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HEALTH CENTRE

SCIENTIFIC RESEARCH MONITORING ON COVID-19

25 NOVEMBER 2020

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SCIENTIFIC RESEARCH MONITORING ON COVID-19 (ISSUE 296)

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ABU DHABI PUBLIC HEALTH CENTRE

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

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).

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Ministry of Health AND Prevention contribution

Immunology

Safety Immune response in COVID-19: A review

Epidemiology

Event-specific interventions to minimize COVID-19 transmission

Clinical Features

Characteristics, onset, and evolution of neurological symptoms in patients with COVID-19

Public Health Response

Timeline: WHO's COVID-19 response

EPIDEMIOLOGY

FROM 21 JAN TO 24 NOV 2020

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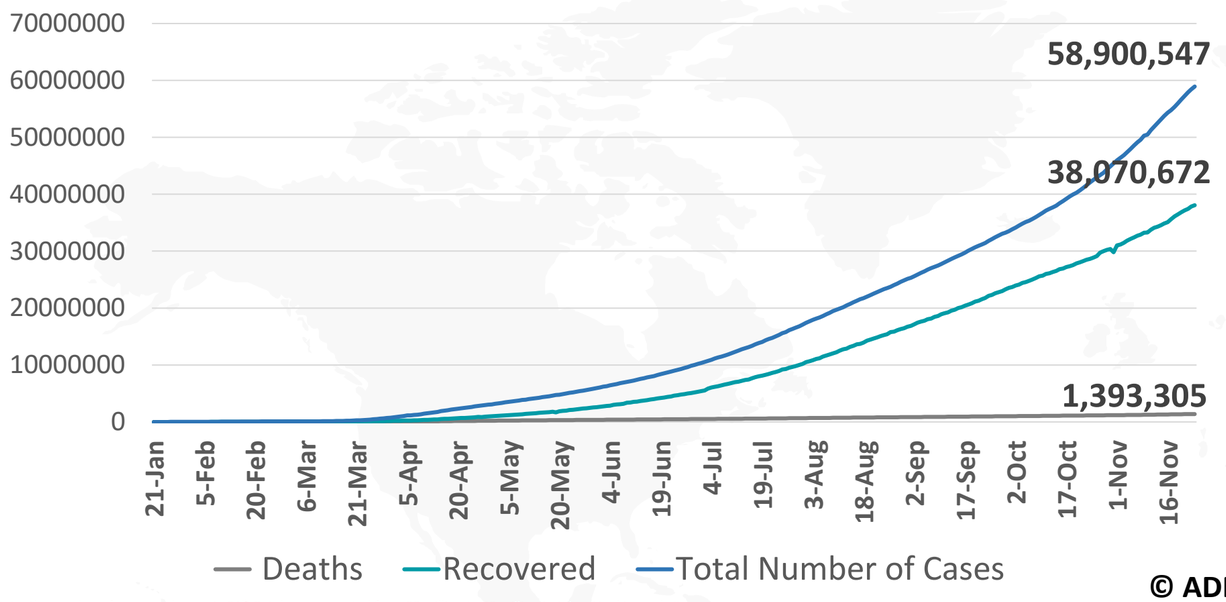
Figure 1: Total Number of Infected, Recovered, and Death Cases



Note: the number of recovered cases in 31th October recorrected from 30 million to 29 million in Johns Hopkins website

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

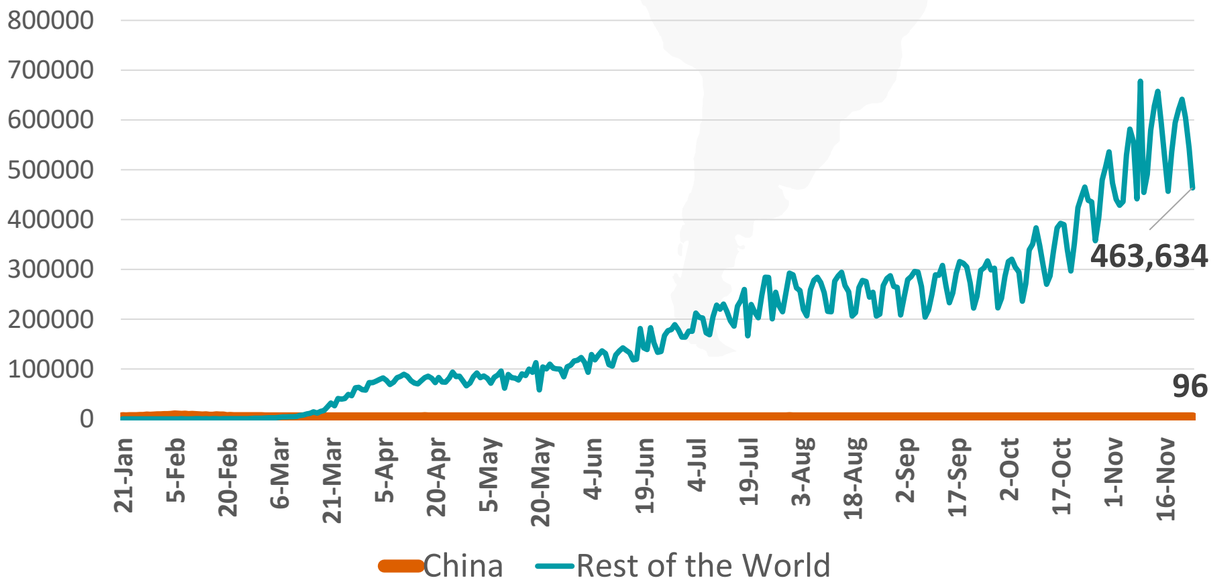


Figure 3: Total Number of Death Due to COVID-19 (china and result of the world)

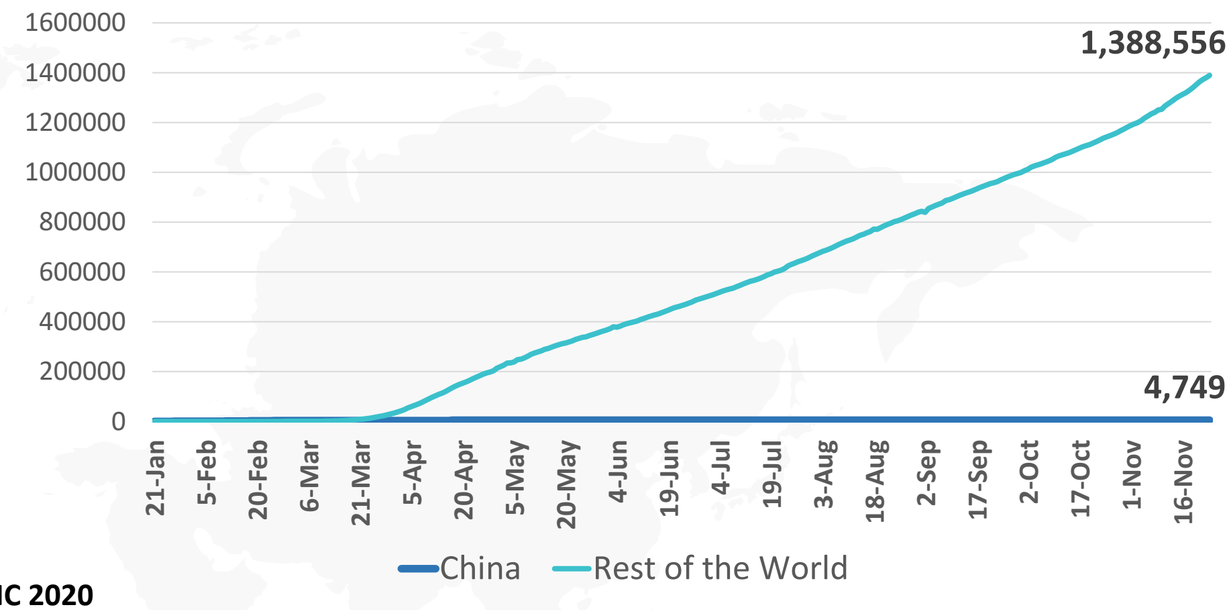
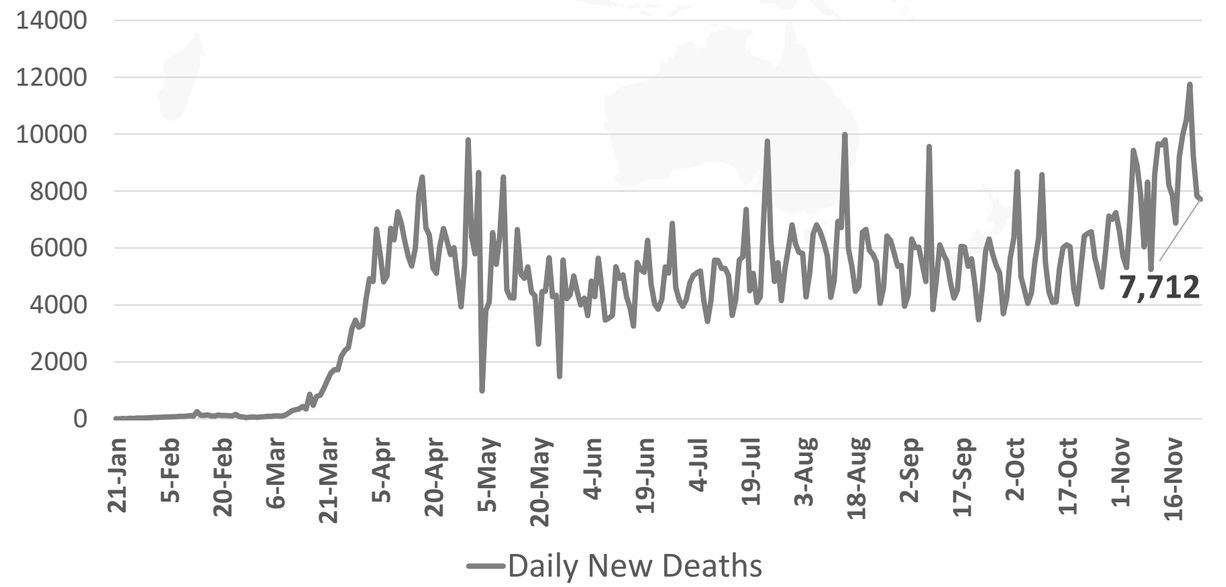


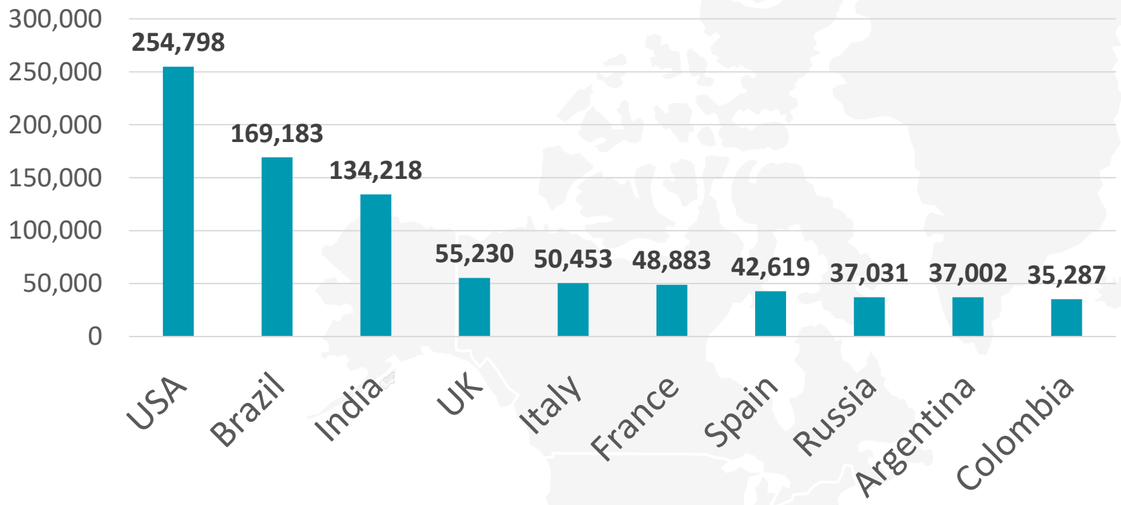
Figure 4: Global Daily New Deaths Due to COVID-19 (china and rest of the world)



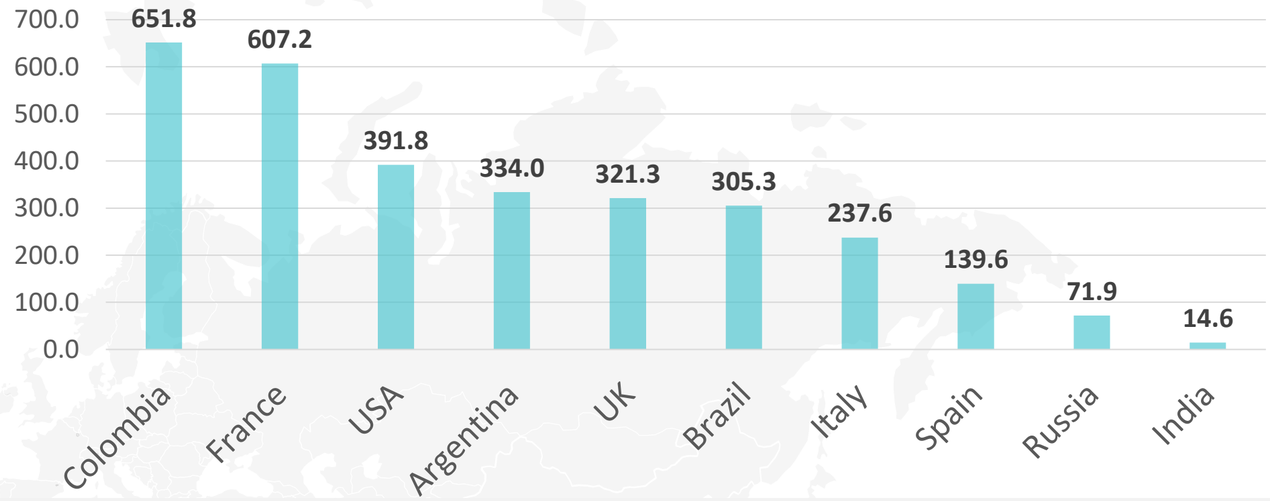
Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: John Hopkins, WHO

Figure 5: Top 10 Countries in the Total Number of Cases Due to COVID-19

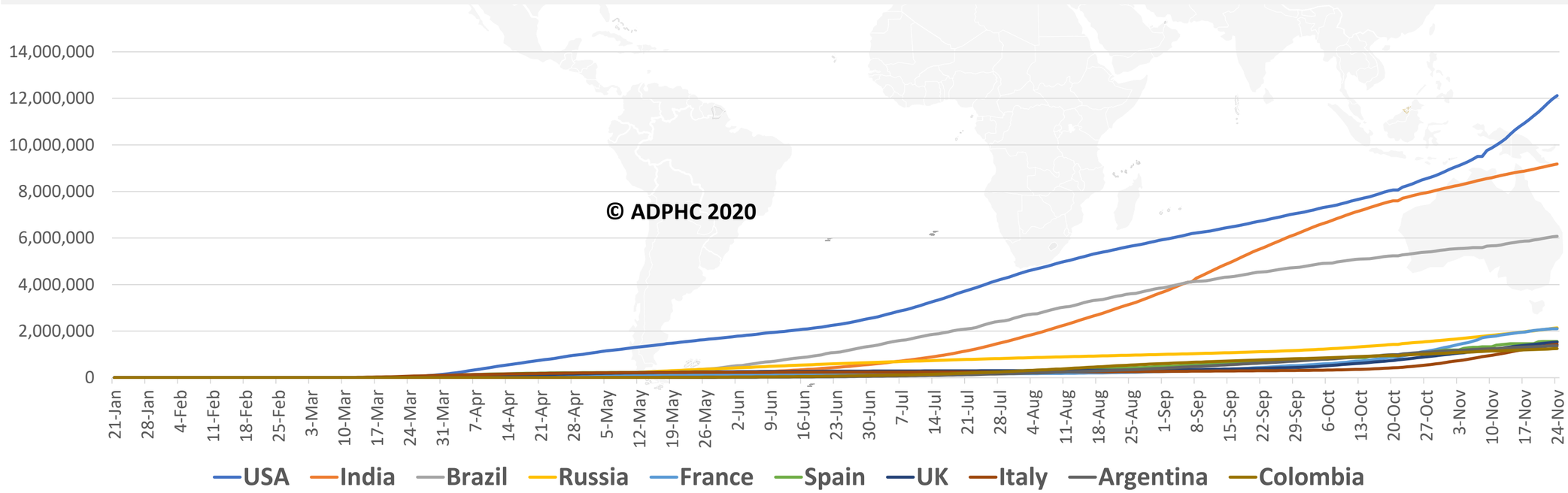
TOTAL DEATHS



DEATHS PER MILLION



TOTAL INFECTED CASES



USA	12,119,654
India	9,177,840
Brazil	6,071,401
Russia	2,138,828
France	2,106,660
Spain	1,556,730
UK	1,527,499
Italy	1,431,795
Argentina	1,370,366
Colombia	1,248,417

Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: WHO

EPIDEMIOLOGY- FROM 21 JAN TO 24 NOV 2020

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Figure 6: COVID-19 Status in the UAE (Federal Competitiveness and Statistics Authority Dashboard)

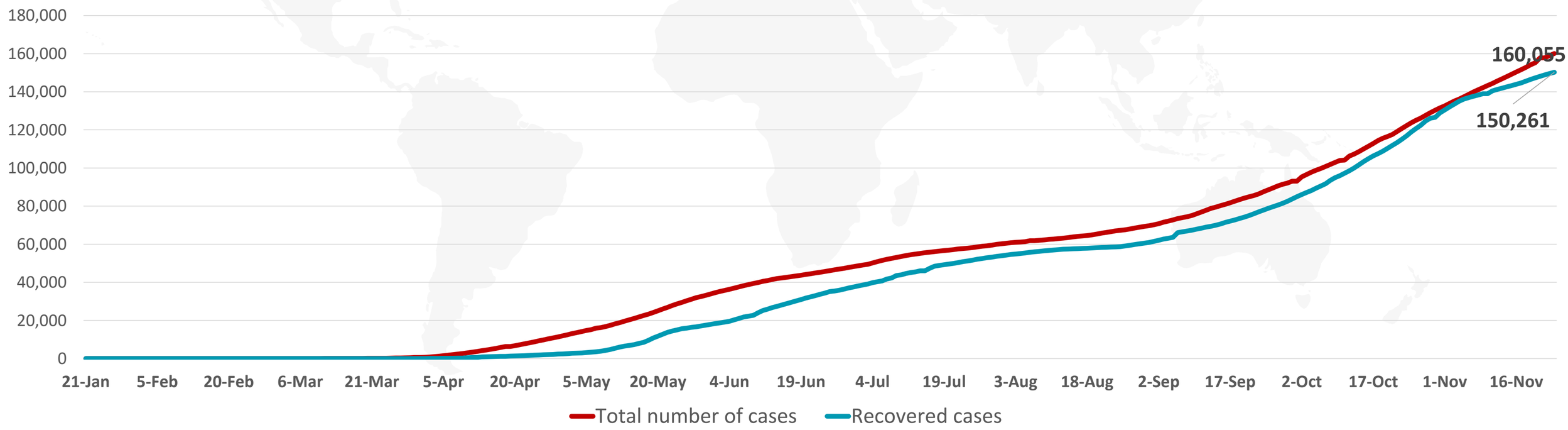
Daily Tests
113,074.1 Average Tests
1,143.3 per 100k population
1.1% Positive Rate

Daily Cases
1,222.3 Average Cases
12.4 per 100k population

Daily Recovered
802.0 Average Recovered
8.1 per 100k population

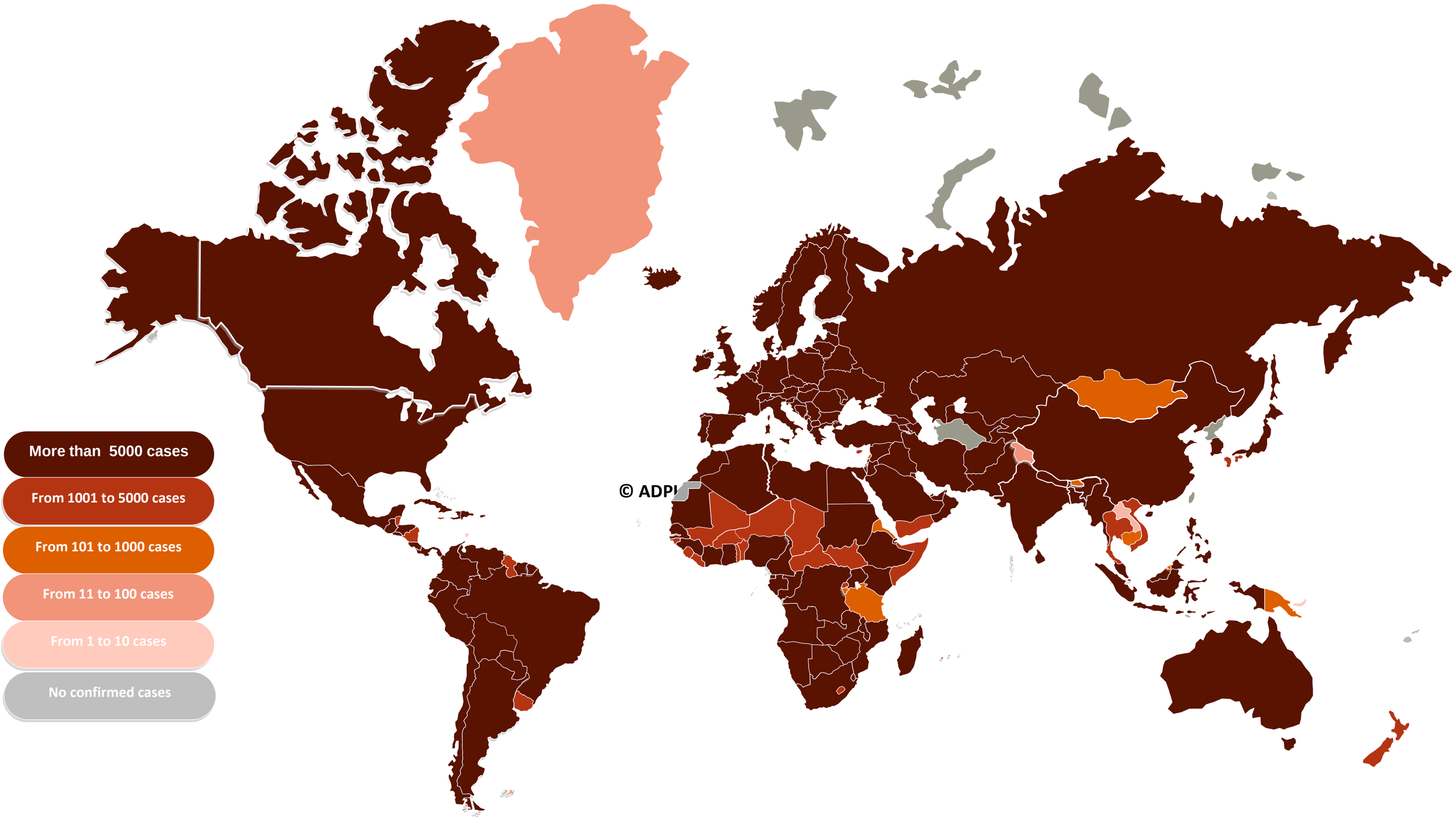
Daily Deaths
3.0 Average Deaths
0.0 per 100k population
0.2% Case Fatality Rate

TOTAL NUMBER OF INFECTED AND RECOVERED CASES DUE TO COVID-19 REPORTED BY THE UAE



Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: FCSA, WHO, John Hopkins

Figure 7A : Global Distribution of COVID-19 Cases



Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: WHO

EPIDEMIOLOGY

Date: 24 NOV 2020

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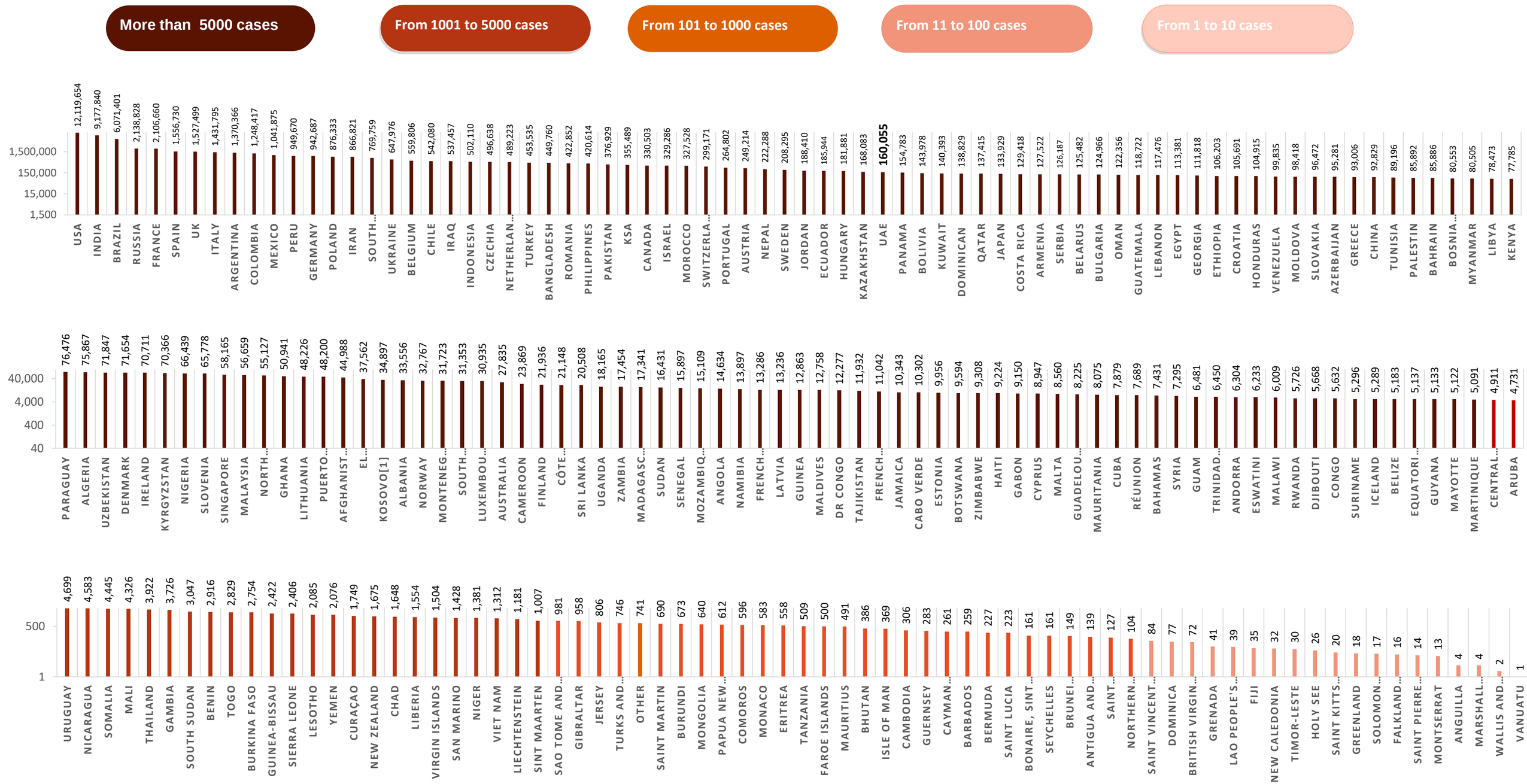
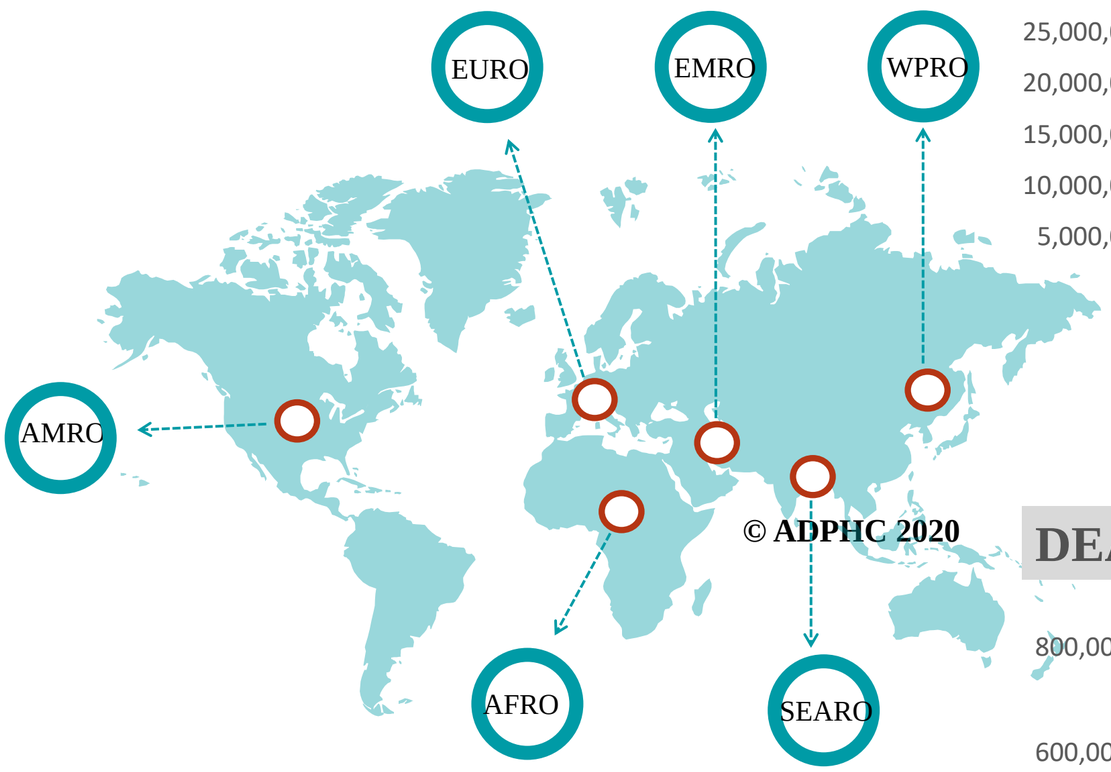
Figure 7B: Bar Chart Illustrates the Global Distribution of COVID19 Cases



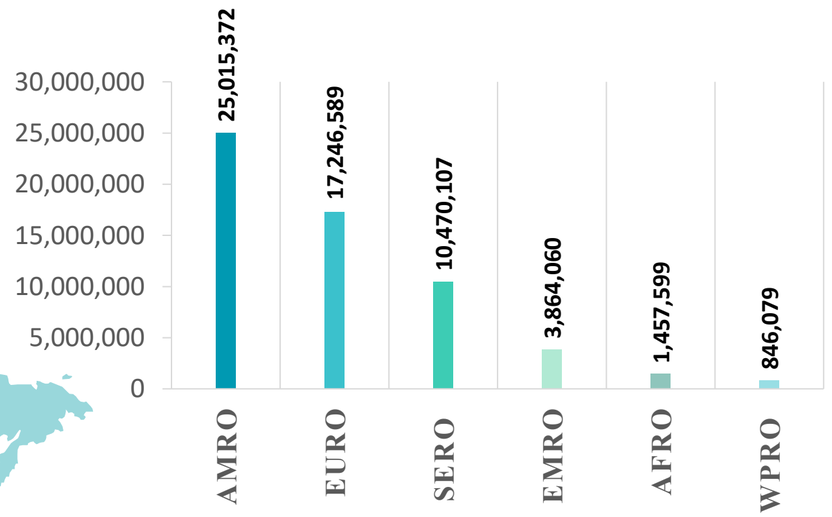
Other*:includes cases and deaths reported under the international conveyance(Diamond Princess)

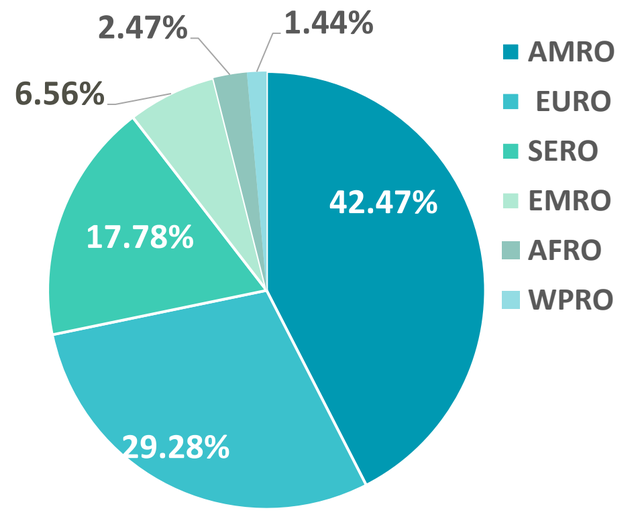
Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: WHO

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

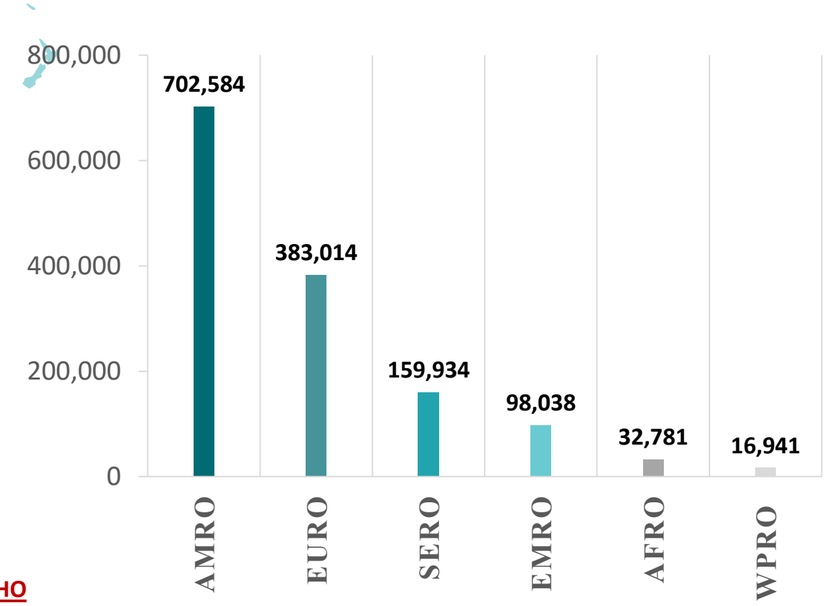


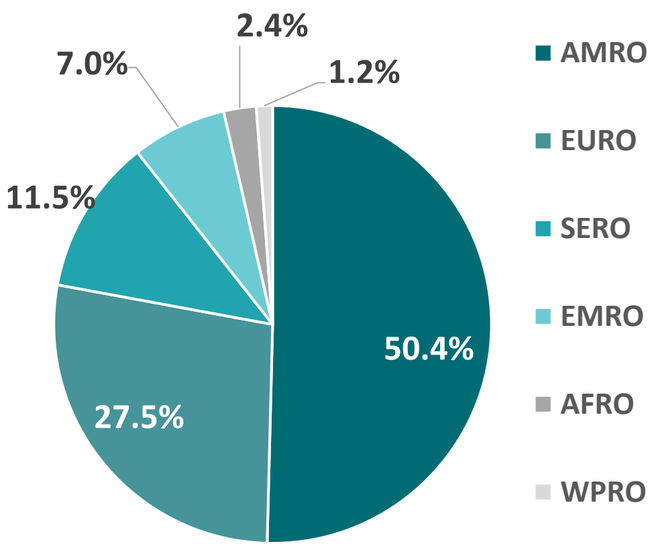
INFECTED





DEATHS





Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: WHO

EPIDEMIOLOGY

Date: 24 NOV 2020

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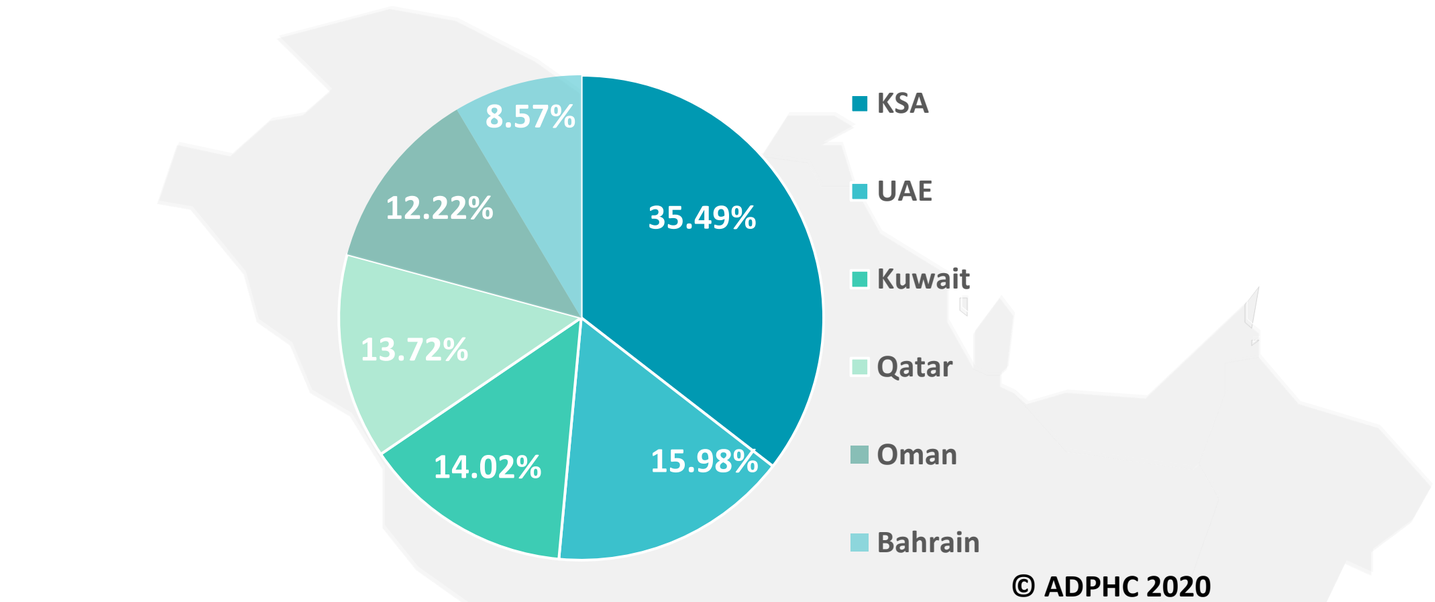
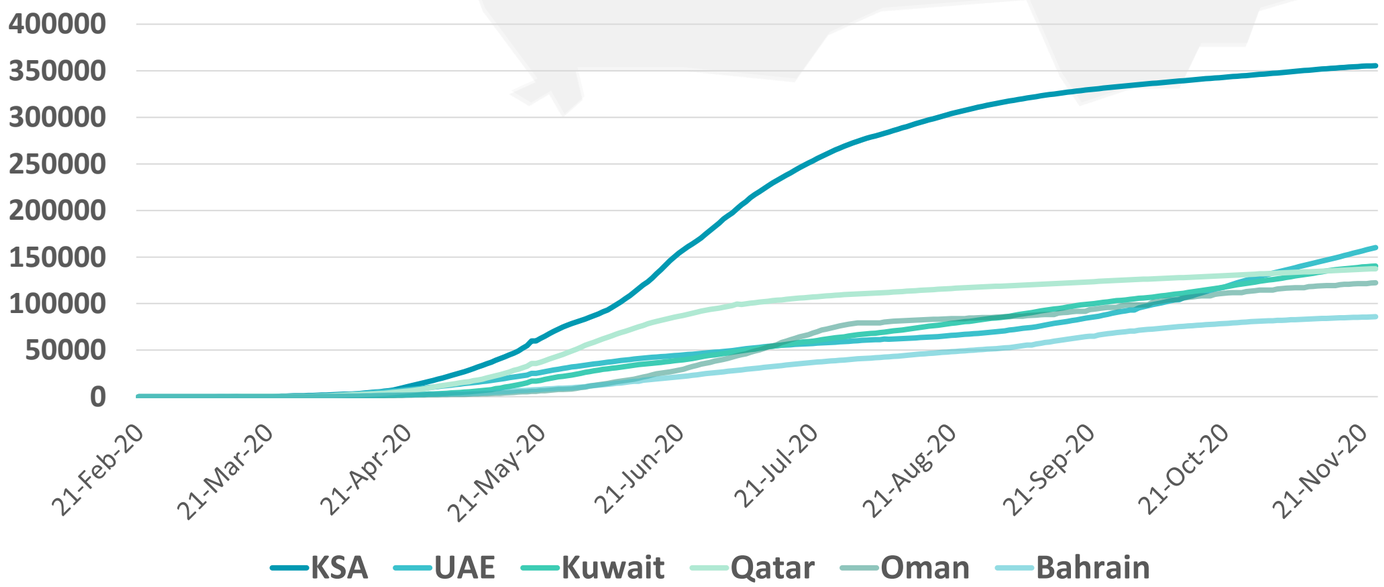
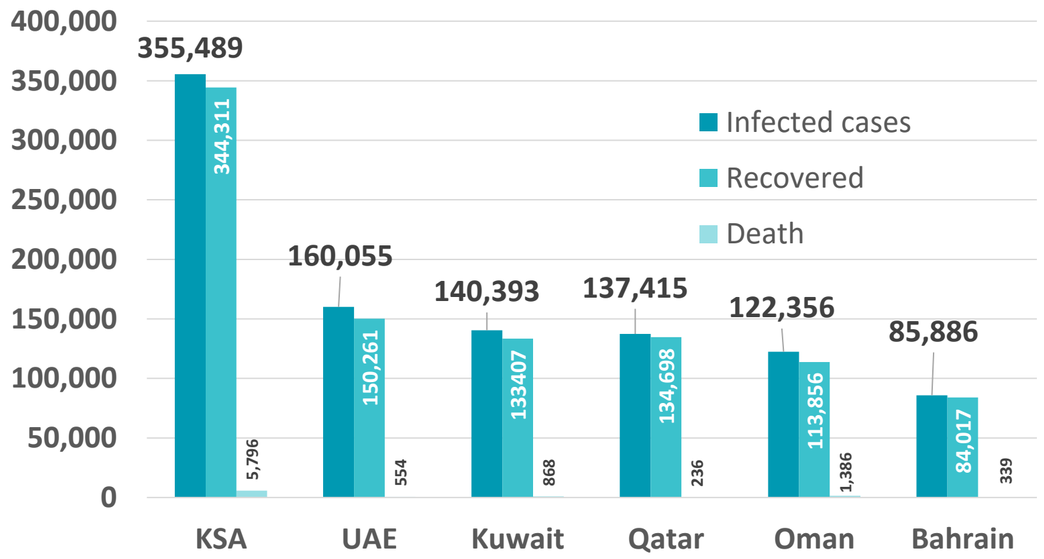
Figure 9: Comparative Analysis of the Distribution of COVID-19 Cases in GCC Countries

TOTAL NUMBER OF INFECTED CASES

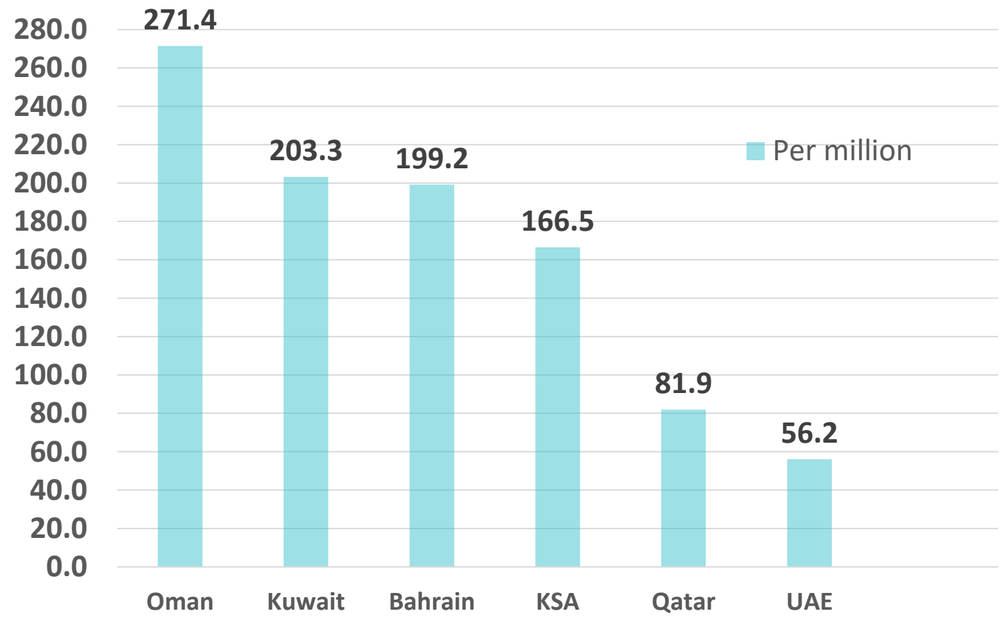




TOTAL NUMBER OF INFECTED, RECOVERED AND DEATHS

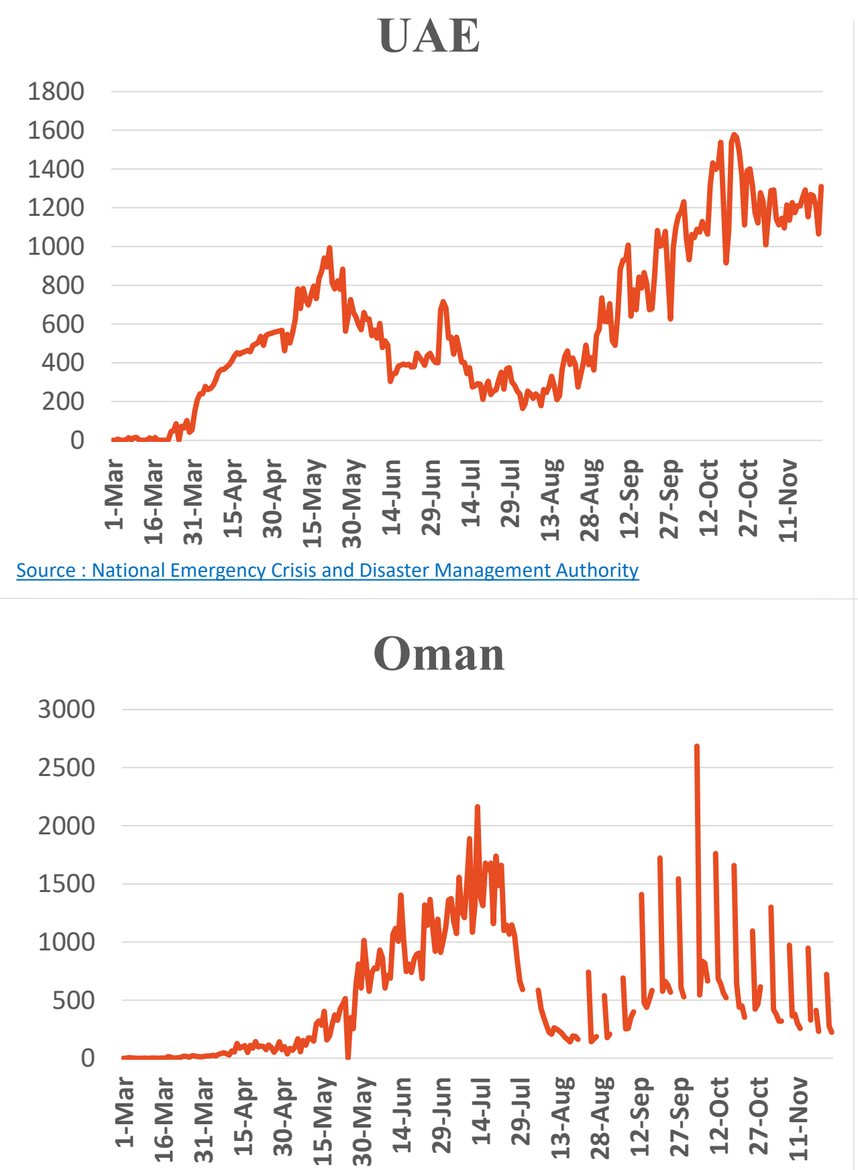


DEATHS PER MILLION

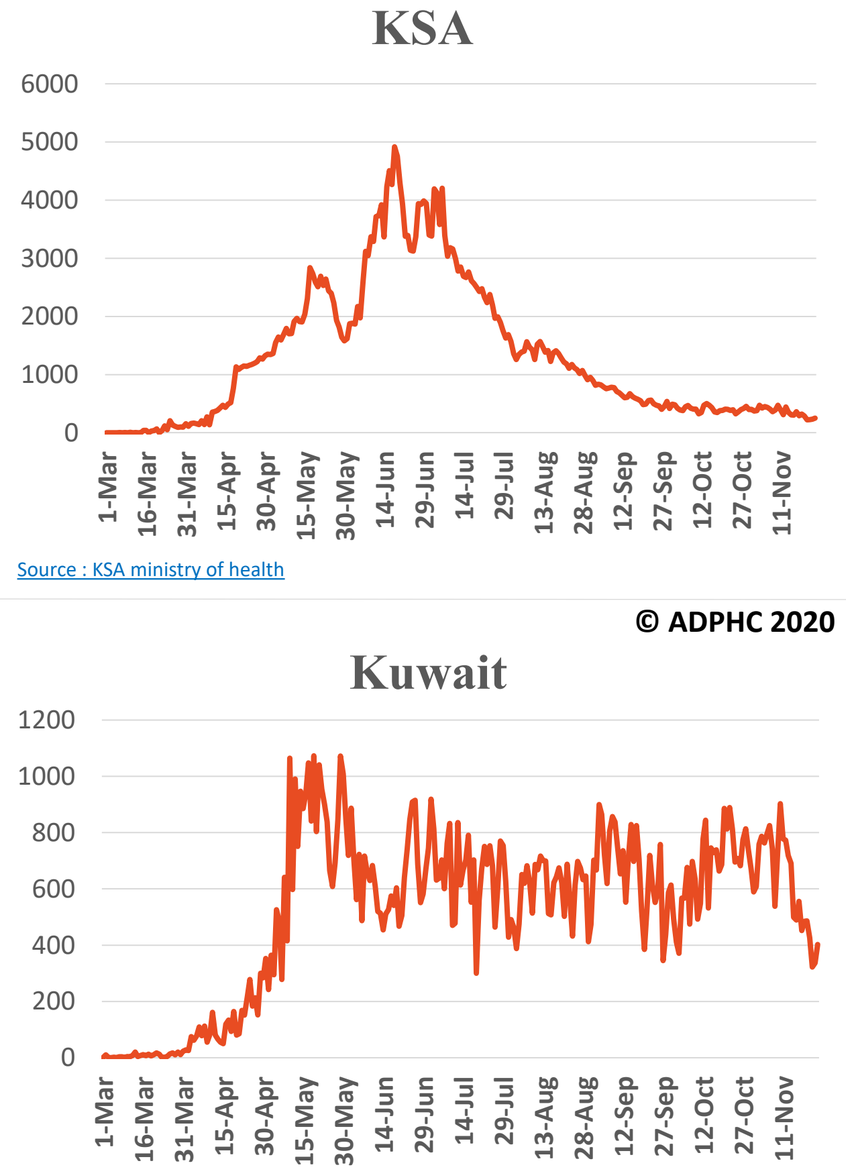


Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: John Hopkins, WHO

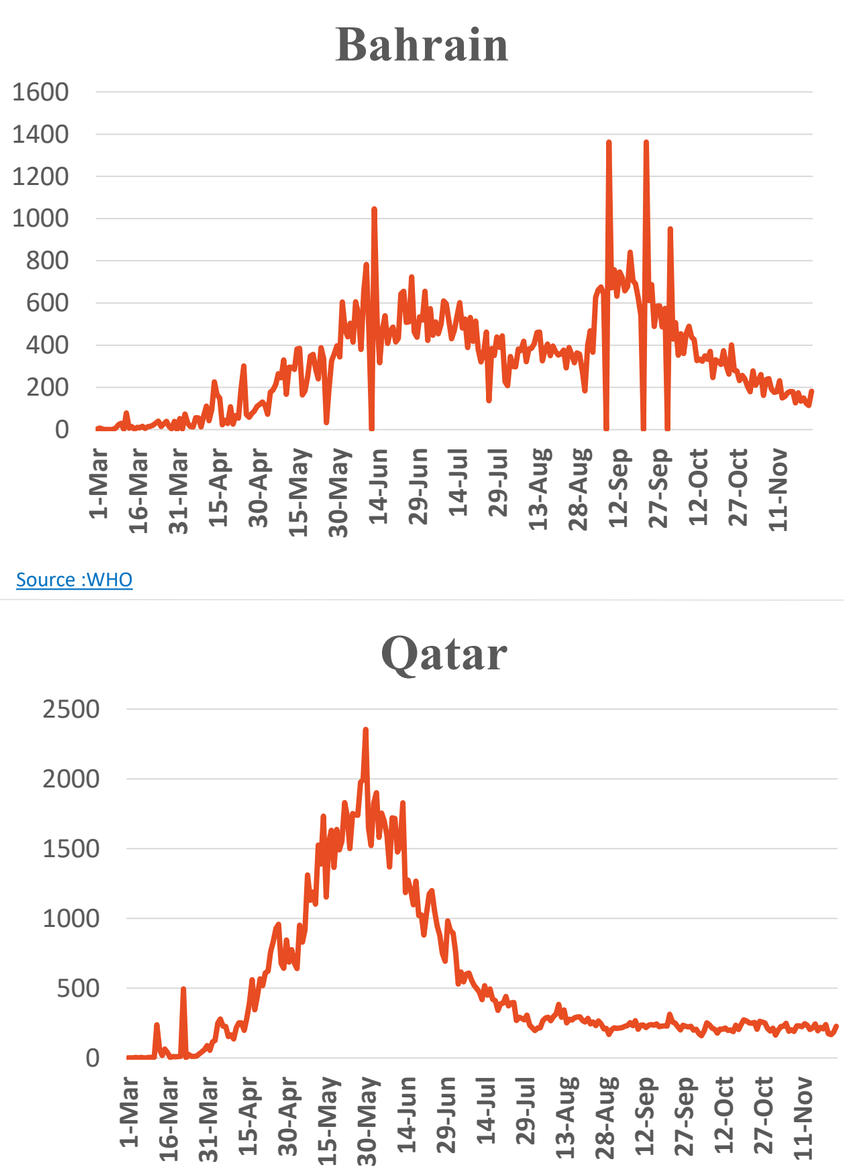
Figure 10: Comparative Analysis of the Distribution of COVID-19 New Cases in GCC Countries



Source : National Emergency Crisis and Disaster Management Authority



Source : KSA ministry of health



Source :WHO

Source :Oman ministry of health

*No announced statistic data from 31 JUL to 4 AUG, 21,23,28,30 AUG 2, 4، 5,11,12,18,19,25 ,26,30 SEP,1,2,9,10,16,17,23,24,30,21 OCT, 6,7,13,24 NOV

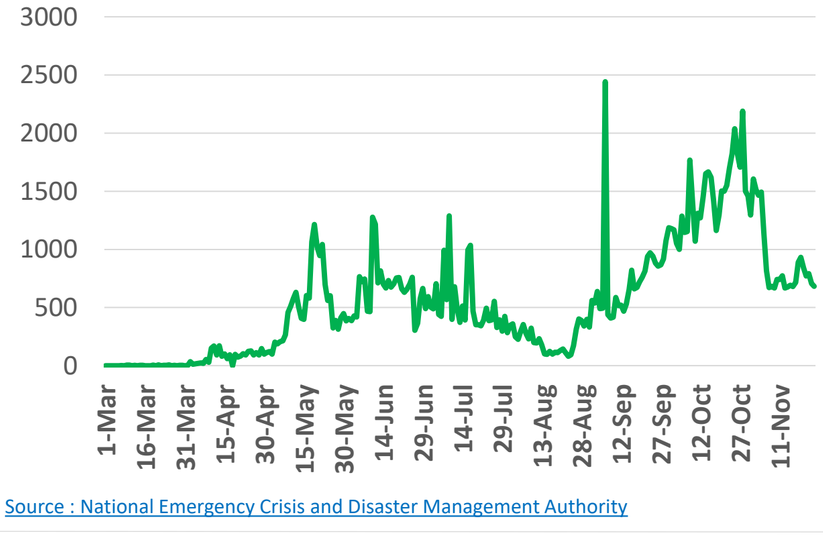
*No announced statistic data on weekends and official holidays.

Source : Kuwait ministry of health

Source : Qatar ministry of health

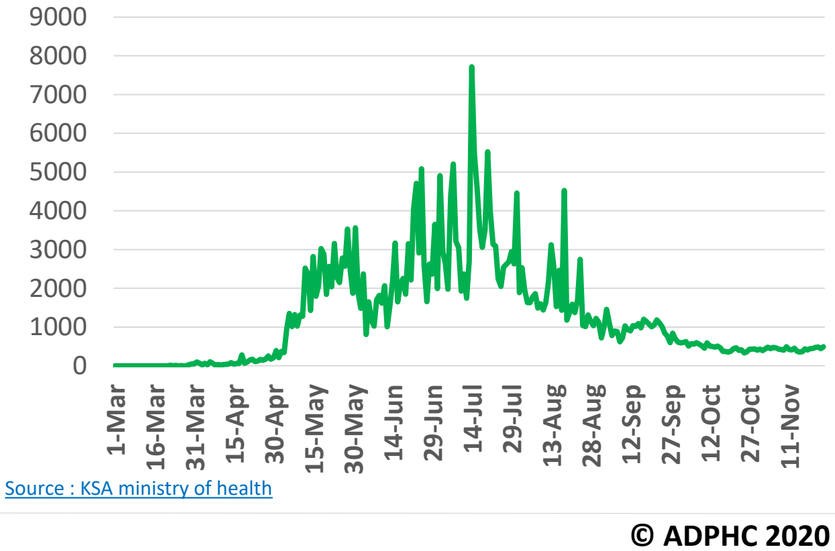
Figure 11: Comparative Analysis of the Distribution of COVID-19 Newly Recovered Cases in GCC Countries

UAE



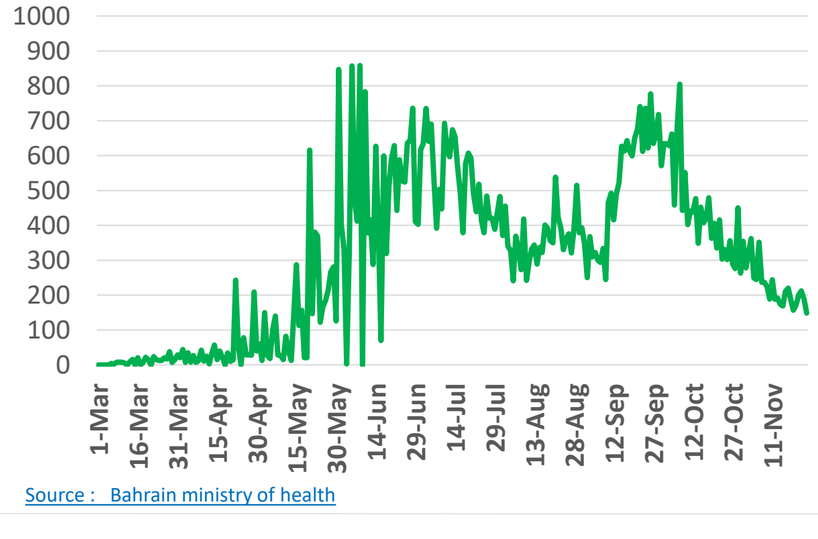
Source : National Emergency Crisis and Disaster Management Authority

KSA



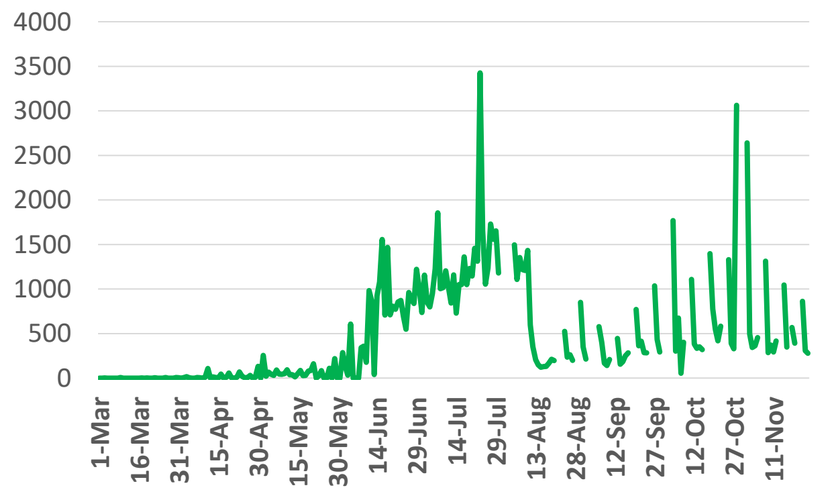
Source : KSA ministry of health

Bahrain



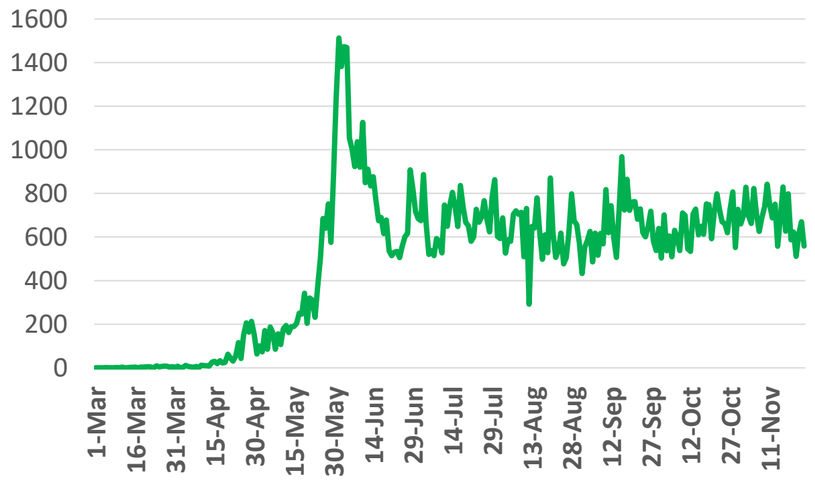
Source : Bahrain ministry of health

Oman



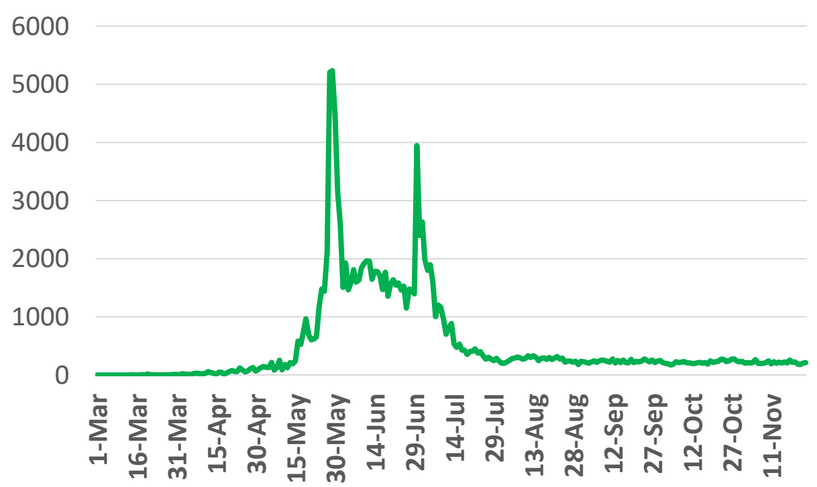
Source :Oman ministry of health

Kuwait



Source : Kuwait ministry of health

QATAR

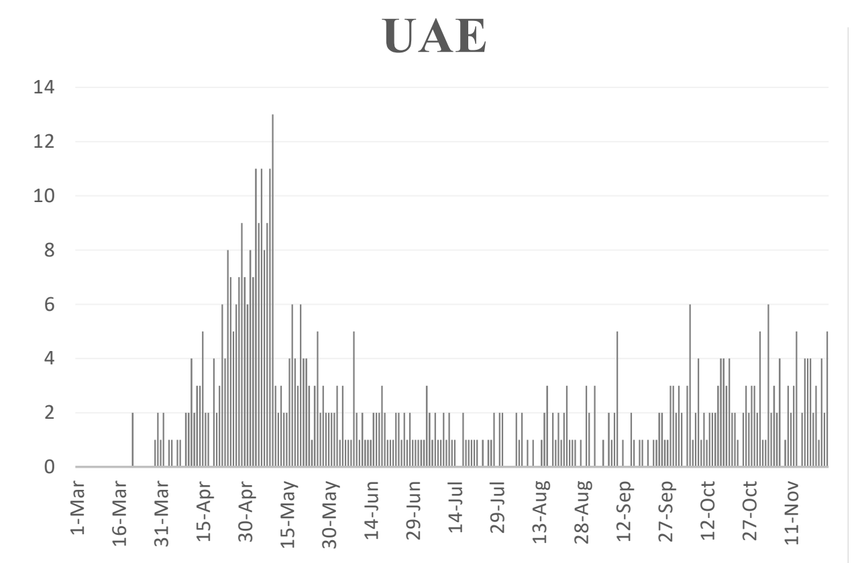


Source : Qatar ministry of health

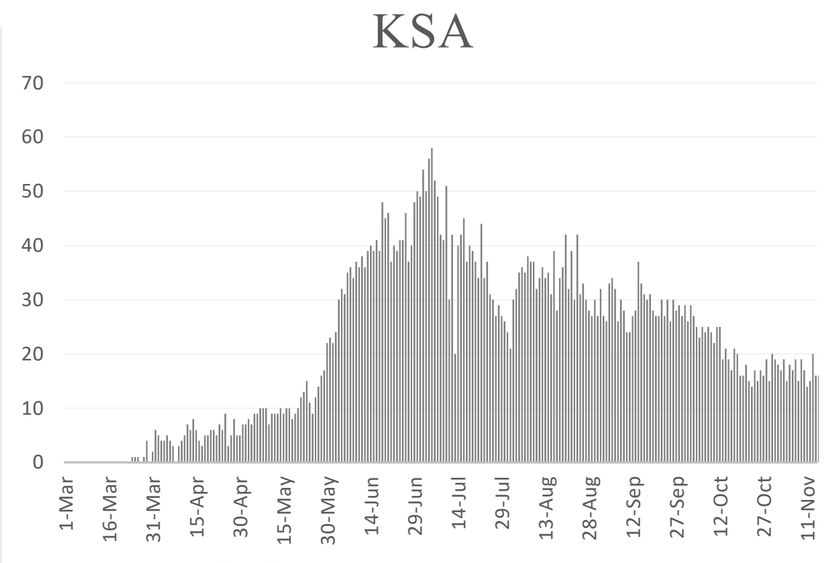
*No announced statistic data from 31 JUL 4 AUG, 21,23,28,30 AUG 2, 4، 5,11,12,18,19,25 ,26,30 SEP,1,2,9,10,16,17,23,24,30,21 OCT, 6,7,13,24 NOV

*No announced statistic data on weekends and official holidays.

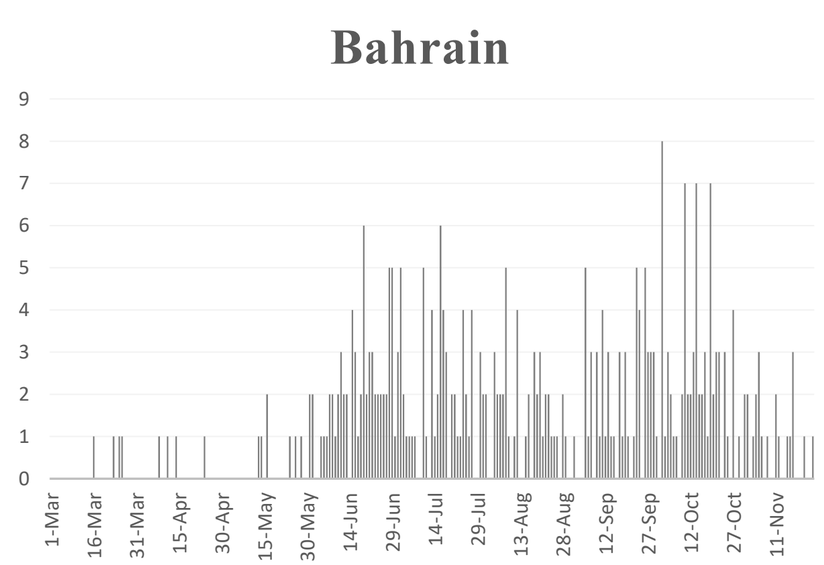
Figure 12: Comparative Analysis of the Distribution of COVID-19 New Death Cases in GCC Countries



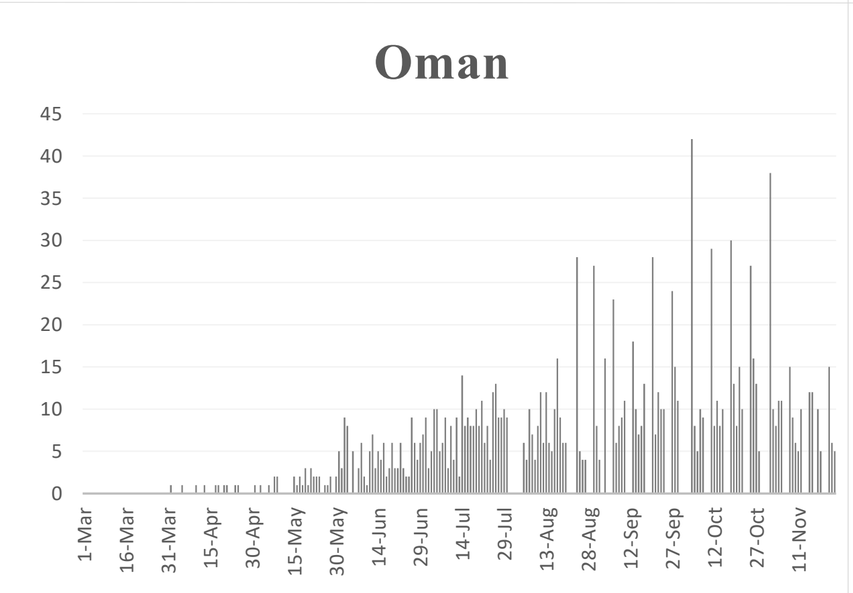
Source : National Emergency Crisis and Disaster Management Authority



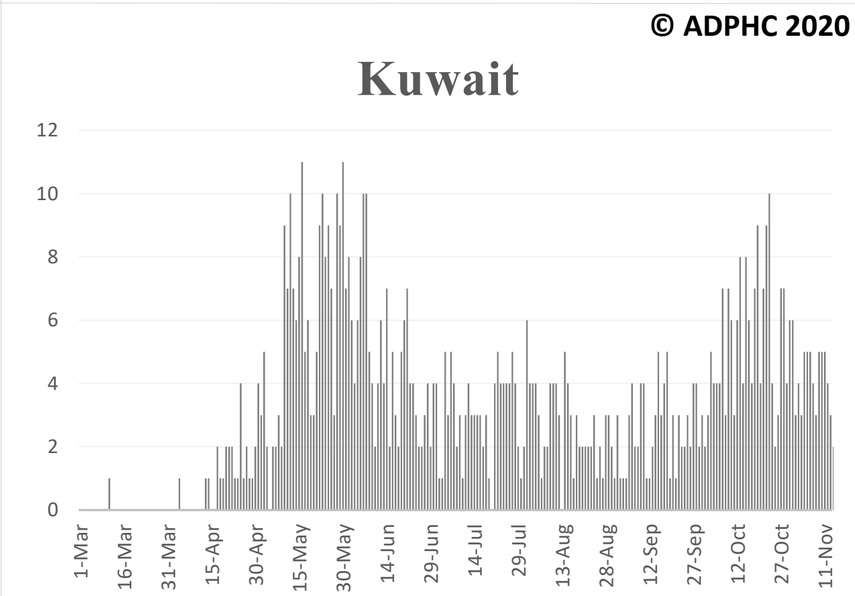
Source : KSA ministry of health



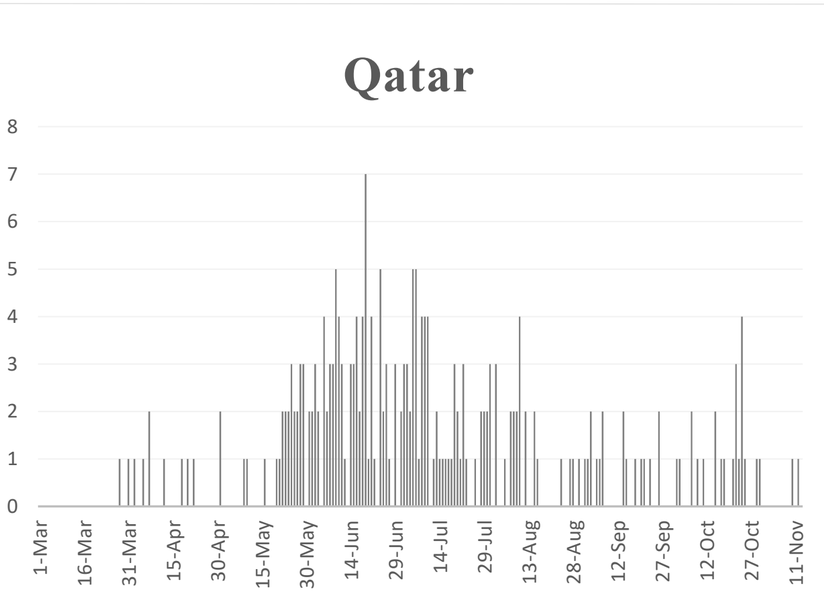
Source :WHO



Source :Oman ministry of health



Source : Kuwait ministry of health



Source : Qatar ministry of health

*No announced statistic data from 31 JUL 4 AUG, 21,23,28,30 AUG 2, 4، 5,11,12,18,19,25 ,26,30 SEP,1,2,9,10,16,17,23,24,30,21 OCT, 6,7,13,24 NOV

*No announced statistic data on weekends and official holidays.

IMMUNOLOGY

UNITED ARAB EMIRATES
MINISTRY OF HEALTH & PREVENTION
الإمارات العربية المتحدة
وزارة الصحة ووقاية المجتمع
مركز أبوظبي للصحة العامة
ABU DHABI PUBLIC HEALTH CENTRE

Article 1 Safety Immune response in COVID-19: A review

Published November 11, 2020, Science Direct

- The immune system often protects against diseases as well as viruses as it produces antibodies for the purpose of killing the pathogens.
- This review study therefore presented a brief overview of the immune system with respect to its protection of the human body from COVID-19; exemplifies the immune system processes, the way it works, along with its mechanism to fight virus; and present information on the most current experimental data and treatments on COVID-19.
- Several different kinds of potential challenges for the immune system were also addressed.
- The article was concluded with what foods to consume and avoid, and also encouraged physical exercise.
- This study can be utilized globally as a state of the art in this critical moment for promising alternative solutions related to coronavirus survival.

EPIDEMIOLOGY

UNITED ARAB EMIRATES
MINISTRY OF HEALTH & PREVENTION
الإمارات العربية المتحدة
وزارة الصحة ووقاية المجتمع
مركز أبوظبي للصحة العامة
ABU DHABI PUBLIC HEALTH CENTRE

Article 2 Event-specific interventions to minimize COVID-19 transmission

Published November 19, 2020, PNAS

- This study aimed to develop a conceptual framework and model to resolve some of the uncertainties around the effectiveness of different interventions.

- A simple model on the COVID-19 transmission at workplaces, events, and other settings was provided. A fundamental mathematical relationship between the number of people in contact with an infectious individual, the time for which they are in contact, and the risk of transmission per unit time was built.

- The study introduced the concept of "event R," the expected number of new infections due to the presence of a single infectious individual at an event. The investigators used data from reported single-event, short-duration outbreaks to estimate the transmission rate, number of contacts, and turnover at events.

- These were utilized to predict how many new infections are expected to occur at various events given the presence of a single infectious individual. The types of interventions that were most effective in reducing the number of infections were determined such as: reducing transmission rates (such as with masks), social distancing (reducing the number of people in contact), or bubbling (keeping contact groups small and consistent).

- This study therefore, outlined how this information can be obtained and used to reopen economies with principle measures to reduce COVID-19 transmission.

CLINICAL FEATURES

Article 3

Characteristics, onset, and evolution of neurological symptoms in patients with COVID-19

Published November 17, 2020, NCBI

- The neurological symptoms associated with COVID-19, their main characteristics, and their evolution in the Tunisian population were described in this study followed by discussion of their underlying pathophysiological mechanisms.

- In this nationwide retrospective observational study, patients in Tunisia diagnosed with COVID-19 between the 2nd of March and the 16th of May 2020 were contacted by telephone.

- The investigators collected demographic and clinical data and specified characteristics and evolution of main neurological symptoms. From the 1034 confirmed cases of COVID-19 patients, 646 were included (mean age 42.17 years old) and 466 (72.1%) had neurological symptoms.

- Neurological symptoms were isolated 22.7% (n = 106). Headache was the most frequent neurological symptom (n = 279, 41.1%): mainly frontotemporal (n = 143, 51.1%) and mild or moderate (n = 165, 59.1%). When associated with fever (n = 143, 51.3%), headache was more likely to be severe and present at onset.

- Recovery was reported in 83.2%. Smell and taste impairment were found in 37.9% (n = 245) and 36.8% (n = 238) respectively. Among them, 65.3% (156/239) were anosmic and 63.2% (146/231) were ageusic. A complete improvement was found in 72.1% (174/240) of smell impairment and in 76.8% (179/233) of taste impairment. Myalgia (n = 241, 37.3%) and sleep disturbances (n = 241, 37.3%) were also frequent. Imported cases had more neurological symptoms. In 14.5%, neurological symptoms preceded the respiratory signs (RS).

- Neurological symptoms in COVID-19 are frequent, can be isolated and present at onset. A total recovery is the most recorded outcome. RS are predictive of neurological symptoms. Studies in to virus and host genetics should be considered in future to understand the different phenotypes.

Article 4

Timeline: WHO's COVID-19 response

Published September 10, 2020, WHO

- The timeline provided in the link below uses data from WHO's COVID-19 Dashboard on cases reported by countries, territories and areas to WHO.

- Text for listings has been taken from the Timeline of WHO’s response to COVID-19. All counts are subject to variations in case detection, definitions, laboratory testing, and reporting strategies between countries, states and territories.

THANK YOU

ADPHCAE ADPHC_AE ADPHC_AE ADPHC.AE ADPHC-AE 056 2312171