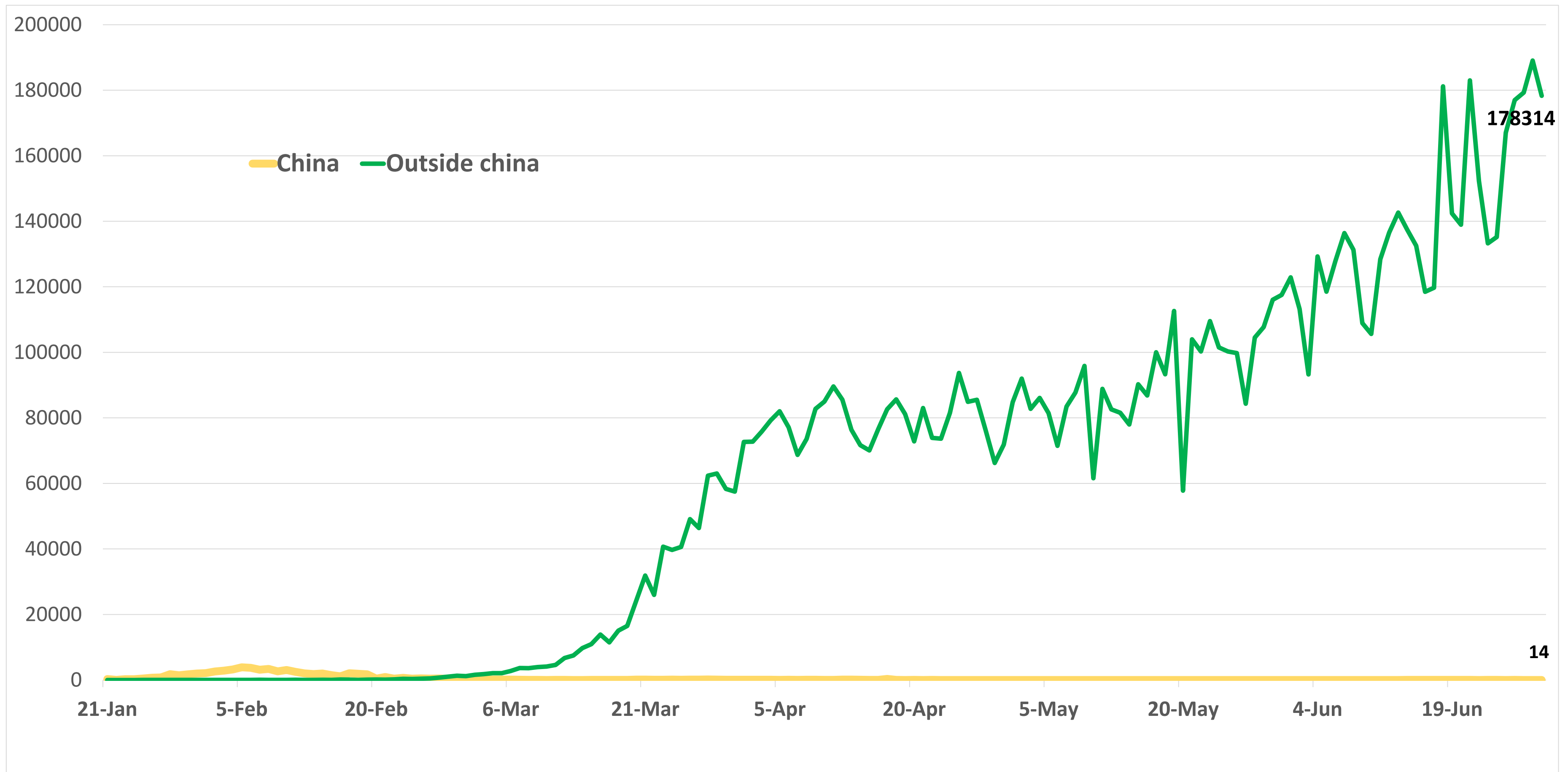
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Figure 2: Daily new infected COVID-19 cases reported between (January 21 to Jun 29, 2020).



Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)

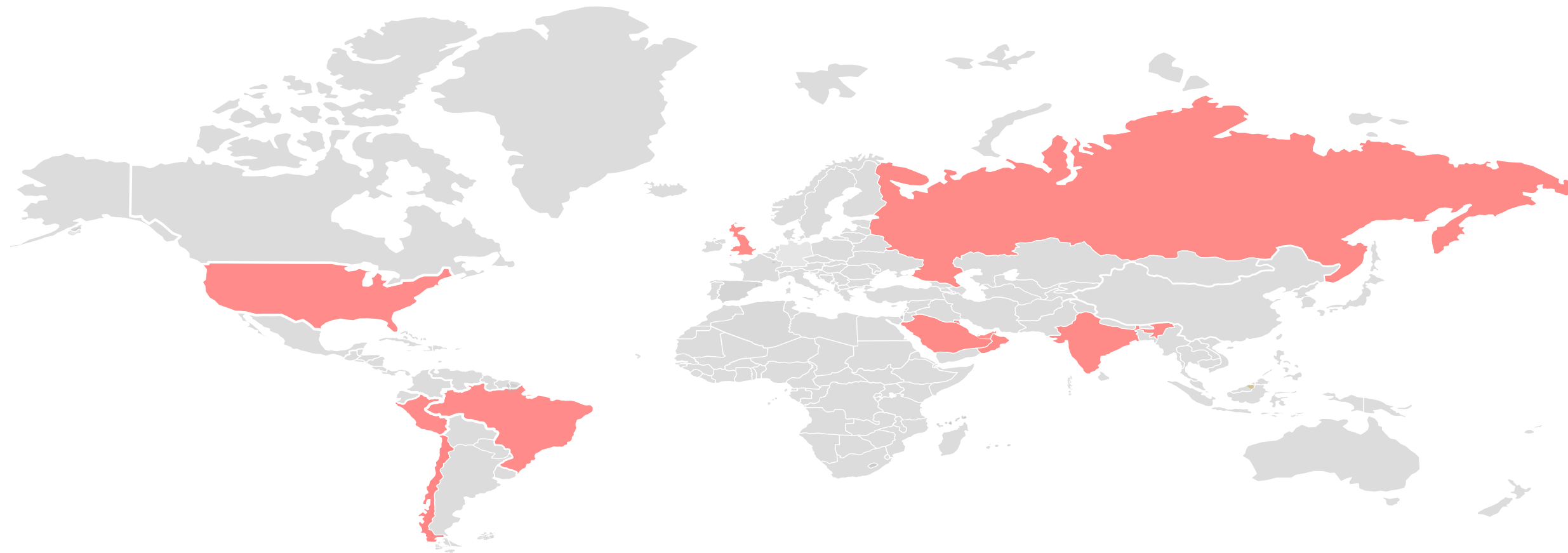
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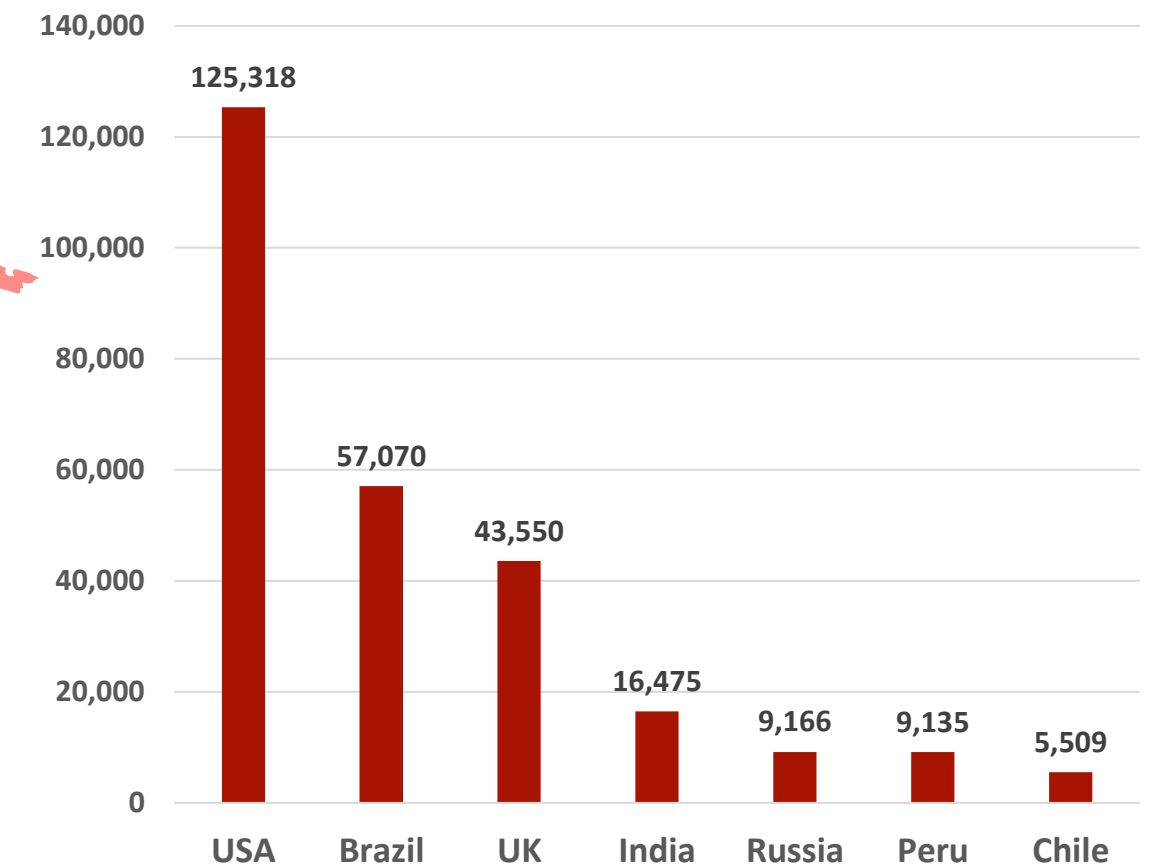
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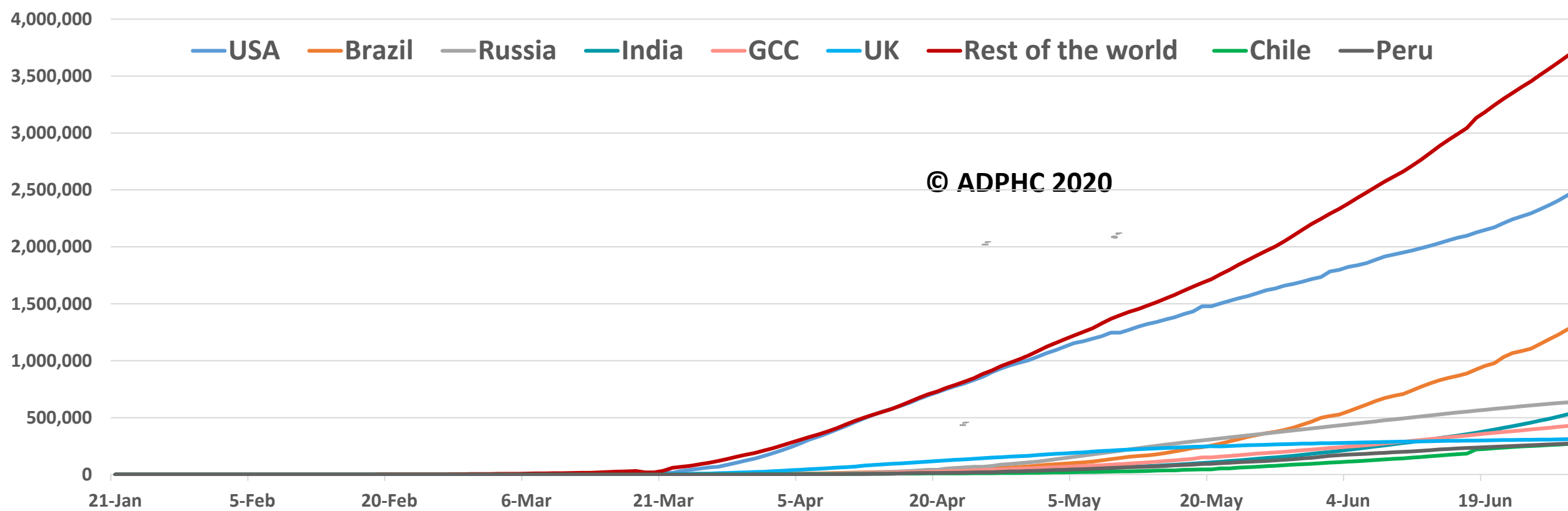
Figure 3 : Top 7 countries in the total number of cases due to COVID-19 (January 21 to Jun 29, 2020).



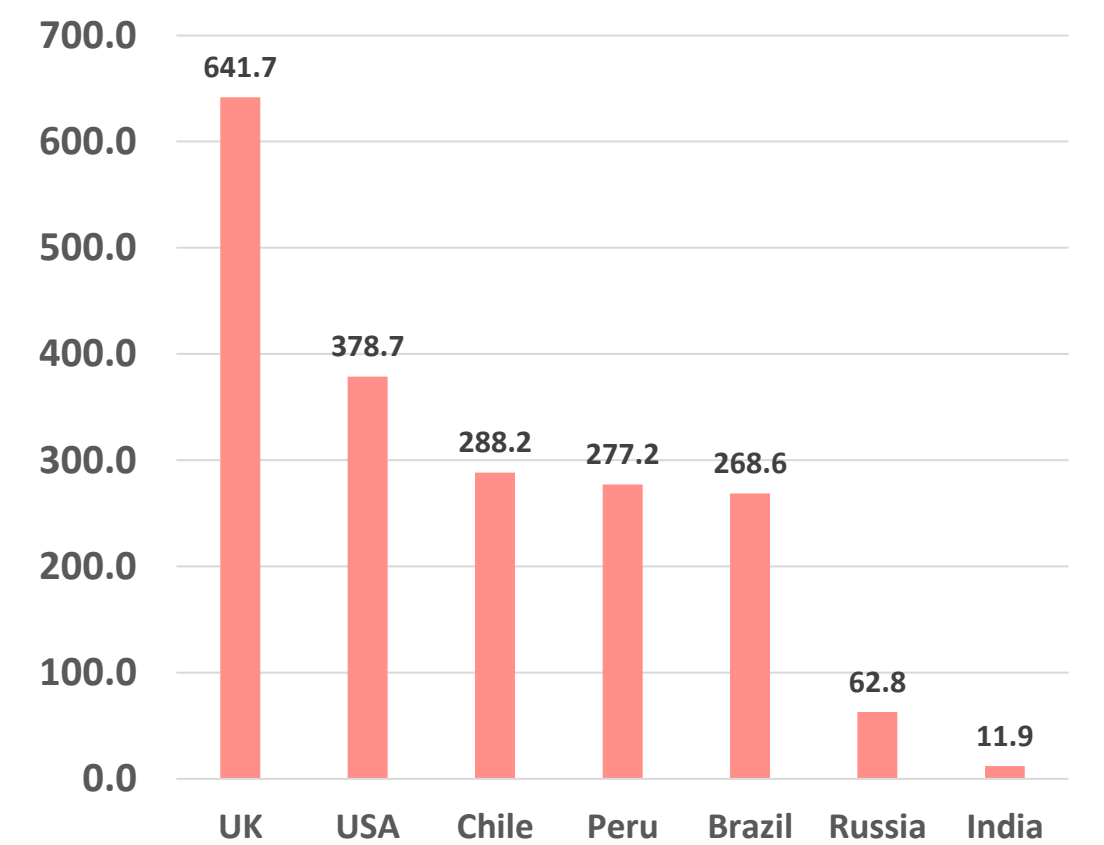
TOTAL DEATHS



TOTAL INFECTED CASES



DEATHS PER MILLION



Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](https://www.who.int)

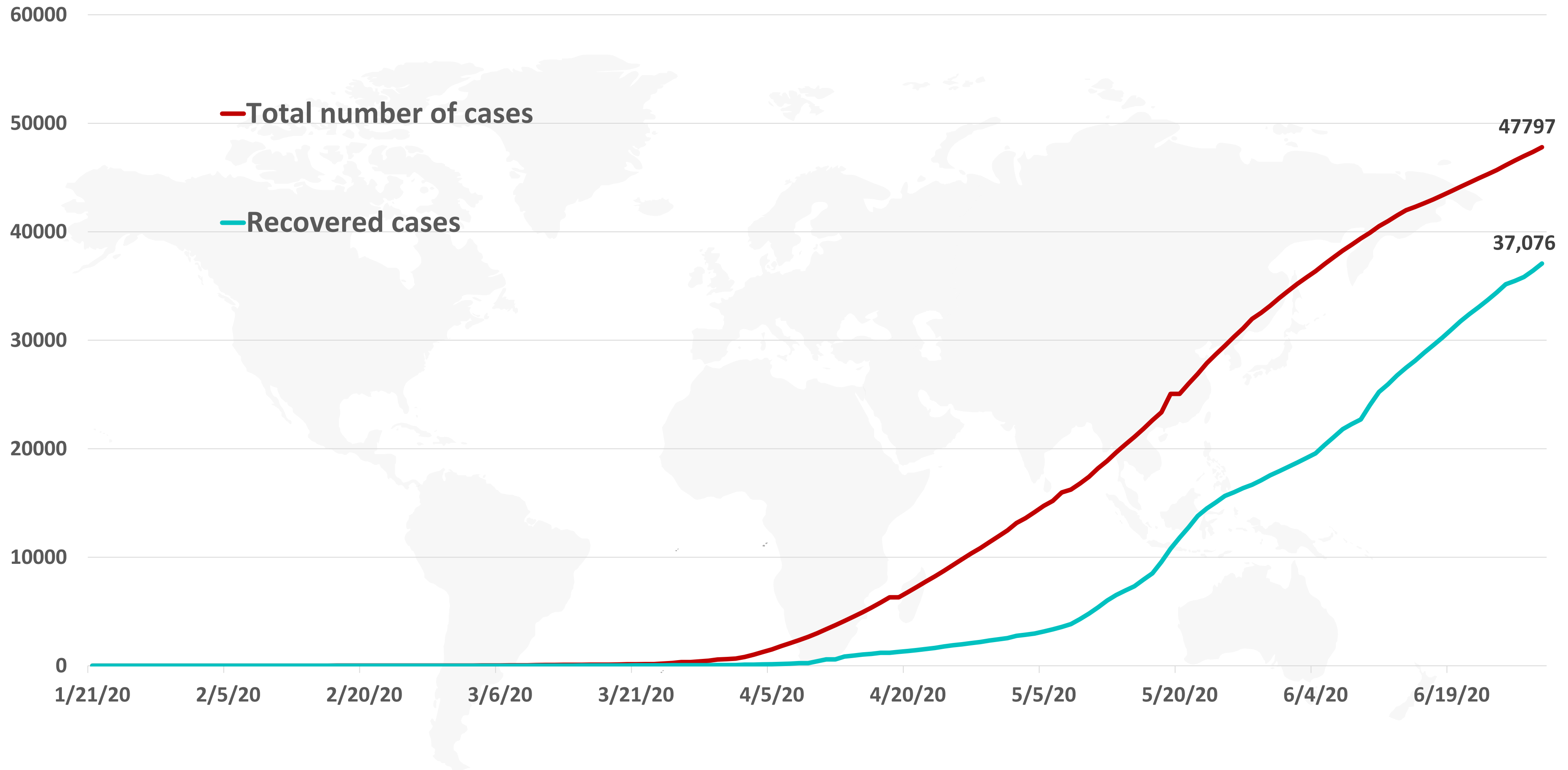
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Figure 4: Total number of COVID-19 infected and recovered cases in UAE over time



Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)

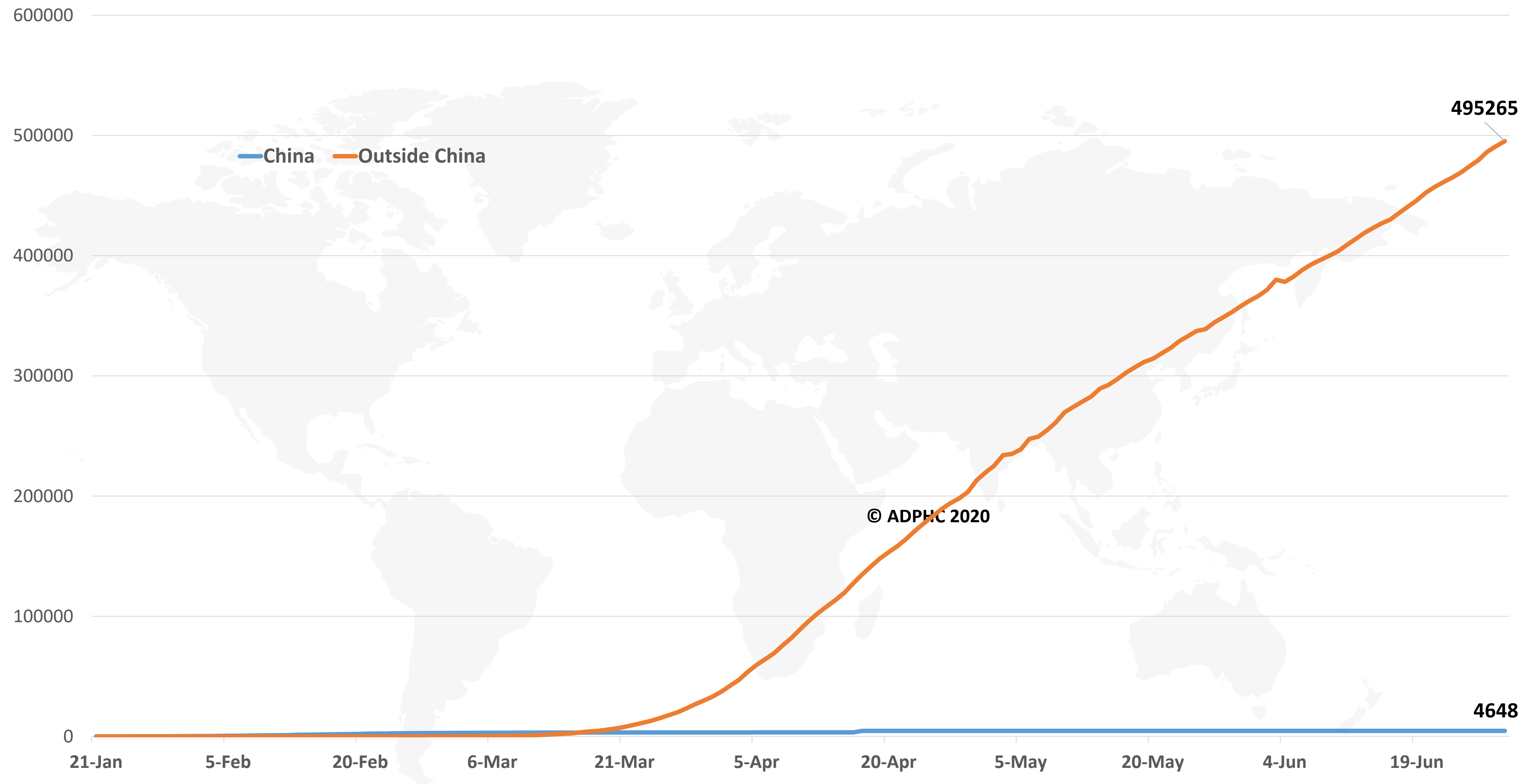
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Figure 5: Total number of death due to COVID-19 reported by China and the rest of the world (January 22 to Jun 29, 2020).



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Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)

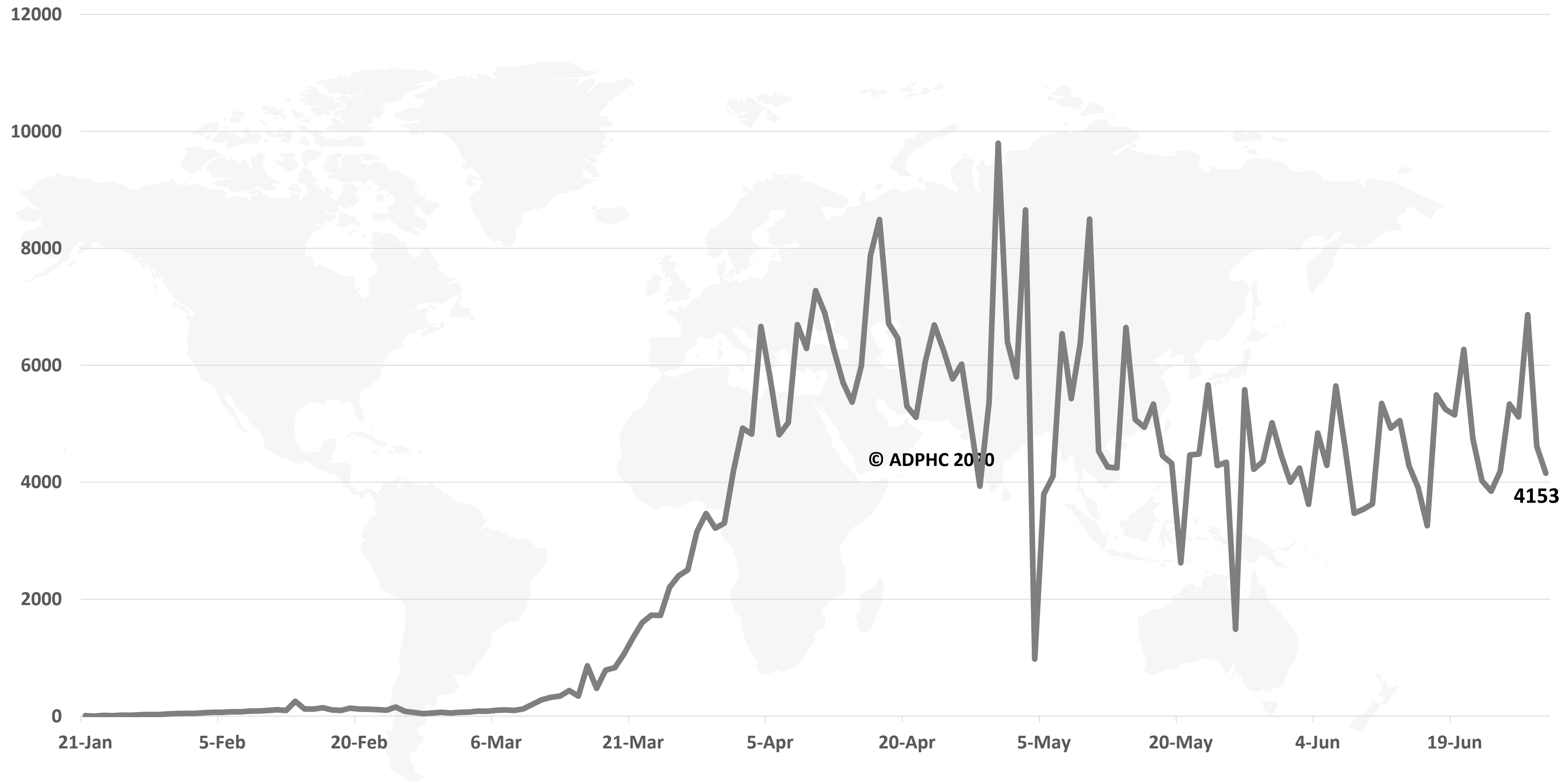
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Figure 6: Global daily new deaths due to COVID-19 (January 22 to Jun 29, 2020).



Line graph published by Abu Dhabi Public Health Center 2020.

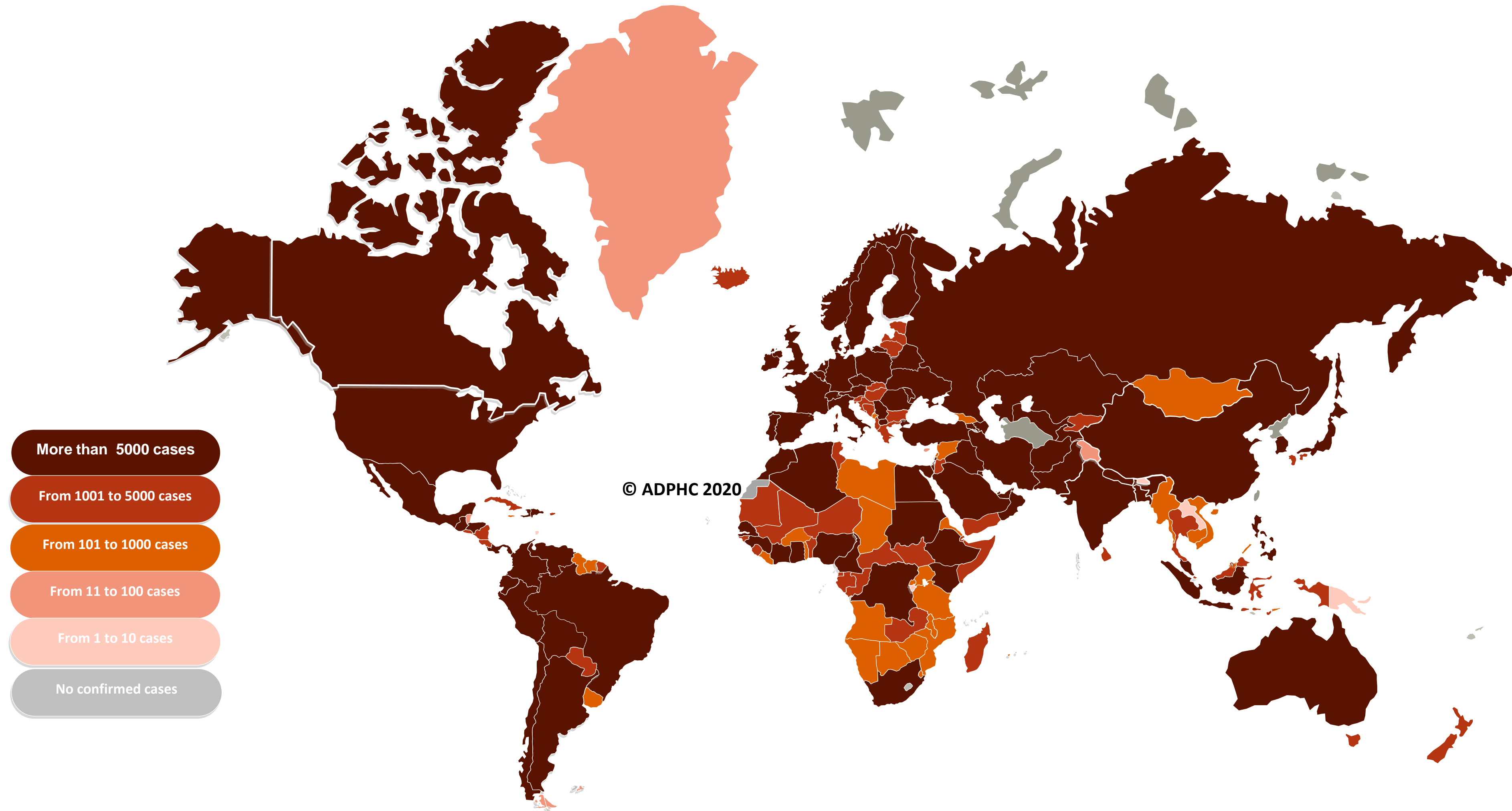
Data resources: [WHO](https://www.who.int/)

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Figure 7a : Global distribution of COVID-19 cases (Jun 28, 2020).



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Data resources: [WHO](#)

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Figure 7B: Bar chart illustrate the global distribution of COVID19 cases Jun 29, 2020)



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Bar chart published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](https://www.who.int/)

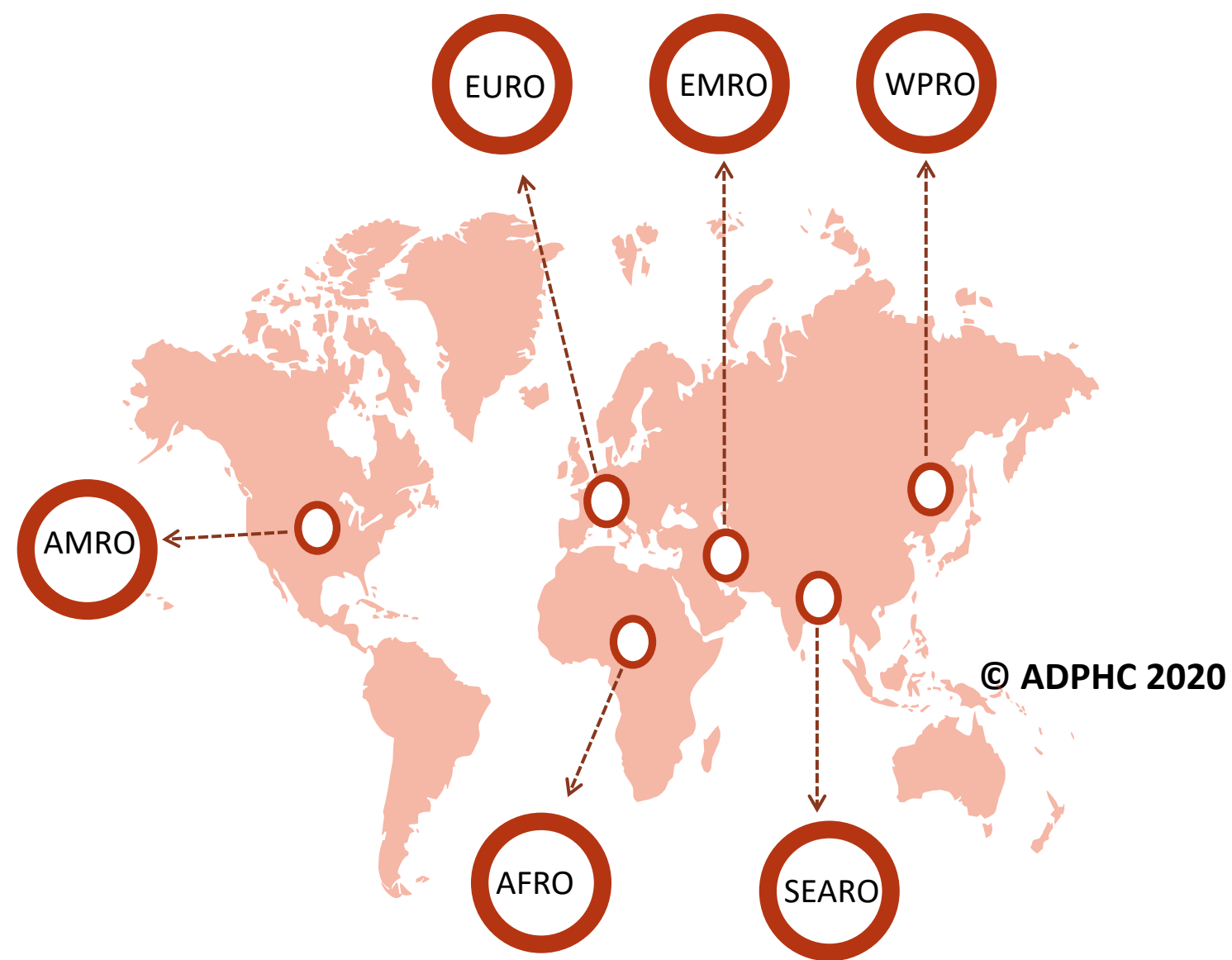
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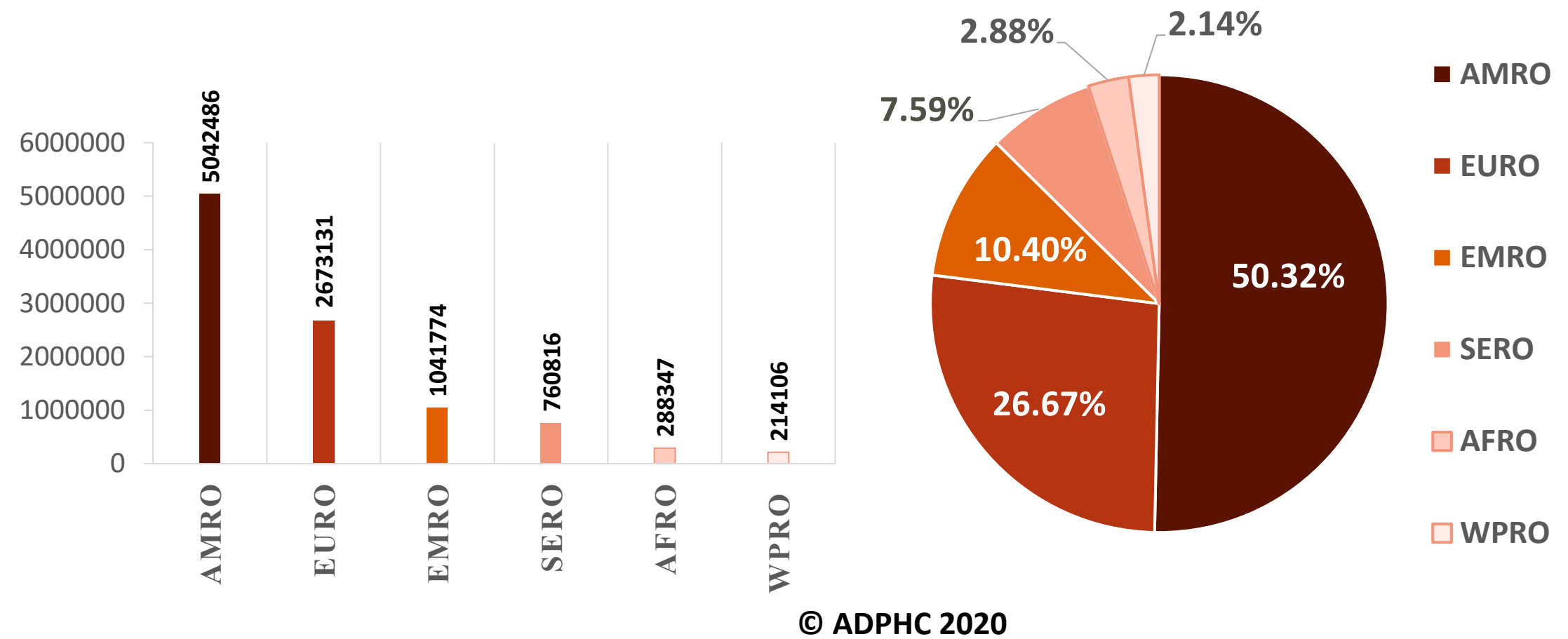
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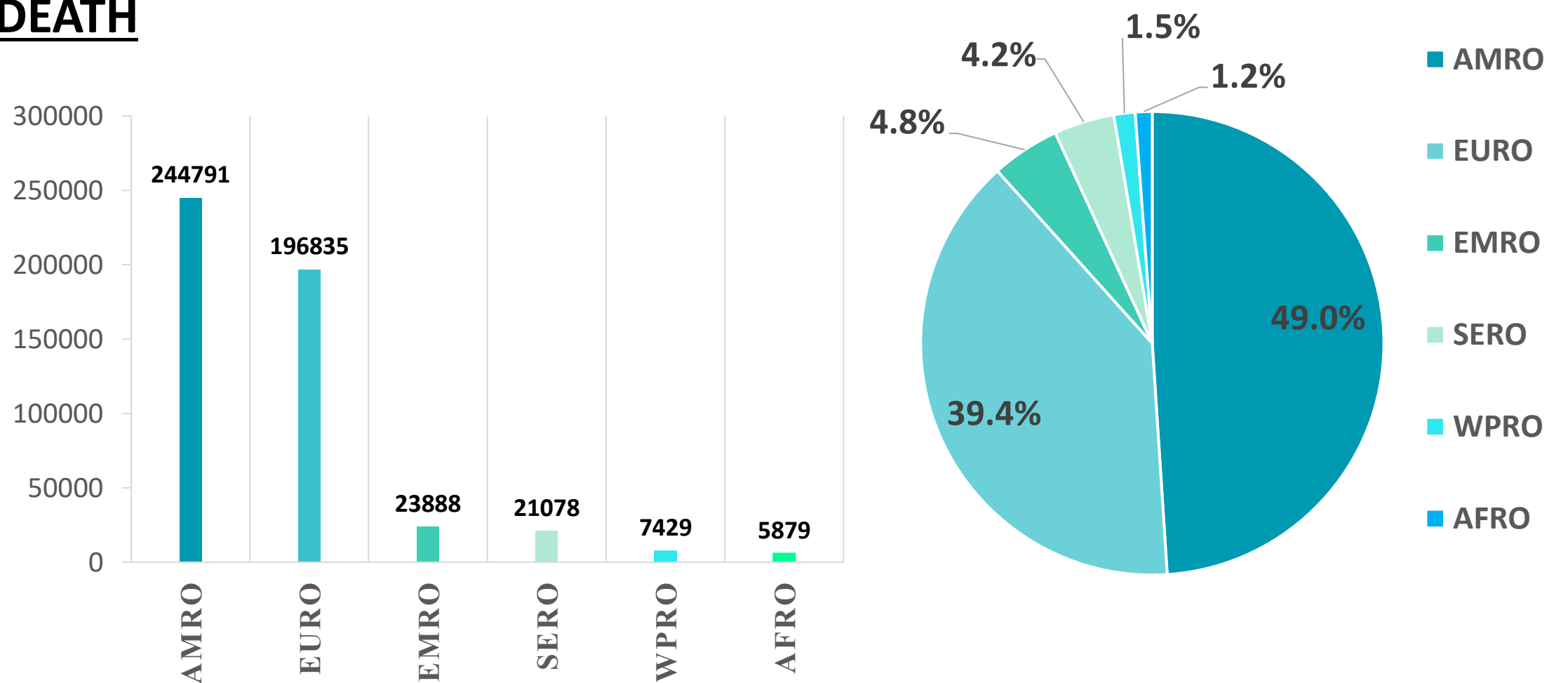
Figure 8: illustrate the Global distribution of COVID19 cases per region (Jun 29, 2020)



INFECTED



DEATH



Graphs published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](https://www.who.int/)

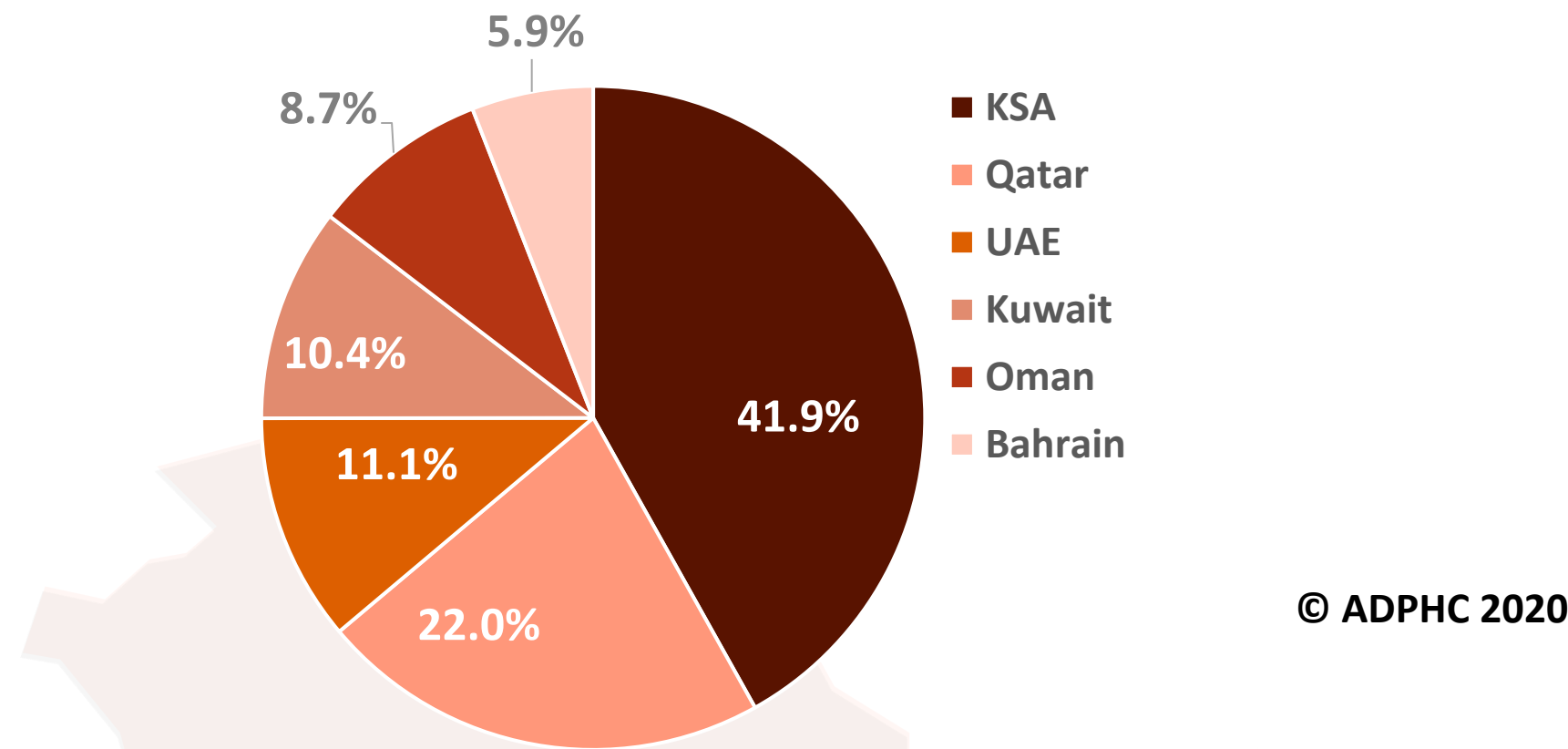
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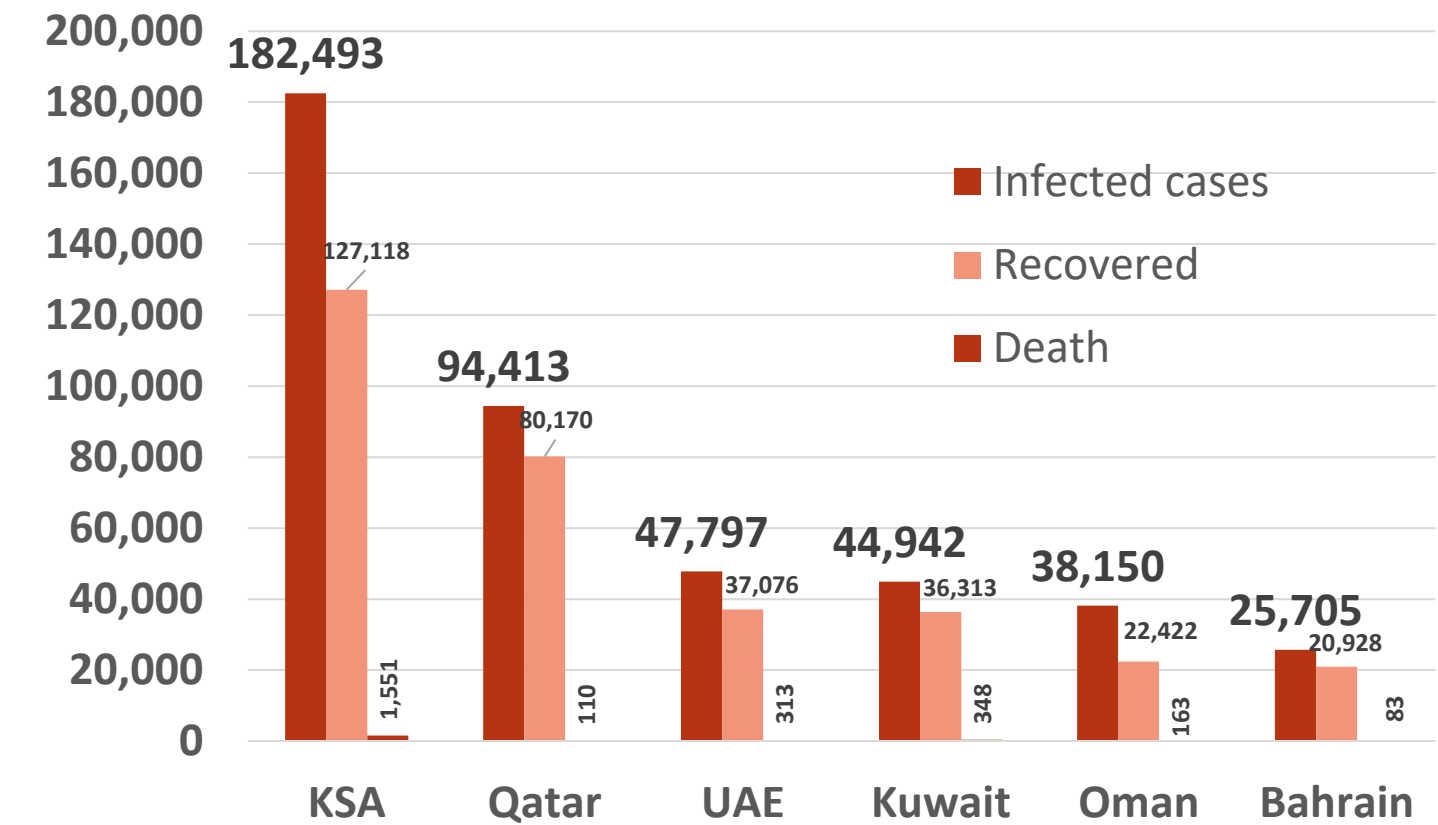
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Figure 9: Comparative analysis of the distribution of COVID19 cases in GCC countries (Jun 29, 2020)

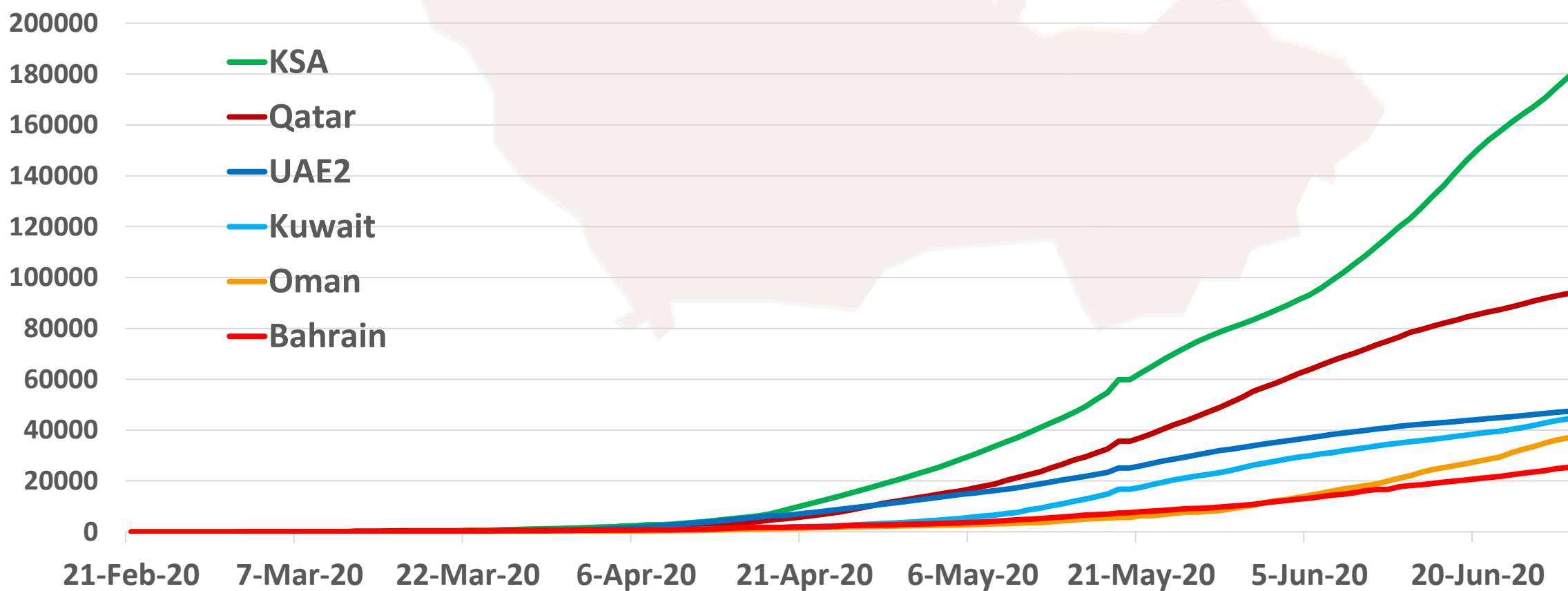
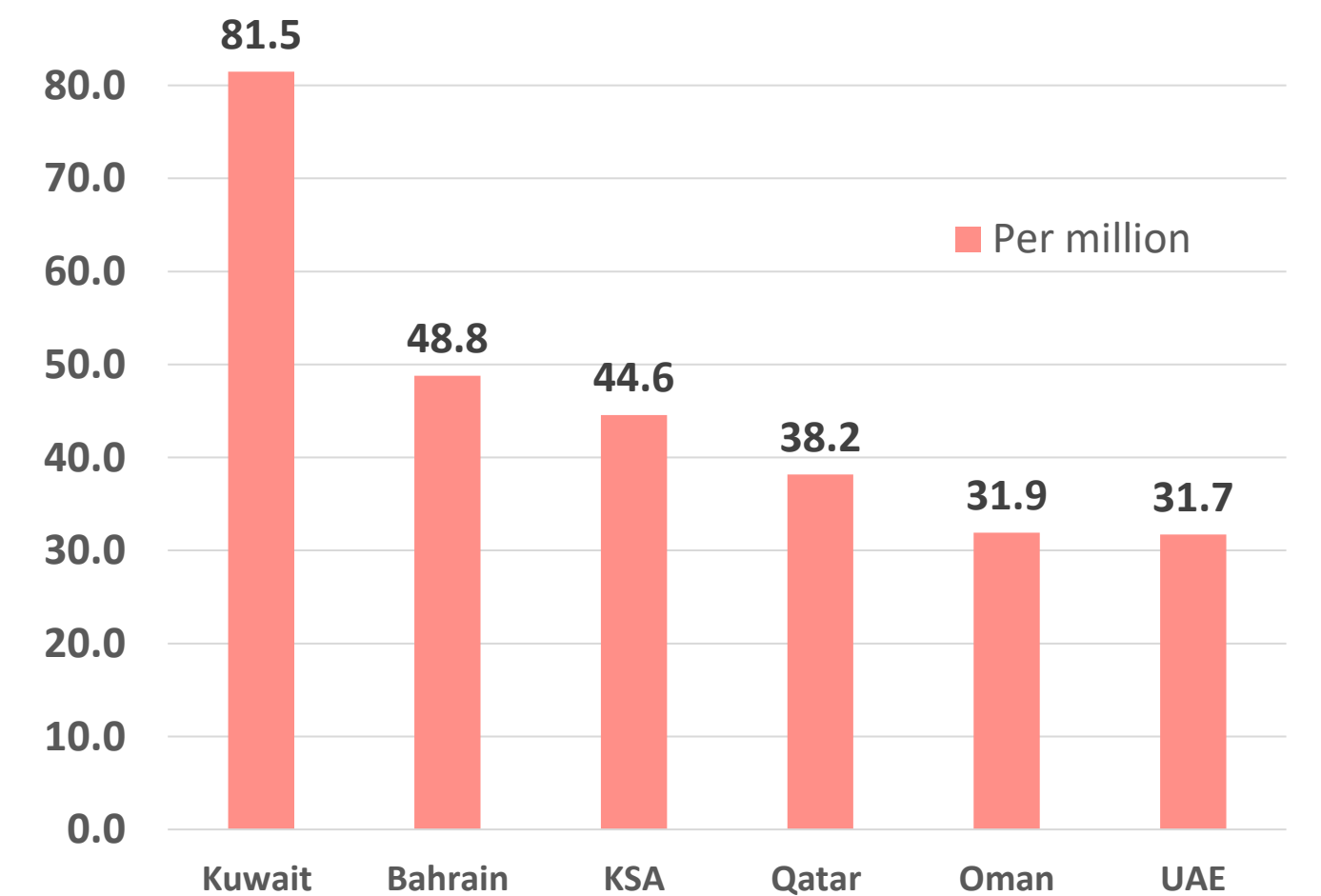
TOTAL NUMBER OF INFECTED CASES



Total number of infected, recovered and Deaths



Death per million



Graphs published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](https://www.who.int/)

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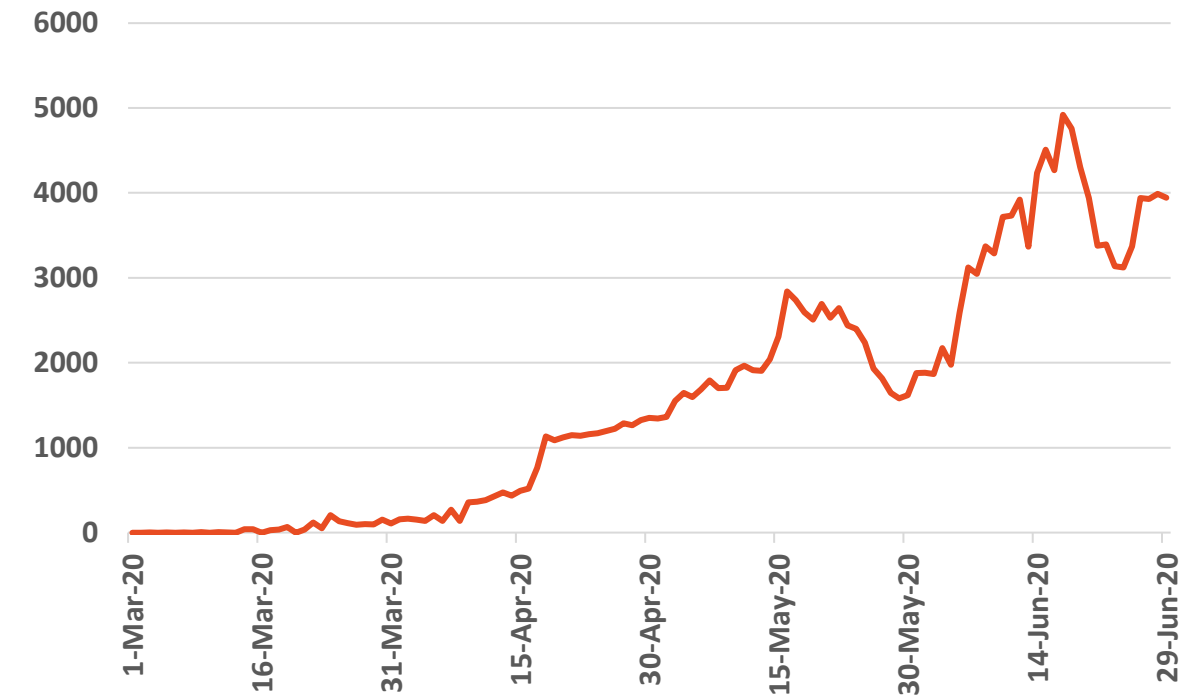
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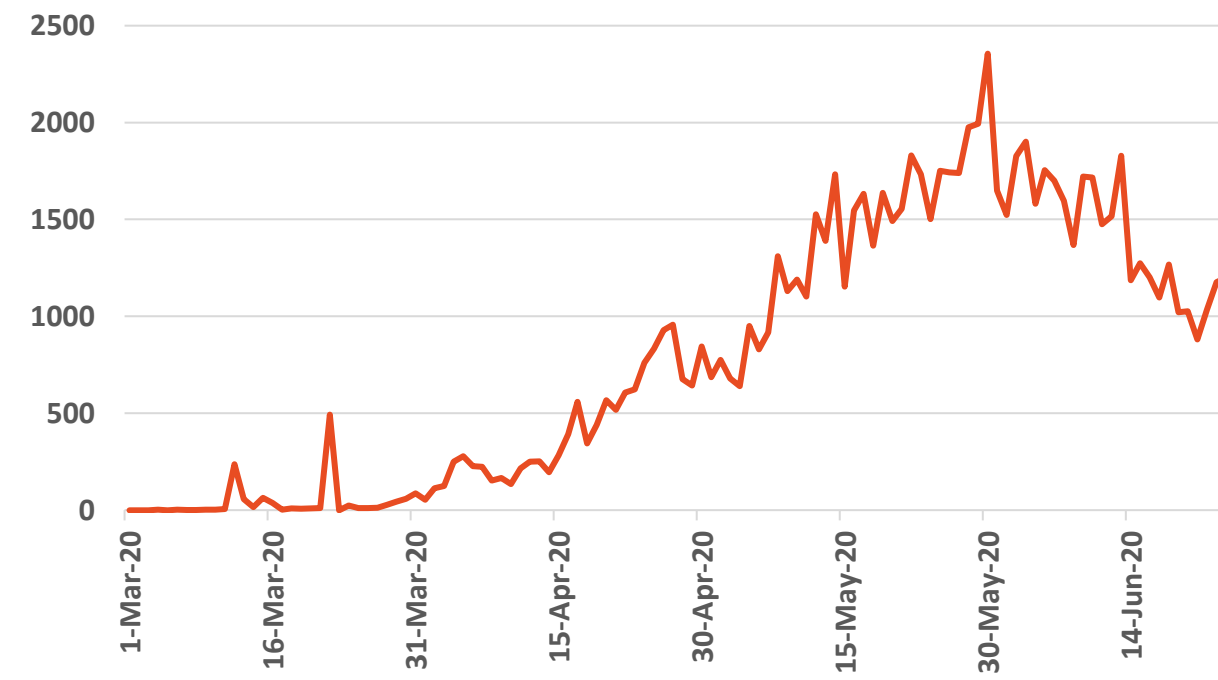
Figure 10: Comparative analysis of the distribution of COVID19 new cases in GCC countries (June 29, 2020)

KSA



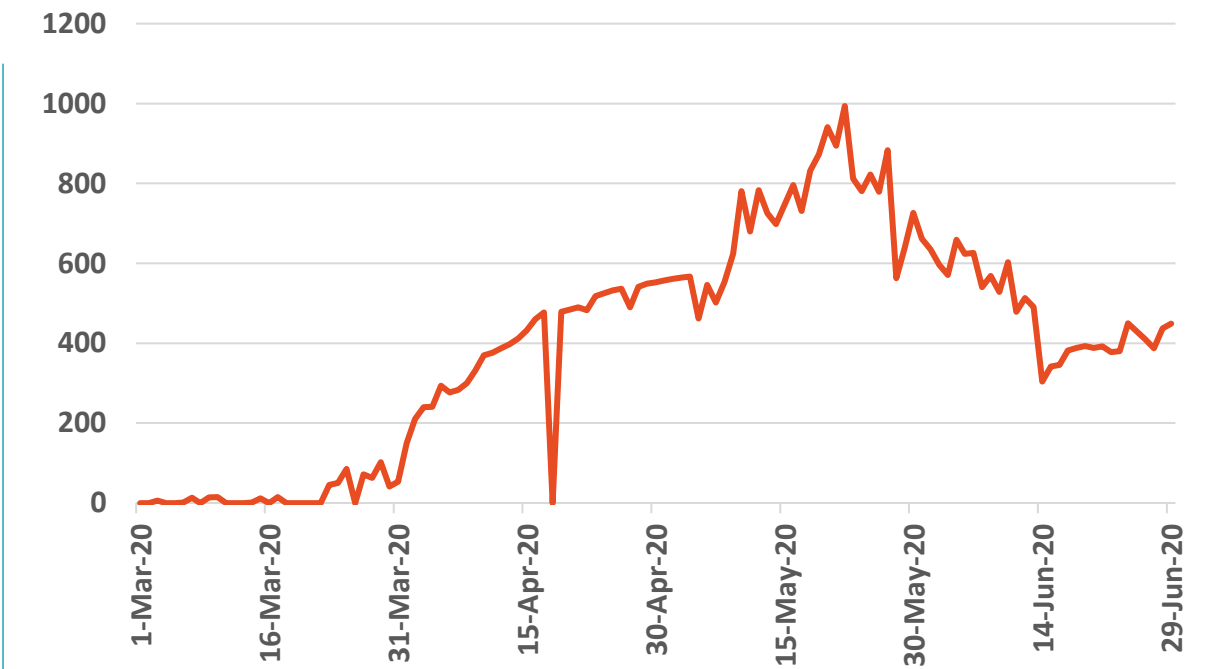
Source : KSA ministry of health

Qatar



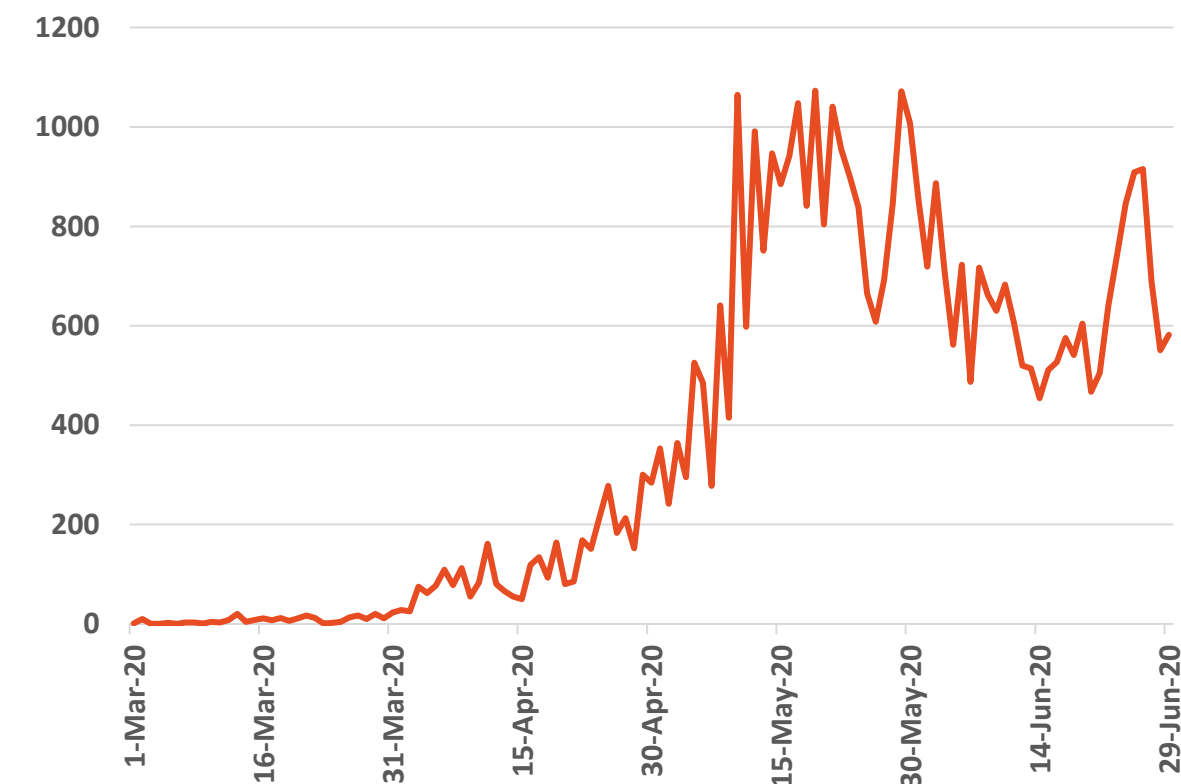
Source : Qatar ministry of health

UAE



Source : National Emergency Crisis and Disaster Management Authority

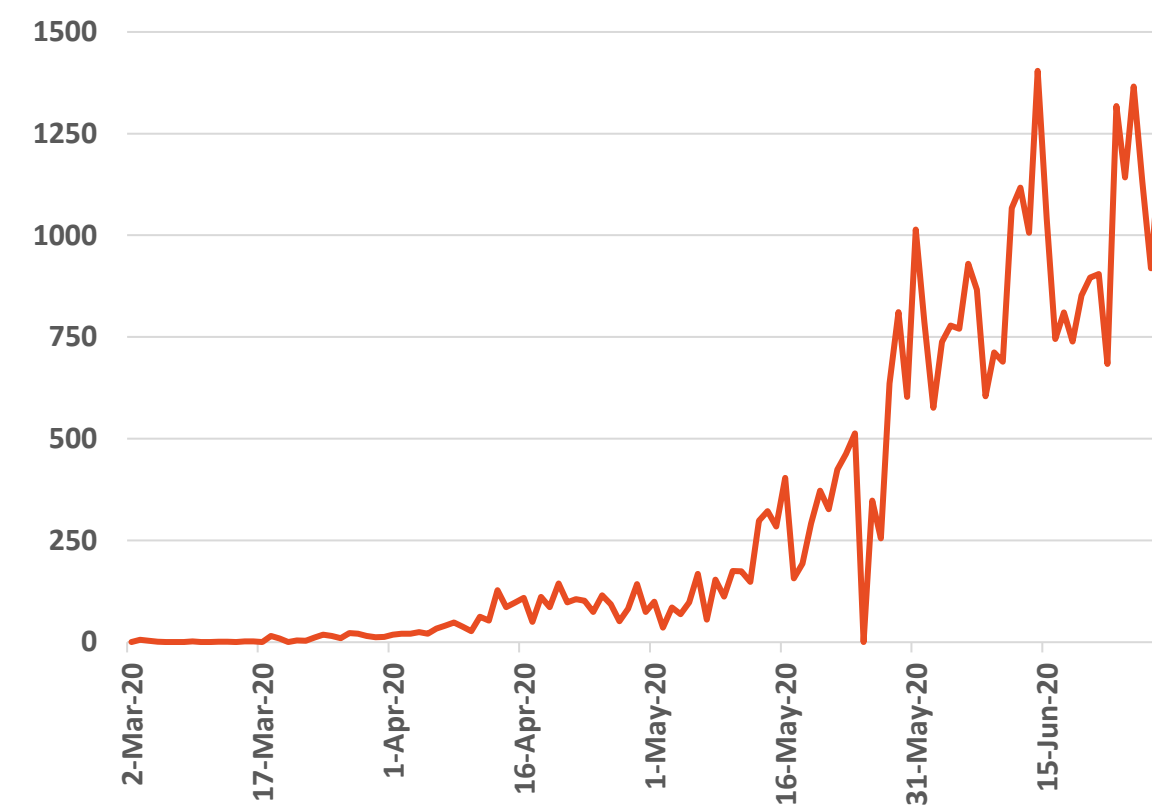
Kuwait



Source : Kuwait ministry of health

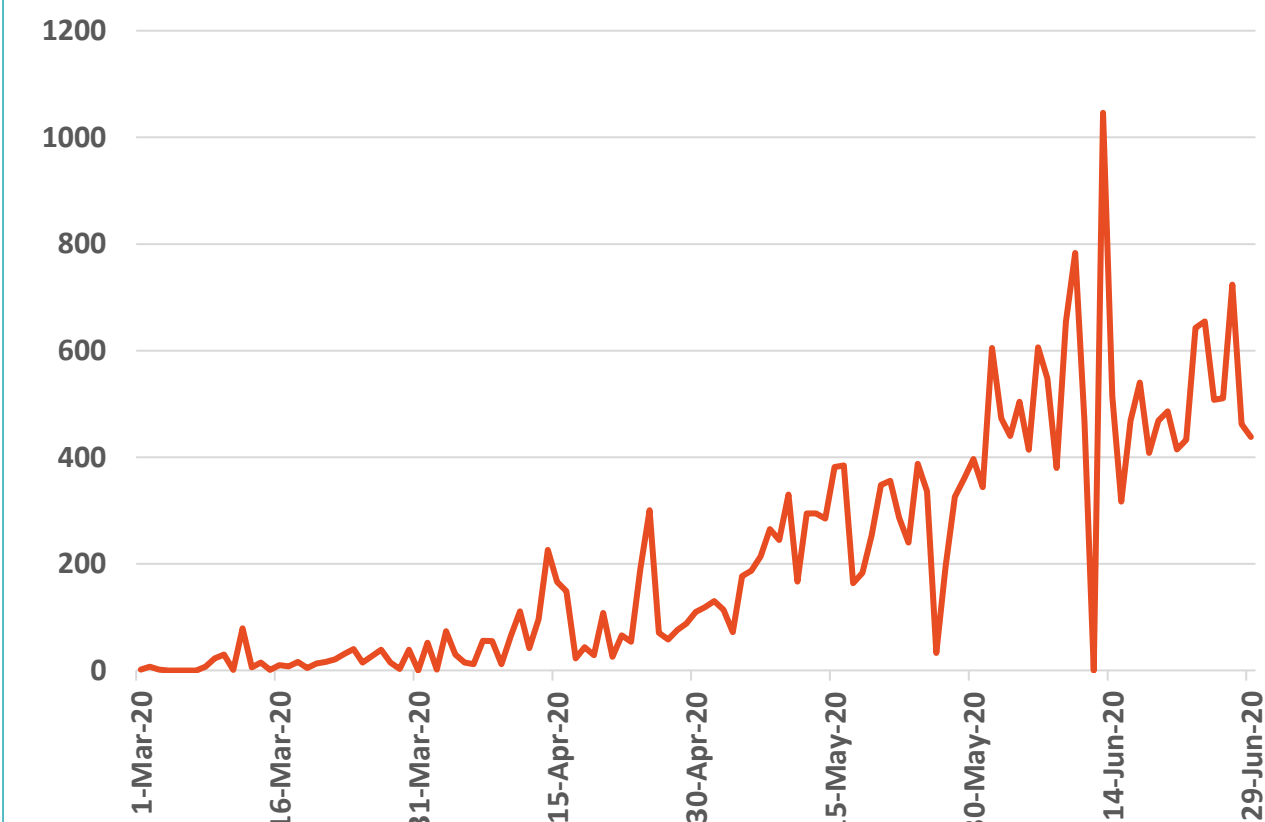
Oman

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Source :Oman ministry of health

Bahrain



Source :WHO

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Data resources: [WHO](#)

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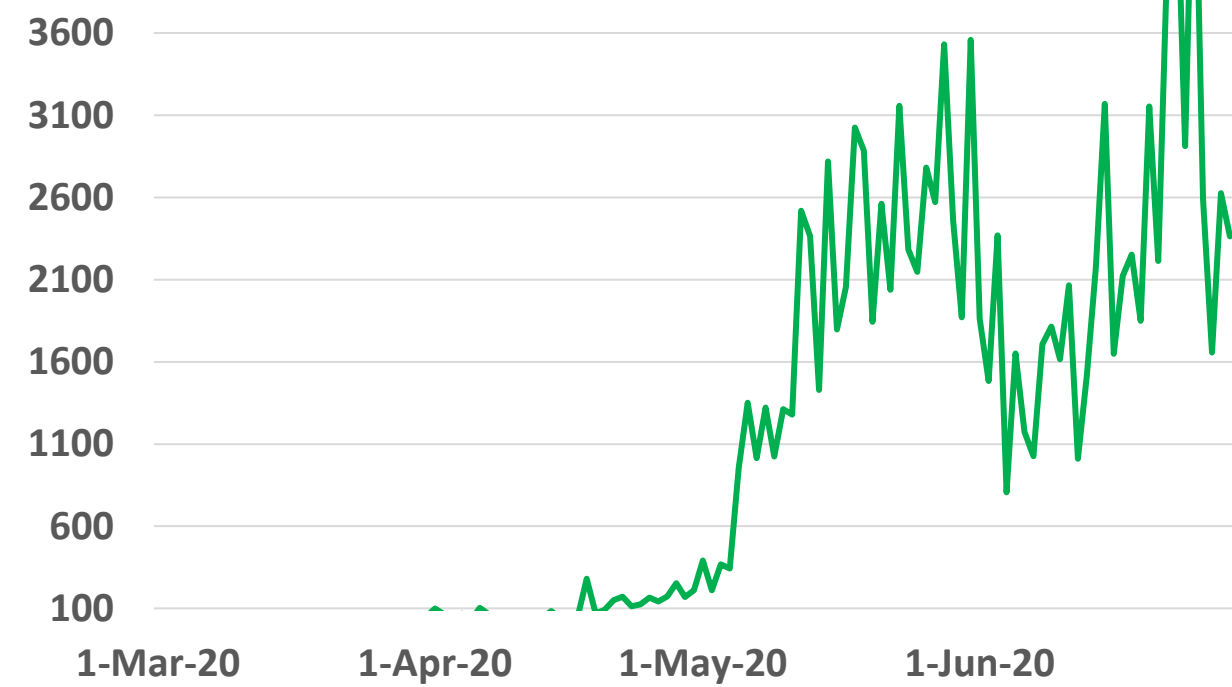
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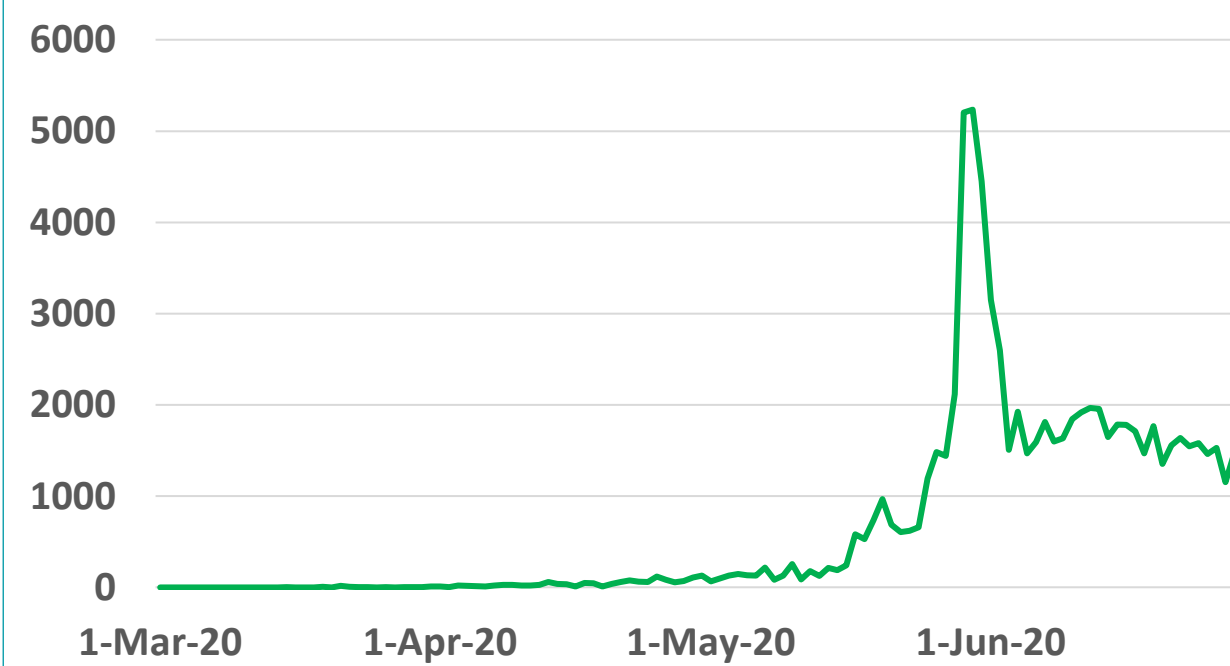
Figure 11 : Comparative analysis of the distribution of COVID19 newly recovered cases in GCC countries (June 29, 2020)

KSA



Source : KSA ministry of health

Qatar



Source : Qatar ministry of health

UAE



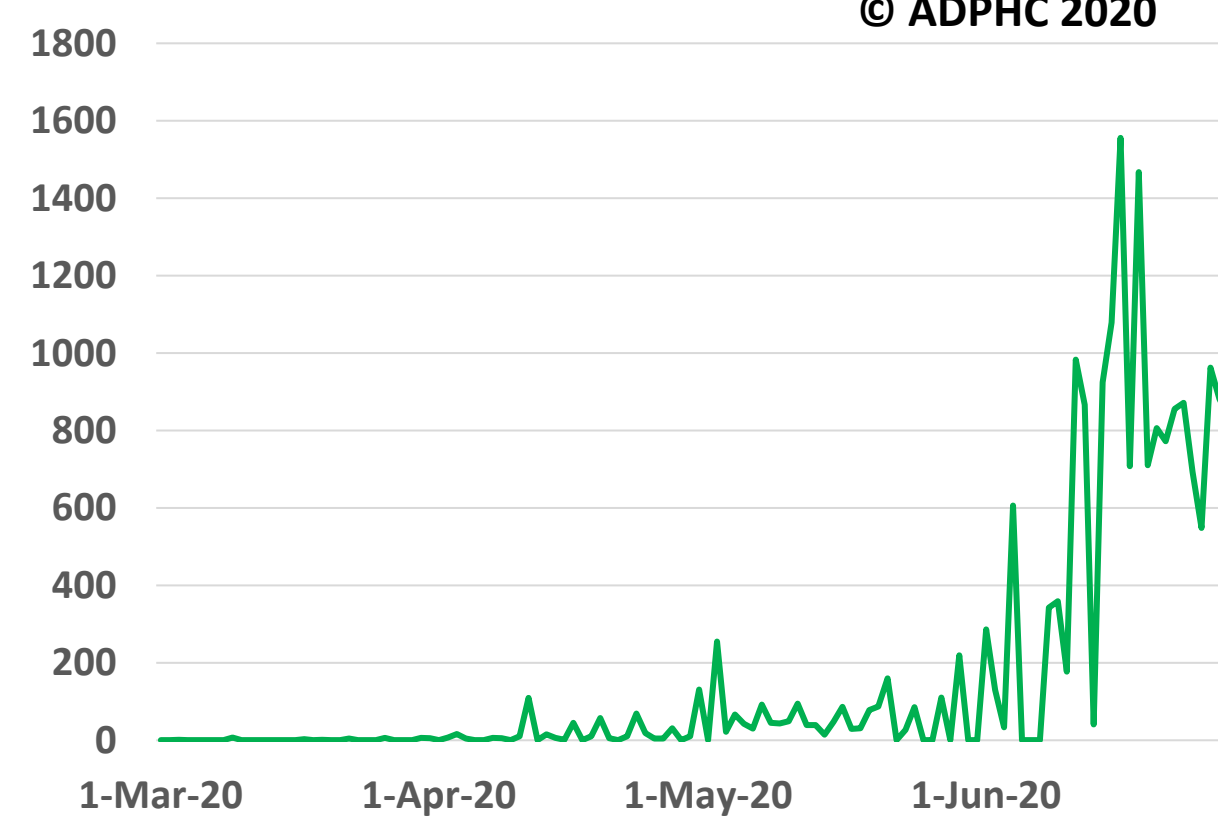
Source : National Emergency Crisis and Disaster Management Authority

Kuwait



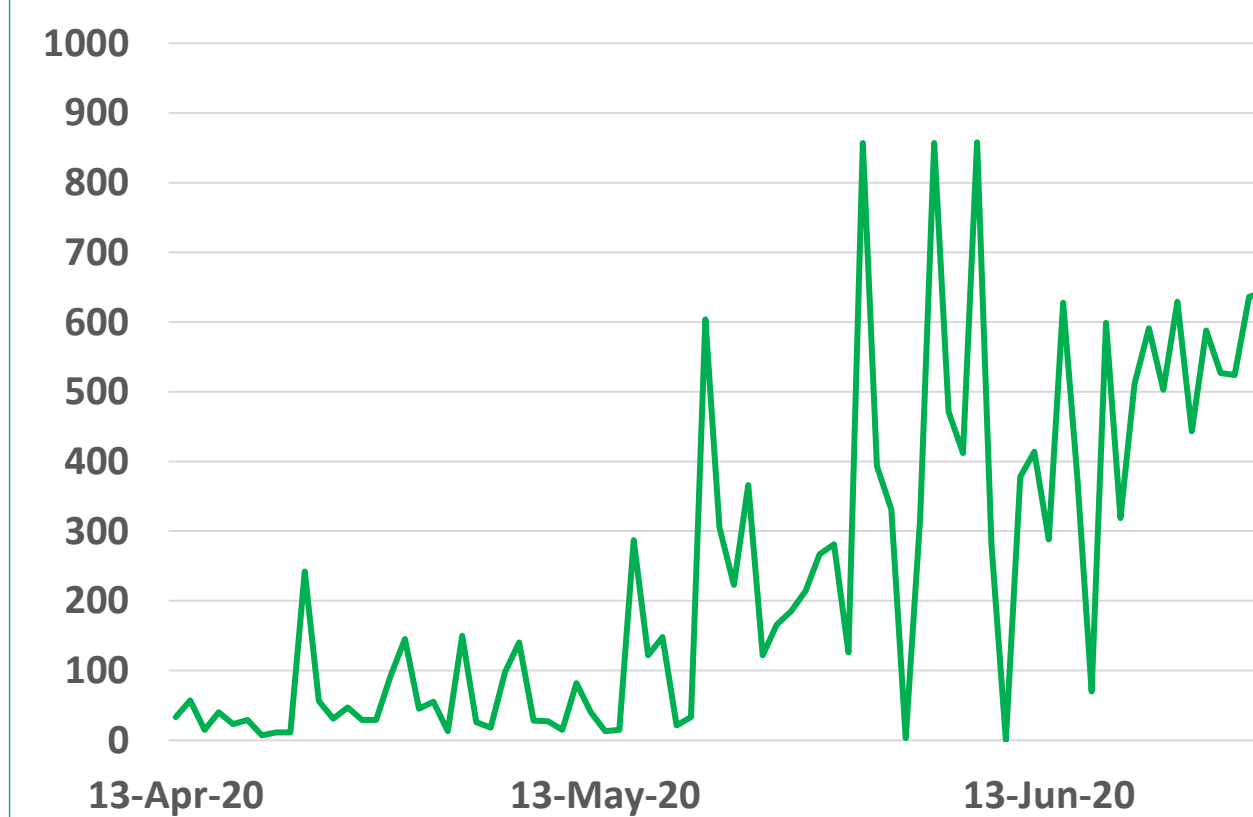
Source : Kuwait ministry of health

Oman



Source : Oman ministry of health

Bahrain



Source : GCCStat

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Data resources: [WHO](#)

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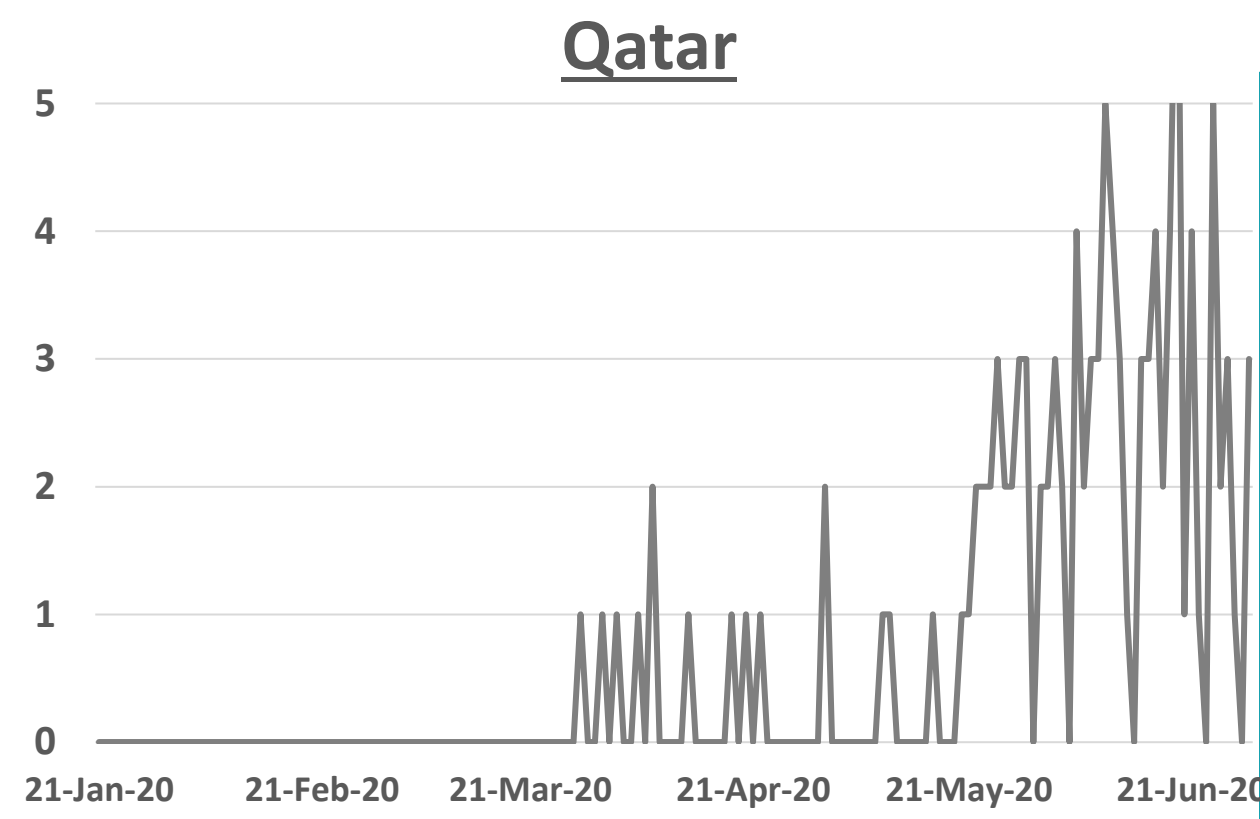
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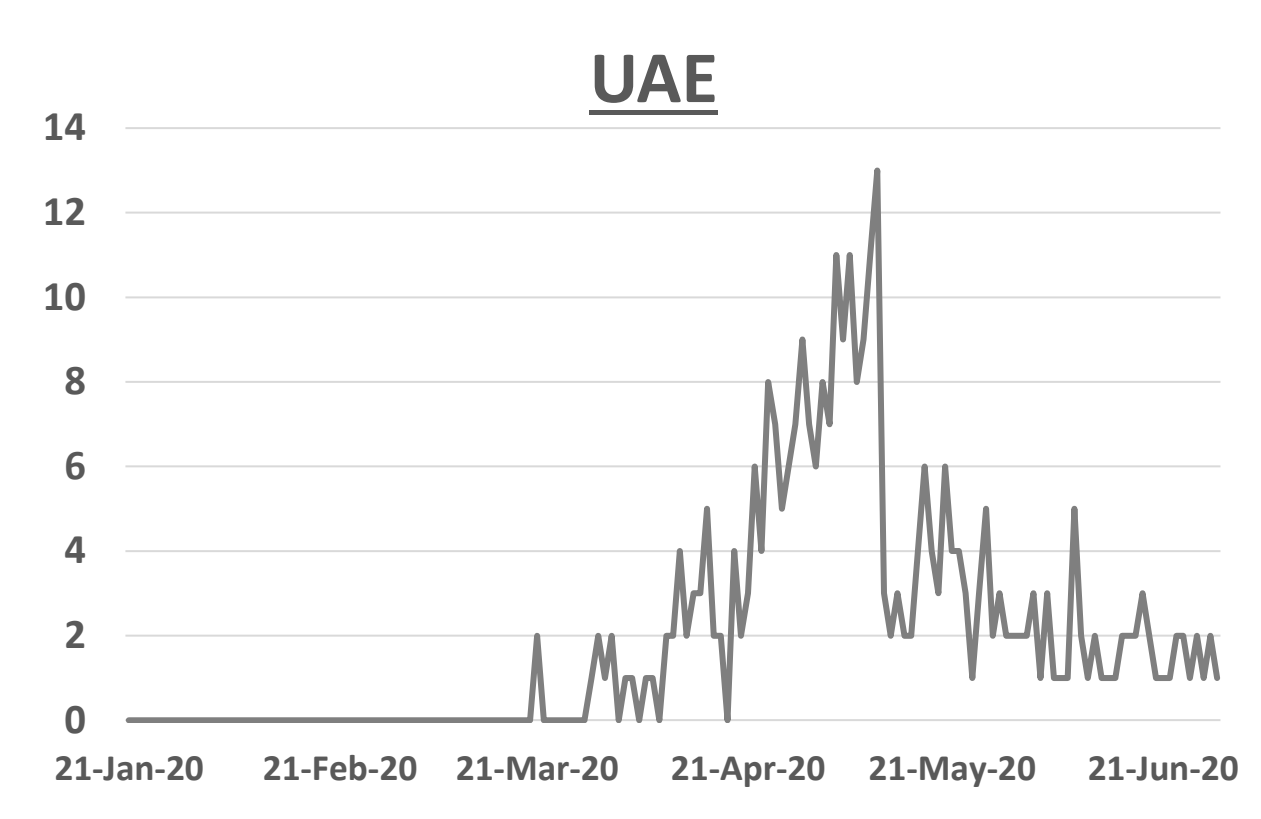
Figure 12: Comparative analysis of the distribution of COVID19 newly death cases in GCC countries (June 29, 2020)



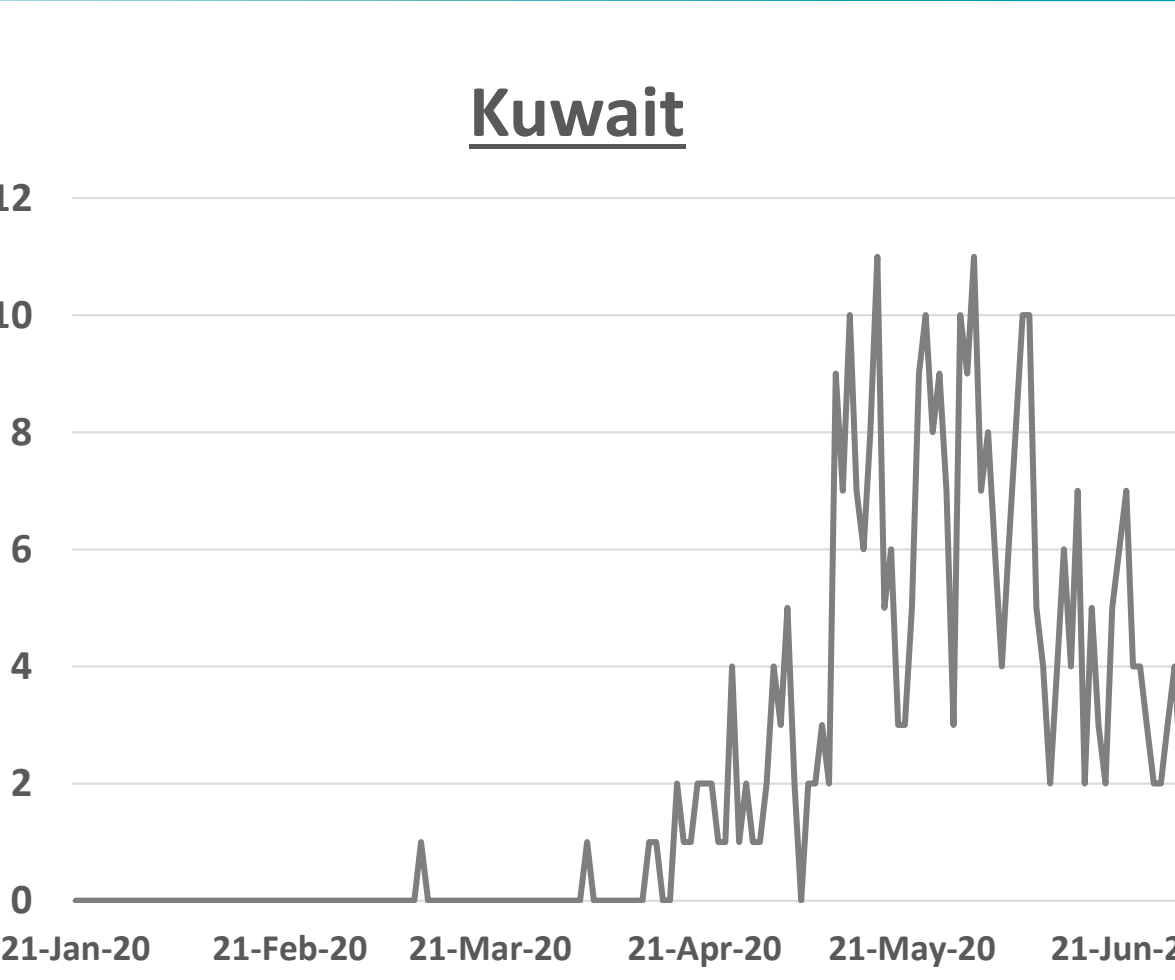
Source : KSA ministry of health



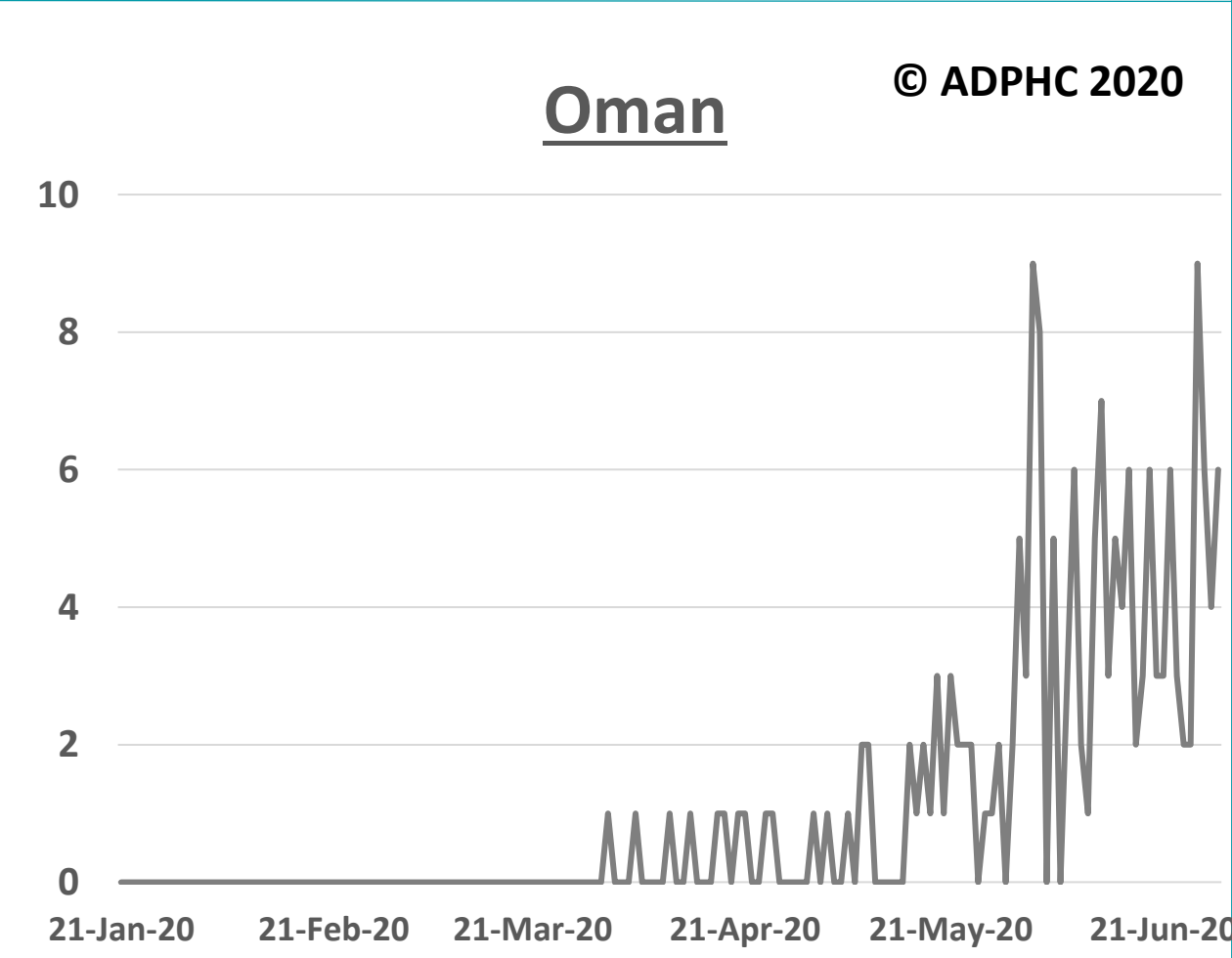
Source : Qatar ministry of health



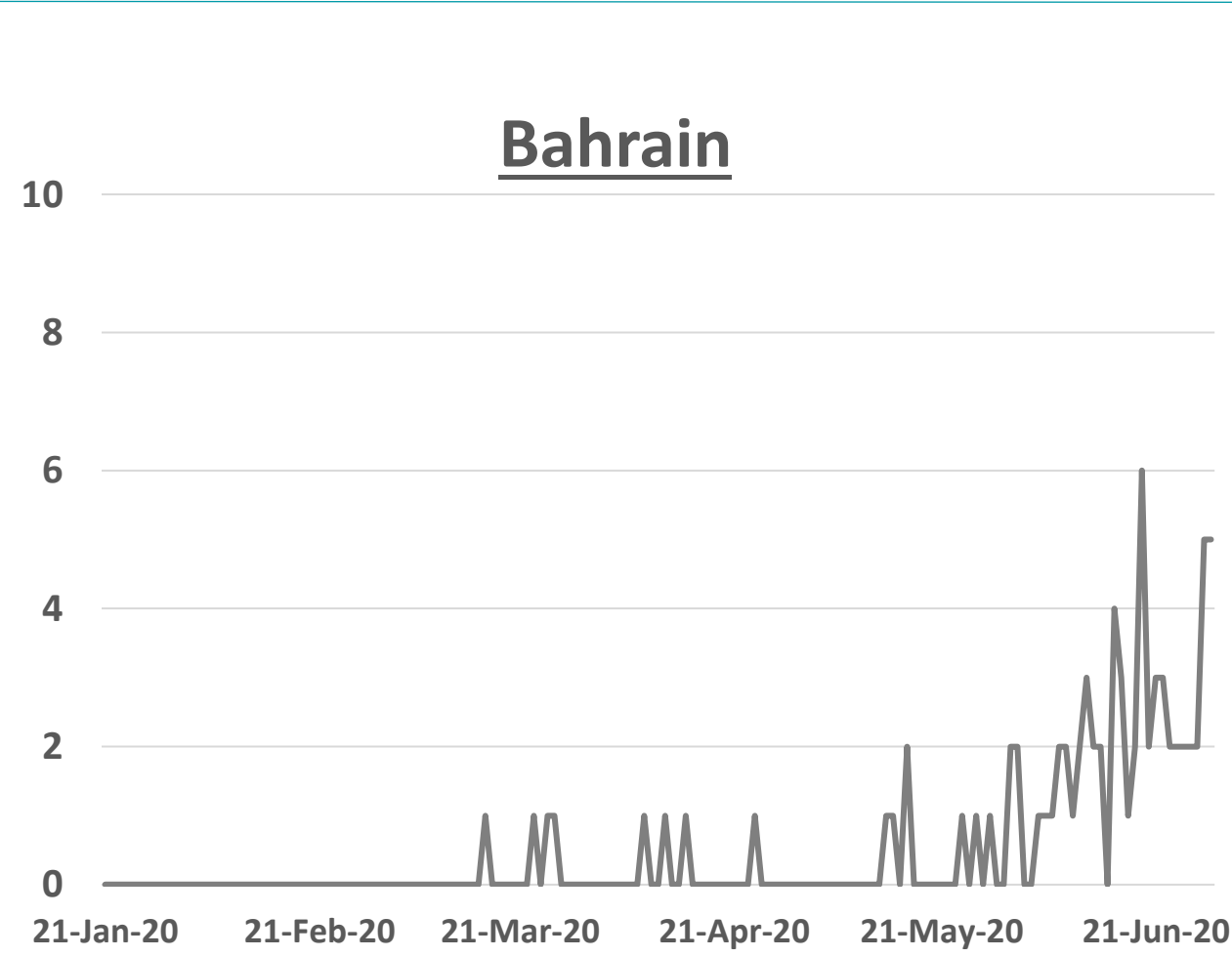
Source : National Emergency Crisis and Disaster Management Authority



Source : Kuwait ministry of health



Source :Oman ministry of health



Source :WHO



Article 1: Microwave-Generated Steam Decontamination of N95 Respirators Utilizing Universally Accessible Materials

Published: 25 June 2020 [American Society of Microbiology](#)

Summary:

This study assesses the efficacy of one of the validated decontamination methods for the purpose of reuse of the N95 mask. An experiment on microwave-generated steam, found that complete sterilization occurs after 3 min of treatment and does not appear to affect the integrity of N95 filtration or fit with repeated treatment. Validated methods by the CDC are listed in table 1, with some important comparisons:

Table 1: CDC Validated Methods for N95 Masks

| Method | Limitation | Ft and Seal Integrity with Reuse |
|---|--|---|
| UV Germicidal Irradiation (UVGI) | Inherent shadow effects of a light source, and variability in dosages due to bulb age and different platform constructions | Compromised after 3 treatment cycles |
| Ethylene Oxide | Eradicating microbial contamination but is also a known carcinogen and teratogen, and exposure has been correlated with neurologic dysfunction | Compromised after 2 treatment cycles |
| Vaporized Hydrogen Peroxide | Technology necessary for VHP is limited to larger health care systems that can afford the required equipment | |
| Moist Heat Incubation | | Compromised after 3 treatment cycles |
| Microwave-Generated Steam | | 20 times without fit or seal integrity affected |





Public Health Response

Article 2: Community Health Centers and Covid-19 — Time for Congress to Act

Published: 26 April 2020 [NEJM](#)

Summary:

The impact of Covid-19 pandemic on the status of community health centers in the United States (US)

Community Health Centers (CHCs)

- There are nearly 1400 federally qualified CHCs in the US
- These centers are partly funded by federal govt. & provide medical care to millions of uninsured Americans
- 70% of the patients attending CHCs have household income below poverty level
- More than half of these patients belong to either ethnic or racial minority groups.

CHCs during Covid-19 Pandemic

- More than 90% of these centers are COVID testing sites
- Test-positive ratio in these centers is double than the US national average because of most affected communities of black and brown
- CHCs provide life-saving surveillance and help in mitigating the health inequalities that exist because of people from low socio-economic status

Challenges

- Prior to the pandemic, CHCs were financially vulnerable
- Health care budget is reduced due to pandemic, particularly hitting hard these community centers
- Nearly 25% of staff members are sent on unpaid leave, and there is limited supply of personal protective equipment
- Although, federal govt. provided \$1.3 billion as part of pandemic relief fund, it amounts to less than 10% of CHCs annual revenue

Solutions

- The US Congress should immediately approve the \$7.6 billion in emergency funding to CHCs
- The Congress should also provide \$77 billion over 5 years to support:
 - Medical coverage for 30 million Americans who will lose their jobs and private healthcare during this pandemic
 - Critical workforce programs
 - Telehealth



Clinical Features and Transmission

Article 3 : Covid-19: Prolonged and Relapsing Course of Illness has Implications for Returning Workers

Published: 23 June 2020 [British Medical Journal](#)

Summary:

- In the United Kingdom (UK), many individuals not admitted to hospital reported a prolonged course of illness. The COVID-19 symptom tracking app reported that 10% had symptoms at 25 days and 5% were ill one month later. Others have observed a periodic pattern where symptoms recur every 3rd or 4th day.
- Limited sensitivity and specificity of COVID-19 tests due to the timing and technique in collecting the samples. Highly specific IgG antibody tests have been developed; however, there is uncertainty about the proportion of patients that seroconvert and produce IgG antibodies after infection. In addition, uncertainty exists around level and duration of immunity and carrier risk after recovery.
- Previous research reported that 5% of the national and 17% of London's population have developed IgG antibodies. WHO recommends return to work after two weeks of absence of symptoms. However, some employee who have returned to work during a latent phase are unable to continue work due to reappearance of symptoms.
- Prolonged illness follows a distinct pattern, reflects a cluster of symptoms of longer duration and of unknown cause that could help improve understanding of the nature of the virus host interaction and guide future targeted assessment and interventions. Instead of entirely depend on diagnostic tests, clinical judgement is essential to diagnose the disease.
- Successful recovery requires gradual rehabilitation and an individualized return to work plan. In addition to concerns about the duration that symptoms persist, there may be further health implications related to immunity, infectivity, and return to work. Employees will need monitoring and follow up with understanding and acceptance shown by coworkers and supervisor.



THANK YOU

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