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HEALTH CENTRE

مركز أبوظبي  
للصحة العامة



# Scientific Research Monitoring on COVID-19

23 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>



## SARS-COV2 virus

- The virus have been sequenced and found to be similar to MERS-CoV and SARS-CoV. Research revealed that the virus originated in a bat reservoir.
- New designation for the disease and the virus: COVID-19 and SARS-COV2.
- Two strain have been identified for SARS-COV2 (L type (more aggressive ) and S type .and 3 cluster groups.

## Transmission

- Transmission from human to human has been confirmed. Incubation period ranges from 5 days and can reach up to 14 days.
- Suggested human-to-human transmission occurs through droplets, contact and fomites, similar to Severe Acute Respiratory Syndrome (SARS).

## Clinical features and outcome

- Non-specific and the disease presentation can range from no symptoms (asymptomatic) to severe pneumonia and death.
- Highest risk for severe disease and death include people aged over 60 years and those with underlying conditions
- Pregnant women infected with SARS-COV2 may experience symptoms similar to those of non-pregnant adults. No evidence suggests transmission from mother to newborn if infected late in pregnancy.

## Therapies and vaccination

- Efforts currently in developing therapies for this virus focus on previously known medications and vaccination for MERS-CoV and SARS-CoV. In addition to other type of medication.
- Also more therapies are currently under investigation including immunomodulatory, antimalarial and others.
- Vaccination are under clinical trial stage in many countries around the world.





## COVID19 in figure

- 80% of laboratory confirmed patients have had mild to moderate disease
- 13.8% have severe disease.
- 6.1% are critical
- Children account for 2.4% of all reported cases.(less than 19 years) data from china





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

## Scientific Research

**UAE Research:** a survey conducted by more than 1000 participant in the UAE to address mental health in parent , teachers and children , showed that nearly 70% reported anxiety and would like to vaccinate themselves.

**Public health response :** author suggest that public health agency shall develop a programs and measures for business to ensure compliance to preventative measures when reopening of business is decided by governments.

**Treatment:** another study on 56 patient show positive results of prone positioning in Italy.





## WHO Daily Report 19 June 2020

- WHO recommend the southern hemisphere's countries to prepare for influenza season during continuing of COVID-19 pandemic

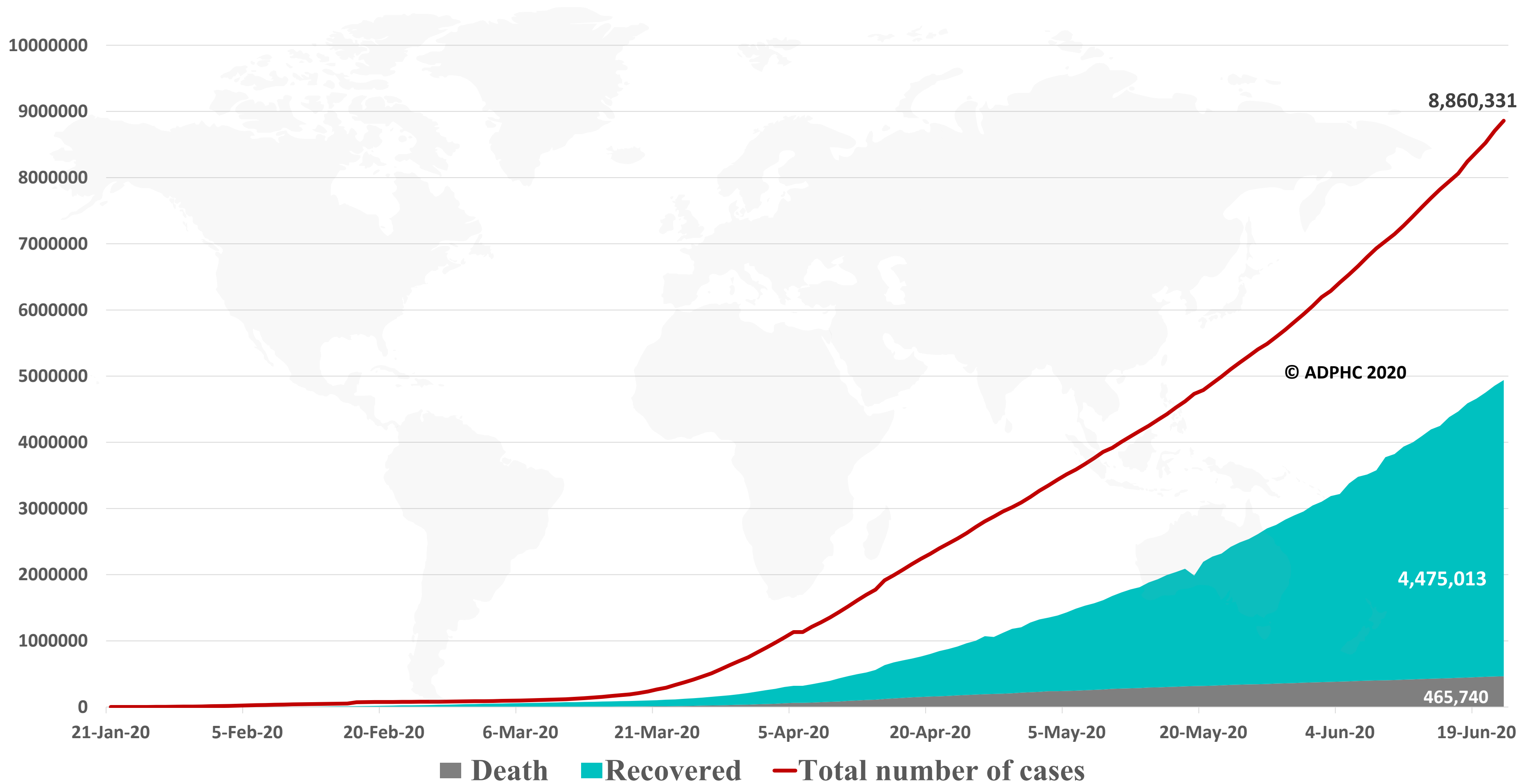
WHO urged Countries to:

- Sustain influenza surveillance,
  - Report surveillance data to WHO FluNet and FluID or through regional platforms,
  - Send representative viruses to WHO Collaborating Centres of GISRS without delay, and
  - Maintain influenza vaccination programs according to WHO guidance.
- 
- A team of public health experts has been deployed to Tajikistan through the Global Outbreak Alert and Response Network (GOARN). The team will provide support to strengthen disease surveillance and laboratory testing to complement ongoing work by the COVID-19 response team in Tajikistan.
- 
- WHO and collaborating agencies provided support to health authorities in Uzbekistan to assess their options for COVID-19 testing and identify potential resources in-country to increase their laboratory capacity.





**Figure 1: Total number of infected, recovered, and death cases (January 21<sup>st</sup> to Jun 22, 2020)**



Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)

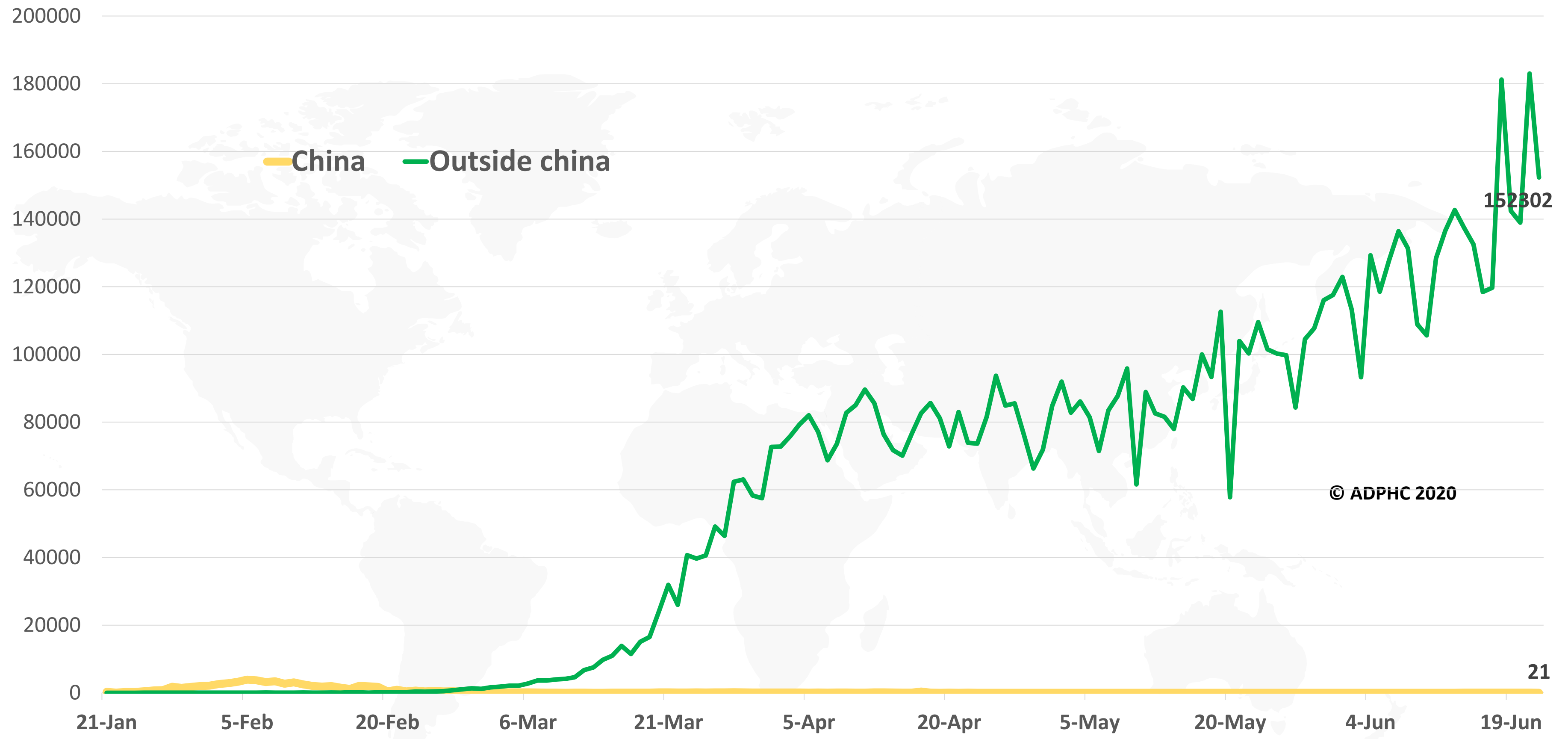
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Figure 2: Daily new infected COVID-19 cases reported between (January 21 to Jun 22, 2020).



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21

Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)

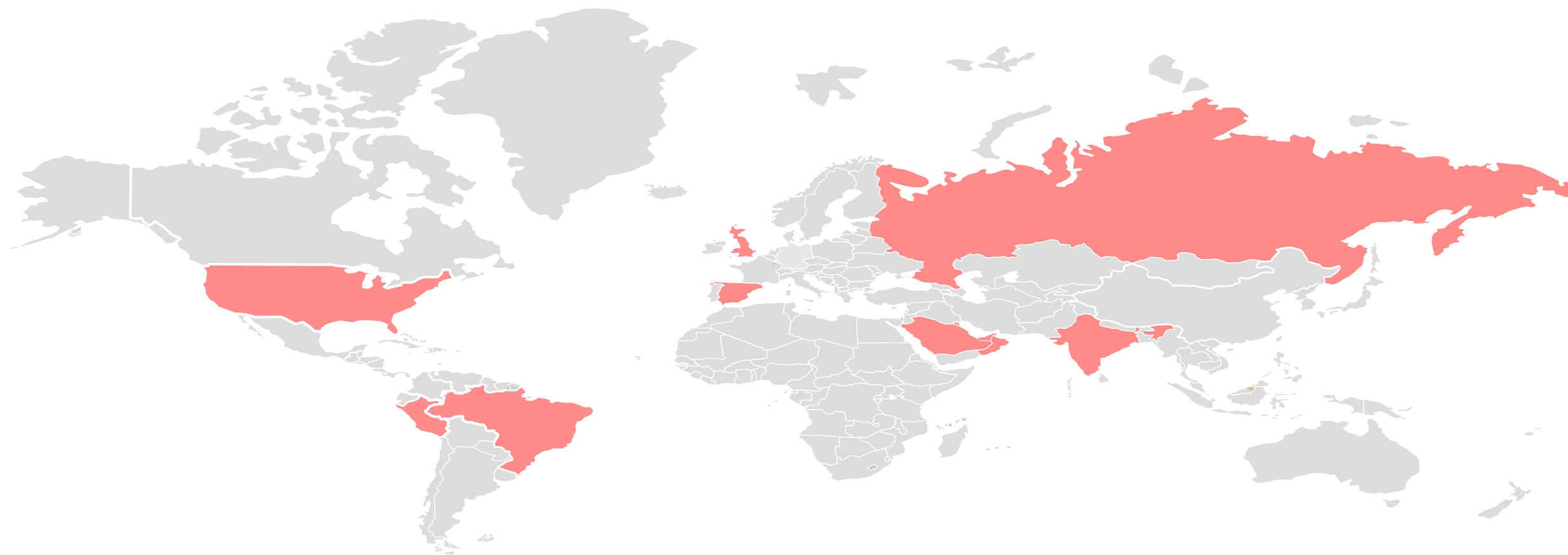
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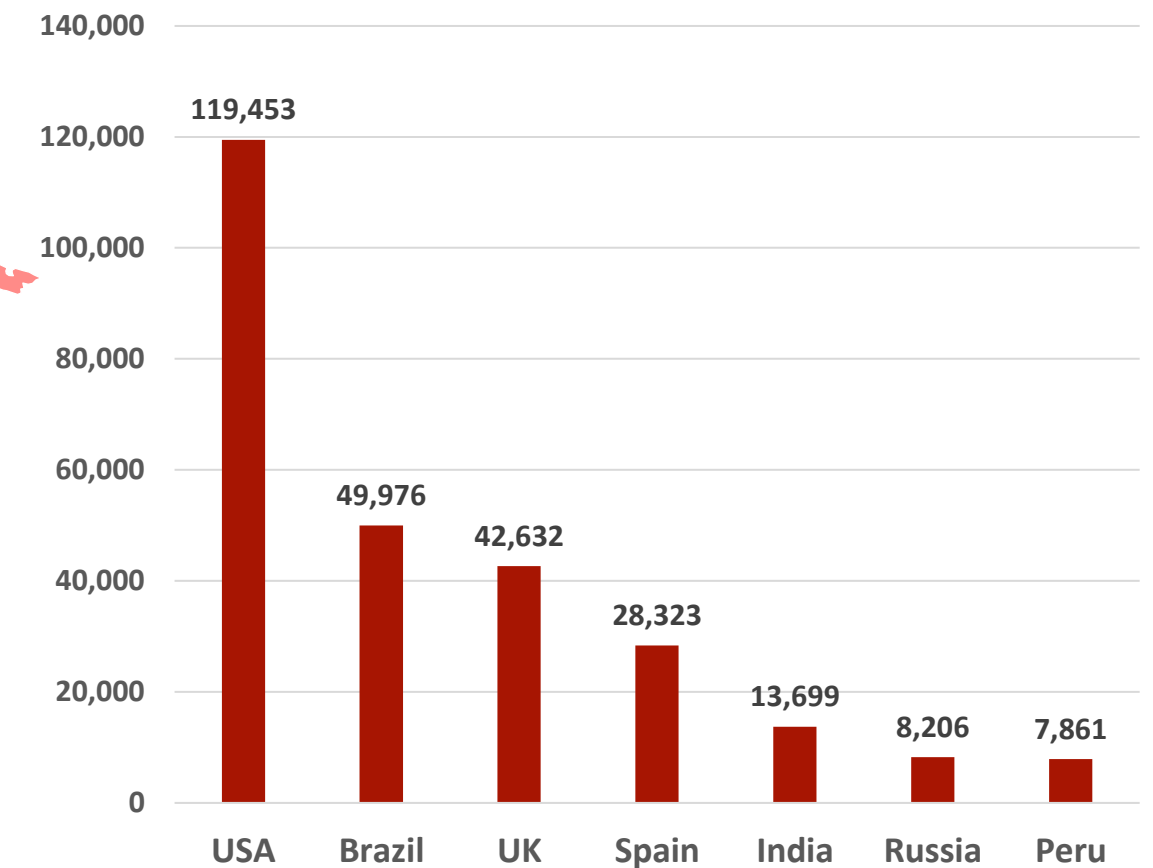
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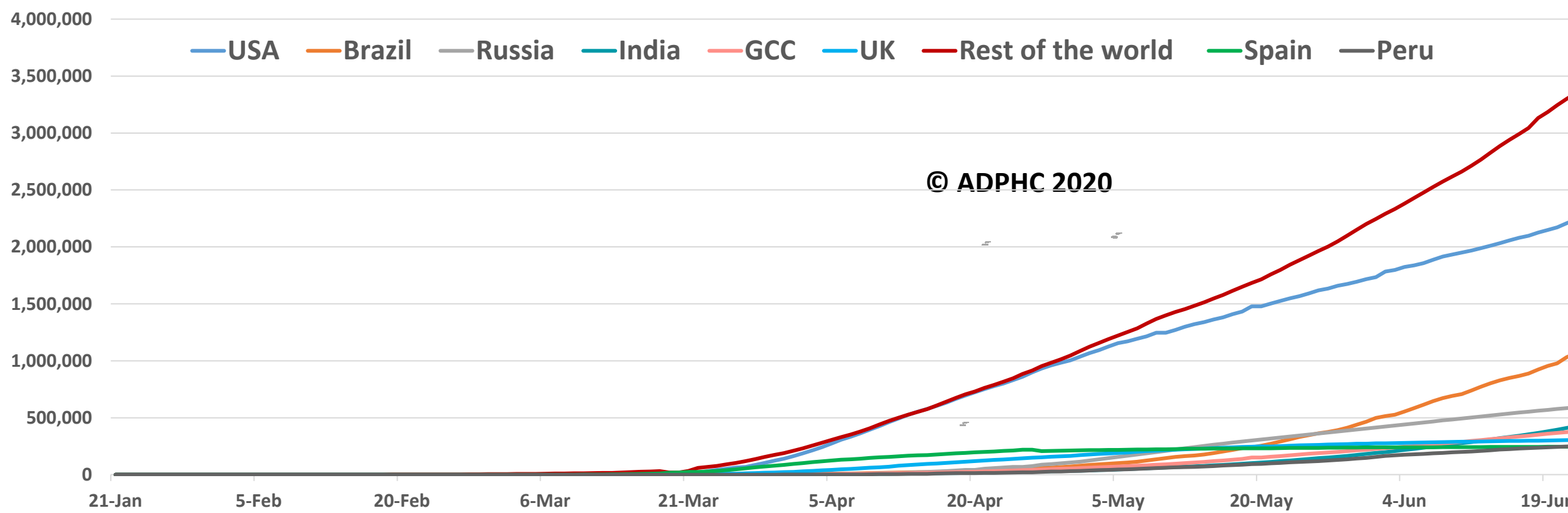
Figure 3 : Top 7 countries in the total number of cases due to COVID-19 (January 21 to Jun 21, 2020).



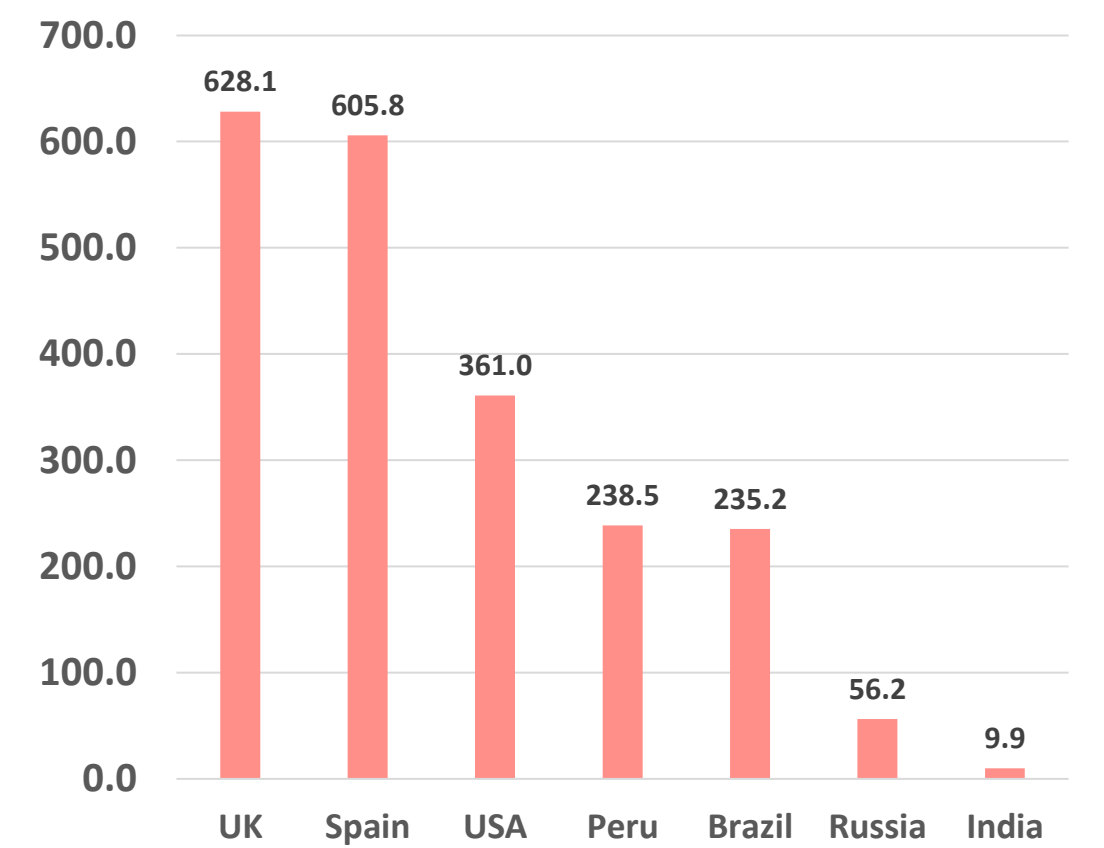
### TOTAL DEATHS



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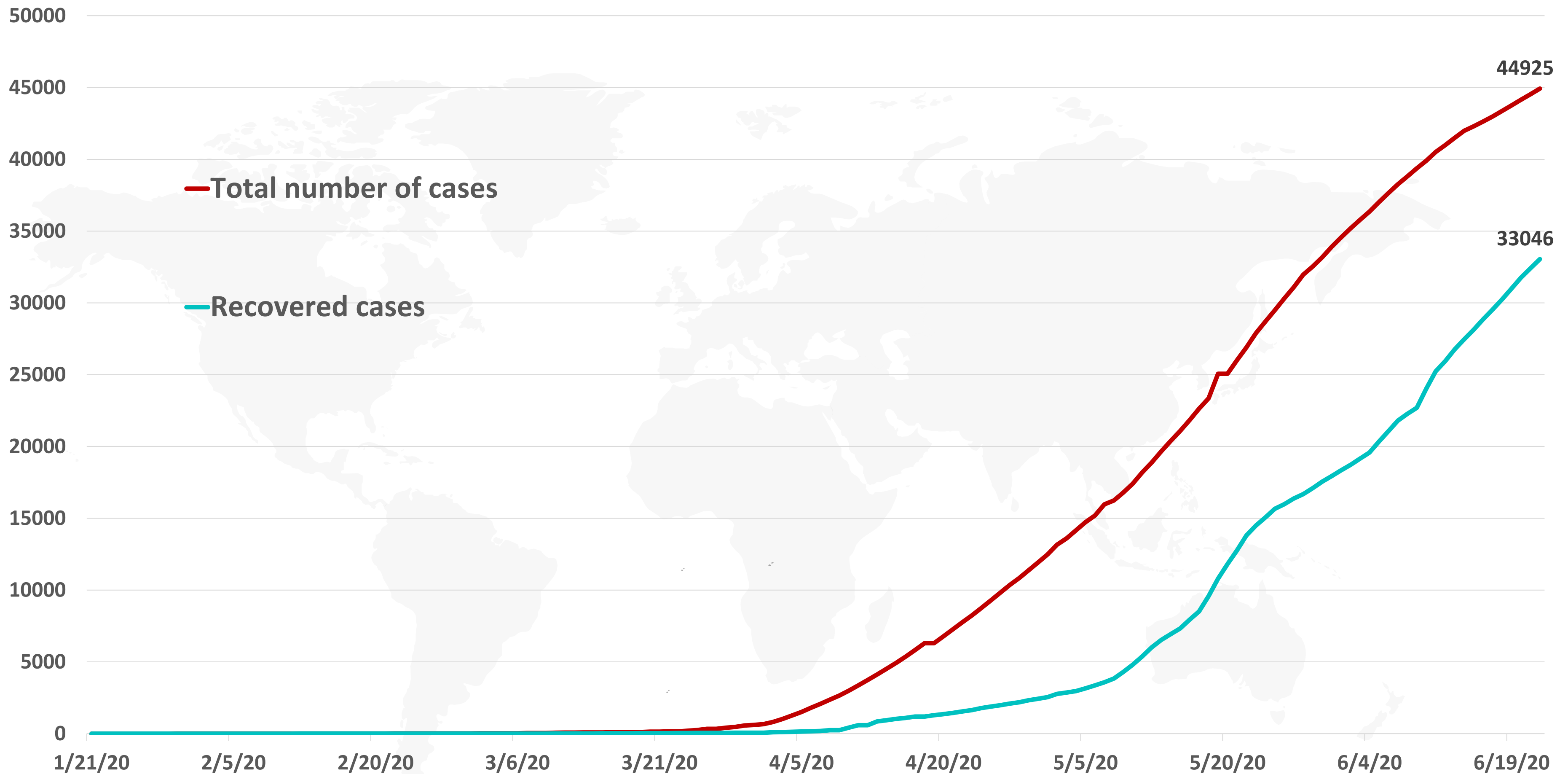
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Figure 4: Total number of COVID-19 infected and recovered cases in UAE over time



Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)

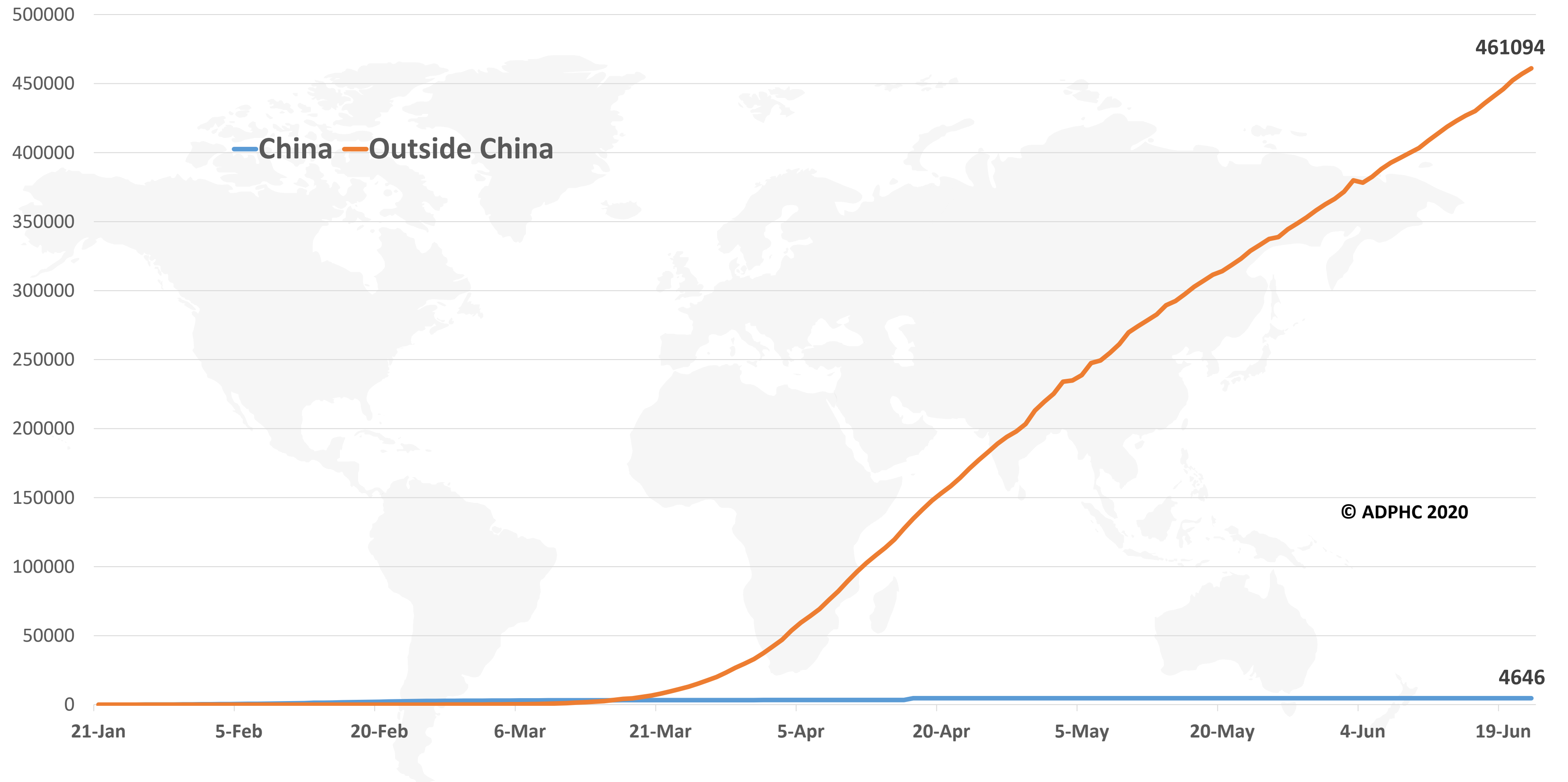
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**Figure 5: Total number of death due to COVID-19 reported by China and the rest of the world (January 22 to Jun 22, 2020).**



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Line graph published by Abu Dhabi Public Health Center 2020.

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

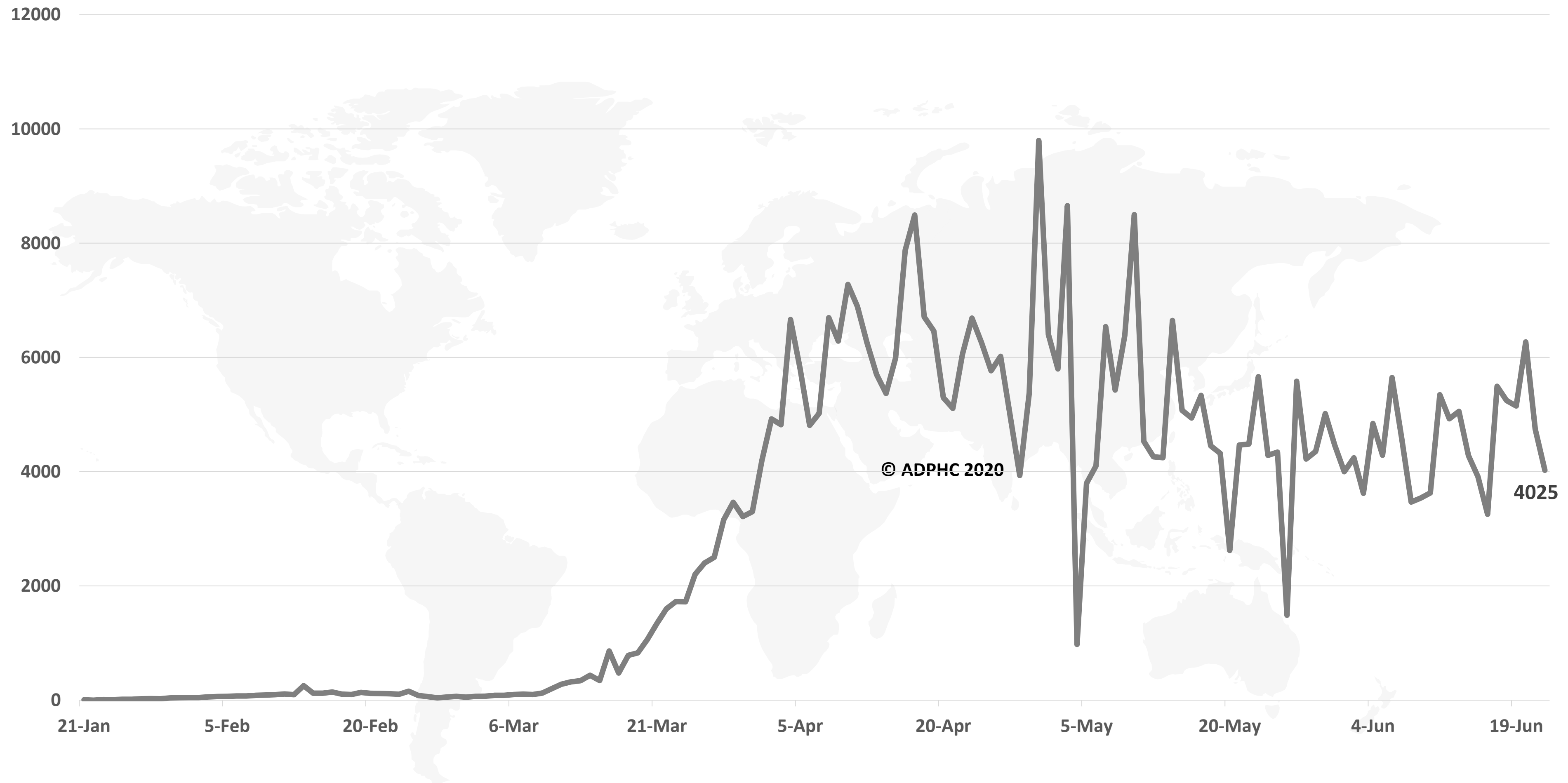
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**Figure 6: Global daily new deaths due to COVID-19 (January 22 to Jun 22, 2020).**



Line graph published by Abu Dhabi Public Health Center 2020.

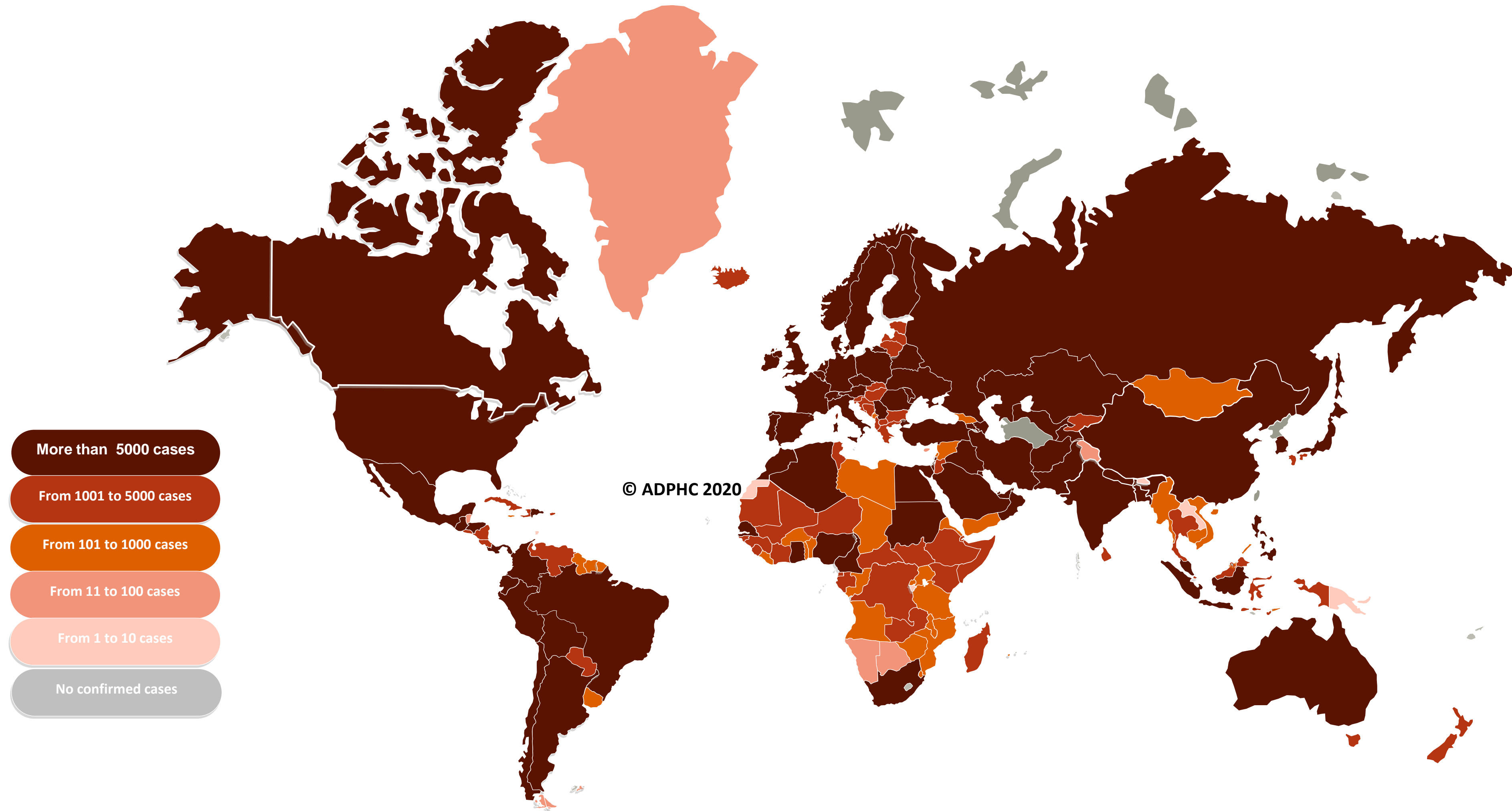
Data resources: [WHO](#)

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Figure 7a : Global distribution of COVID-19 cases (Jun 22, 2020).



Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)

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Figure 7B: Bar chart illustrate the global distribution of COVID19 cases Jun 22, 2020)



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

Bar chart published by Abu Dhabi Public Health Center 2020.

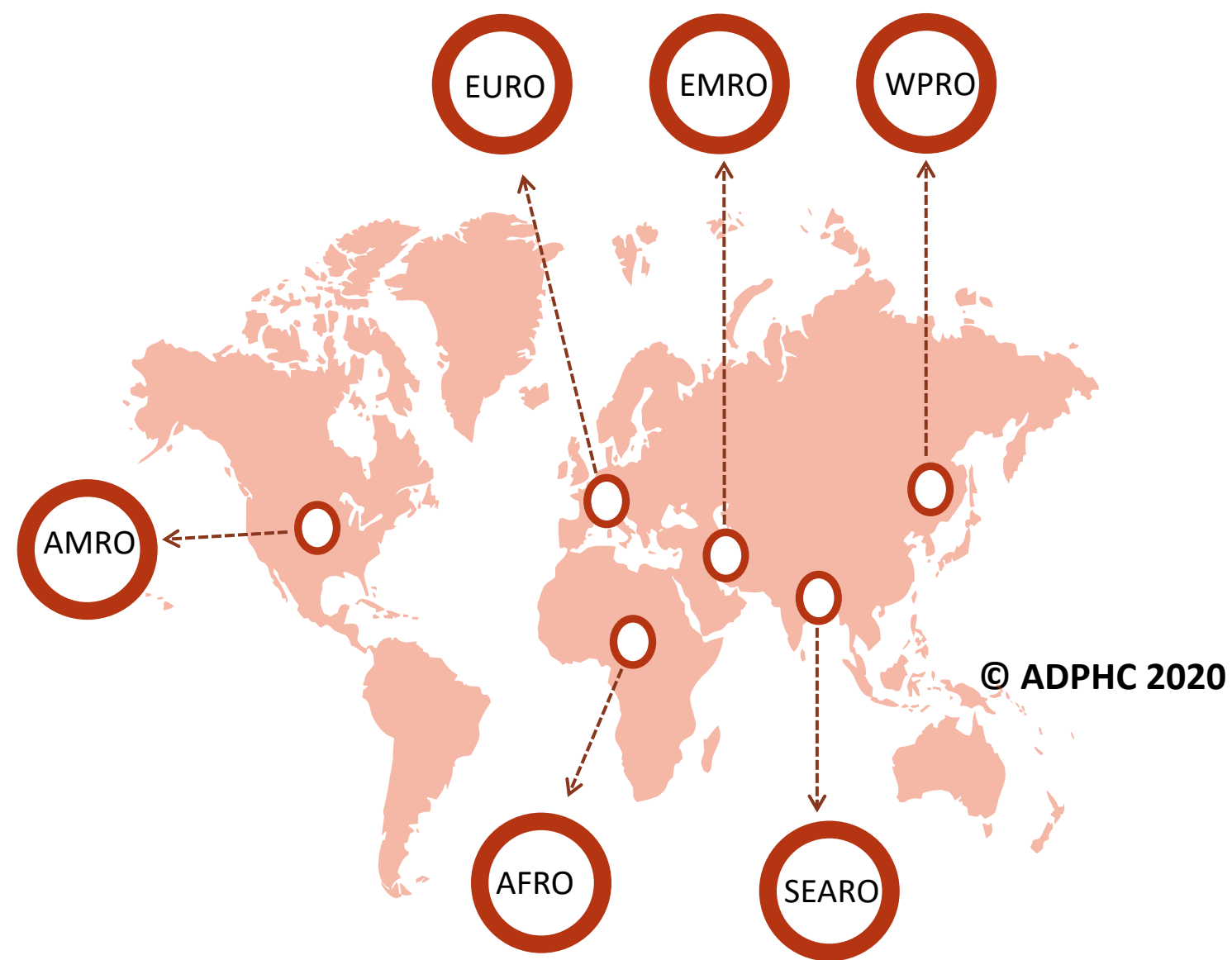
Data resourcs: [WHO](https://www.who.int/)

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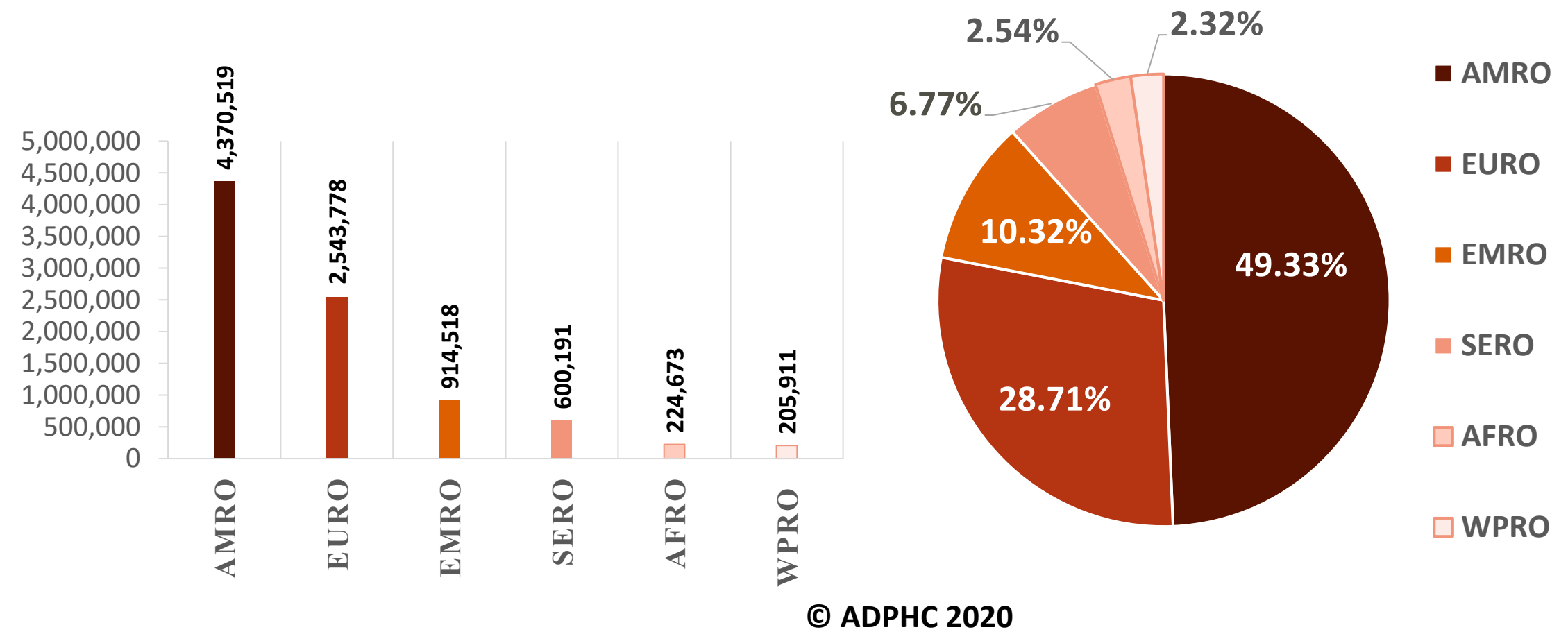
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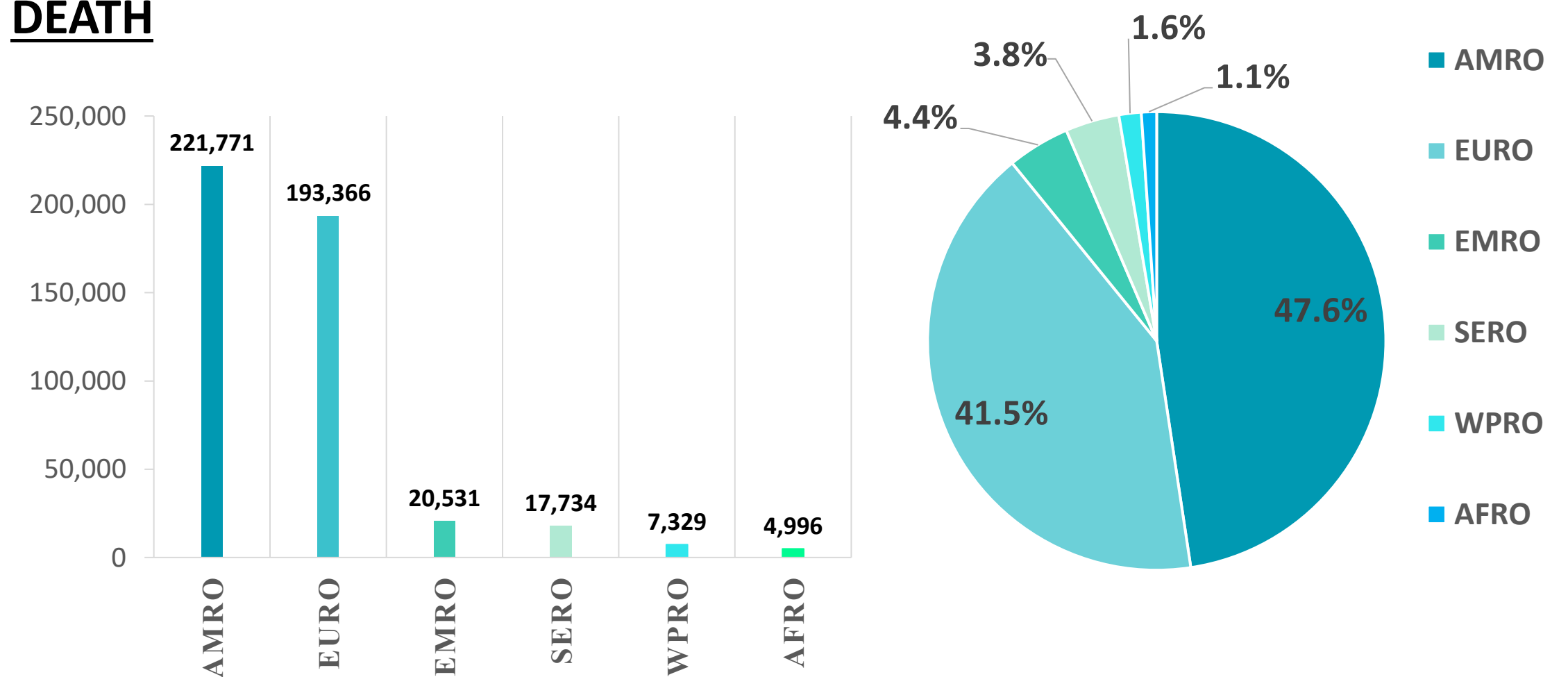
Figure 8: illustrate the Global distribution of COVID19 cases per region (Jun 22, 2020)



## INFECTED



## DEATH



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

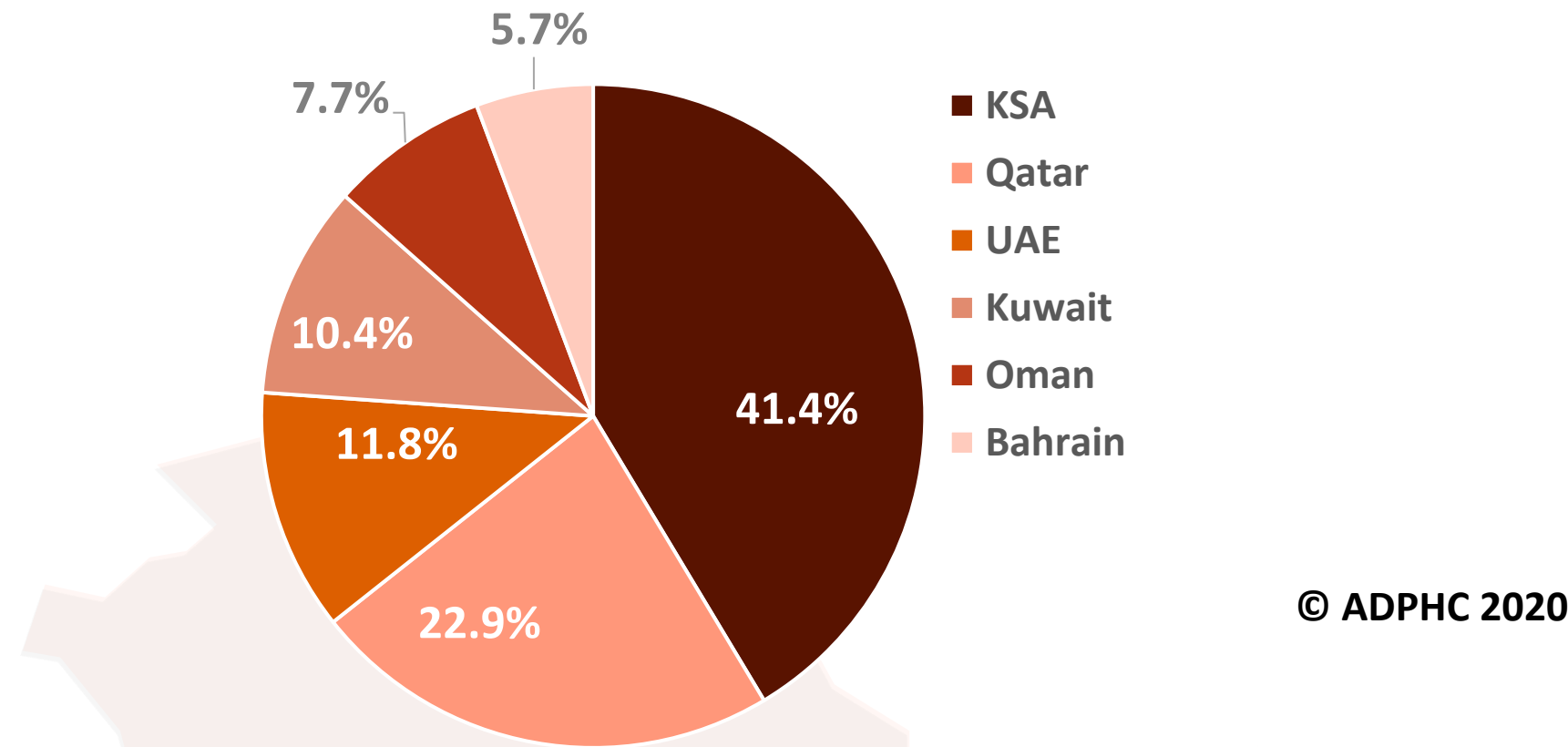
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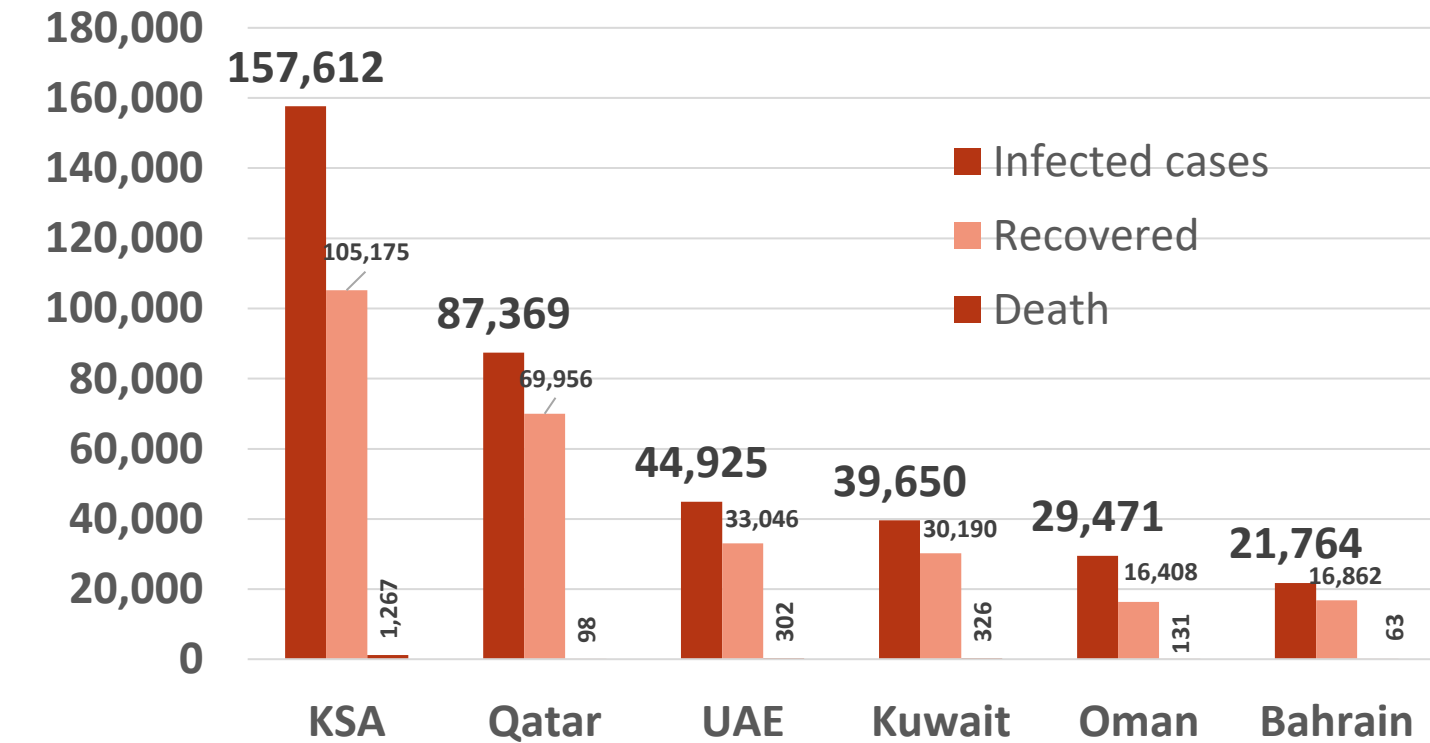
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**Figure 9: Comparative analysis of the distribution of COVID19 cases in GCC countries (Jun 22, 2020)**

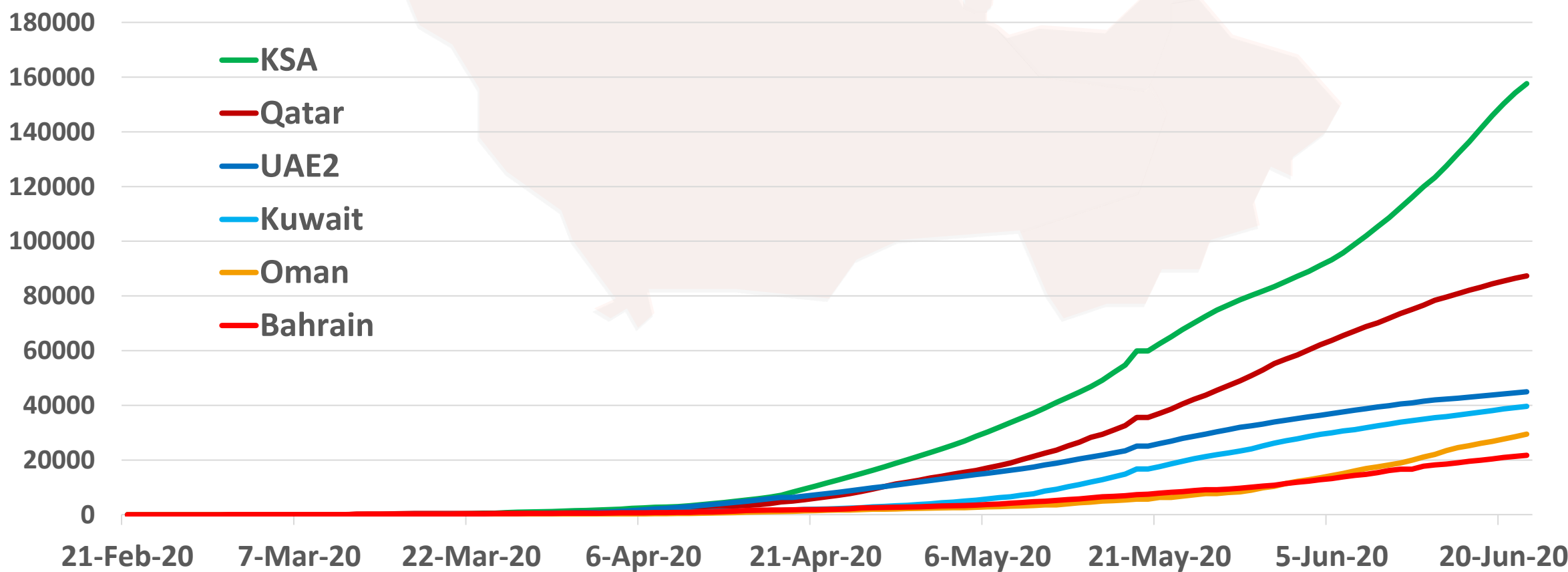
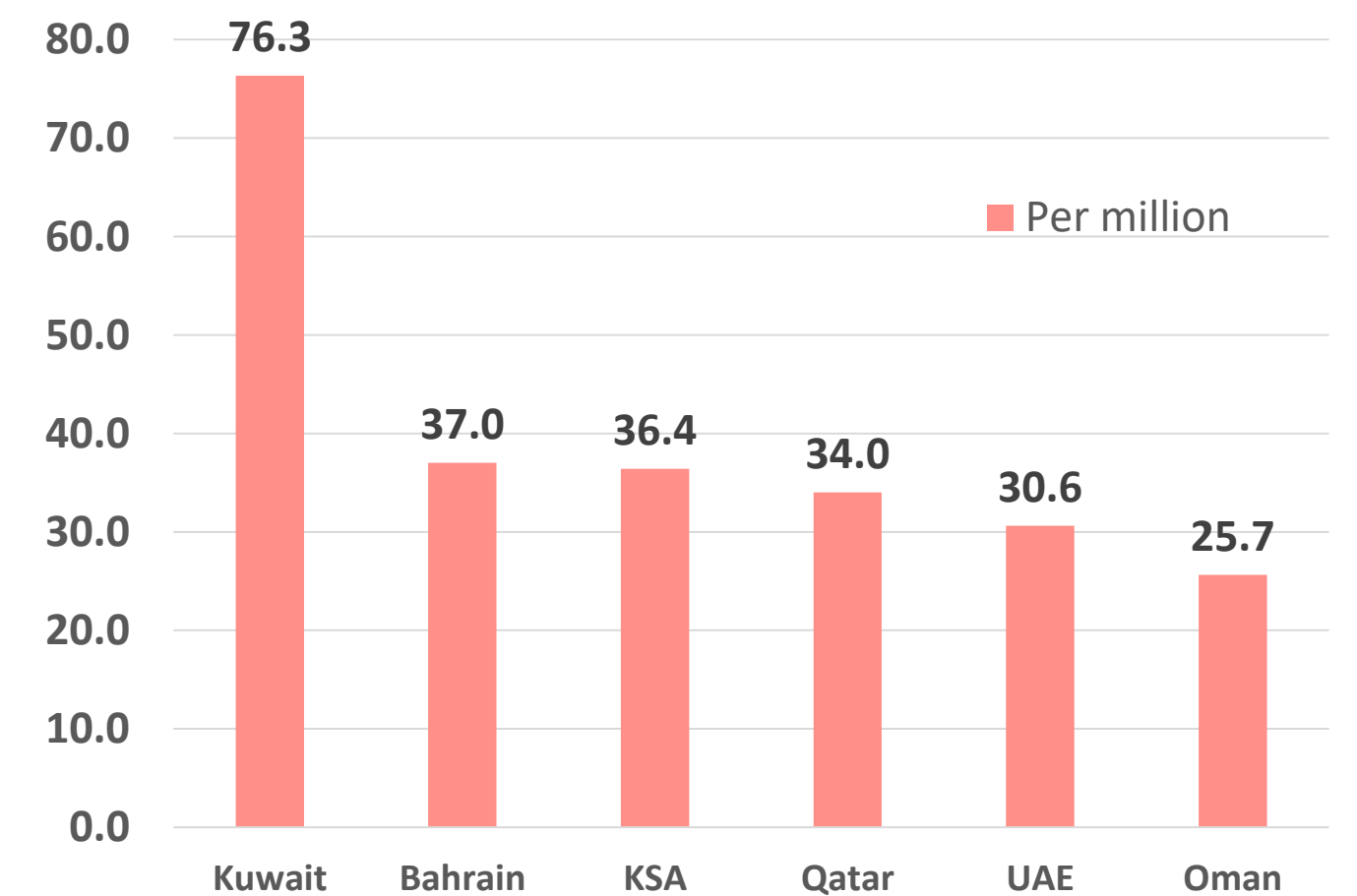
## TOTAL NUMBER OF INFECTED CASES



## Total number of infected, recovered and Deaths



## Death per million



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

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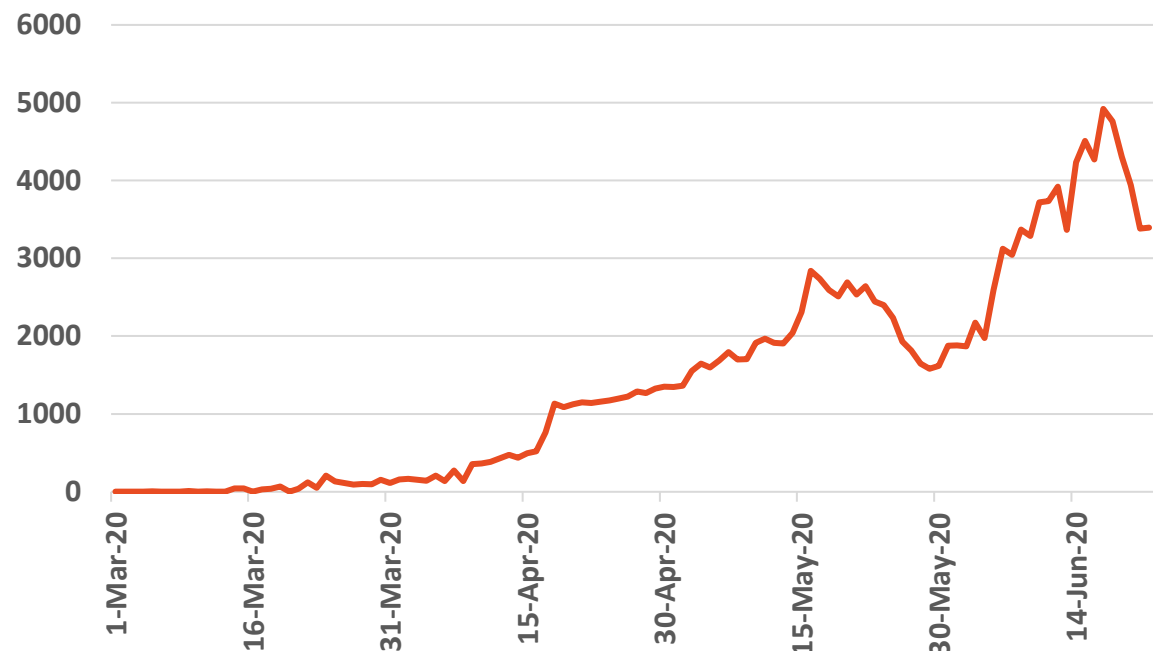
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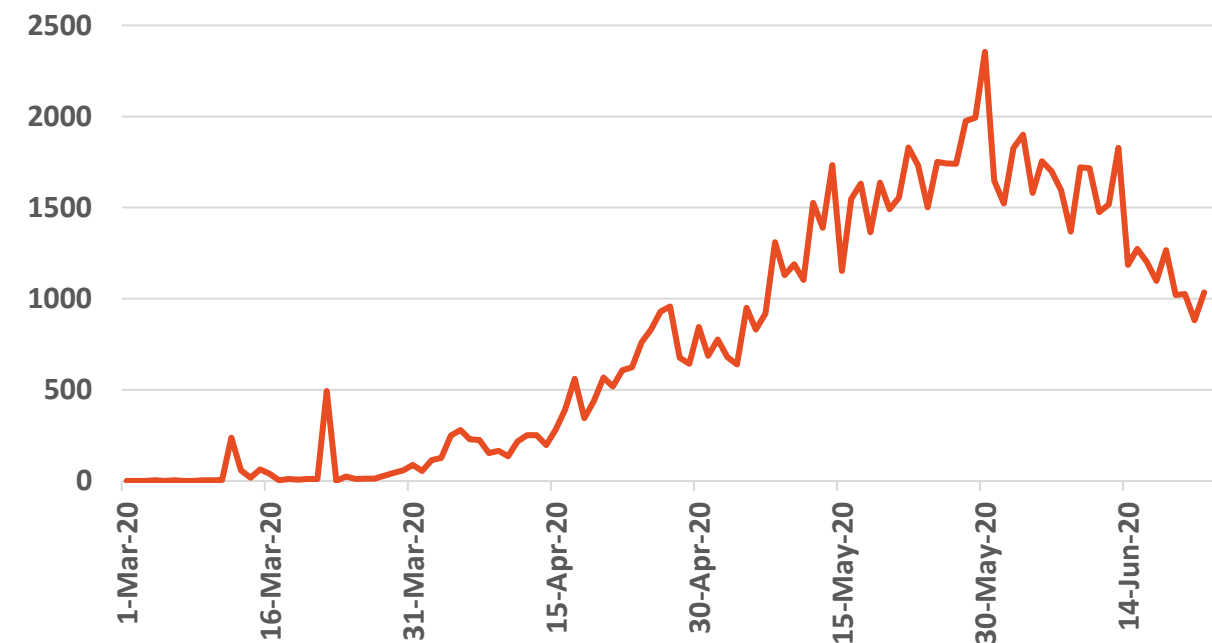
**Figure 10: Comparative analysis of the distribution of COVID19 new cases in GCC countries (June 22, 2020)**

## KSA



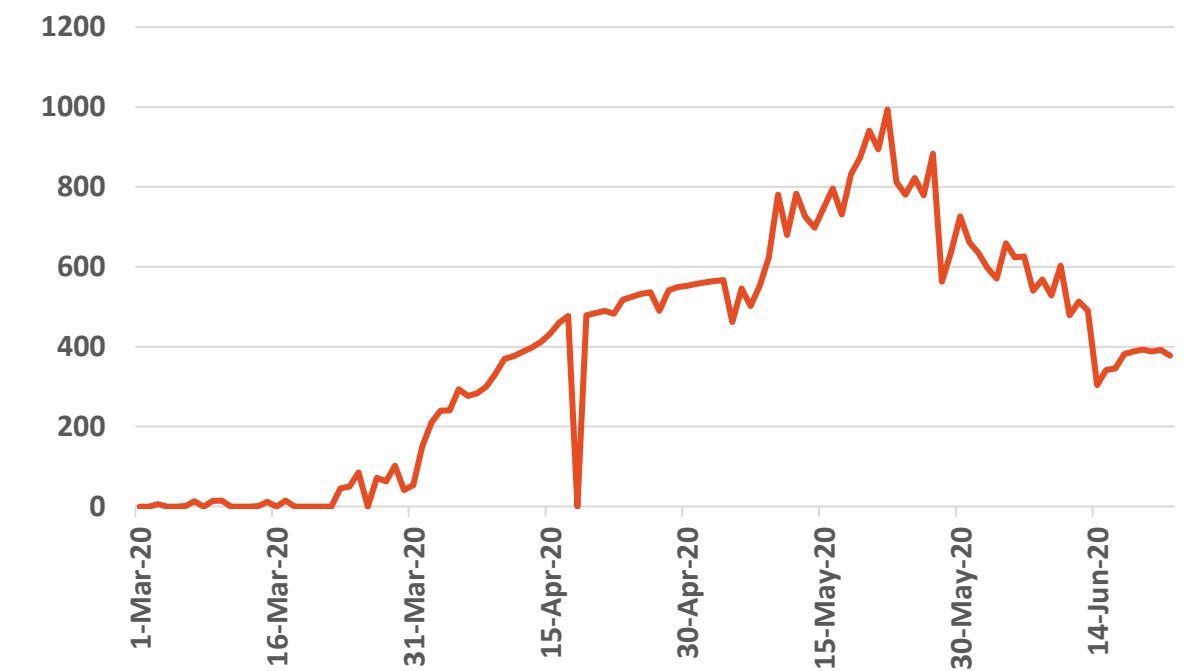
Source : KSA ministry of health

## Qatar



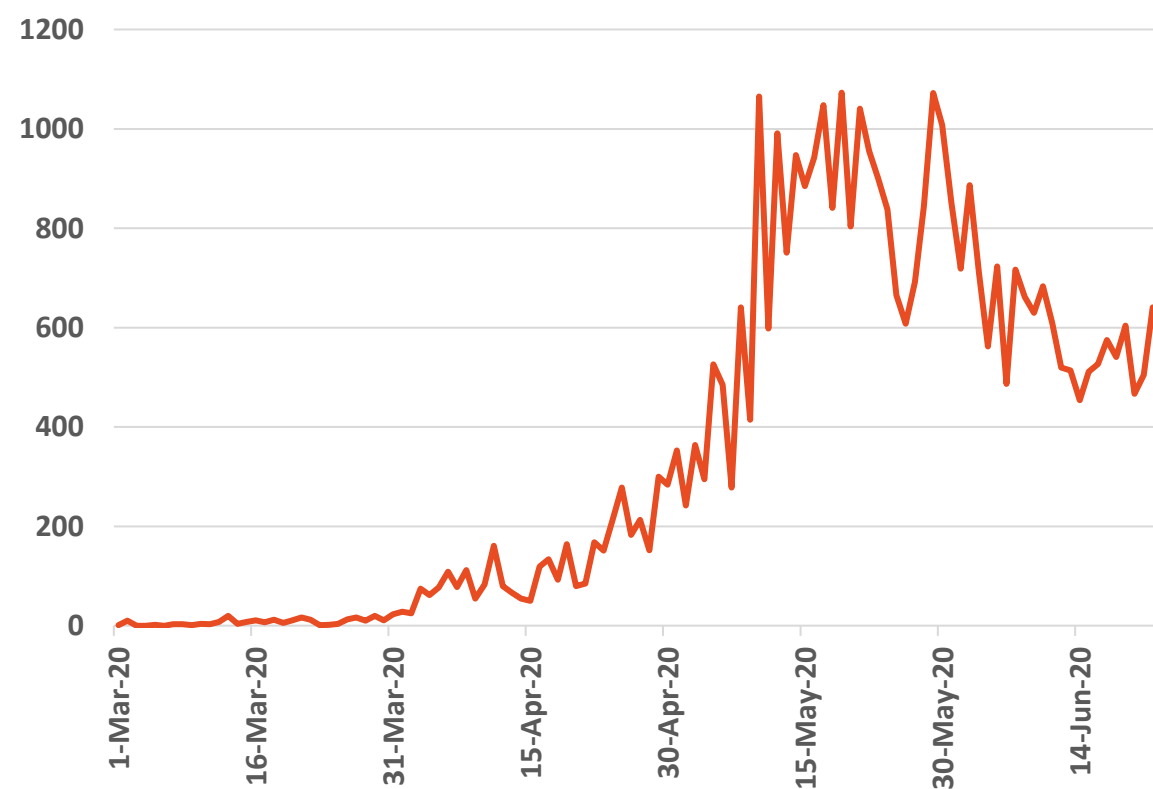
Source : Qatar ministry of health

## UAE



Source : National Emergency Crisis and Disaster Management Authority

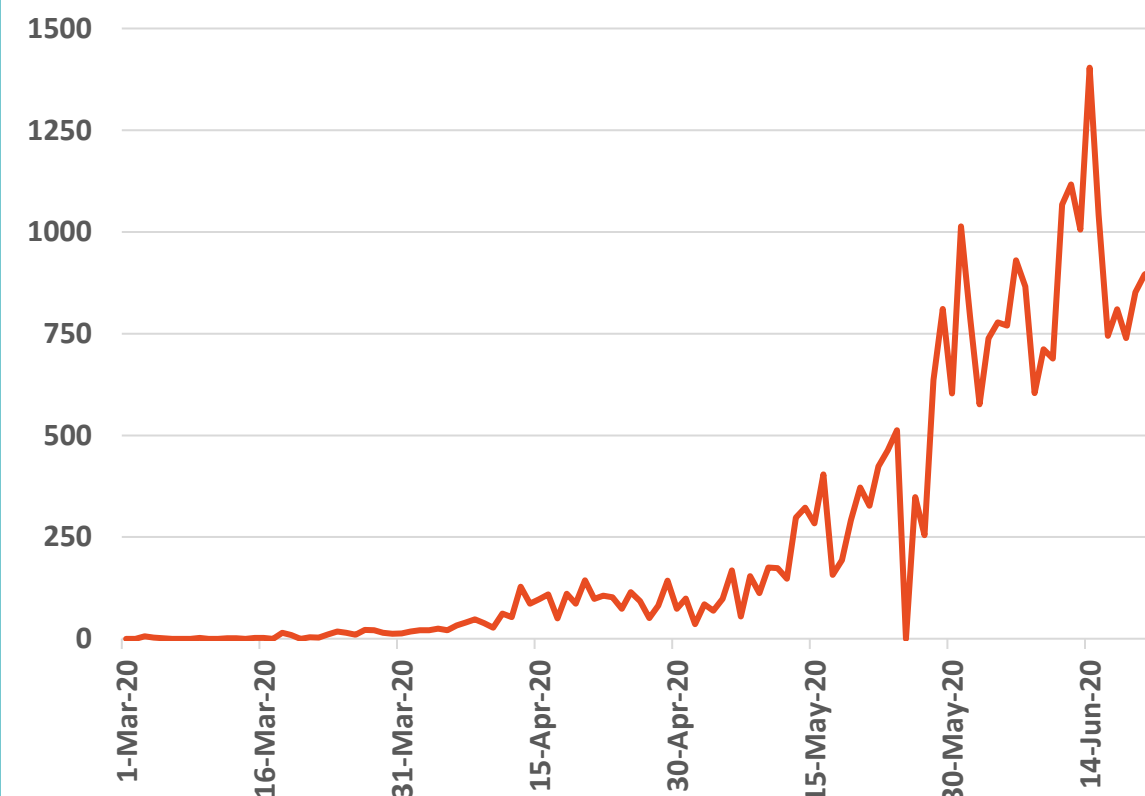
## Kuwait



Source : Kuwait ministry of health

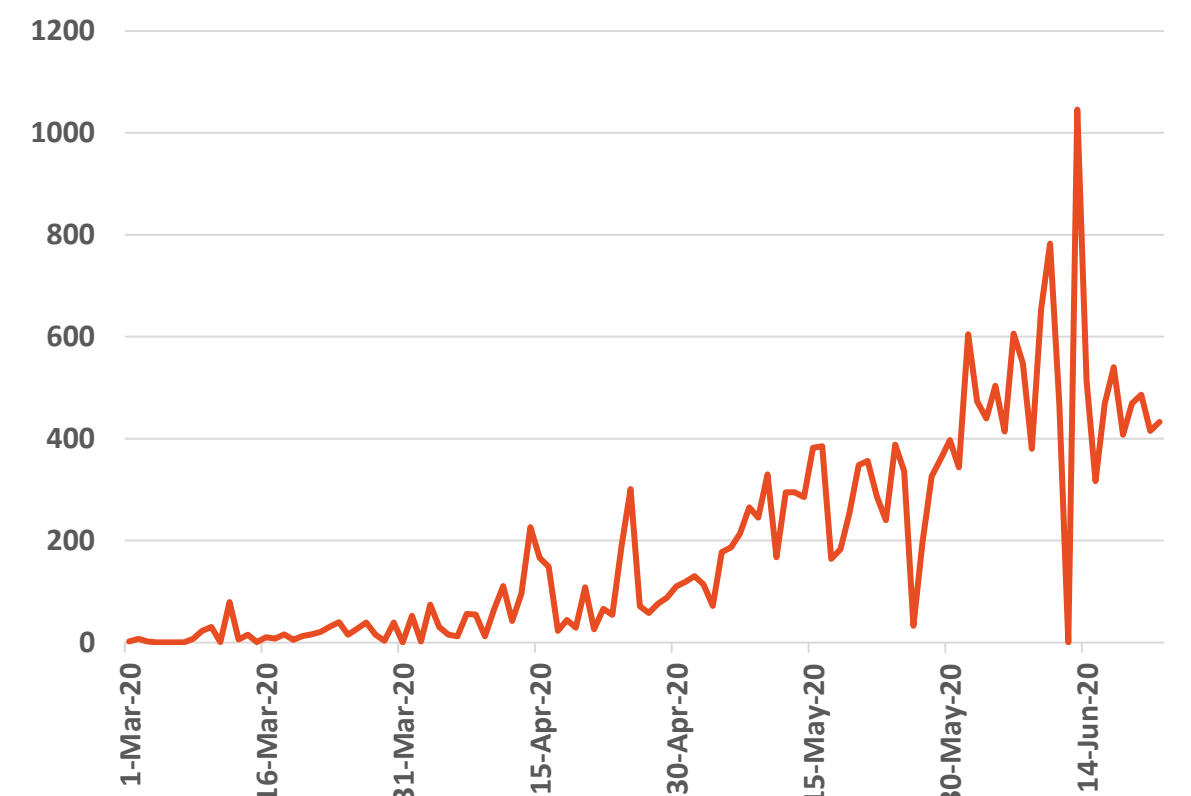
## Oman

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Source : Oman ministry of health

## Bahrain



Source :WHO

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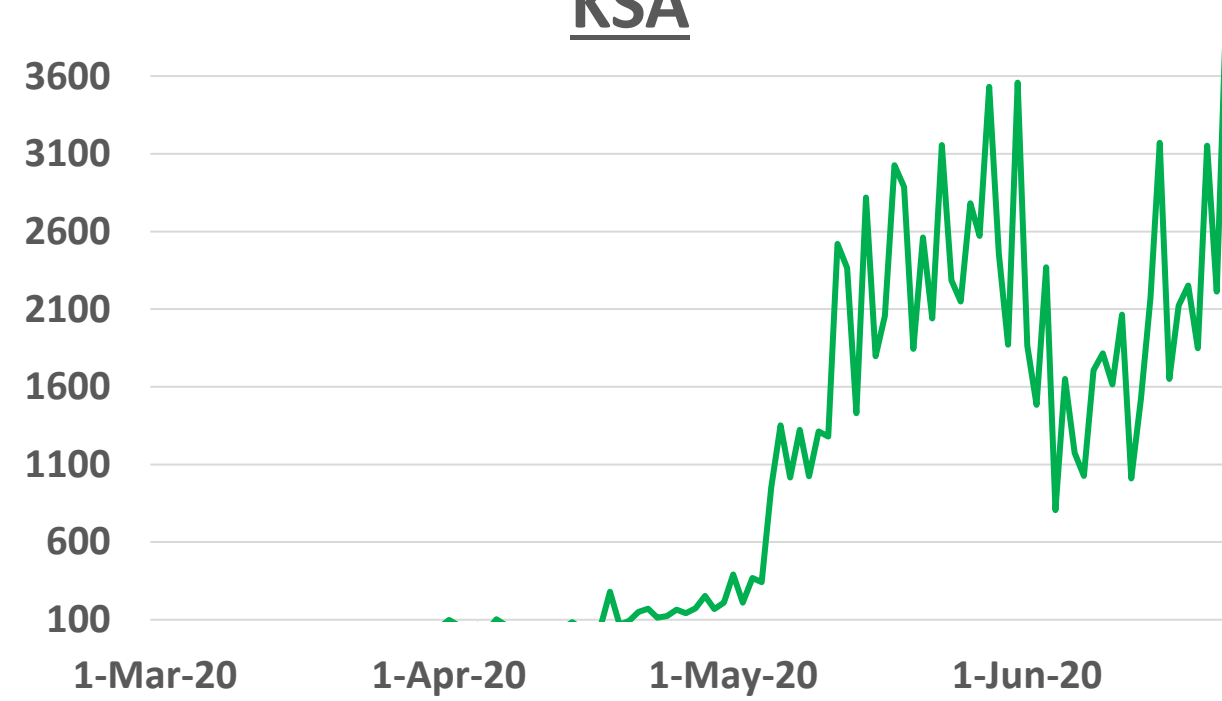
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**Figure 11 : Comparative analysis of the distribution of COVID19 newly recovered cases in GCC countries (June 21, 2020)**

### KSA



Source : [KSA ministry of health](#)

### Qatar



Source : [Qatar ministry of health](#)

### UAE



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

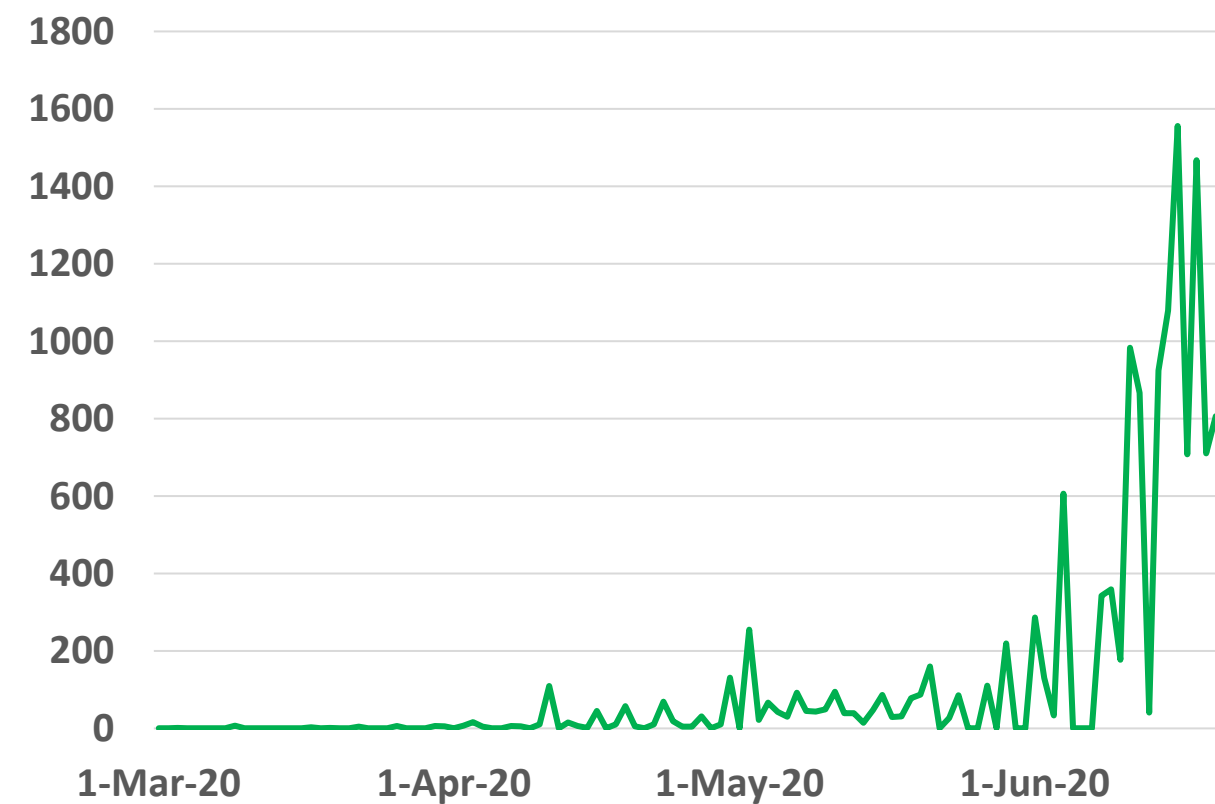
### Kuwait



Source : [Kuwait ministry of health](#)

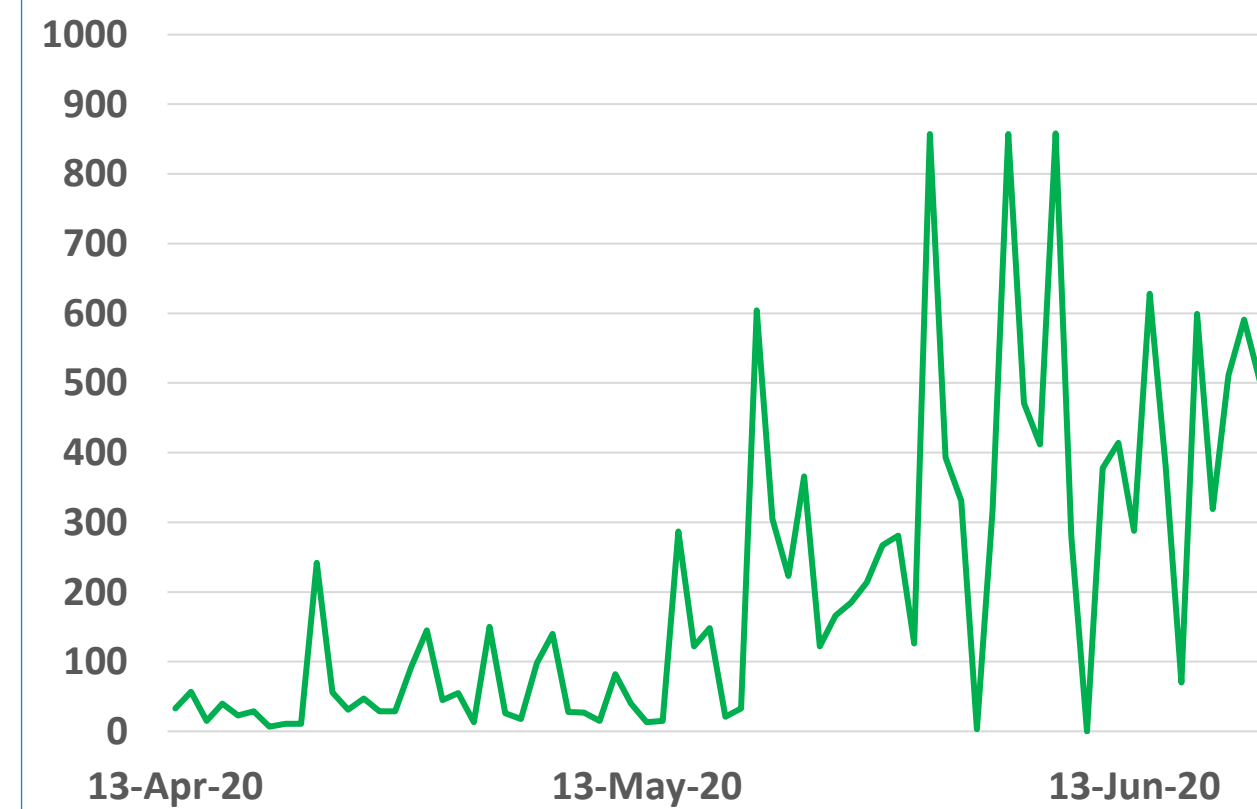
### Oman

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Source : [Oman ministry of health](#)

### Bahrain



Source : [GCCStat](#)

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Data resources: [WHO](#)

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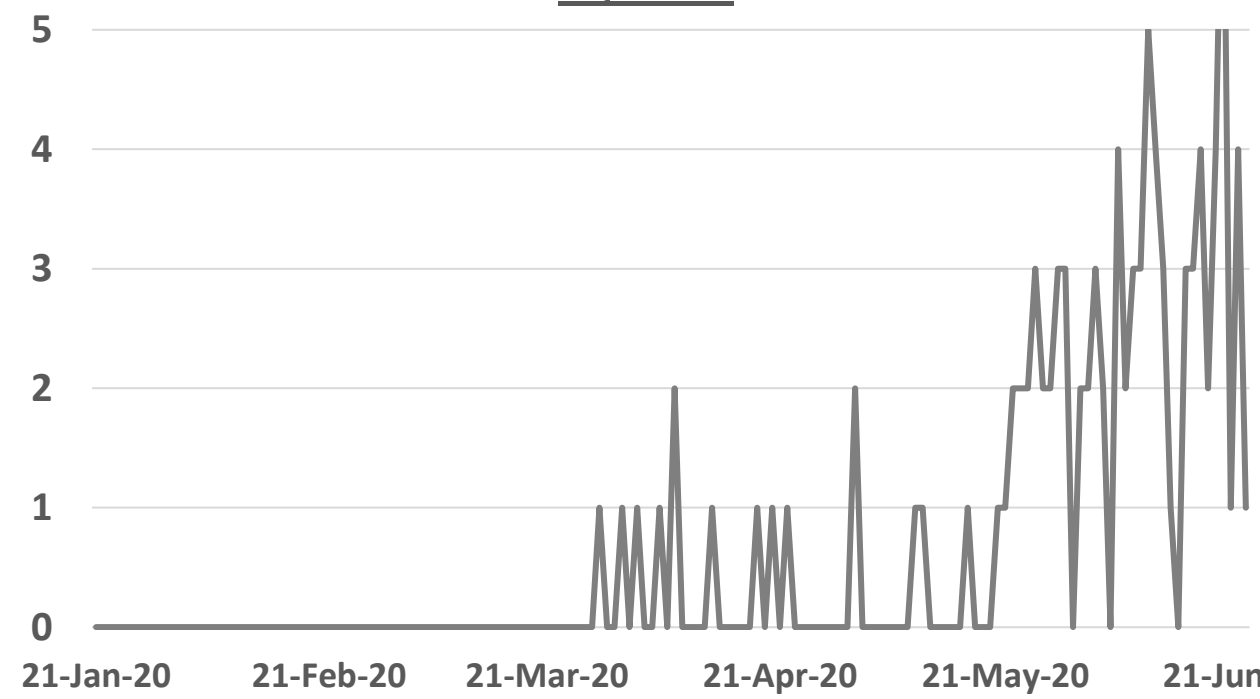
**Figure 12: Comparative analysis of the distribution of COVID19 newly death cases in GCC countries (June 22, 2020)**

## KSA



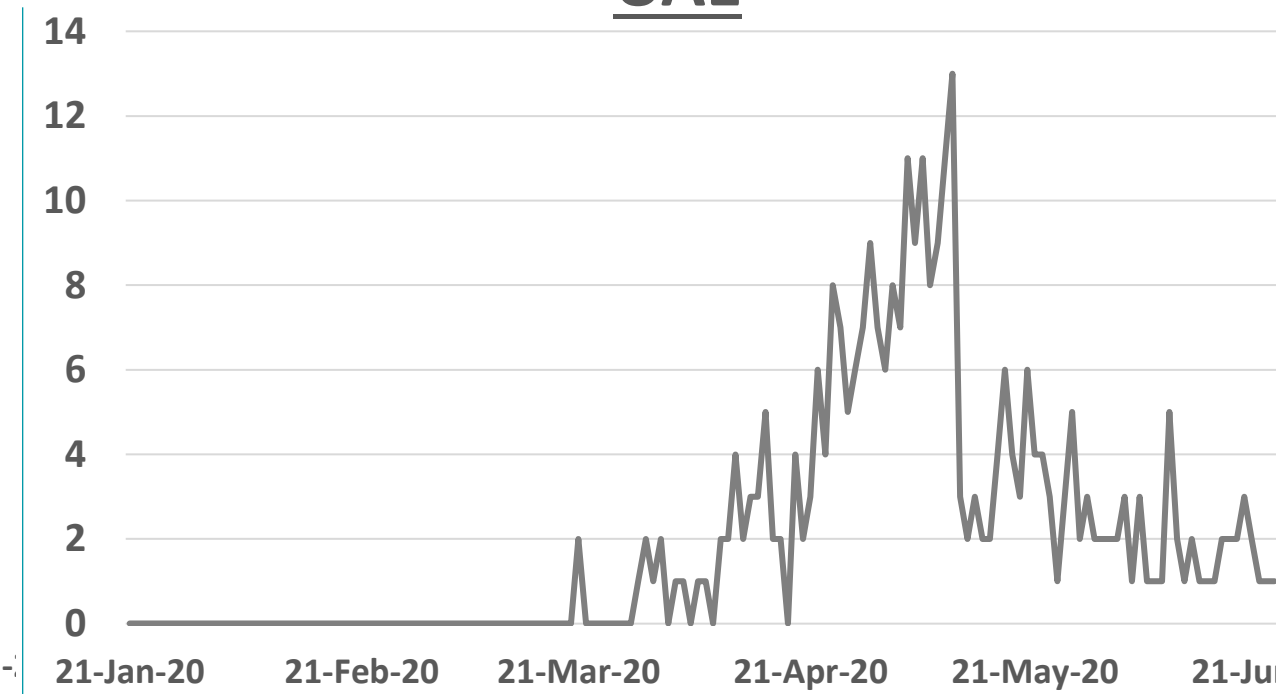
Source : KSA ministry of health

## Qatar



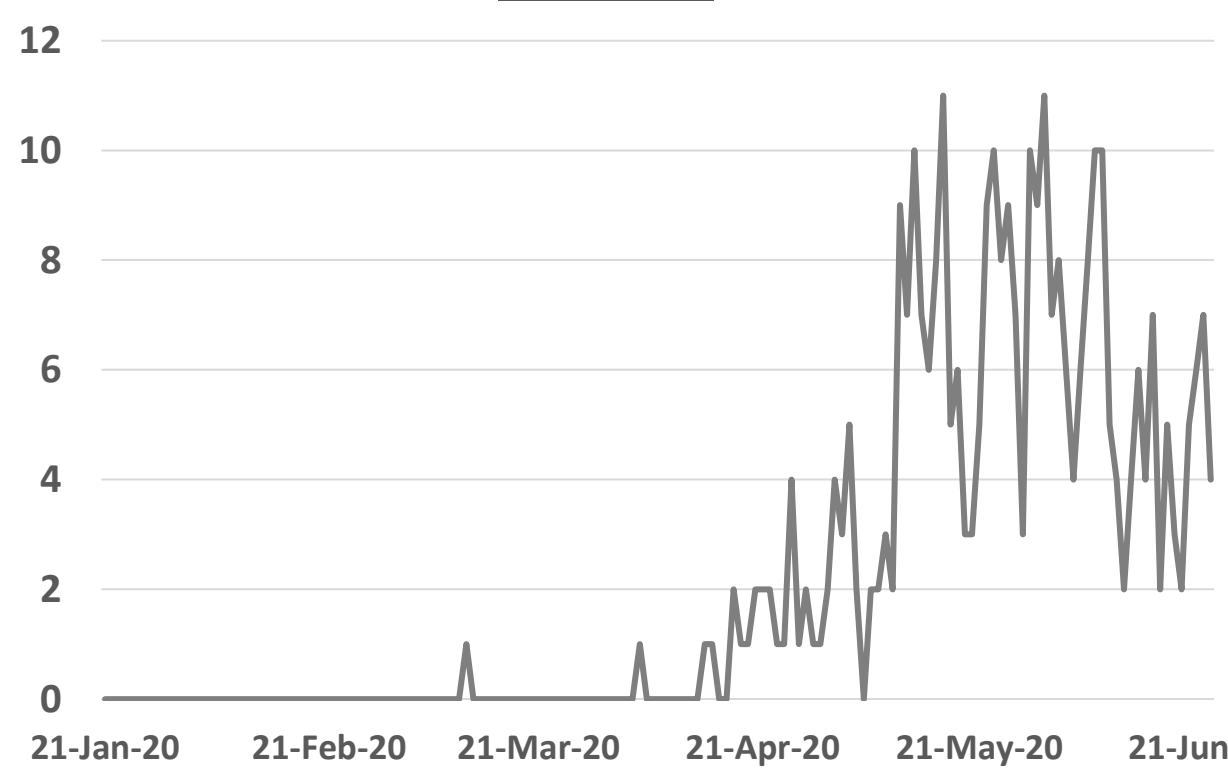
Source : Qatar ministry of health

## UAE



Source : National Emergency Crisis and Disaster Management Authority

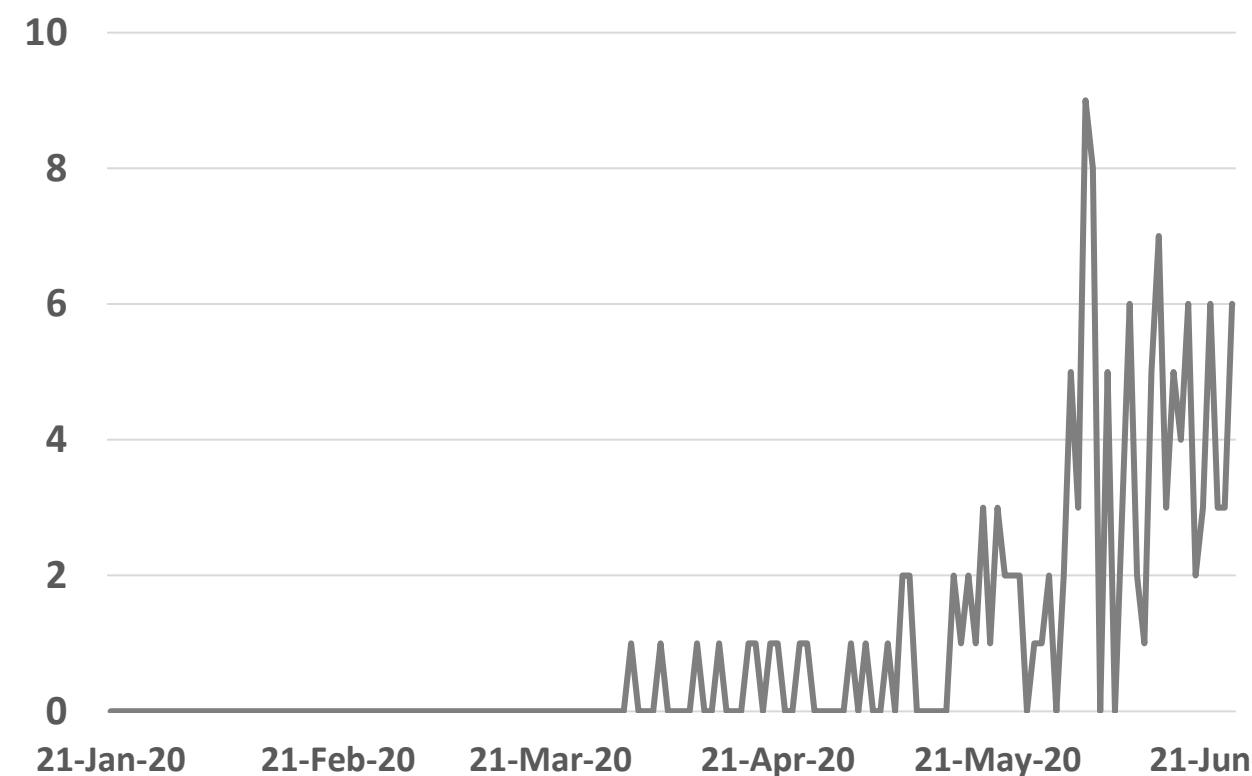
## Kuwait



Source : Kuwait ministry of health

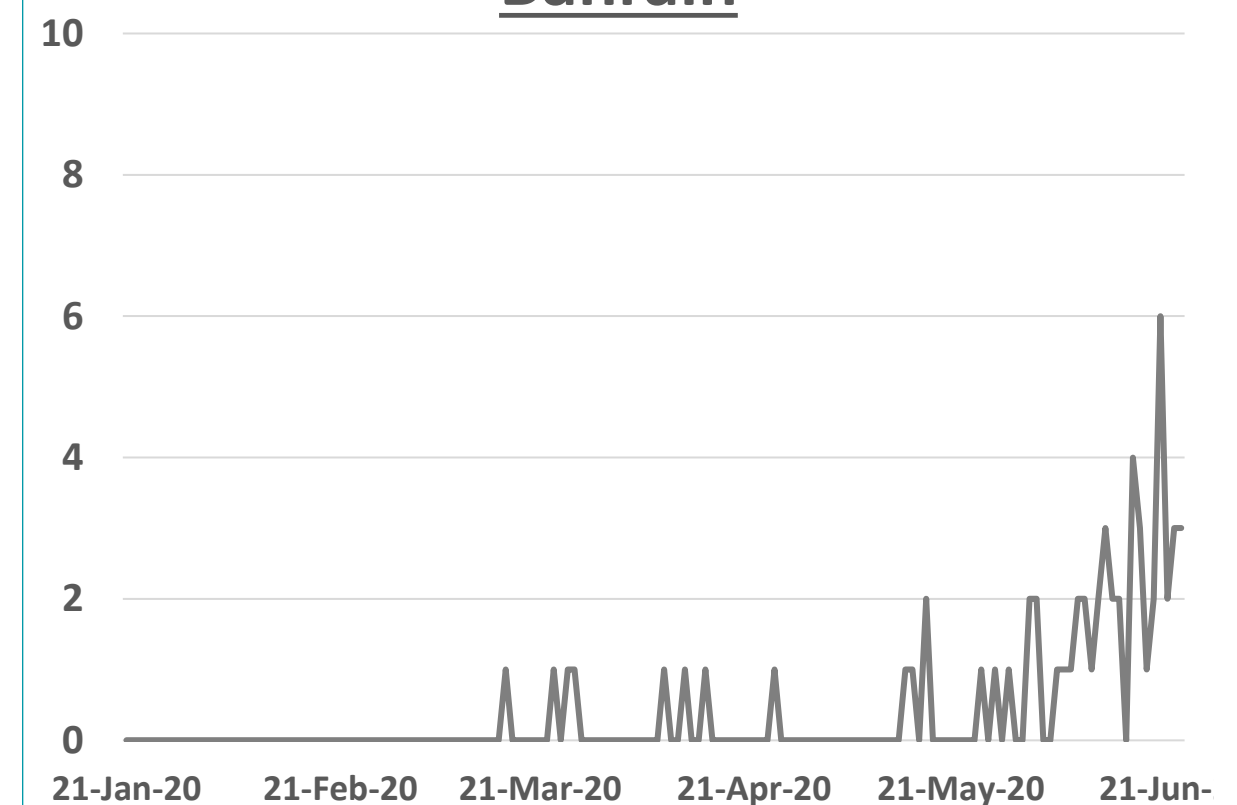
## Oman

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Source :Oman ministry of health

## Bahrain



Source :WHO



## Article 1: Assessing the influence of parental anxiety on childhood anxiety during the COVID-19 pandemic in the United Arab Emirates

Published: June 12, 2020 in [the medrxiv](#)

**Authors:** Basema Saddik<sup>1</sup>, Amal Hussein<sup>1</sup>, Ammar Albanna, Iffat Elbarazi, Arwa Al-Shujairi, Fatemeh Saheb Sharif-Askari, Mohamad-Hani Temsah<sup>6</sup>, Emmanuel Stip, Qutayba Hamid<sup>2,8</sup>, Rabih Halwani\*

**Affiliation:** University of Sharjah, Sharjah, Al Jalila Children's Specialty Hospital, MBRU, Abu Dhabi University, King Saud University, UAEU.

### Summary:

Using a web-based cross-sectional survey we collected data from 2,200 self-selected assessed volunteers (**from 24th March to 15th May 2020**). **Completed (1469 participants)**

Teachers, parents, and members of the general public throughout the UAE, aged 18 years and over, were invited to participate and were asked to pass on the survey link to their contacts.

The questions were divided into 8 domains; demographics, knowledge, beliefs and perceived risk related to COVID-19, health-protective and hygienic behaviors, precautionary measures, worry and fear associated with COVID-19, general health, validated self-reported anxiety screening scales (adults and children) and coping mechanisms.

### Results

- Participants were primarily females (82.8%), predominantly **from the 25 to 44 year age group (61.7%)** and **were residing in the United Arab Emirates (72.8%)**.
- Almost three **quarters (71%)** of our population reported **anxiety**. **Females (51.7%)** and **participants between the ages of 18 and 24 years (59.8%)** reported **significantly higher levels of anxiety**.
- Most participants indicated they would vaccinate themselves (71.5%) and their children (59.4%) with the COVID-19 vaccine once developed.
- The highest percentage of reported emotional problems for children was in participants who were both parents and teachers (26.7%) compared to parents only (14.6%) or teachers only 4.7%.

## Article 1: Cont.,

### Summary:

- Emotional problems were also more commonly reported in children attending lower secondary and higher secondary schools.
- Almost all participants had made significant changes in their hygienic behavior since the COVID-19 outbreak and reported increased use of hand sanitizer (87%), washing hands (99%), wearing face masks (47%), avoiding crowds (96%), public transport (98%) and handshaking (95%).
- However; significantly higher anxiety was reported among participants who always openly discussed COVID-19 with their family (51.4%), compared to those who never did (33.3%,  $p=0.013$ ).
- Parents who had severe anxiety levels were 7 times more likely to report more emotional problems in their children.

### Conclusion

- This study has revealed that the COVID-19 pandemic has made a significant impact on the mental health and well-being of the UAE population with the majority of participants in our study reporting mild to severe anxiety
- Overall, our study found that precautionary measures implemented by the government served as a protective factor for anxiety with most participants agreeing that they felt less anxious with the enforcement of these measures.



## Article 2 : COVID-19 Safety Grades for Businesses—A Possible Mitigation Tool

Published: June 22,2020 in [the JAMA](#)

### Summary:

The article discusses how governments shall react to support public when reopening of businesses is initiated. The author believes that to reopen society assuming that the lay public will be able to effectively manage their own infection risk, then it is mandatory on public health agencies to provide consumers with the information they need to make informed decisions, instead of having the public guess whether a business is taking reasonable measures to keep them safe.

The article proposes two options one called restaurant grading programs that is already done in some of US states like NYU and others for only food business. This grading system aims to provide a grading system for restaurant in term of safety and prevention of health concern. The author suggests to expand it so a risk-based schedule for inspections could be developed that customizes the frequency of inspections based on risk assessment categories of each business type (eg, childcare centers, theaters), taking into account potential contact duration, number of contacts, contact intensity, and other factors.

If the program appears to be useful in preventing outbreaks and increasing consumer confidence, it can then be **expanded and adapted by each interested jurisdiction.**

If resource constraints preclude the use of a grading program, a **less resource-intensive alternative** (eg, a gold star program) could be considered, in which a business registers a template-based COVID-19 safety plan with the local health department and receives public recognition for doing so after the health department reviews the plan.

In contrast to the proposed COVID-19 safety grading system, most such programs **involve the business self-reporting adherence to recommendations** from health departments or the Centers for Disease Control and Prevention, rather than having the additional assurance of professional inspections to help validate such assertions.



## Article 3 : Feasibility and physiological effects of prone positioning in non-intubated patients with acute respiratory failure due to COVID-19 (PRON-COVID): a prospective cohort study

Published: June 18, 2020 [JAMA](#)

### Summary:

This is a prospective cohort study aimed to investigate feasibility and effect of prone positioning in awake, non-intubated patients with COVID-19-related pneumonia. (March 20 and April 9, 2020) In this, feasibility, cohort study, patients aged 18–75 years with a confirmed diagnosis of COVID-19-related pneumonia receiving supplemental oxygen or CPAP were recruited from HOSPITAL in Italy. patients were helped into the prone position, which was maintained for a minimum duration of 3 h. Clinical data were re-collected 10 min after prone positioning and 1 h after returning to the supine position.

The main study outcome was the variation in oxygenation requirements.

### Results

56 patients enrolled, of whom 44 (79%) were male; the mean age was 57.

Prone positioning was feasible (i.e., maintained for at least 3 h) in 47 patients (83% ).

Oxygenation substantially improved from supine to prone positioning.

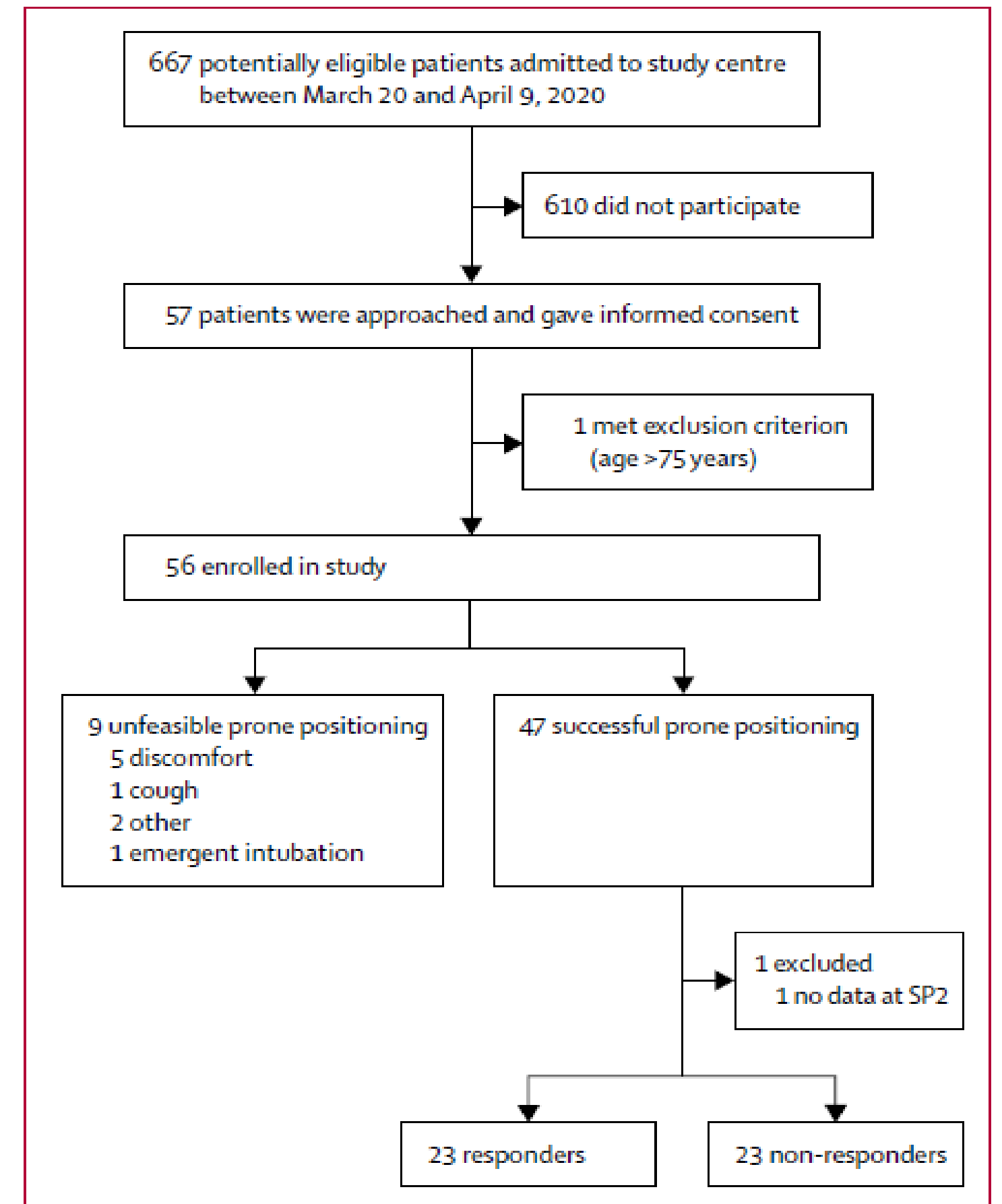


Figure 2: Study profile

Responders were defined as patients with an increased ratio of partial pressure of oxygen to fractional concentration of oxygen in inspired air between SP1 to SP2 for the main analysis. All other patients who were successfully put in the prone position were non-responders. SP1=baseline supine position. SP2=1 h after resuming supine position.





## Article 3 : Cont., Summary:

- After resupination, improved oxygenation was maintained in 23 patients (50%); however, this improvement was on average not significant compared with before prone positioning.
- **Patients who maintained increased oxygenation had shorter time between admission to hospital and prone positioning (2 ▪ 7 days) in responders vs 4 ▪ 6 days in non-responders)** than did those for whom improved oxygenation was not maintained.
- 13 (28%) of 46 patients were eventually intubated, seven (30%) of 23 responders and six (26%) of 23 non-responders (p=0 ▪ 74).
- Five patients died during follow-up due to underlying disease, unrelated to study procedure.
- **Interpretation Prone positioning was feasible and effective in rapidly ameliorating blood oxygenation in awake patients with COVID-19-related pneumonia requiring oxygen supplementation. The effect was maintained after resupination in half of the patients. Further studies are need to prove efficacy.**

	Responders (n=23)	Non-responders (n=23)	Difference (95% CI)	p value
Age, years	58.5 (7.5)	55.9 (7.0)	2.7 (-7.0 to 1.7)	0.22
Sex	..	..	..	1.0
Female	6 (26%)	6 (26%)	..	..
Male	17 (74%)	17 (74%)	..	..
BMI, kg/m <sup>2</sup>	27.3 (3.5)	27.4 (3.7)	-0.12 (-2.3 to 2.1)	0.92
Time between symptom onset and admission to hospital, days	8.1 (4.8)	7.4 (4.3)	-0.7 (-3.4 to 1.9)	0.58
Time between admission to hospital and prone positioning, days	2.7 (2.1)	4.6 (3.7)	-1.9 (-3.7 to 0.1)	0.04
Time between symptom onset and prone positioning, days	10.8 (4.9)	12.0 (4.3)	-1.1 (-3.9 to 1.6)	0.41
<b>Secondary outcomes</b>				
Tracheal intubation	7 (30.4%)	6 (26.1%)	4.3 (-30.7 to 21.6)	0.74
Time to intubation	2 (2 to 4)	2.5 (1.0 to 5.0)	..	0.45
Duration of prone positioning, h	3.5 (3.0 to 4.0)	3.5 (3.0 to 4.0)	..	0.99
Prone positioning for >3 h	12 (52.2%)	13 (56.5%)	-4.3% (-33.1 to 24.4)	0.77
Number of prone positioning cycles	2 (1 to 3)	2 (1 to 3)	..	0.94
More than one prone positioning cycle	12 (52.1%)	11 (47.8%)	4.3% (-34.0 to 24.9)	0.76

