

SCIENTIFIC RESEARCH MONITORING ON COVID-19

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SCIENTIFIC RESEARCH MONITORING ON COVID-19

(ISSUE 179)

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.

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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

The Importance of Reopening America's Schools this Fall

Clinical Features

Abnormal Pulmonary Function in COVID-19 Patients at Time of Hospital Discharge





- The WHO Regional Office for Europe urges Turkmenistan to activate critical measures to prepare for COVID-19 outbreaks. To date, Turkmenistan has not reported any confirmed COVID-19 cases to WHO; however, the country has recently activated measures to prevent the transmission of respiratory infections within communities.
- The WHO Regional Office for the Americas collaborates with the World Food Programme and the Canadian Government to facilitate delivery of Personal Protective Equipment (PPE) to support Trinidad and Tobago's COVID-19 response.
- The National Center for Laboratory and Epidemiology (NCLE), the Ministry of Health of Lao People's Democratic Republic, with support from the WHO Regional Office for Western Pacific, are working with communities to ensure early detection of potential outbreaks of COVID-19 in Lao PDR.
- The WHO has published guidance on [Safe Eid al Adha Practices](#) in the context of COVID-19:
 - WHO recommends that any decision on mass gatherings should be based on a careful assessment of all risk factors associated with the event
 - key precautions should be implemented, e.g. enforcing physical distancing of at least one metre (three feet) between people at all times, frequent hand cleaning, and respiratory etiquette.
 - Countries are advised to follow general precautionary measures relating to animal management, meat processing, and marketplaces as recommended by national and international food safety and hygiene regulations.
 - Precautions should also be applied by the faithful when distributing meat to those in need, so that remembrance, charity and care for others can safely remain at the core of Eid al Adha's celebrations during the COVID-19 pandemic
 - Advice to have either the event outdoors and/or make it as short as possible; regulate the number and flow of people entering, attending and departing from the event; enforce routine cleaning.
 - •advising those who have symptoms suggestive of COVID-19 and those at higher risk of developing severe illness from COVID-19 to refrain from attending these gatherings.



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

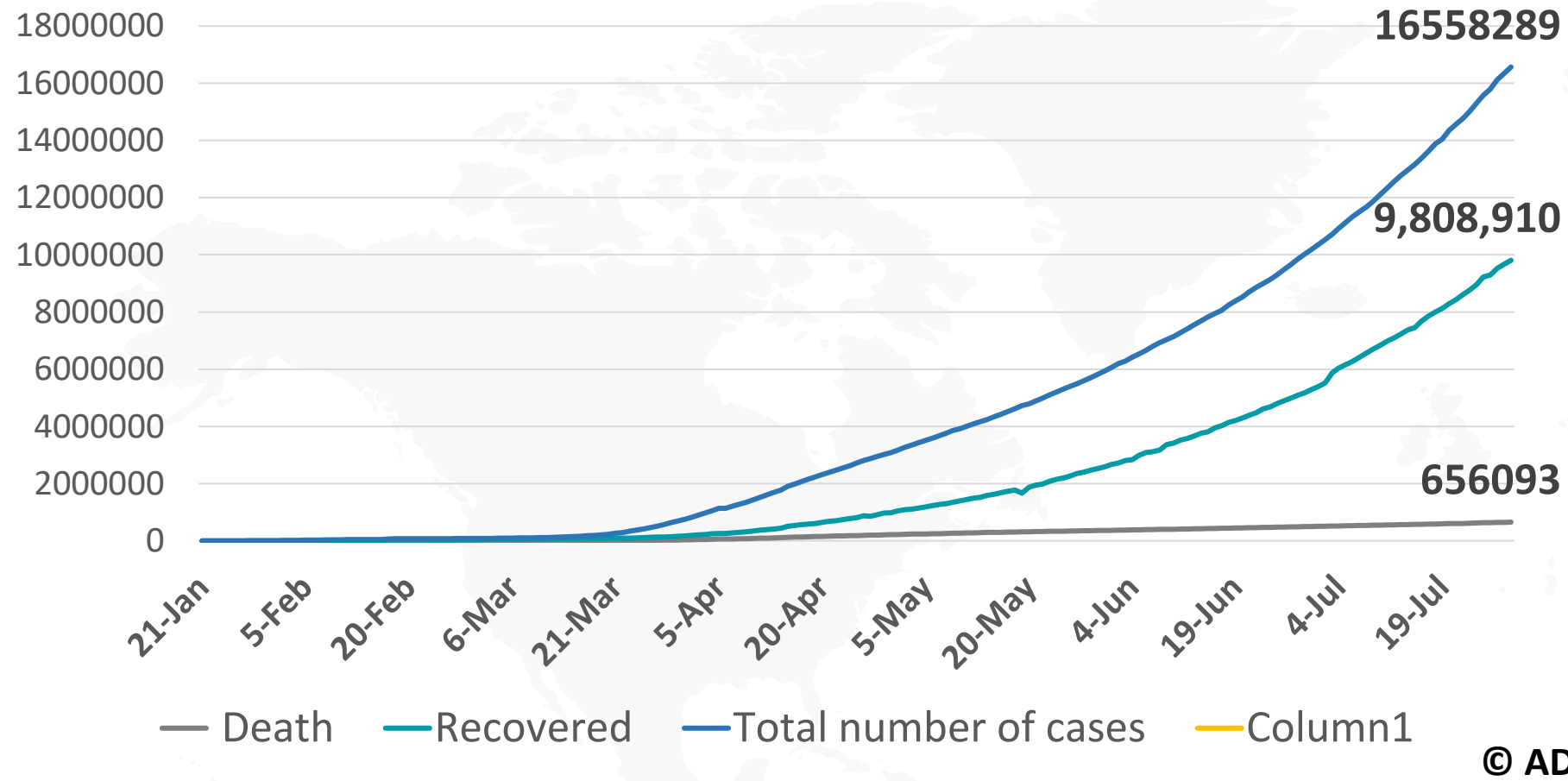


Figure 3: Total Number of Death Due to COVID-19 (china and result of the world)

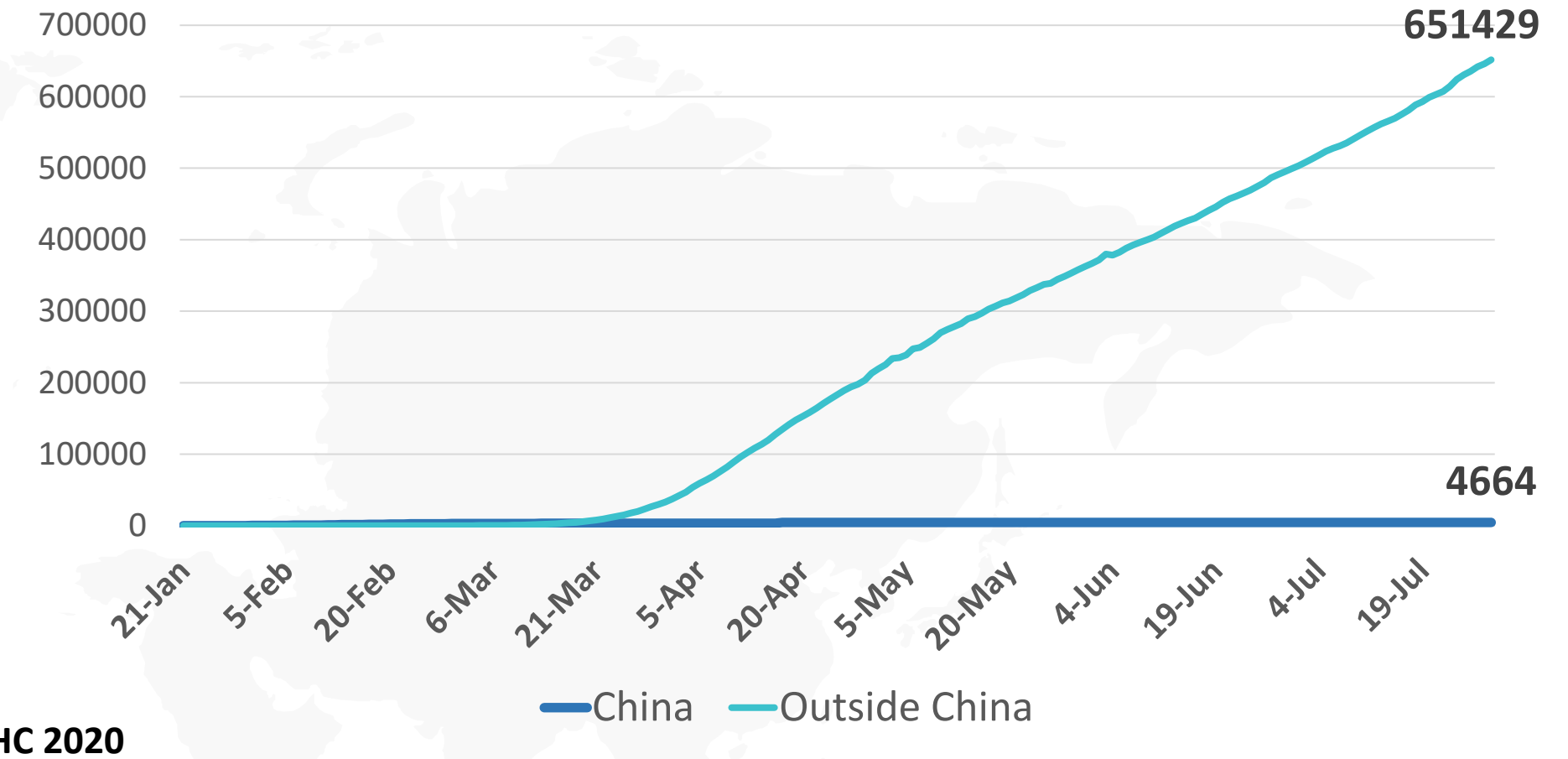


Figure 2: Daily New Infected COVID-19 Cases (China and rest of the world)

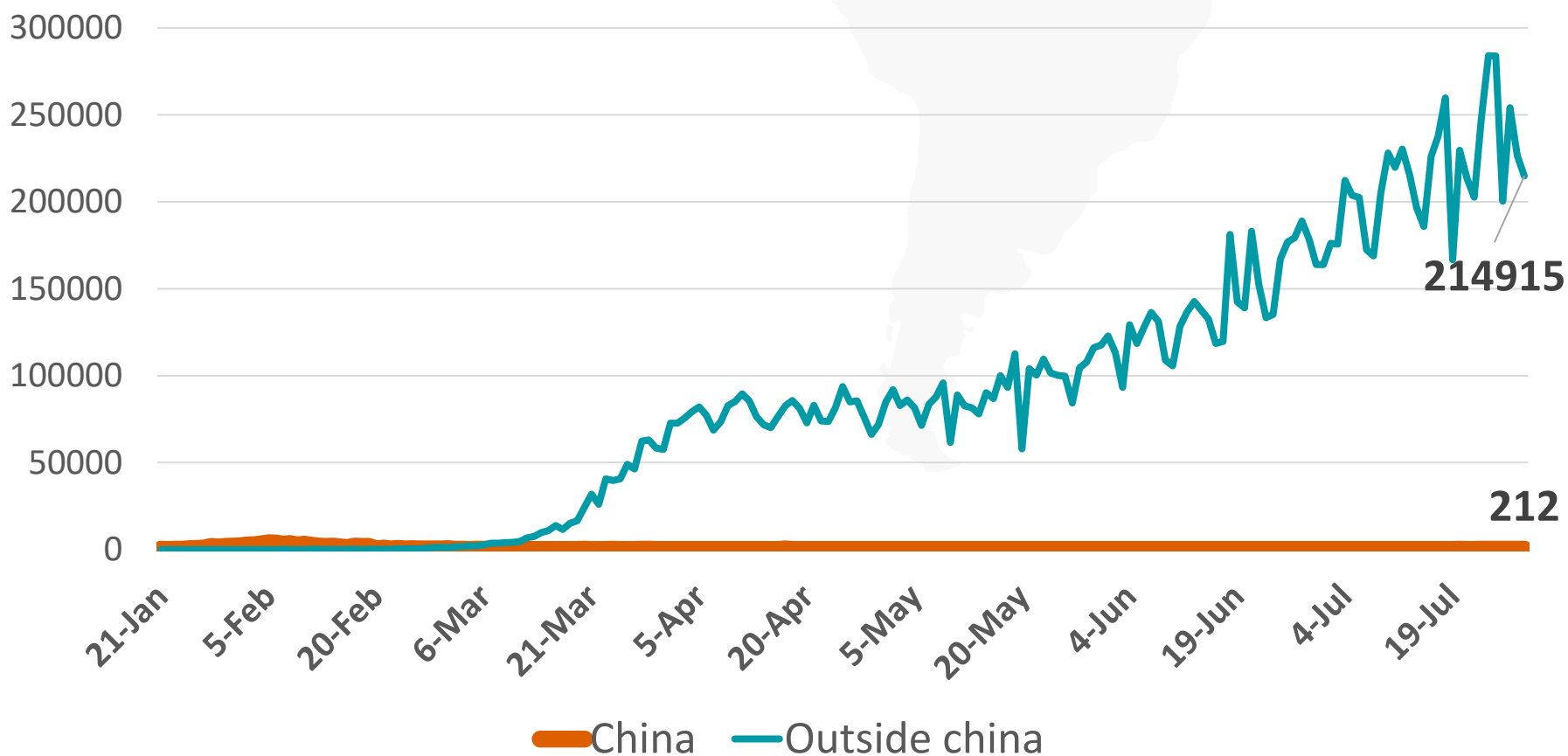


Figure 4: Global Daily New Deaths Due to COVID-19 (china and rest of the world)

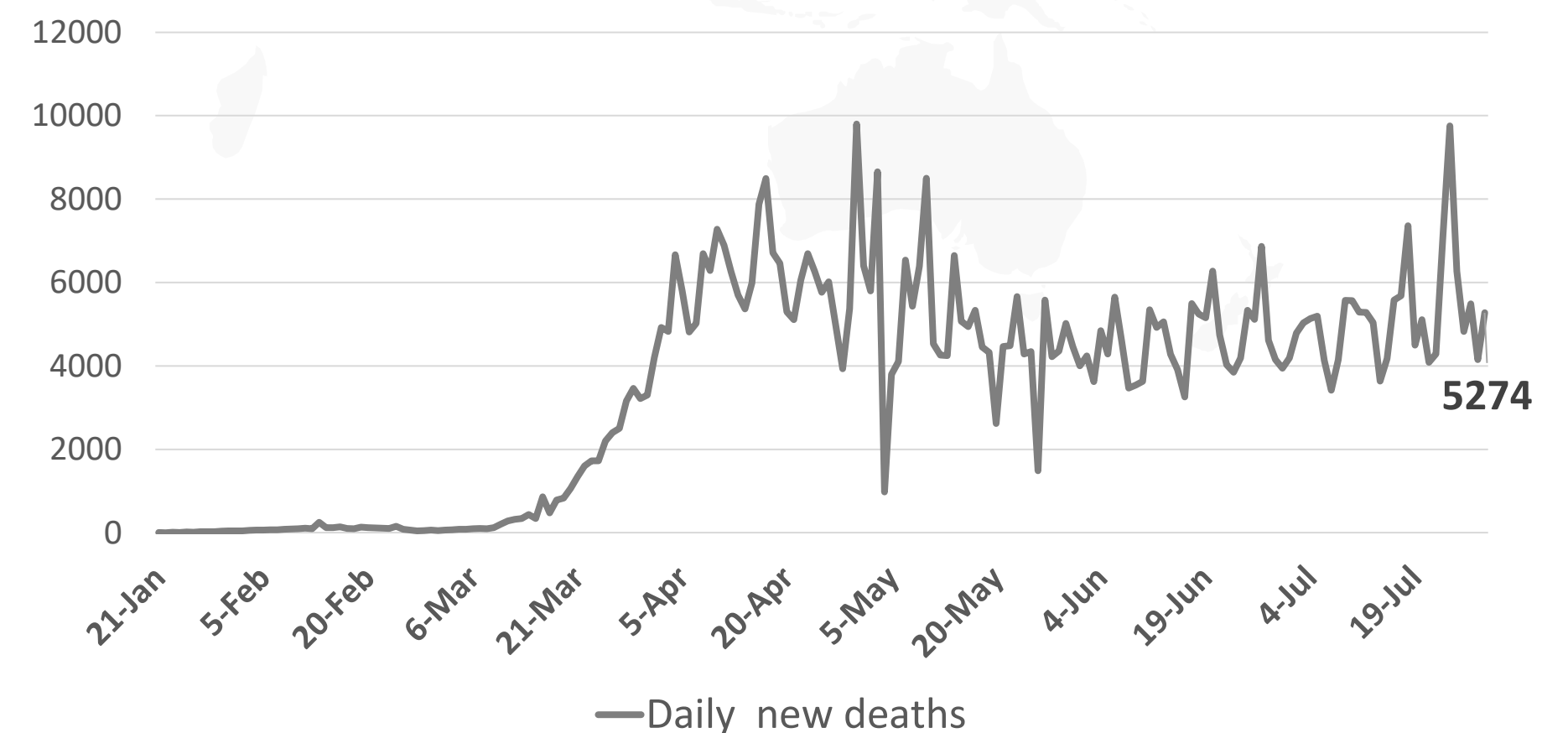
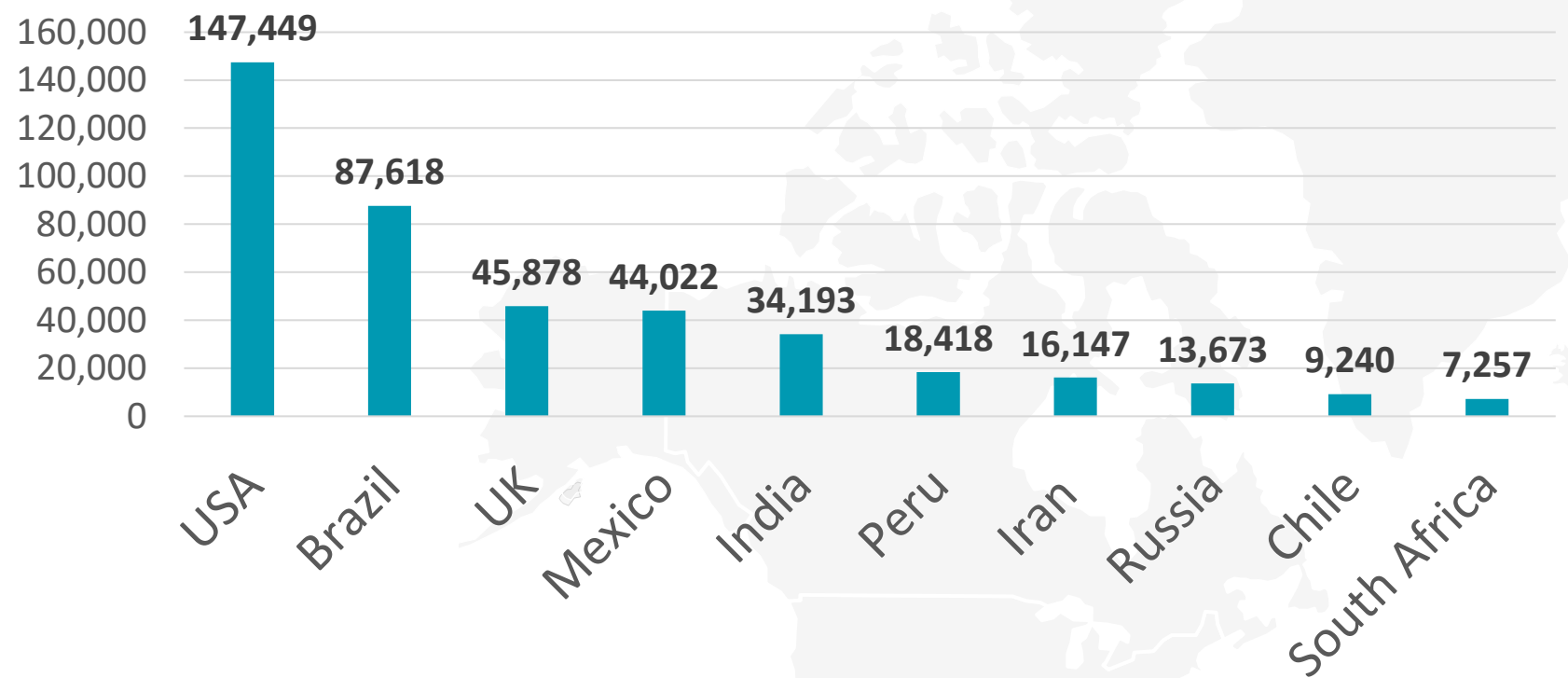
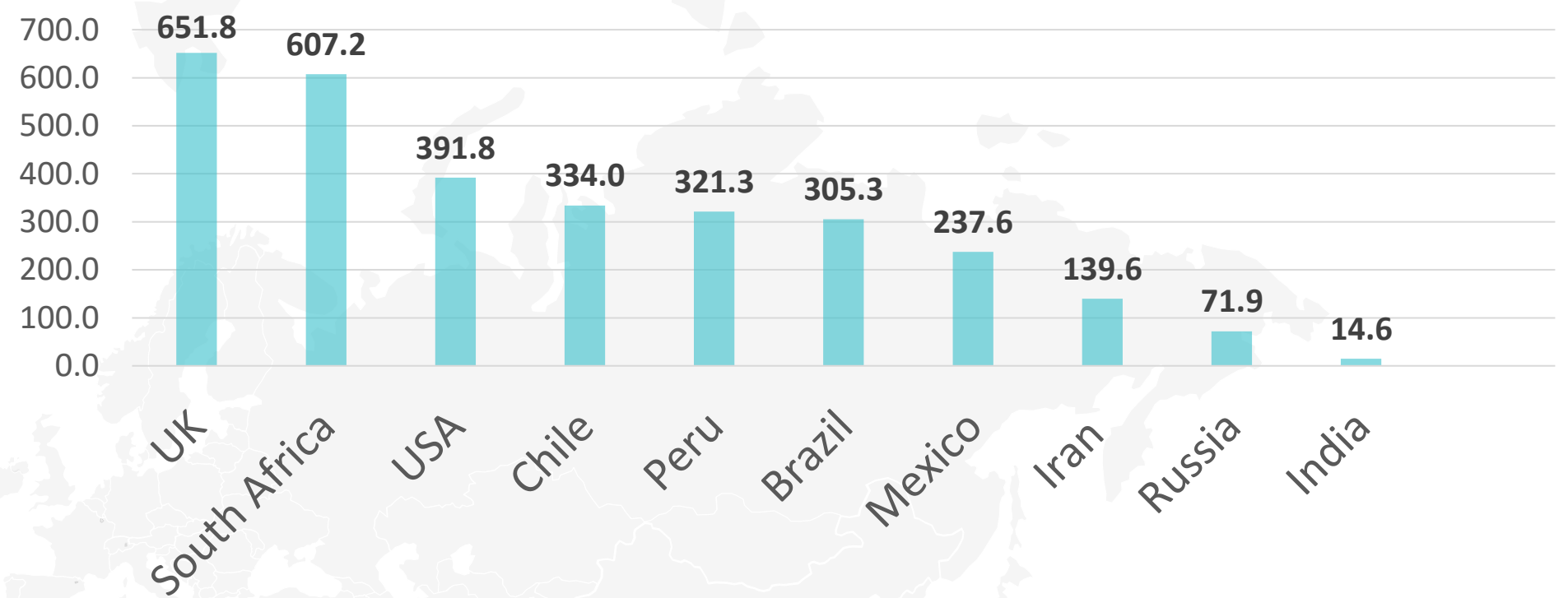


Figure 3: Top 10 Countries in the Total Number of Cases Due to COVID-19

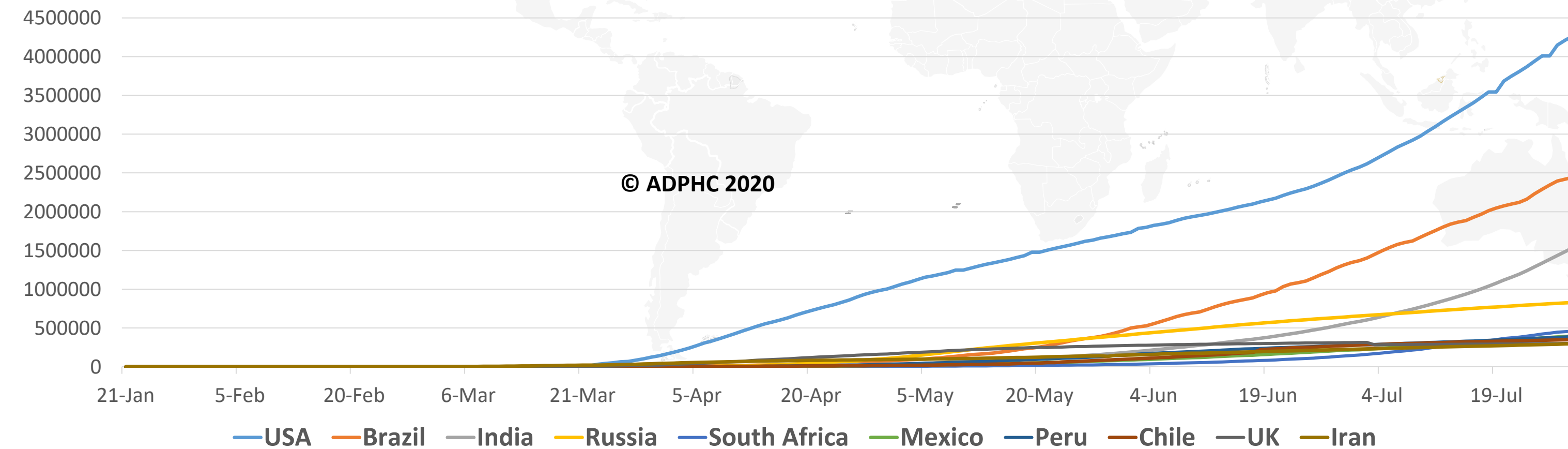
TOTAL DEATHS



DEATHS PER MILLION



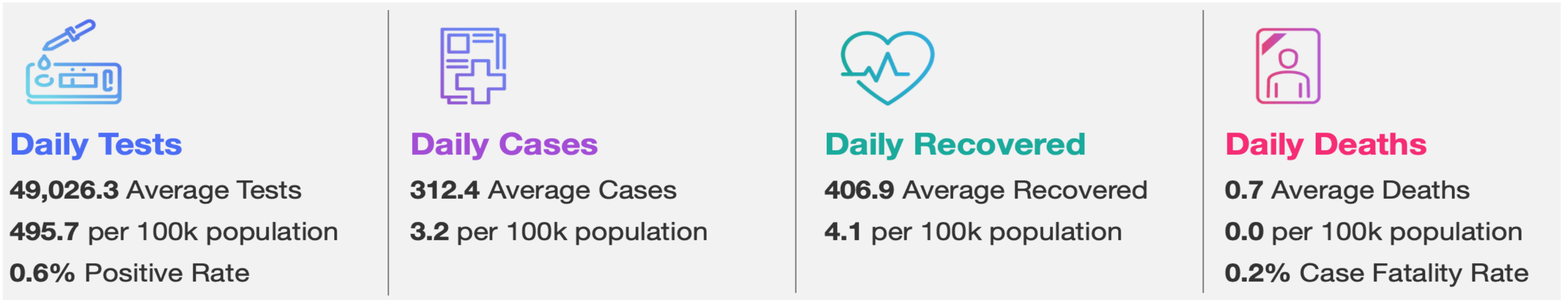
TOTAL INFECTED CASES



USA	4,263,531
Brazil	2,442,375
India	1,531,669
Russia	828,990
South Africa	459,761
Peru	395,489
Mexico	389,717
Chile	349,800
UK	300,696
Iran	296,273



Figure 5: 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

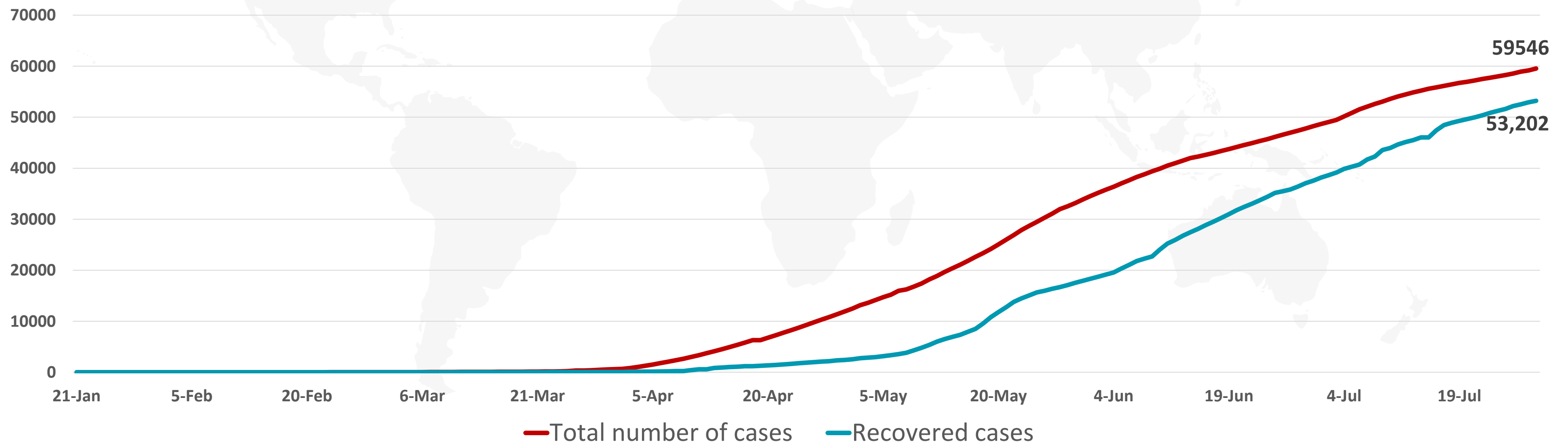


Figure 7A : Global Distribution of COVID-19 Cases

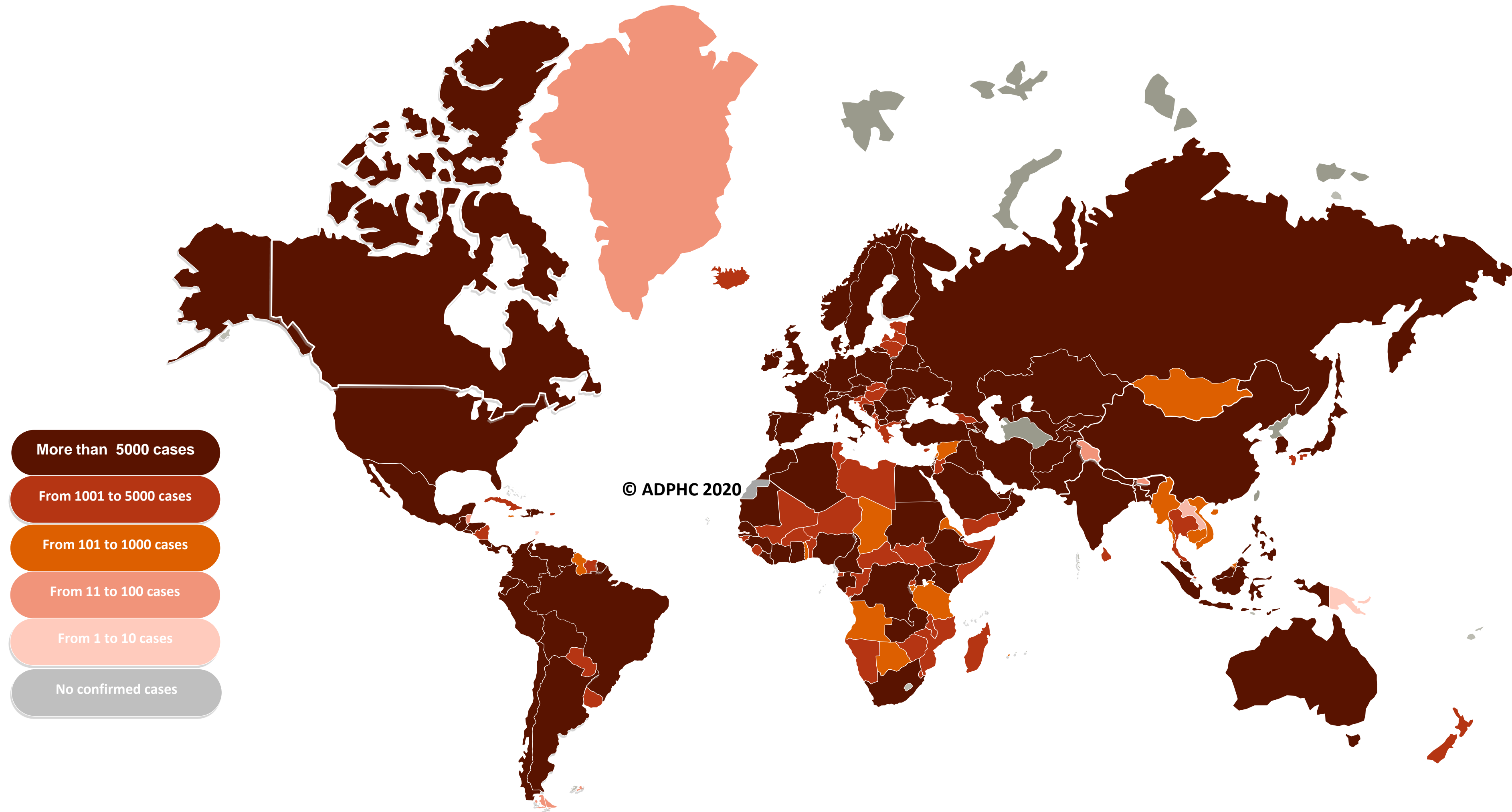
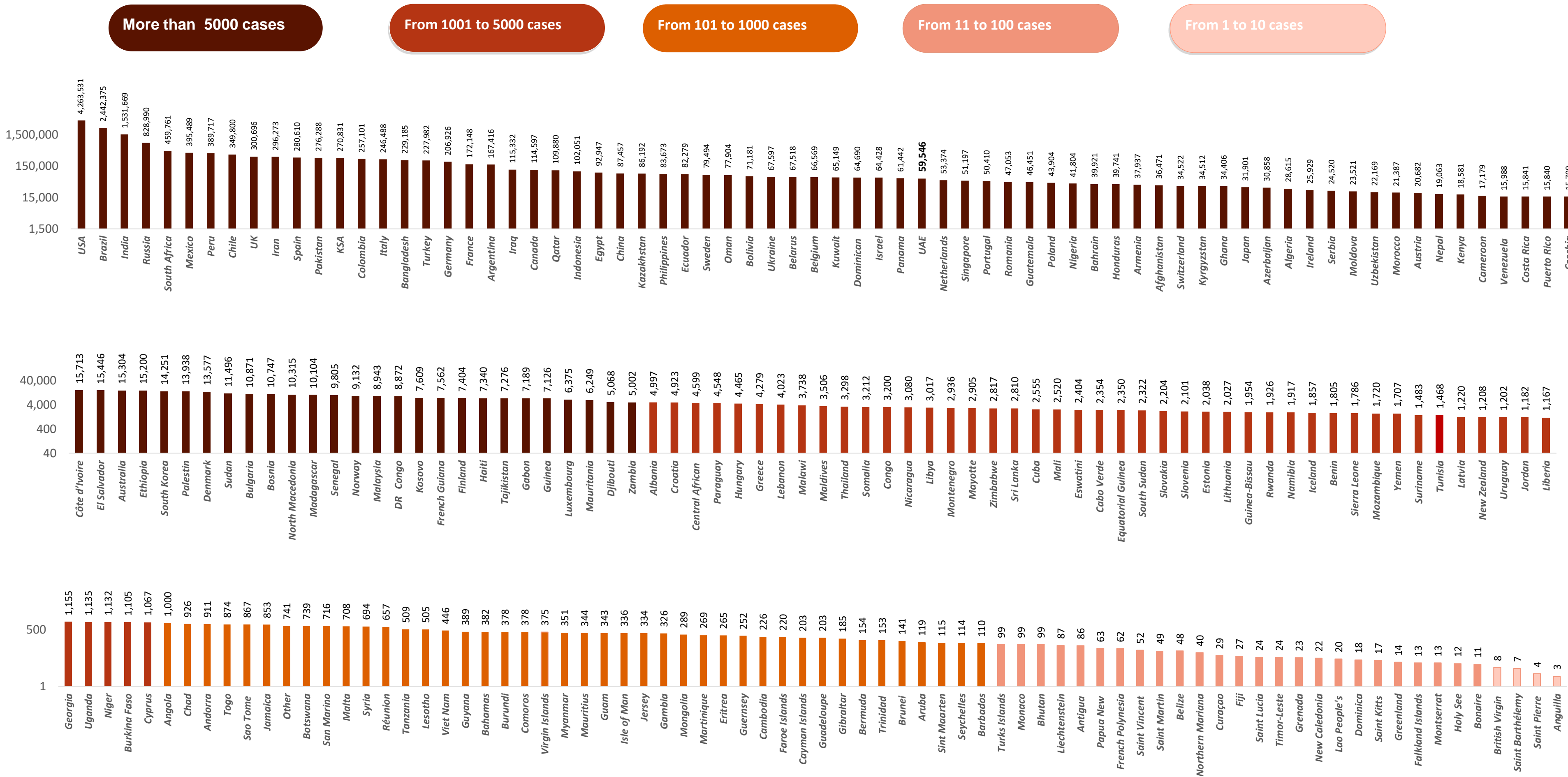


Figure 7B: Bar Chart Illustrates the Global Distribution of COVID19 Cases



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

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

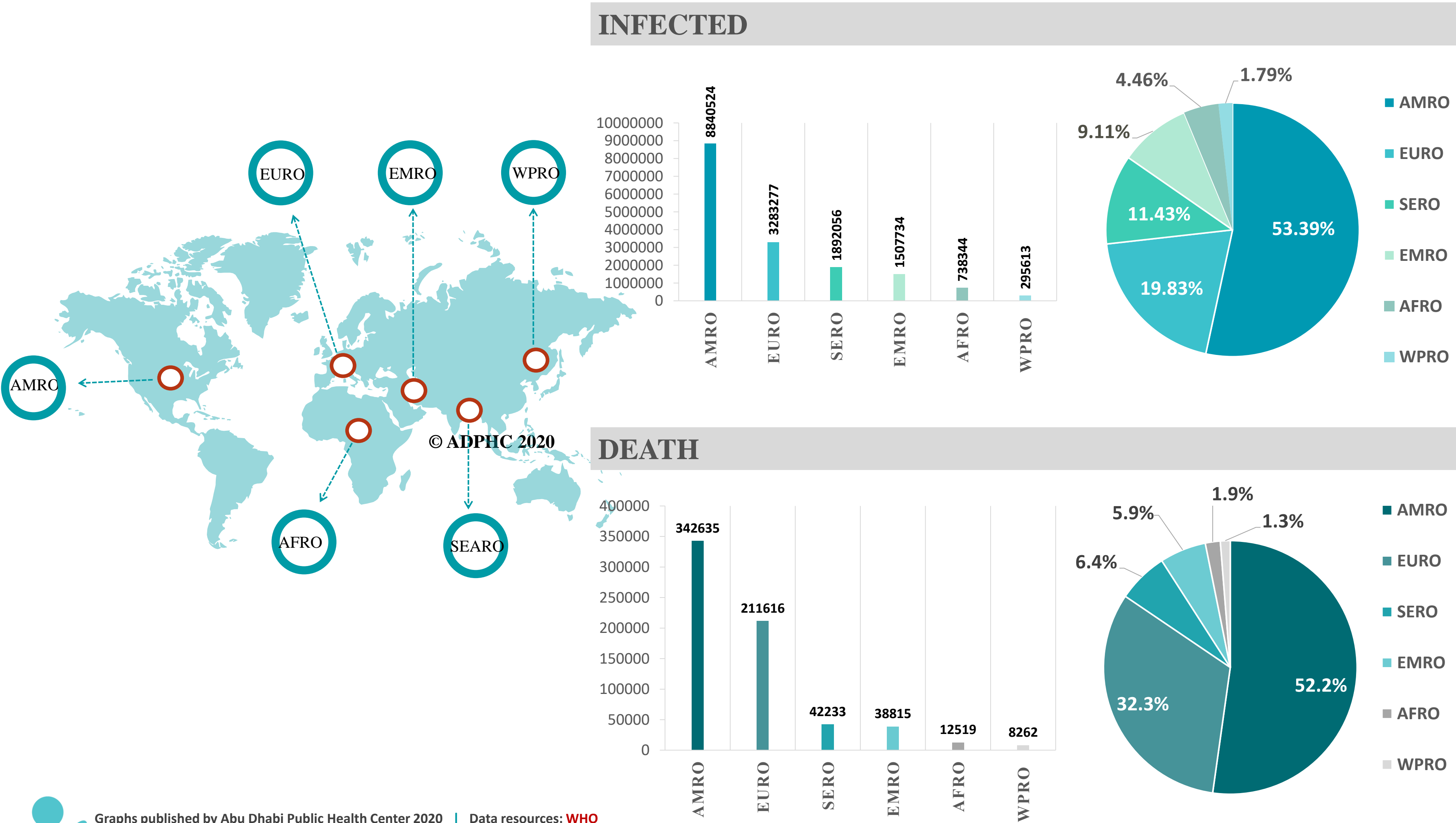
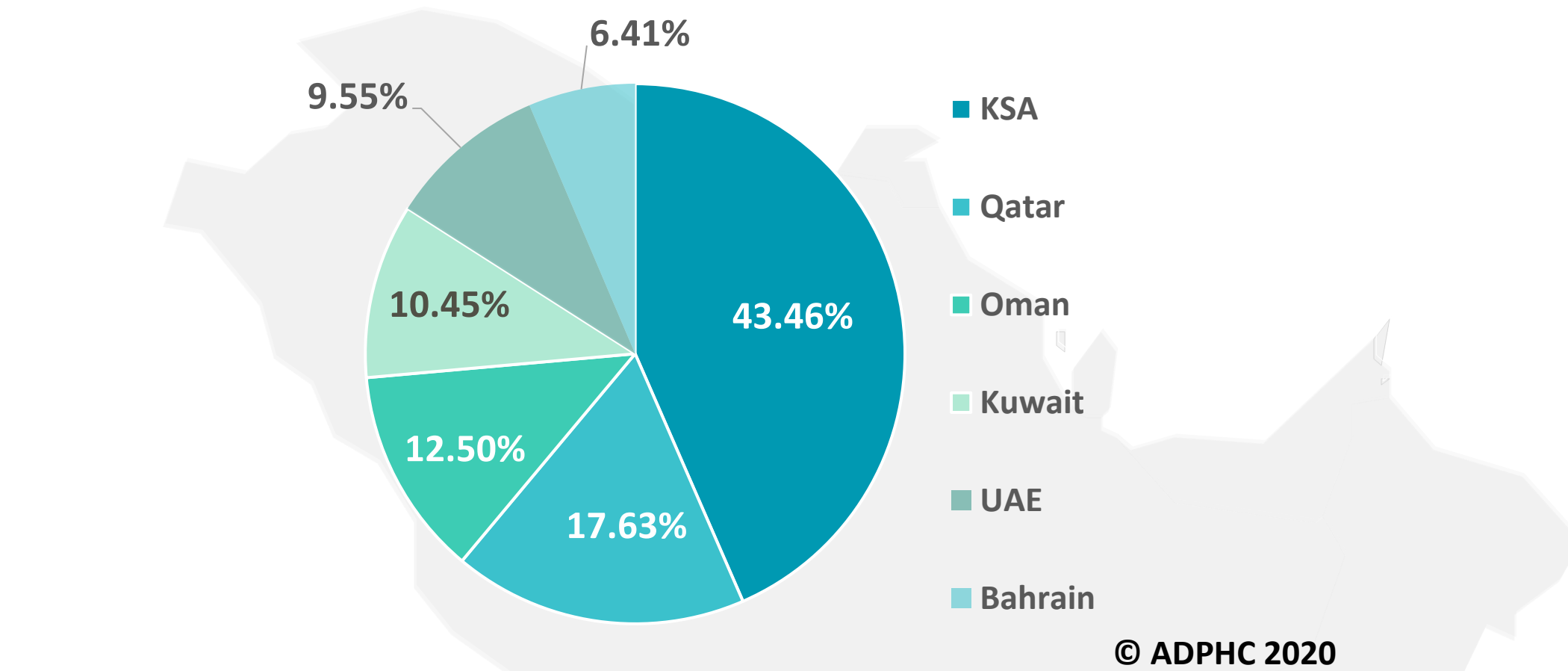
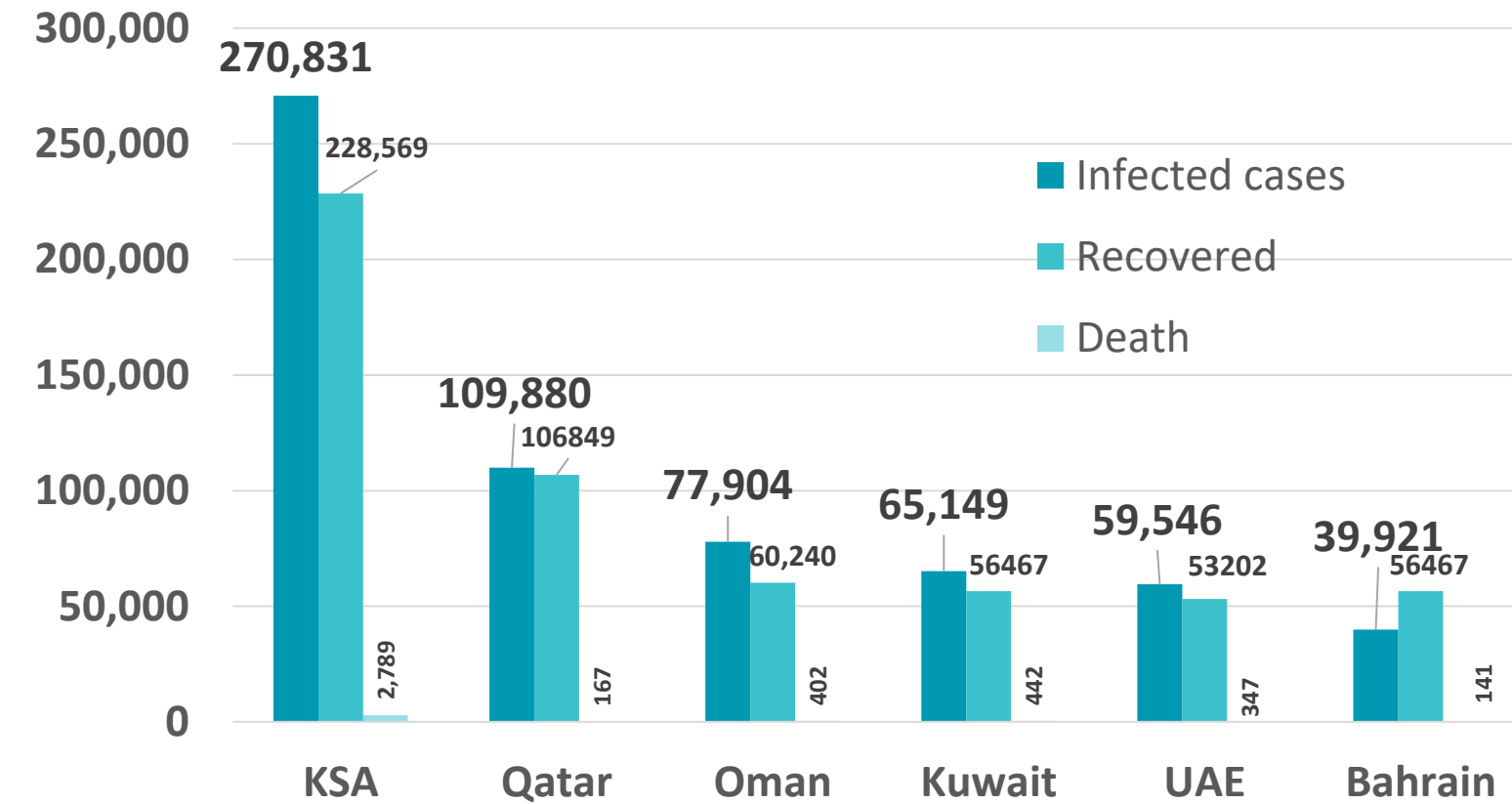


Figure 9: Comparative Analysis of the Distribution of COVID-19 Cases in GCC Countries

TOTAL NUMBER OF INFECTED CASES



TOTAL NUMBER OF INFECTED, RECOVERED AND DEATHS



DEATH PER MILLION

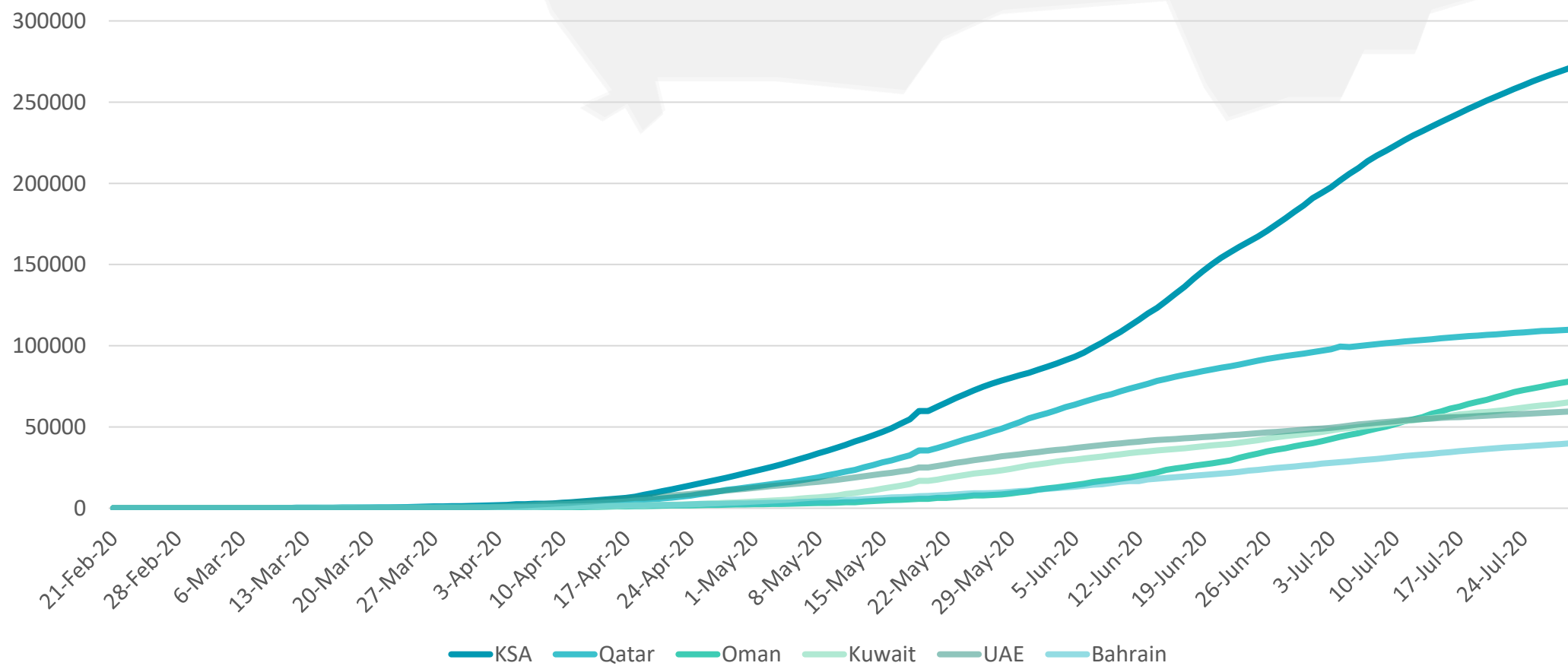
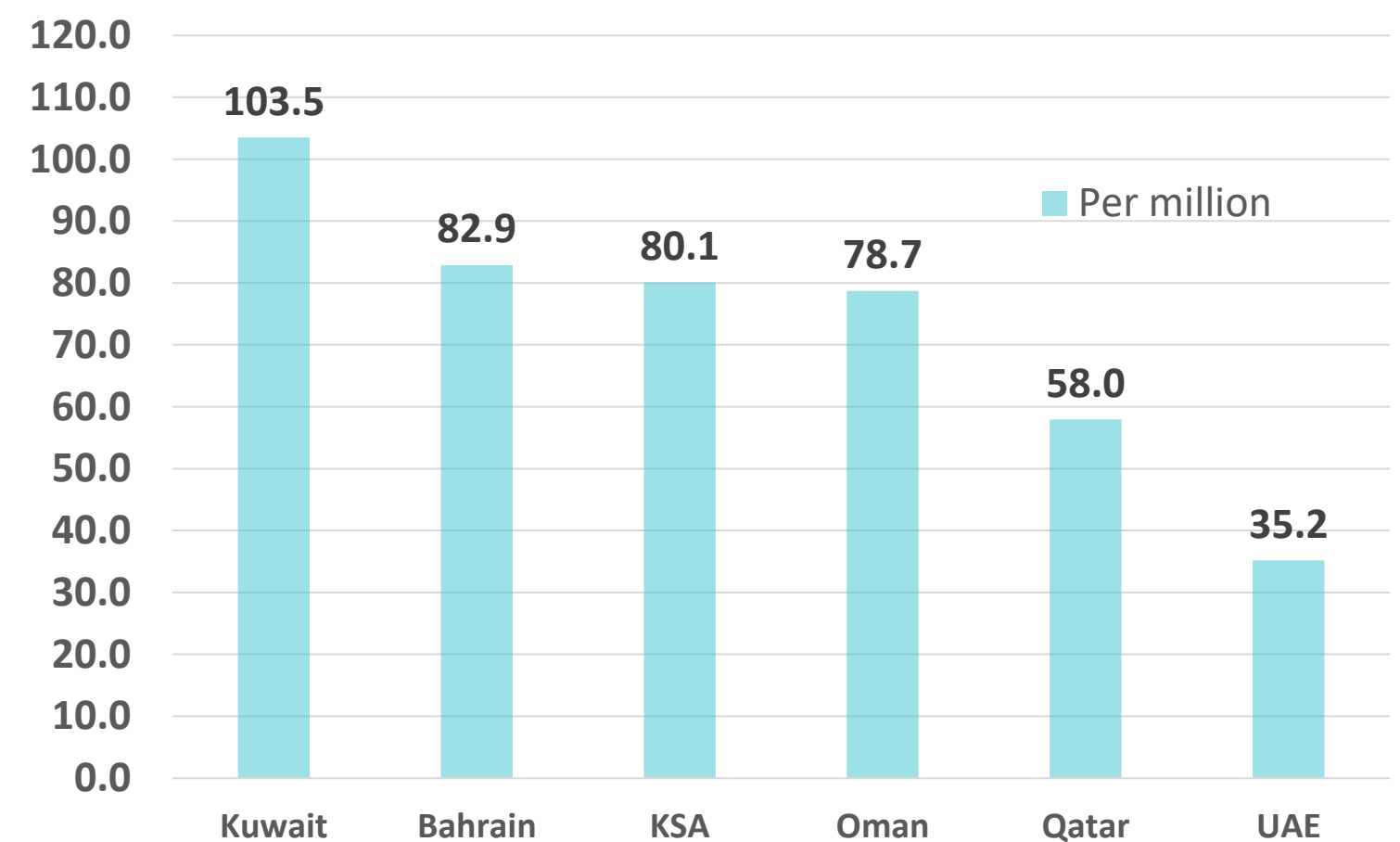


Figure 10: Comparative Analysis of the Distribution of COVID-19 New Cases in GCC Countries

UAE



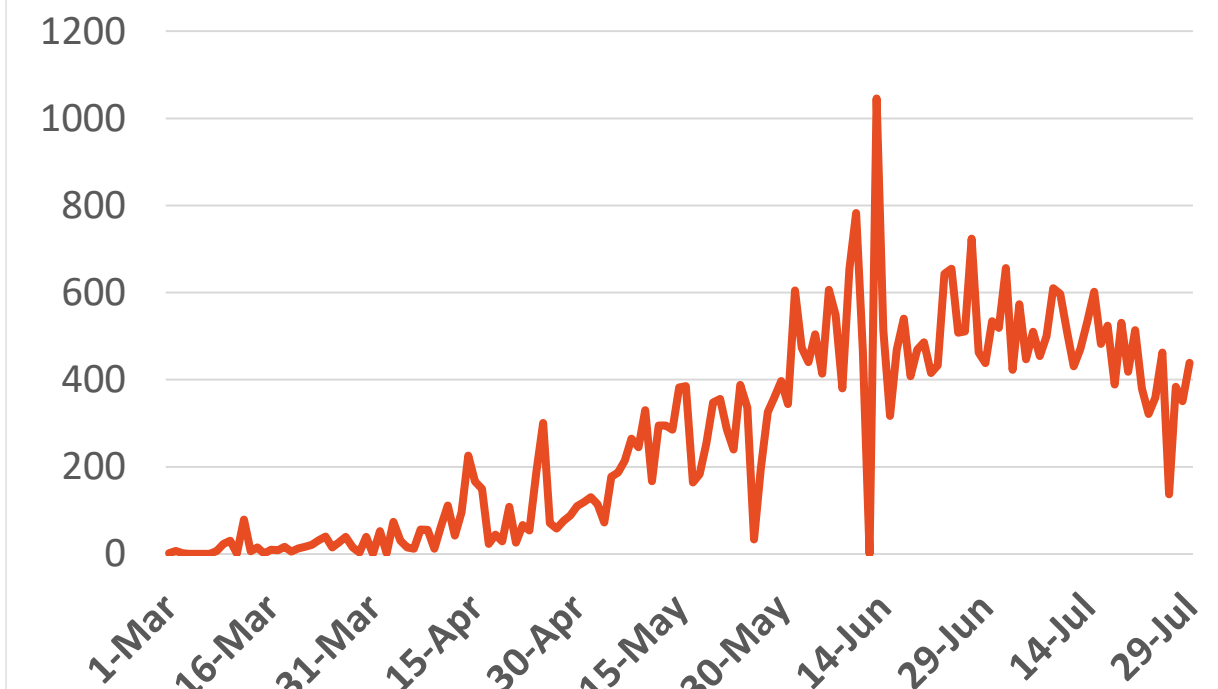
Source : National Emergency Crisis and Disaster Management Authority

KSA



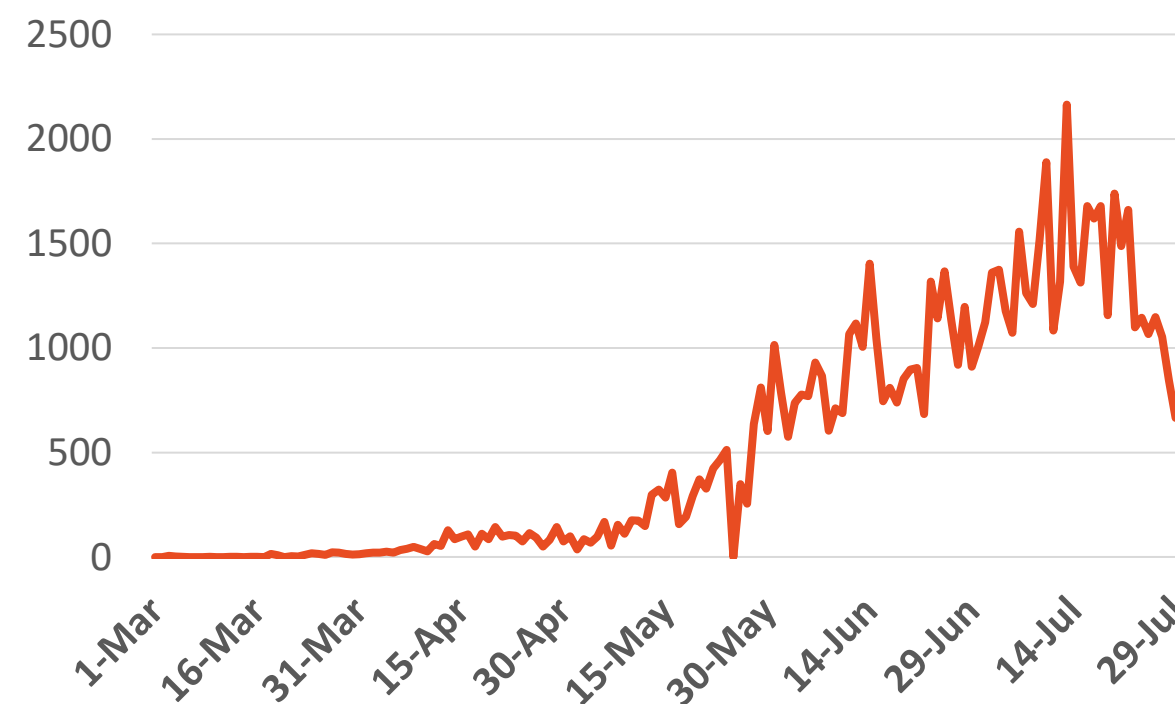
Source : KSA ministry of health

Bahrain



Source :WHO

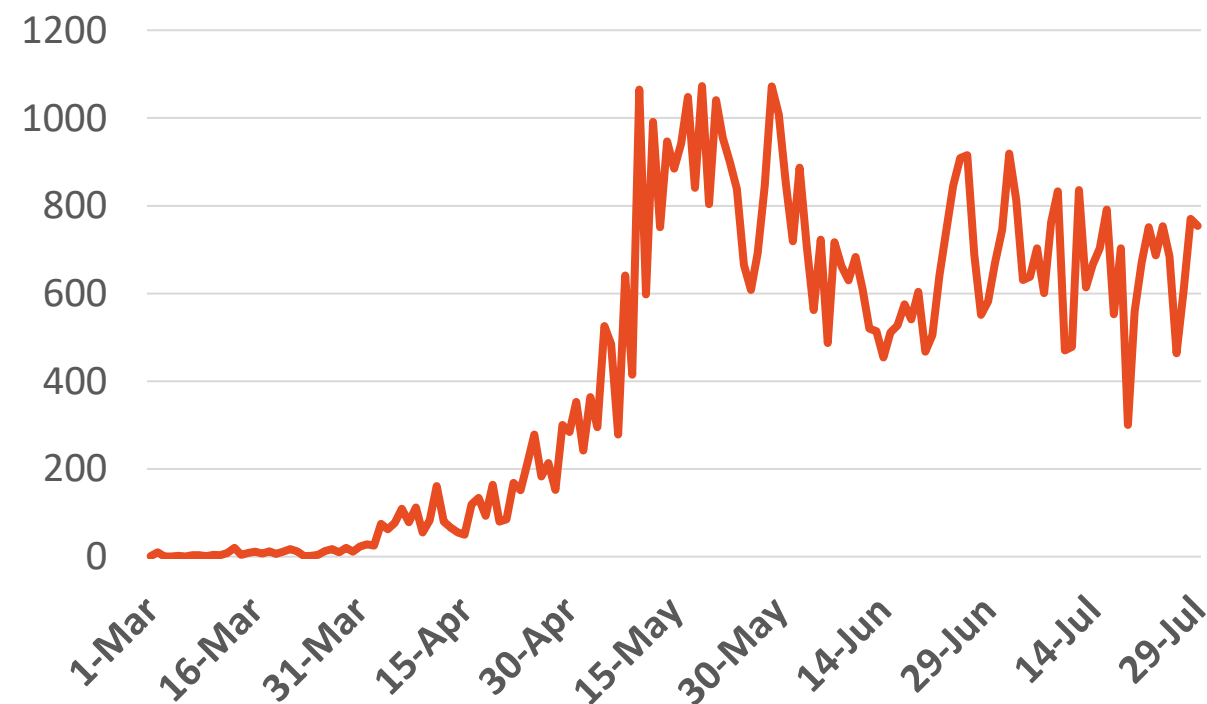
Oman



Source :Oman ministry of health

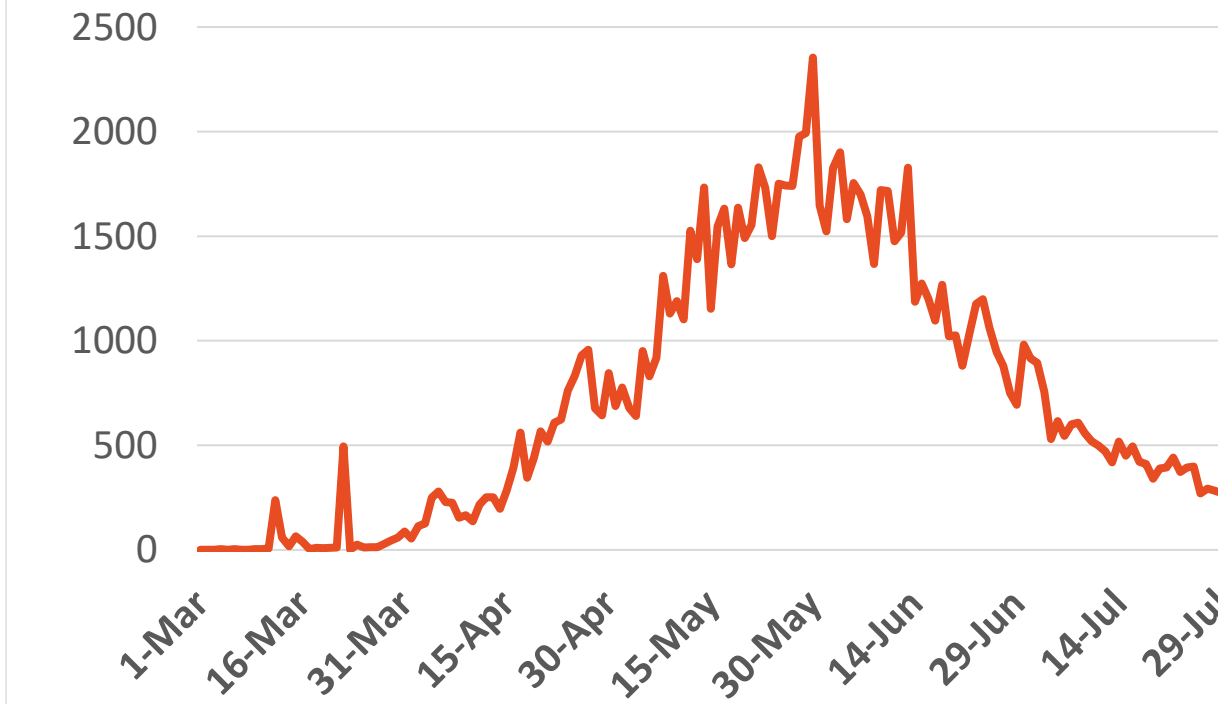
Kuwait

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Source : Kuwait ministry of health

Qatar



Source : Qatar ministry of health

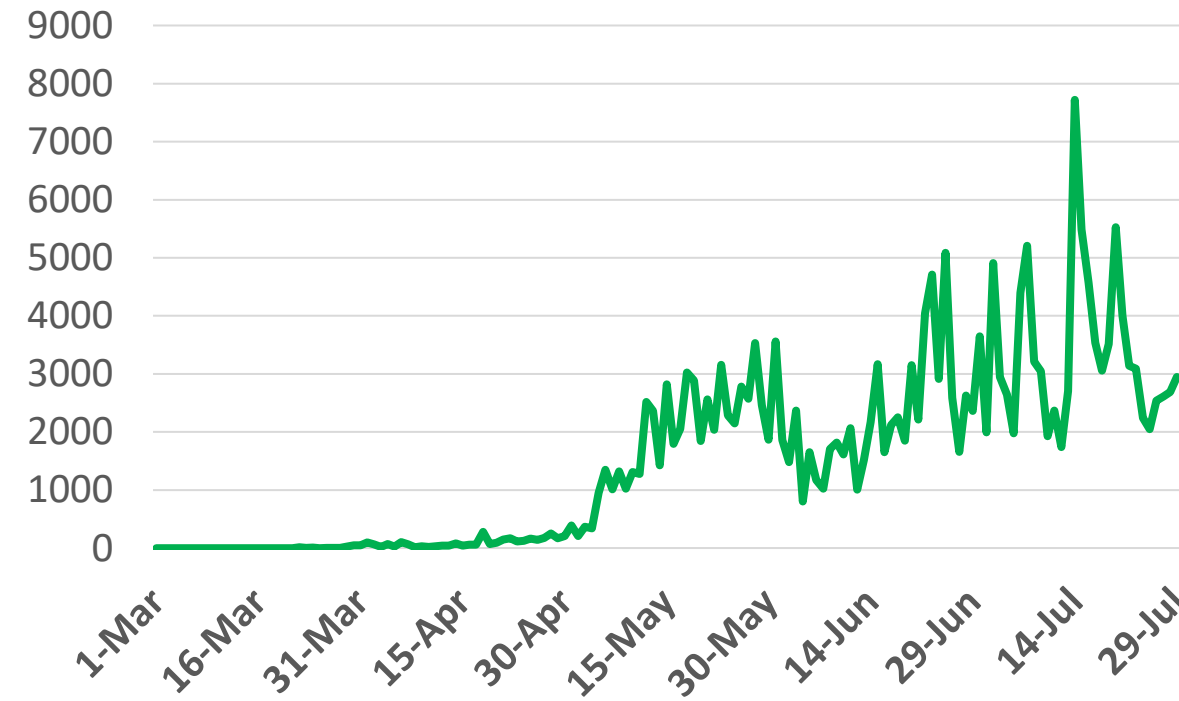
Figure 11: Comparative Analysis of the Distribution of COVID-19 Newly Recovered Cases in GCC Countries

UAE



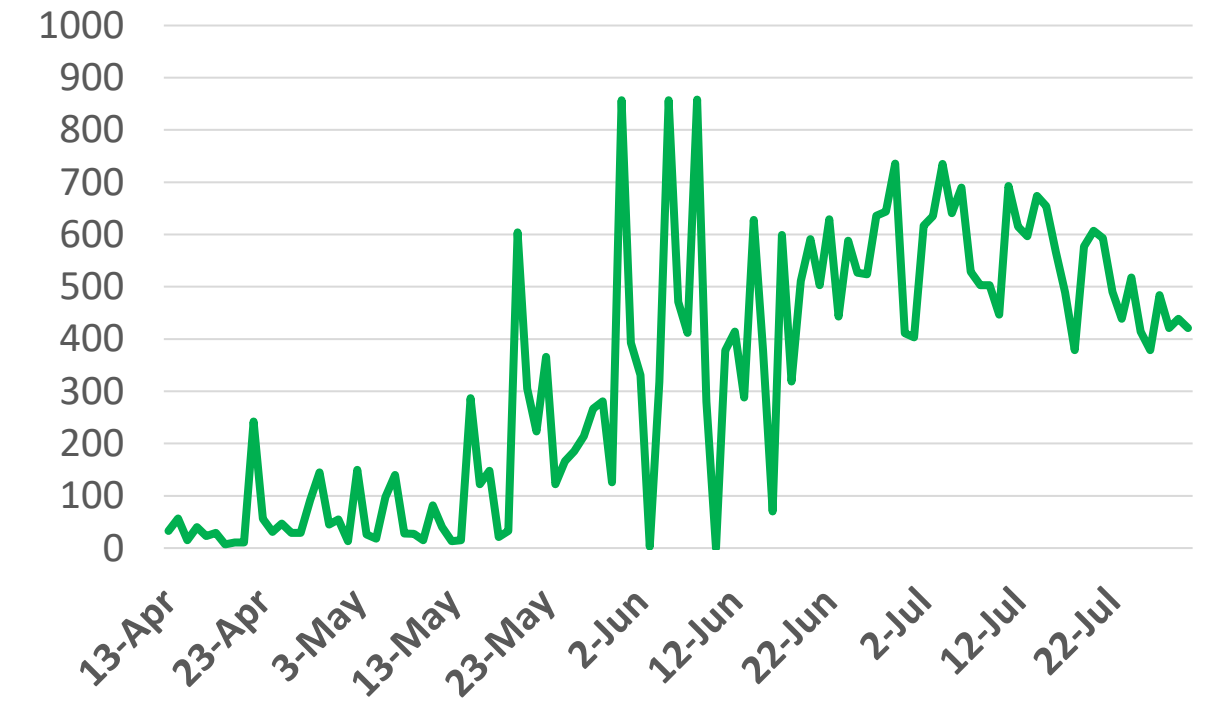
Source : National Emergency Crisis and Disaster Management Authority

KSA



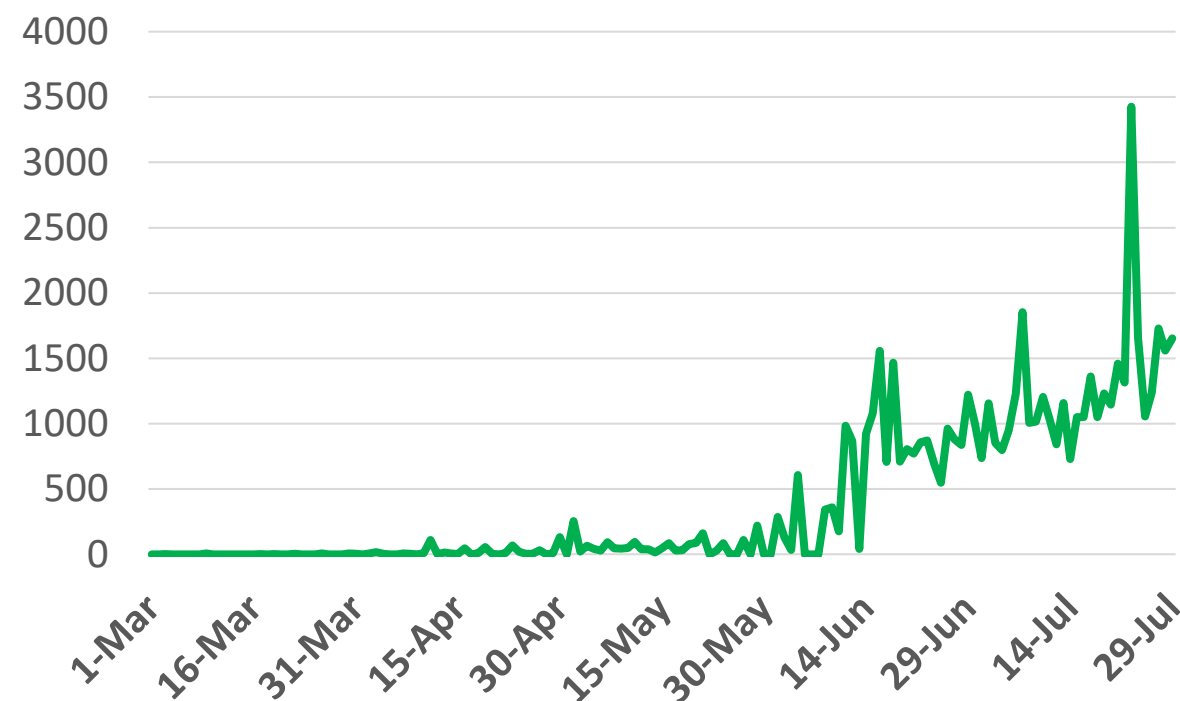
Source : KSA ministry of health

Bahrain



Source : GCCStat

Oman



Source : Oman ministry of health

Kuwait

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Source : Kuwait ministry of health

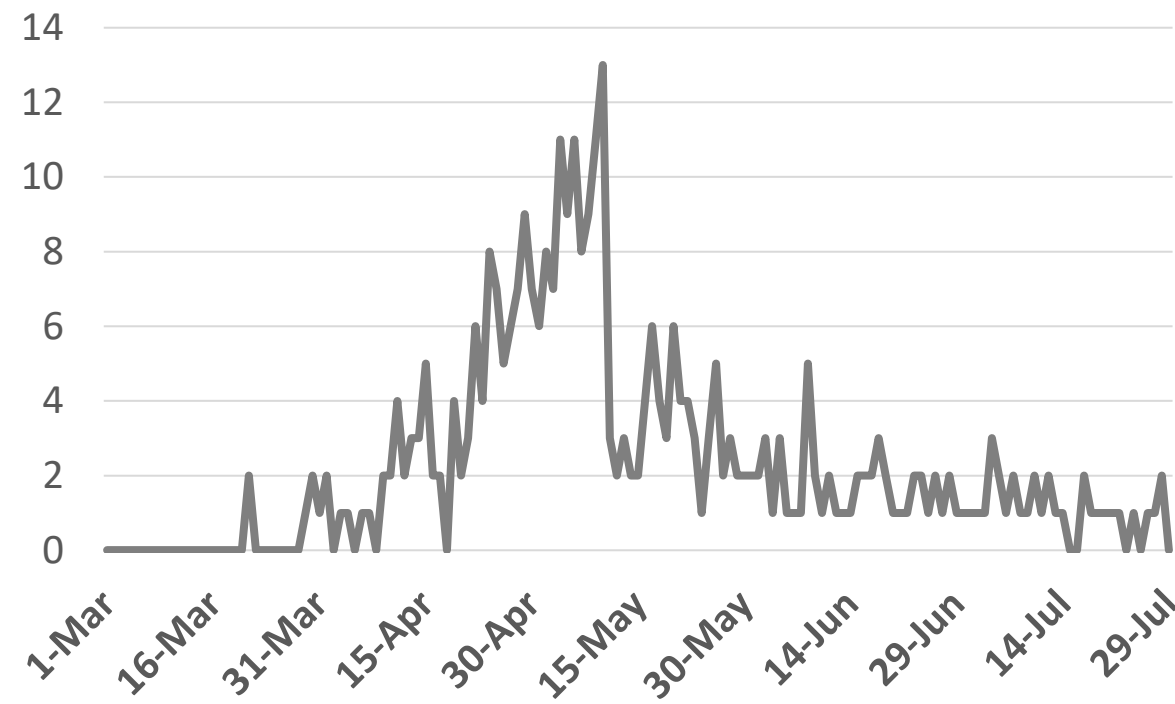
Qatar



Source : Qatar ministry of health

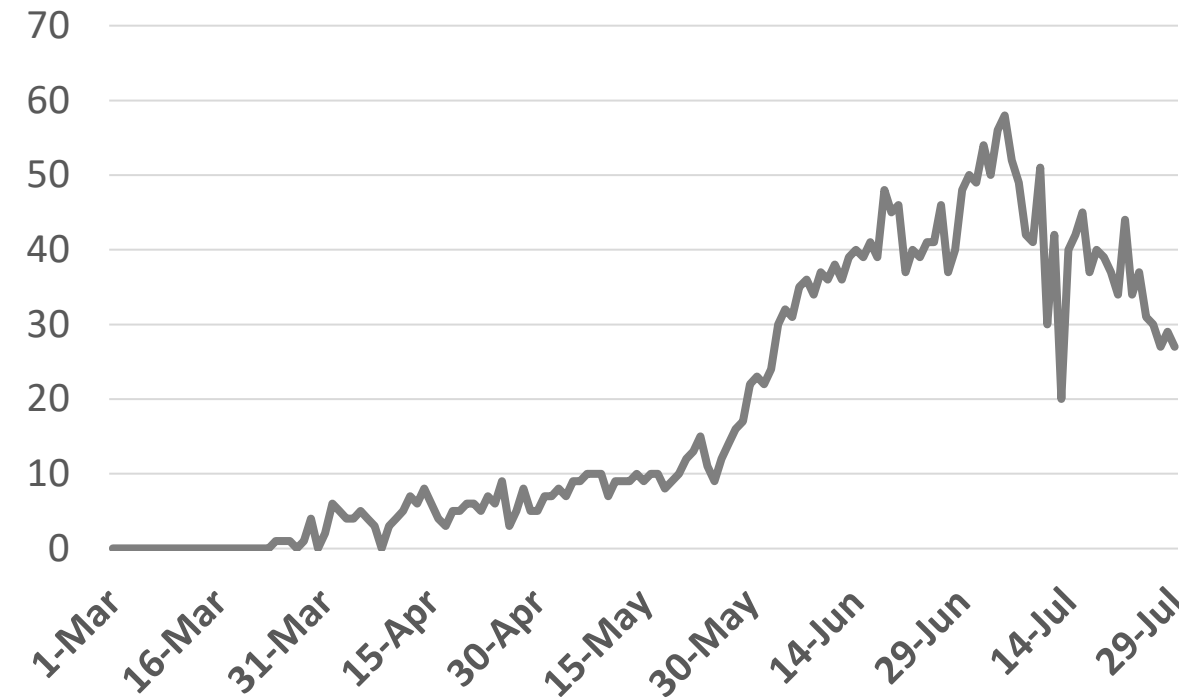
Figure 12: Comparative Analysis of the Distribution of COVID-19 New Death Cases in GCC Countries

UAE



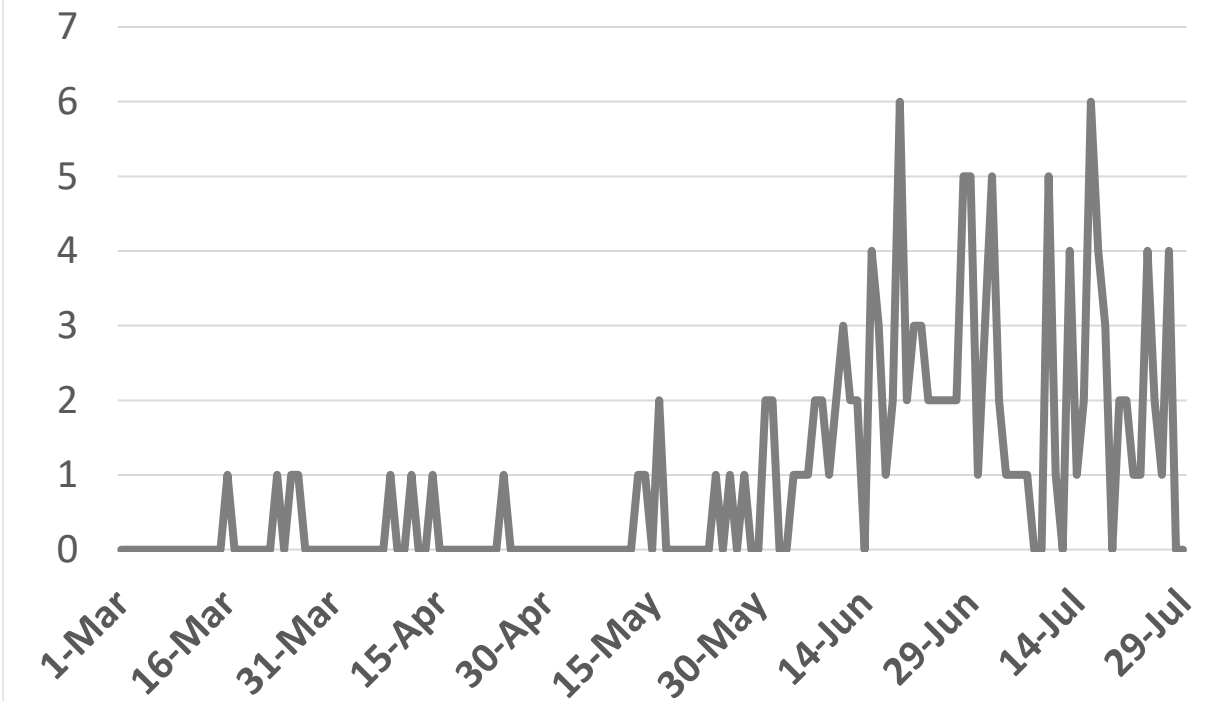
Source : National Emergency Crisis and Disaster Management Authority

KSA



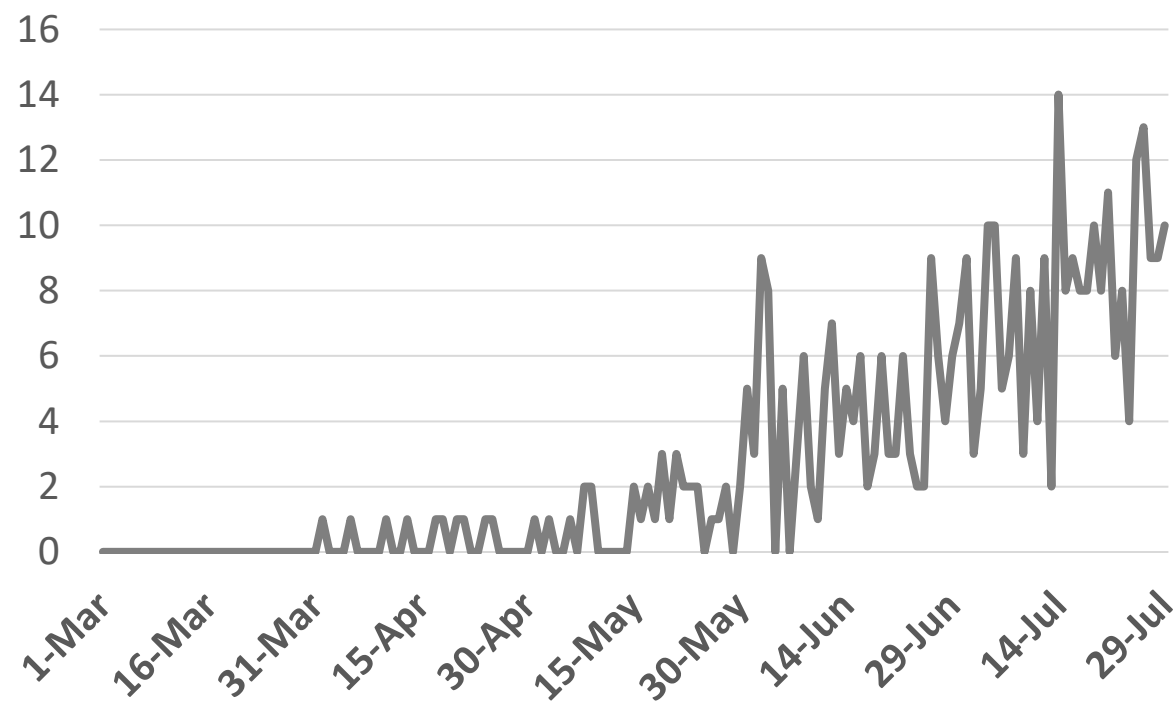
Source : KSA ministry of health

Bahrain



Source :WHO

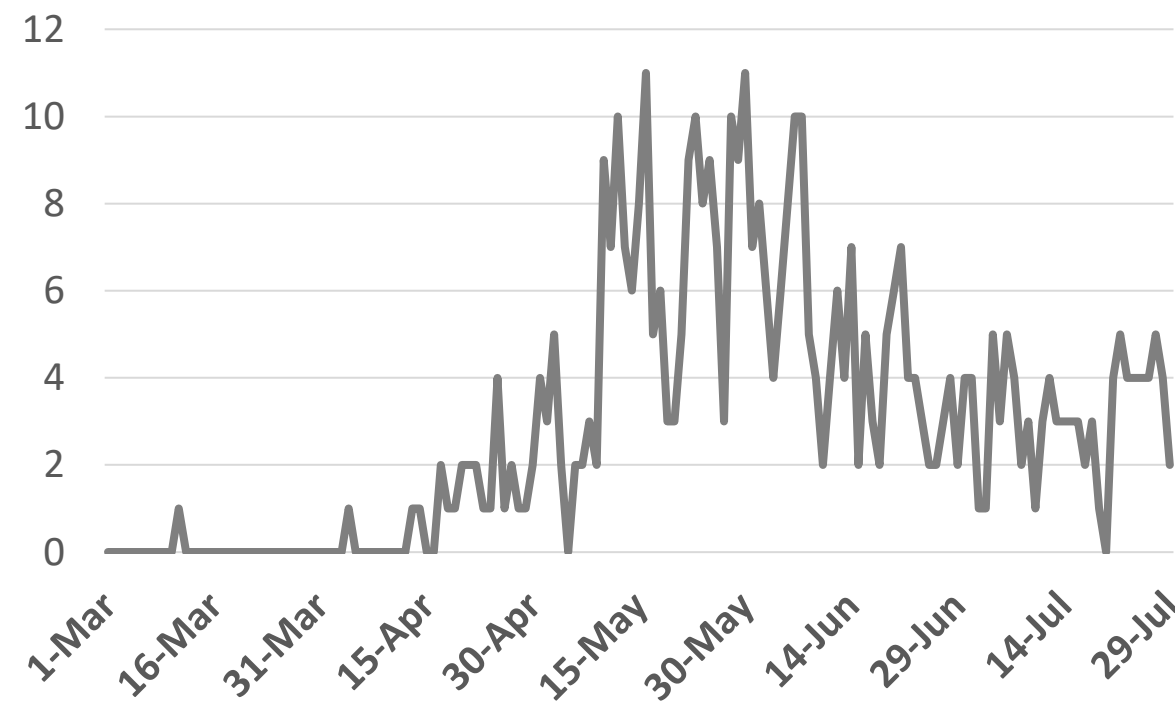
Oman



Source :Oman ministry of health

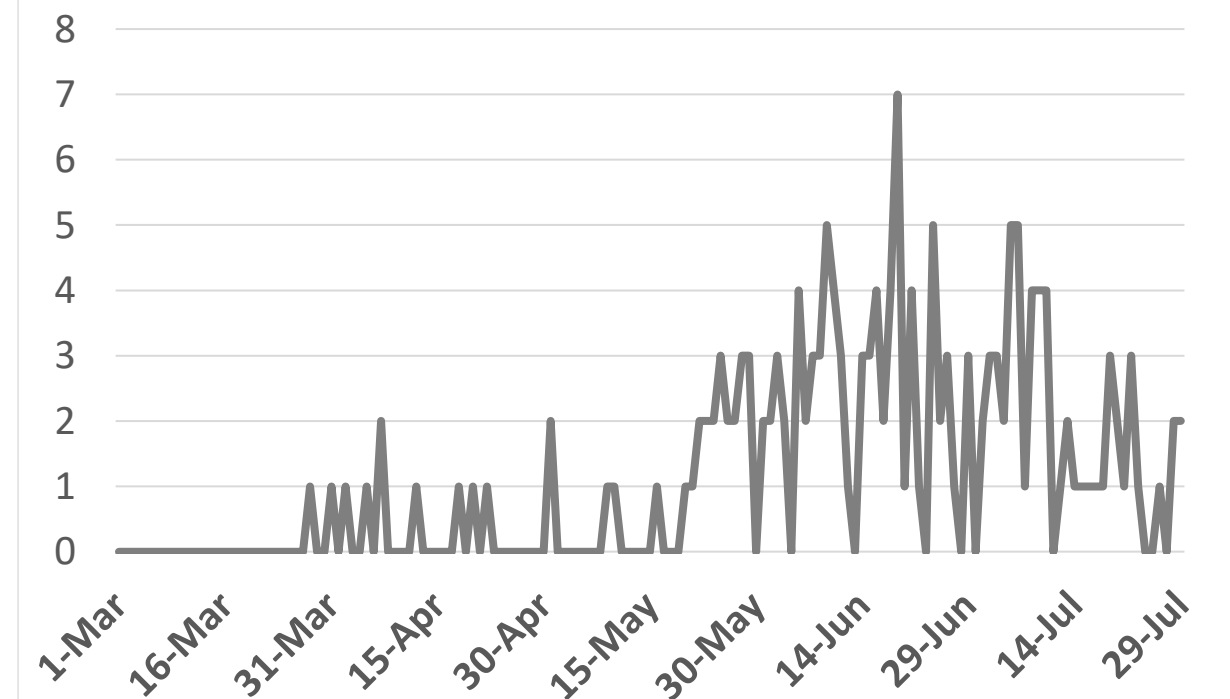
Kuwait

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Source : Kuwait ministry of health

Qatar



Source : Qatar ministry of health

Article 1 The Importance of Reopening America's Schools this Fall

Published

23 July 2020 [THE LANCET](#)

This paper highlights the importance of reopening America's schools this fall with the consideration of different benefits and risks of both in-person school and virtual learning options. It discusses some critical functions and current studies on COVID-19 and children.

- **COVID-19 & Children:** The US reported that flu-related deaths of children which occur every year are less than in each of the last five flu seasons. Scientific international studies indicate that COVID-19 transmission among children in school reveals low rates. Additionally, data from both virus and antibody testing, suggesting that children are not the primary drivers of COVID-19 spread in schools or the community.
- **Education Instruction:** Extended school closure can lead to severe learning loss especially for students with heightened behavioral needs. Disparities in educational outcomes are a concern for low-income, minority and students with disabilities who do not have the capacity to facilitate distance learning.
- **Social & Emotional Skill Development:** Schools play a critical role in supporting the whole child and providing a stable and secure environment for developing social skills and peer relationships. Safety: Extended school closures deprive children of an important layer of protection from neglect as well as physical, sexual, and emotional maltreatment and abuse. Nutrition: Extended school closures can be harmful to the nutritional health of children. For low-income families, school meals are an especially critical source of affordable, healthy foods. Physical Education: When schools are closed, children may not have sufficient opportunities to participate in an organized and safe physical activity. School closure disrupts the delivery of in-person instruction and critical services to children and families, which has negative individual and societal ramifications.



Article 2

Abnormal Pulmonary Function in COVID-19 Patients at Time of Hospital Discharge

Published

24 July 2020 [European Respiratory Journal](#)

Summarized by subject matter expert

Covid-19 is a respiratory disease, most affecting the lungs, However, the condition of lungs in patients who are discharged from hospital is not well known. This study investigated the lung function in Covid-19 survivors at the time of discharge from hospital.

Methodology

- Between 5th Feb – 17th; March 2020, 110 laboratory confirmed non-critical Covid-19 cases (mean age: 49 years, 50% women) were recruited.
- Patients were categorized into three groups based on disease severity:
 - Mild (n=24, mild symptoms without radiographic appearance of pneumonia),
 - Pneumonia (n=67, having symptoms and the radiographic evidence of pneumonia, with no requirement for supplemental oxygen),
 - Severe pneumonia (n=19, having pneumonia, including one of the following: respiratory rate >30 breaths/minute; severe respiratory distress; or SpO₂ ≤ 93% on room air at rest).
- Spirometry, carbon monoxide diffusion capacity (DLCO%), and lung volume tests were performed.

Results

- Forty-four (40%) patients had at least one underlying comorbidity, of which 23.6% had hypertension, and 8.2% had diabetes.
- Three patients (2.7%); were reported having chronic respiratory diseases (one patient with asthma, one with chronic bronchitis and one with bronchiectasis).
- On the day of discharge, the SpO₂% on room air at rest was normal in all subjects.
- 51 patients (7 in Mild, 28 in Pneumonia, 16 in Severe pneumonia group) showed abnormal (<80%pred) DLCO% (one of measure for lung function).
- 27 patients showed abnormal total lung capacity (3 in Mild, 18 in Pneumonia, 8 in Severe pneumonia group).
- 15 patients showed abnormal forced expiratory volume in the first second (FEV₁). (also another measure for lung function)
- Abnormal forced vital capacity (FVC) was observed in 10 patients.



Continued

Public Health Message

- In discharged survivors with COVID-19, impairment of diffusion capacity is the most common abnormality of lung function. Diffusion capacity of the lungs measures the transfer of gas from the air in the lung, to the red blood cells in lung blood vessels.
- Another abnormality is a restrictive ventilatory defect. This is a condition where lungs cannot expand to their full volume, resulting in increased work of breathing, and inadequate ventilation and/or oxygenation.
- These lung function abnormalities are associated with the severity of the disease, meaning that severe COVID-19 disease patients could have a high burden of abnormalities compared with mild or moderate disease severity groups.
- Therefore, **pulmonary/lung function tests should be considered to perform in routine clinical follow-up for certain recovered survivors, especially in severe cases.**
- **Well established treatment options of pulmonary rehabilitation may be considered as an optional strategy following the lung function tests in Covid-19 survivors.**



THANK YOU

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