مركز أبوظبي
للصحة العامة
ABU DHABI PUBLIC
HEALTH CENTRE

SCIENTIFIC RESEARCH MONITORING ON COVID-19

2 NOVEMBER 2020

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SCIENTIFIC RESEARCH MONITORING ON COVID-19 (ISSUE 544)

مركز أبوظبي للصحة العامة
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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Vaccine

SARS-CoV-2 Risk Misclassification Explains Poor COVID-19 Management

Public Health Response

Influenza Control During the COVID-19 Pandemic

Immunology

What Is Herd Immunity?

EPIDEMIOLOGY

FROM 21 JAN TO 1 NOV 2020

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ABU DHABI PUBLIC HEALTH CENTRE

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

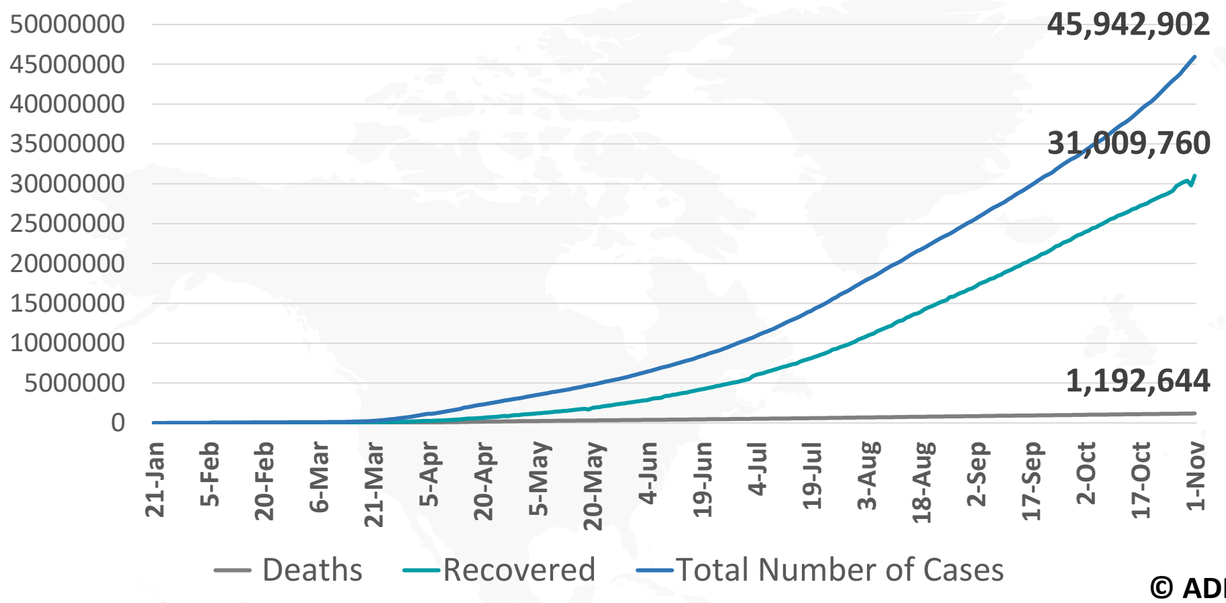
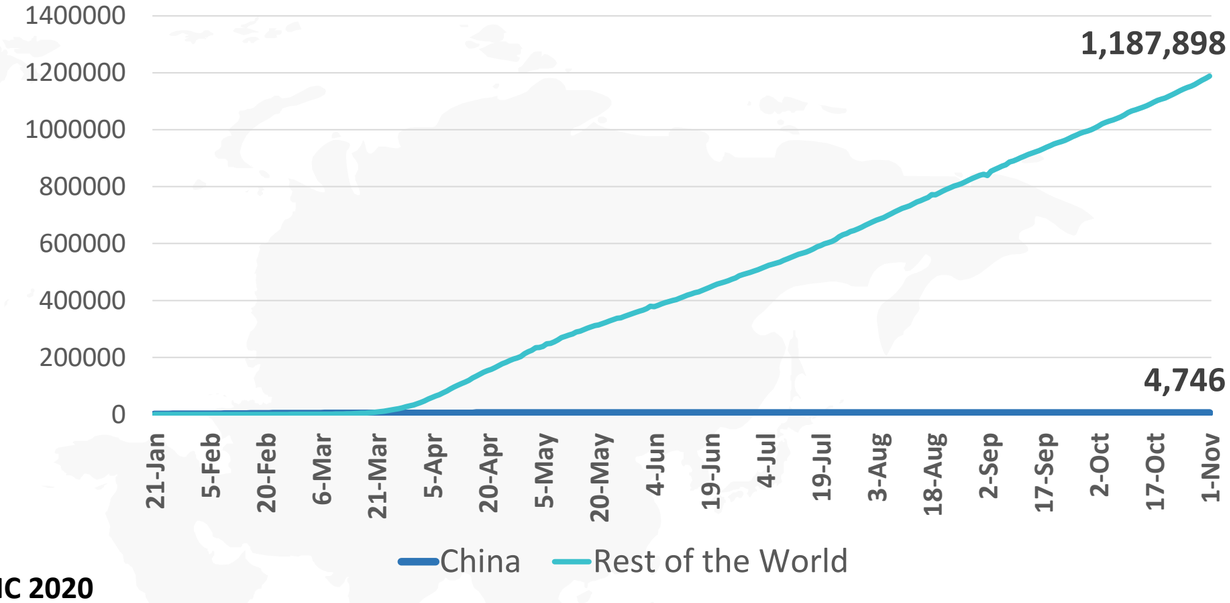


Figure 3: Total Number of Death Due to COVID-19 (china and result of the world)



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)

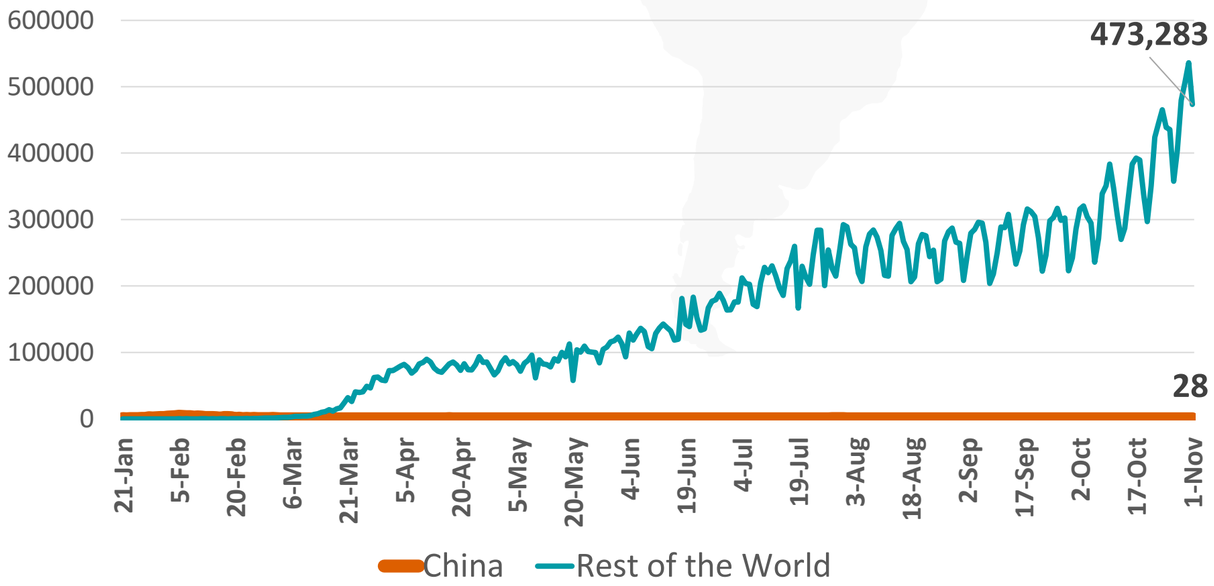
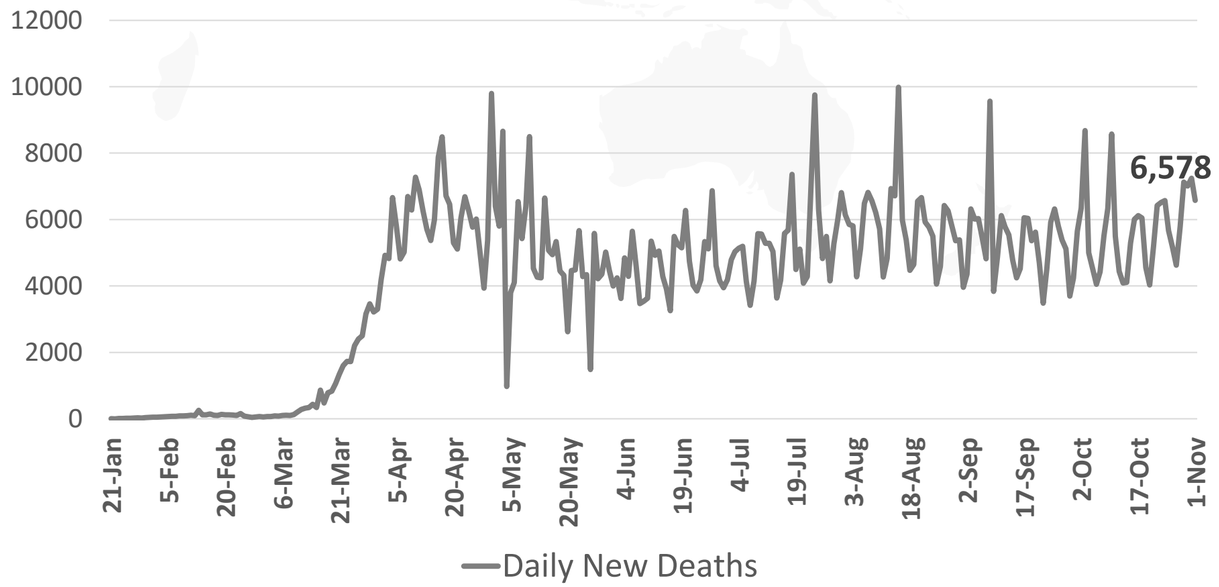


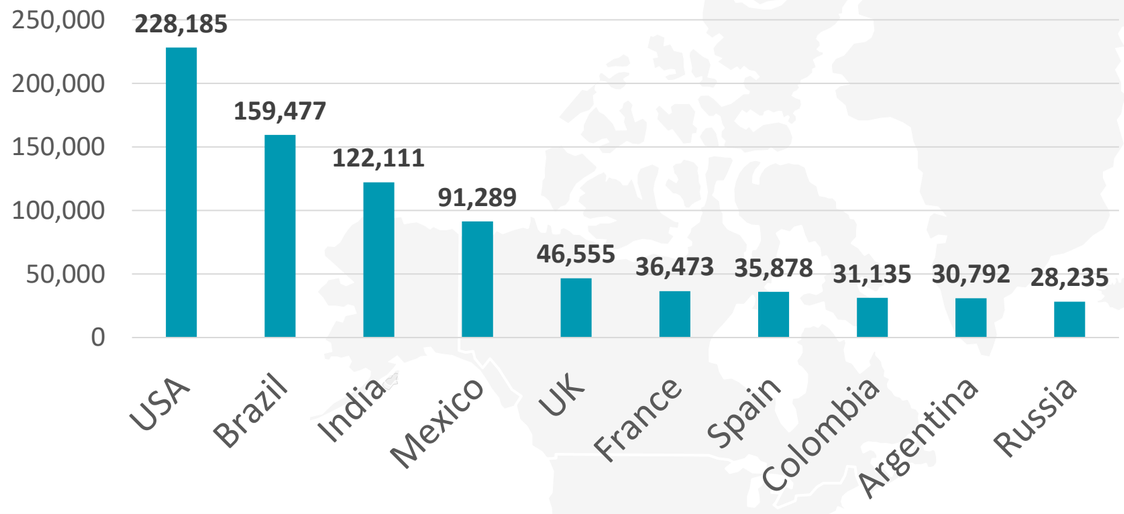
Figure 4: Global Daily New Deaths Due to COVID-19 (china and rest of the world)



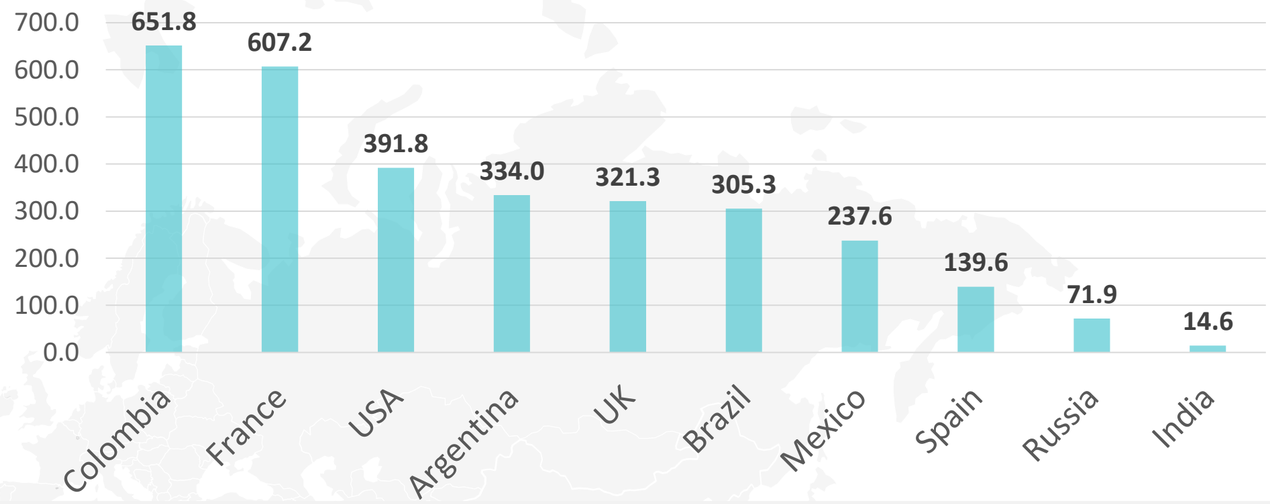
Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: John Hopkins, WHO

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

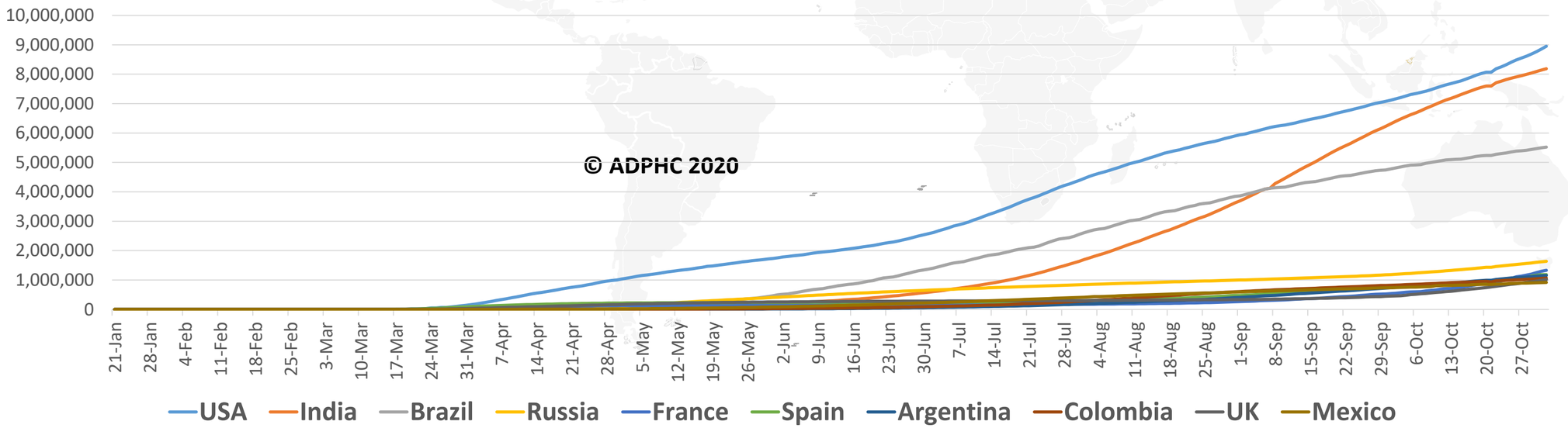
TOTAL DEATHS



DEATHS PER MILLION



TOTAL INFECTED CASES



USA	8,952,086
India	8,184,082
Brazil	5,516,658
Russia	1,636,781
France	1,331,808
Spain	1,185,678
Argentina	1,157,179
Colombia	1,063,151
UK	1,011,664
Mexico	918,811

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

EPIDEMIOLOGY

FROM 21 JAN TO 1 NOV 2020

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

Daily Tests

118,717.0 Average Tests

1,200.3 per 100k population

1.1% Positive Rate

Daily Cases

1,254.9 Average Cases

12.7 per 100k population

Daily Recovered

1,653.9 Average Recovered

16.7 per 100k population

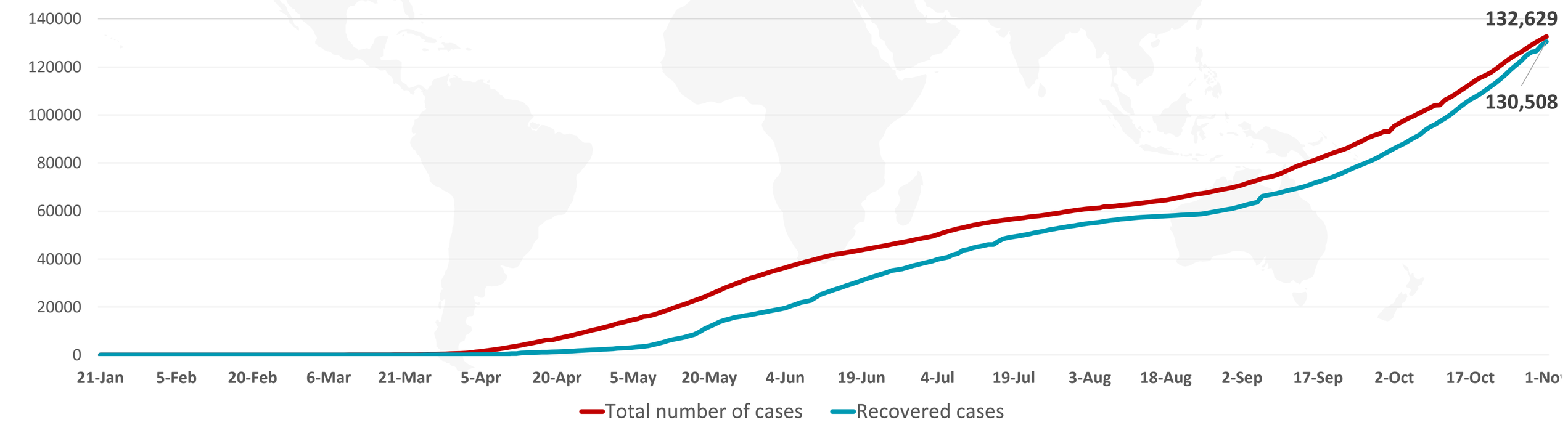
Daily Deaths

2.7 Average Deaths

0.0 per 100k population

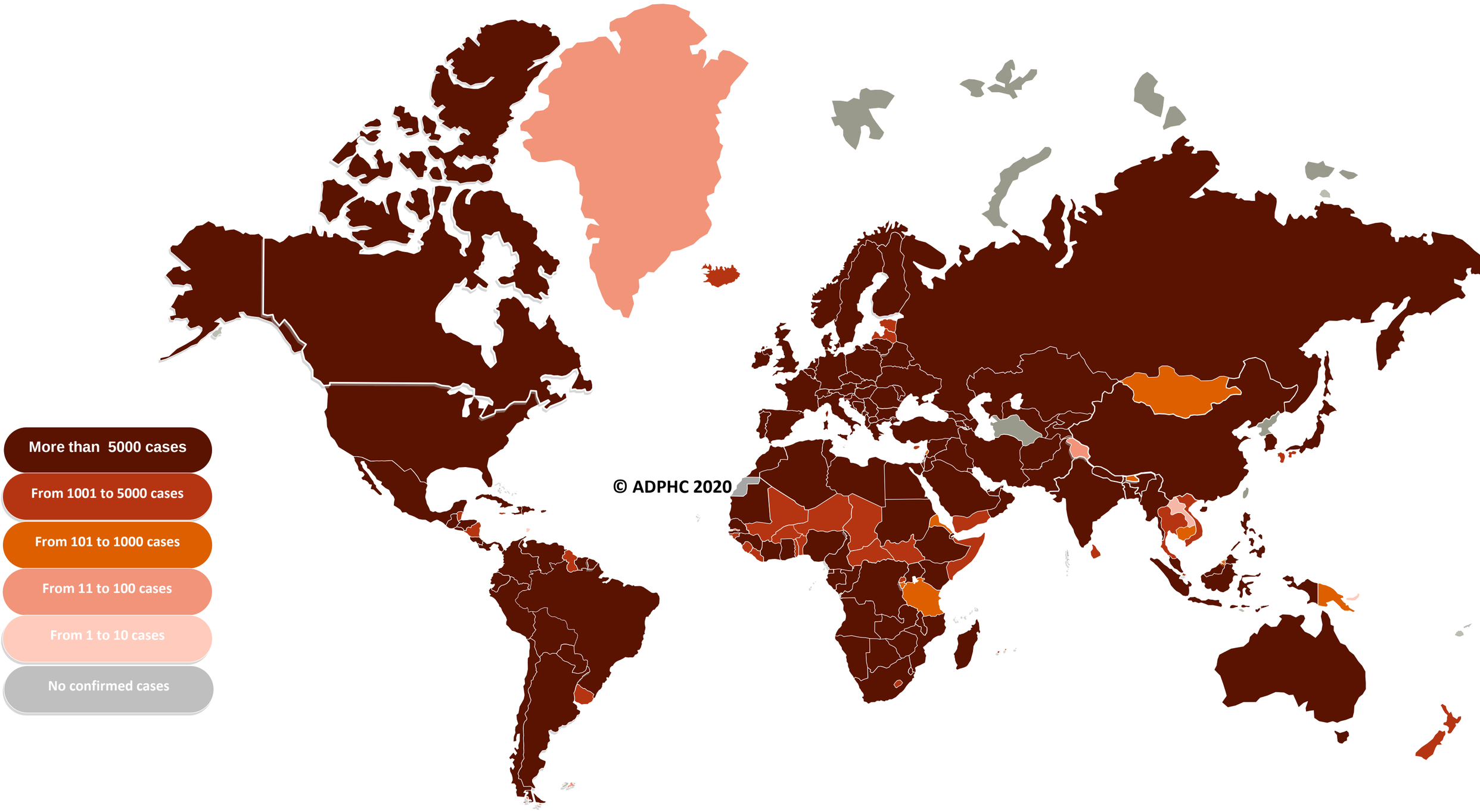
0.2% Case Fatality Rate

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: 1 NOV 2020

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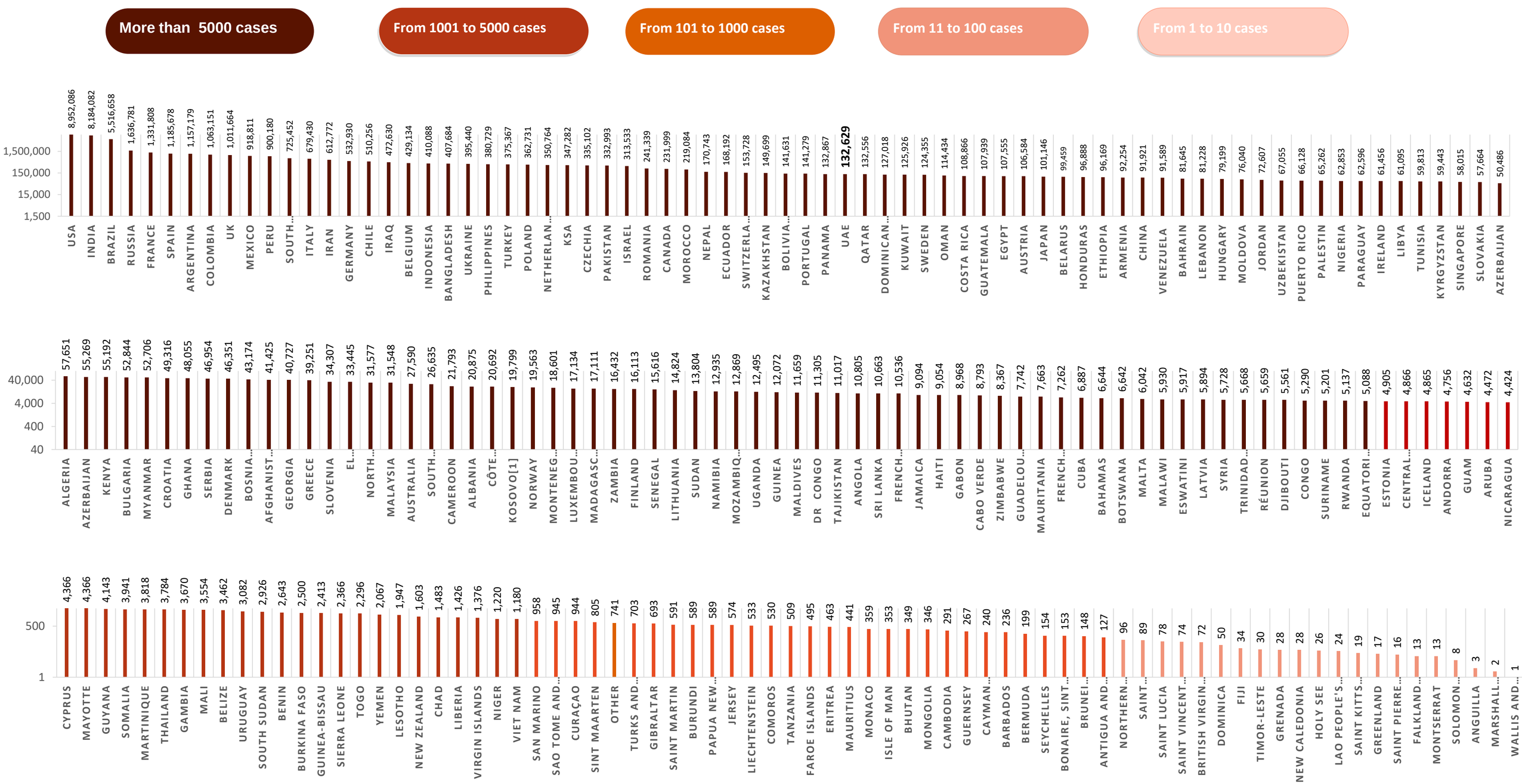
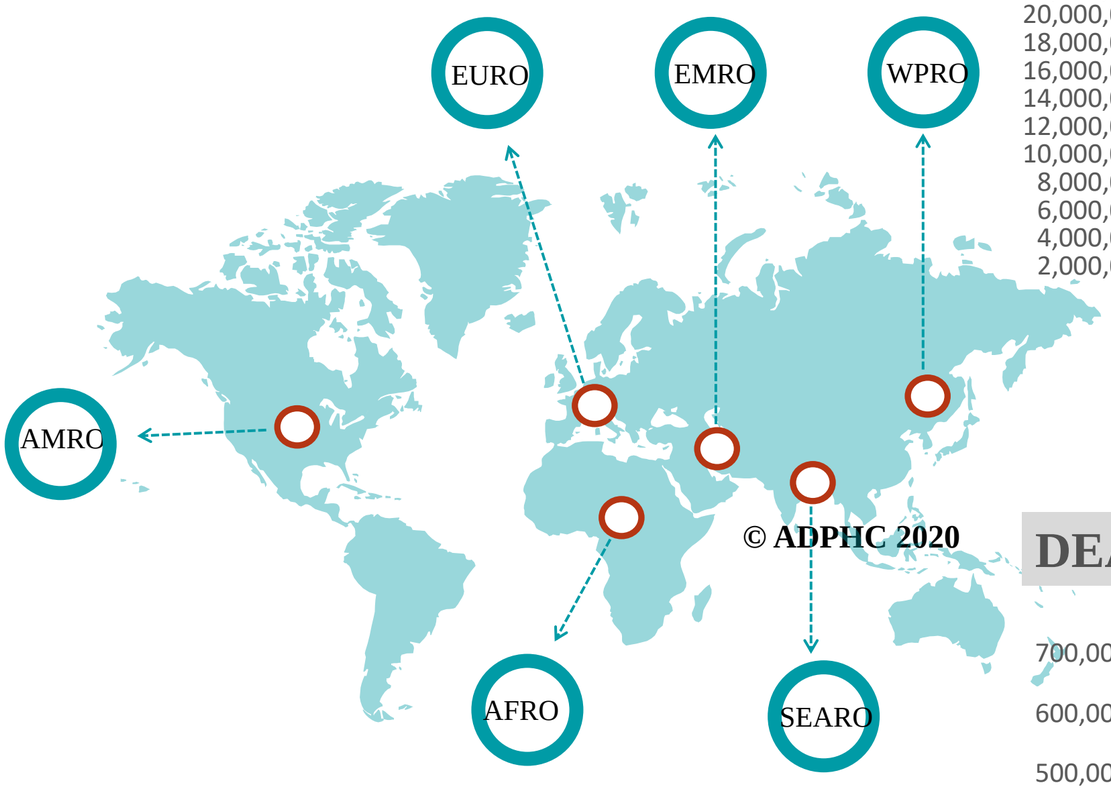
Figure 7B: Bar Chart Illustrates the Global Distribution of COVID19 Cases



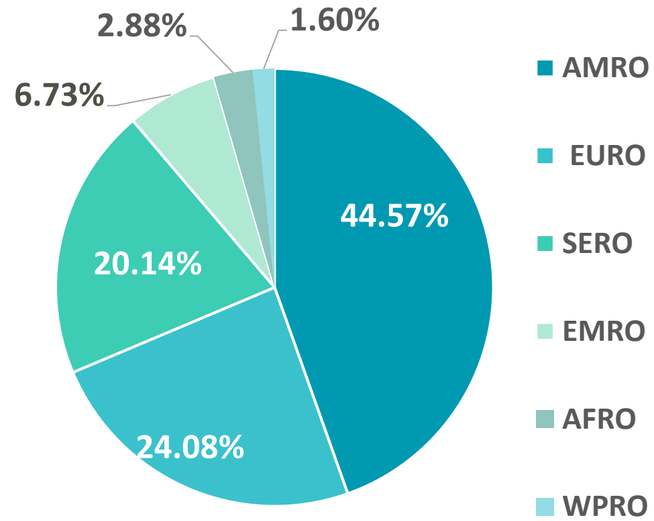
Other*:includes cases and deaths reported under the international conveyance(Diamond Princess)

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

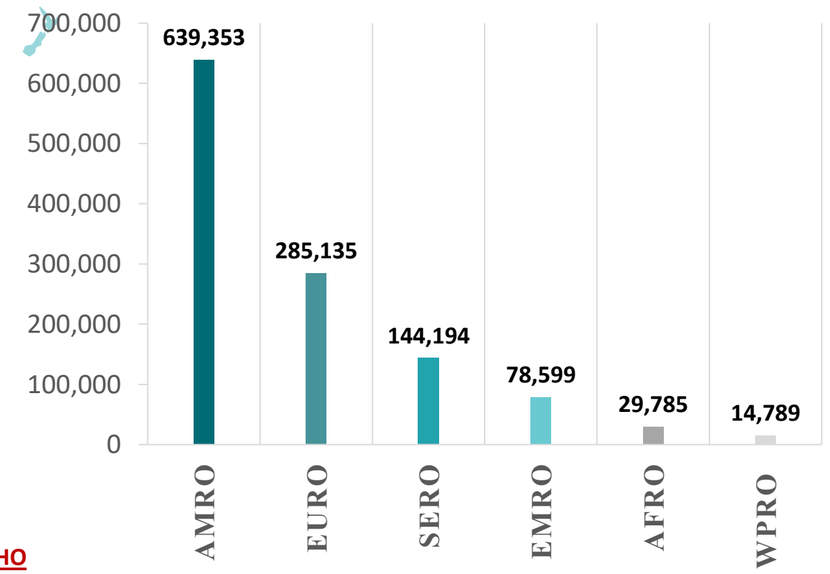
Figure 8: Global Distribution of COVID-19 Cases per Region

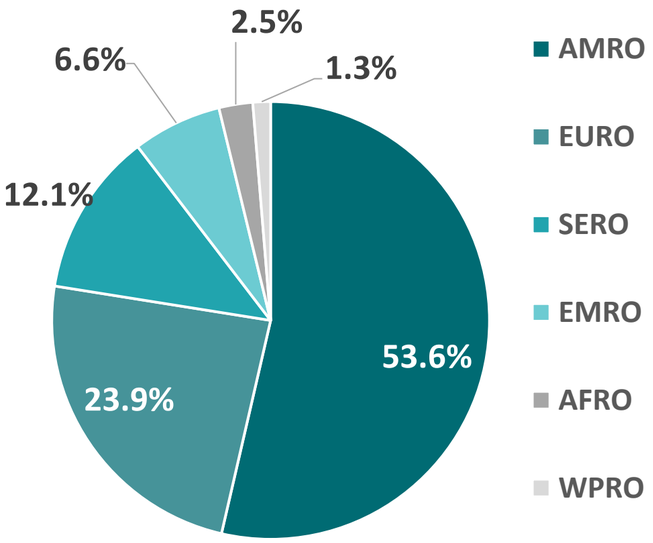


INFECTED



DEATHS





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

EPIDEMIOLOGY

Date: 1 NOV 2020

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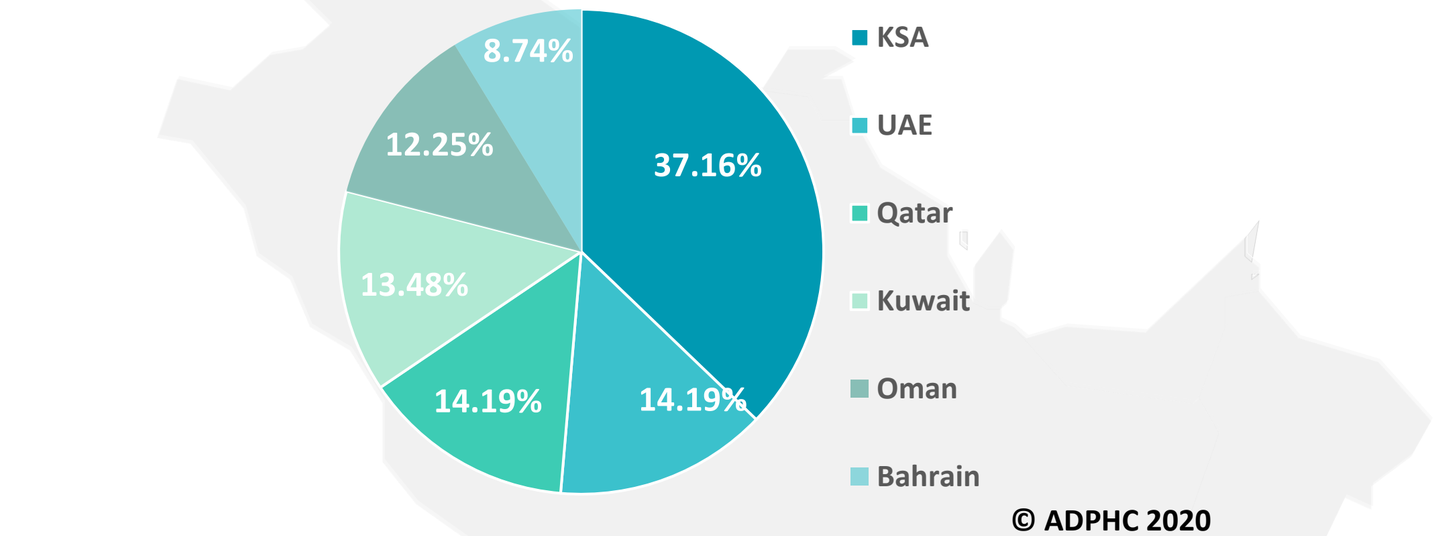
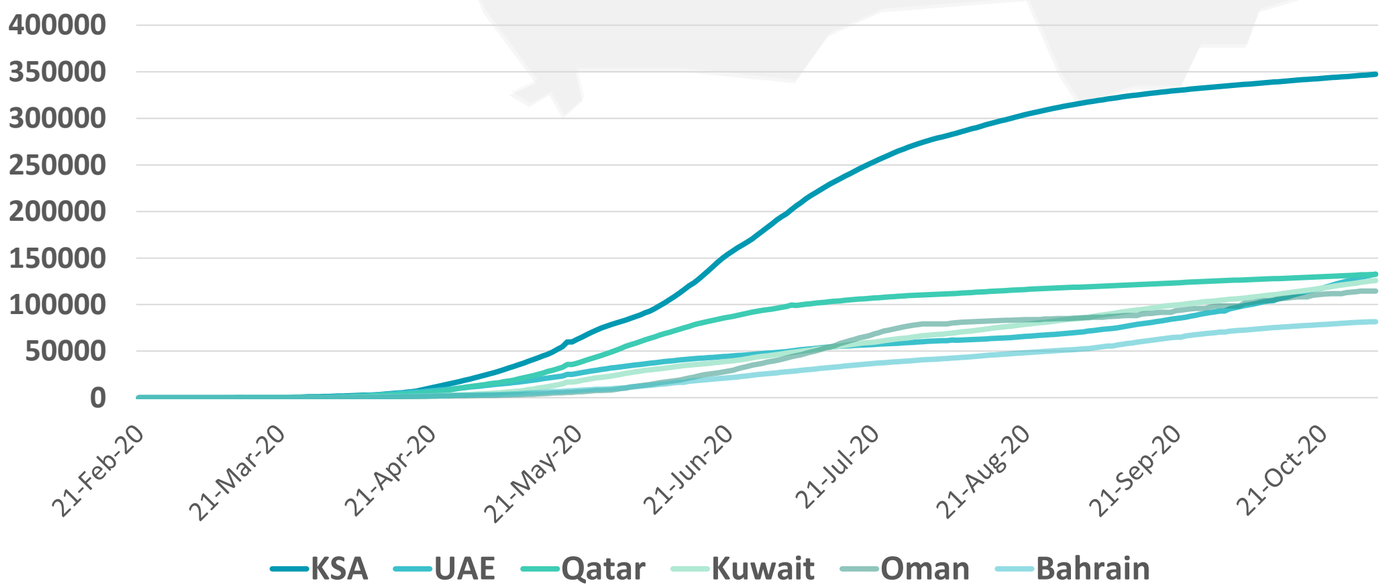
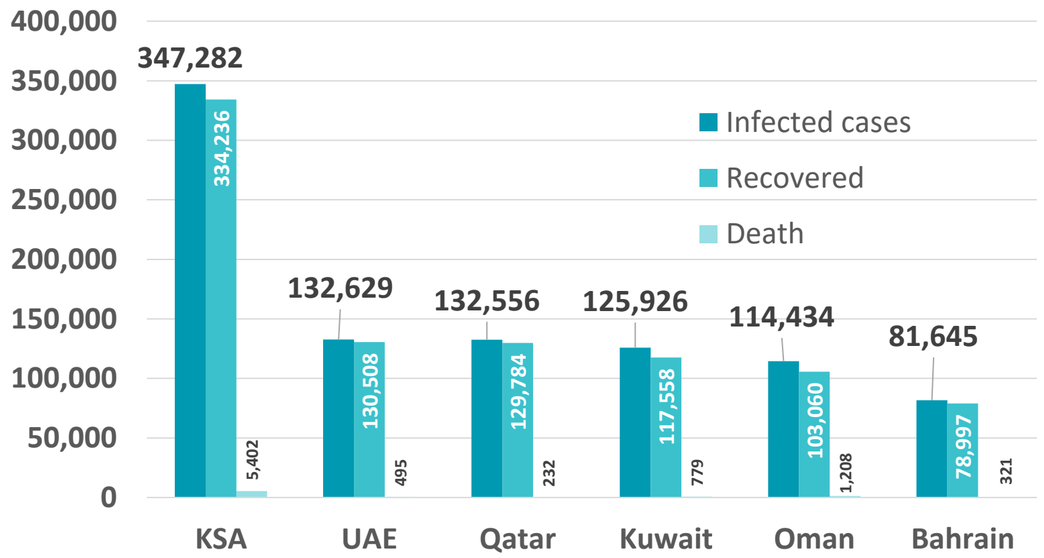
Figure 9: Comparative Analysis of the Distribution of COVID-19 Cases in GCC Countries

TOTAL NUMBER OF INFECTED CASES

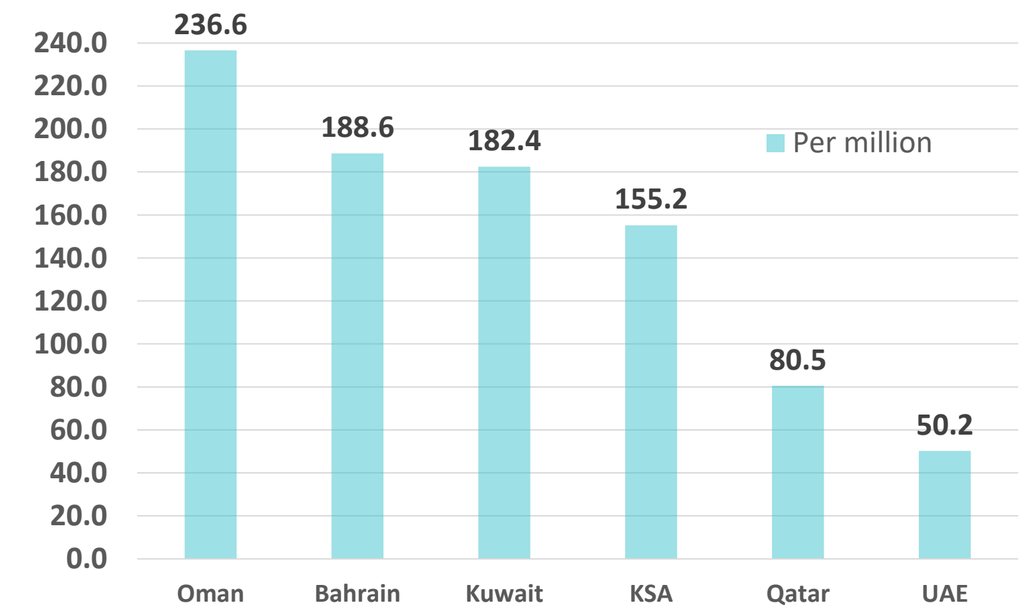




TOTAL NUMBER OF INFECTED, RECOVERED AND DEATHS



DEATHS PER MILLION



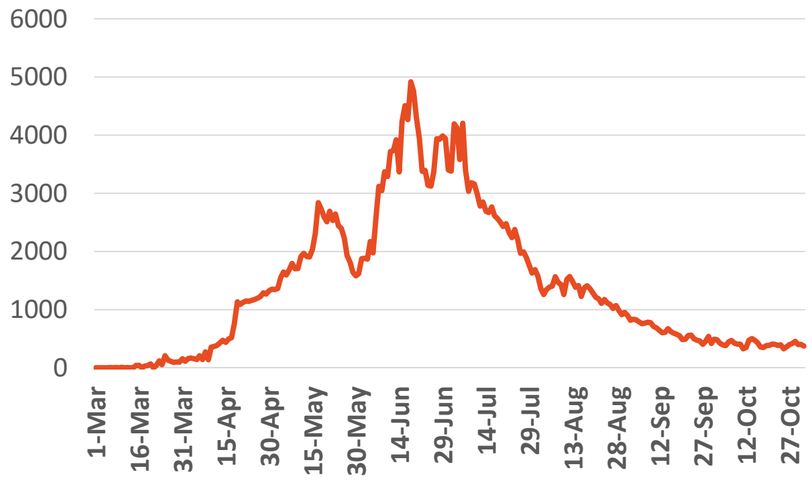
Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: John Hopkins, WHO

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

UAE

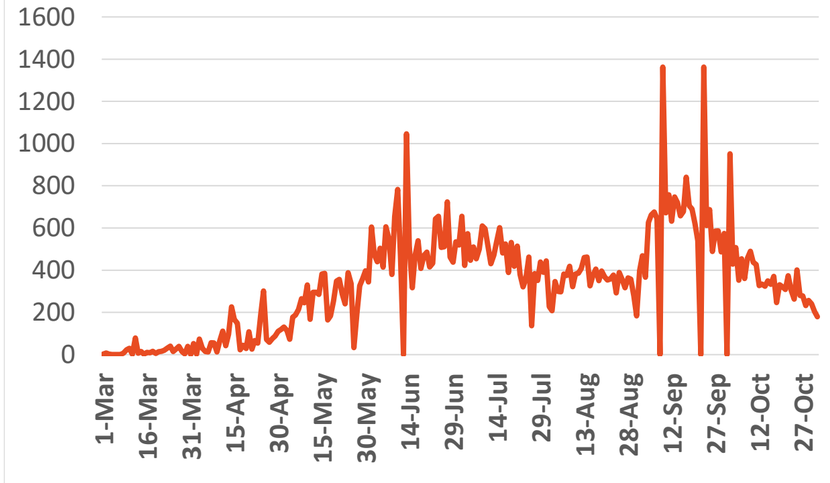
Source : National Emergency Crisis and Disaster Management Authority

KSA



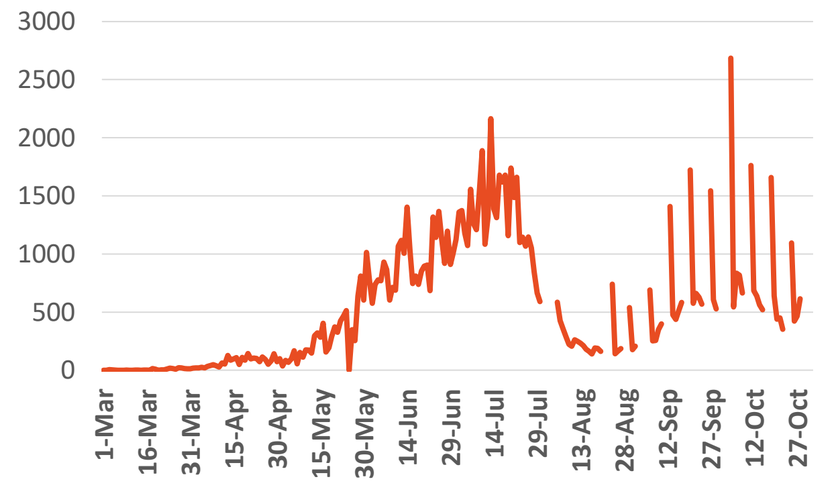
Source : KSA ministry of health

Bahrain



Source :WHO

Oman

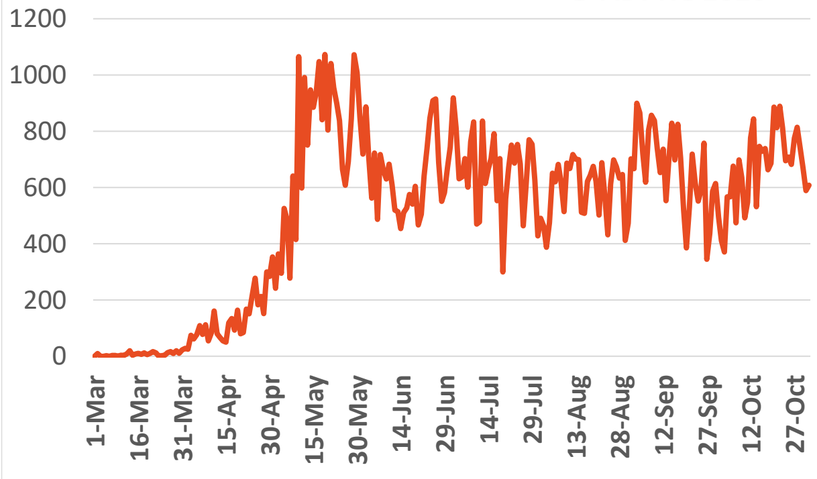


Source :Oman ministry of health

*No announced statistic data from 31 July to 4 August, 21,23,28,30 August 2, 4، 5,11,12,18,19,25 ,26,30 September,1,2,9,10,16,17,23 & 24 October

*No announced statistic data on weekends and official holidays.

Kuwait



Source : Kuwait ministry of health

Qatar

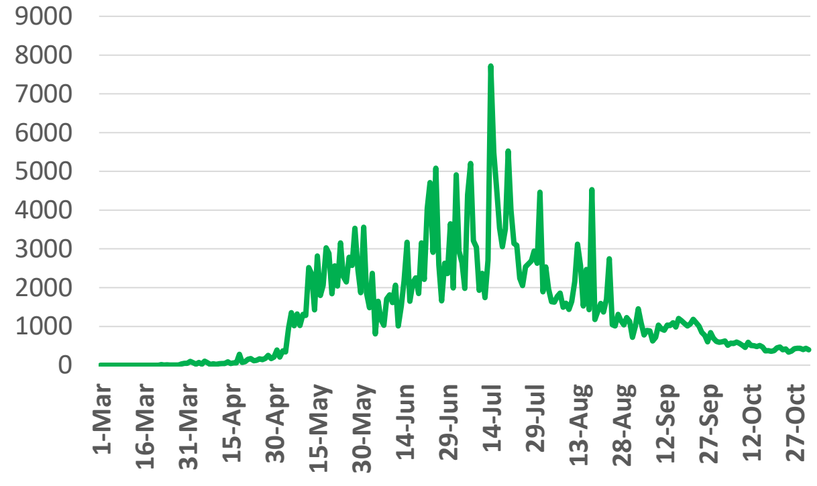
Source : Qatar ministry of health

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

UAE

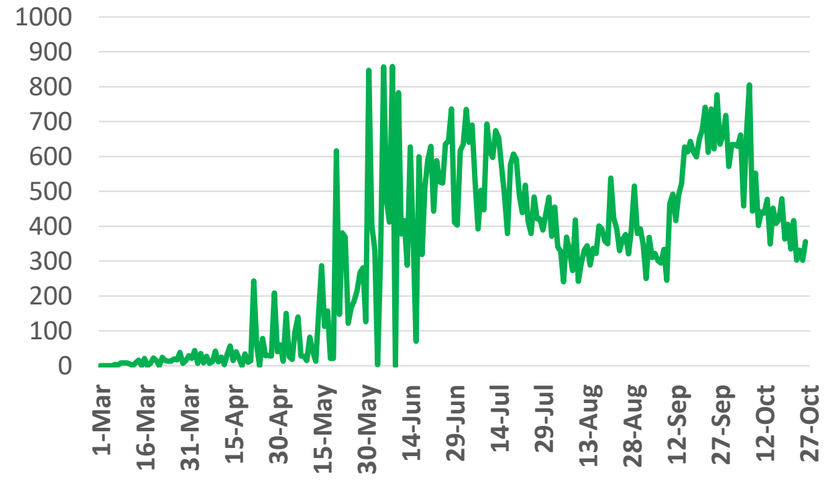
Source : National Emergency Crisis and Disaster Management Authority

KSA



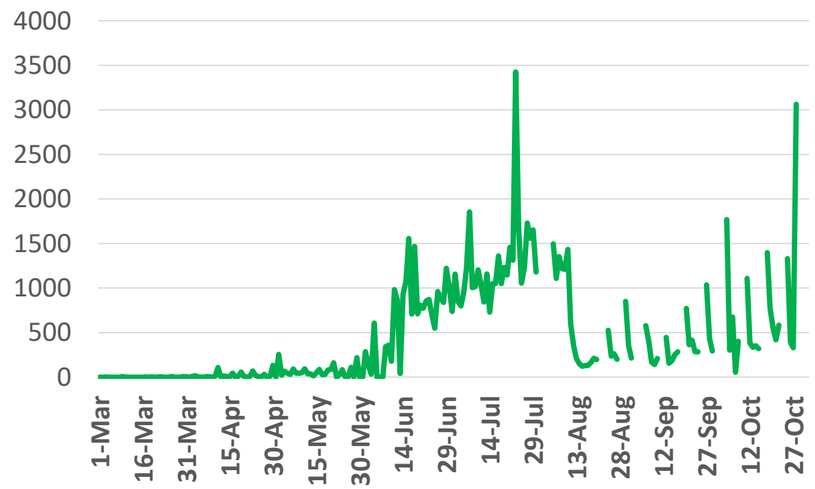
Source : KSA ministry of health

Bahrain



Source : Bahrain ministry of health

Oman



Source :Oman ministry of health

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*No announced statistic data on weekends and official holidays.

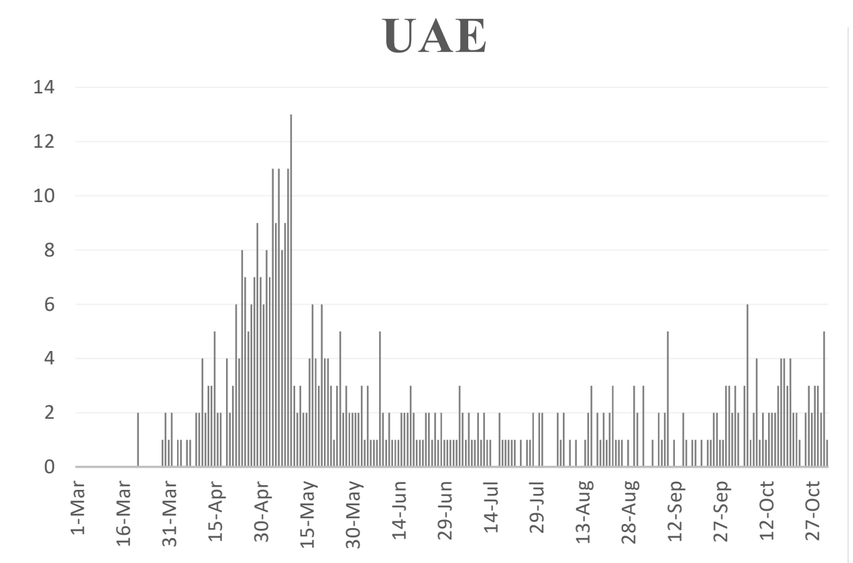
KUWAIT

Source : Kuwait ministry of health

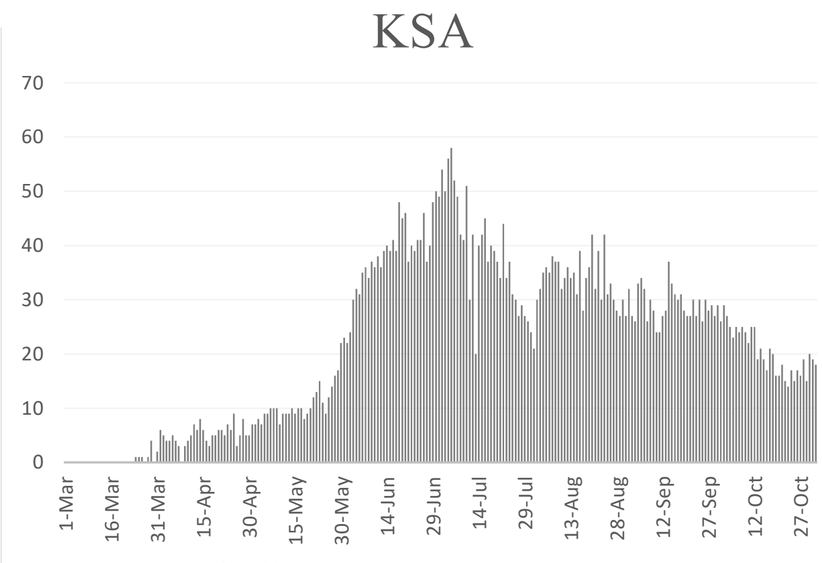
Qatar

Source : Qatar ministry of health

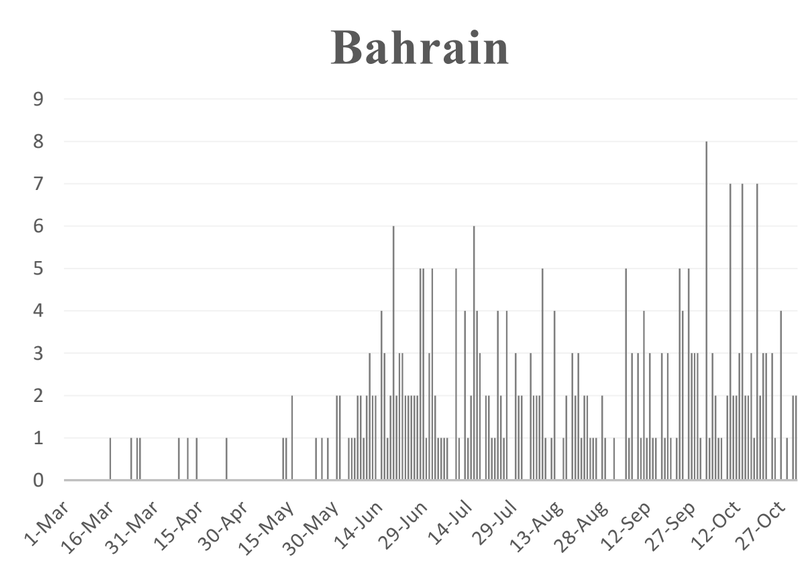
Figure 12: Comparative Analysis of the Distribution of COVID-19 New Death Cases in GCC Countries



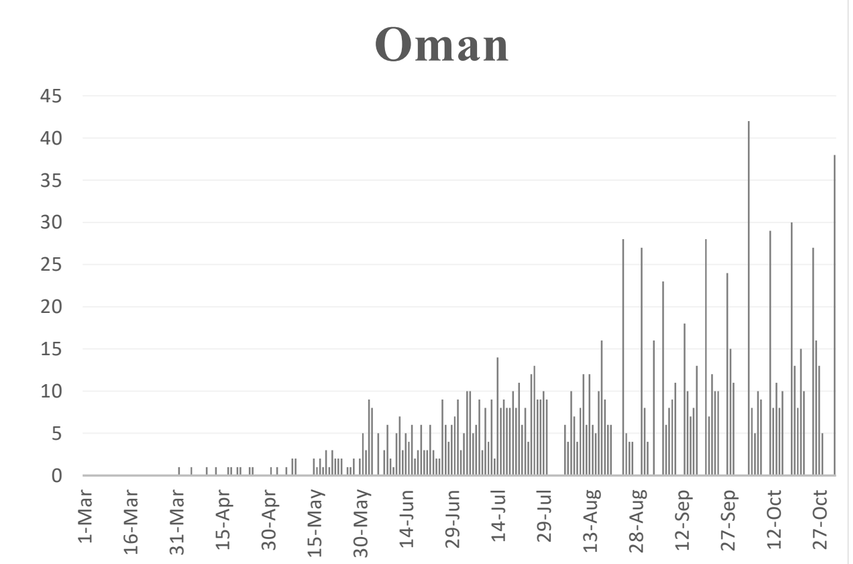
Source : National Emergency Crisis and Disaster Management Authority



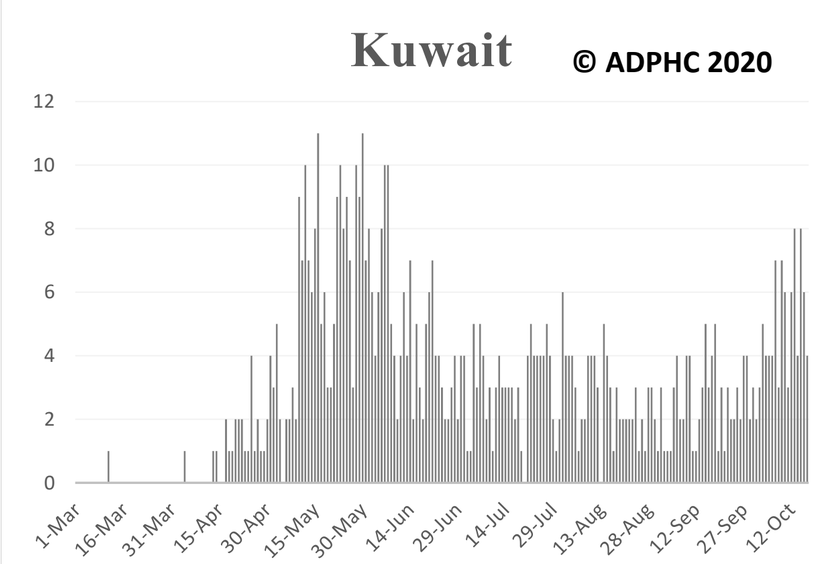
Source : KSA ministry of health



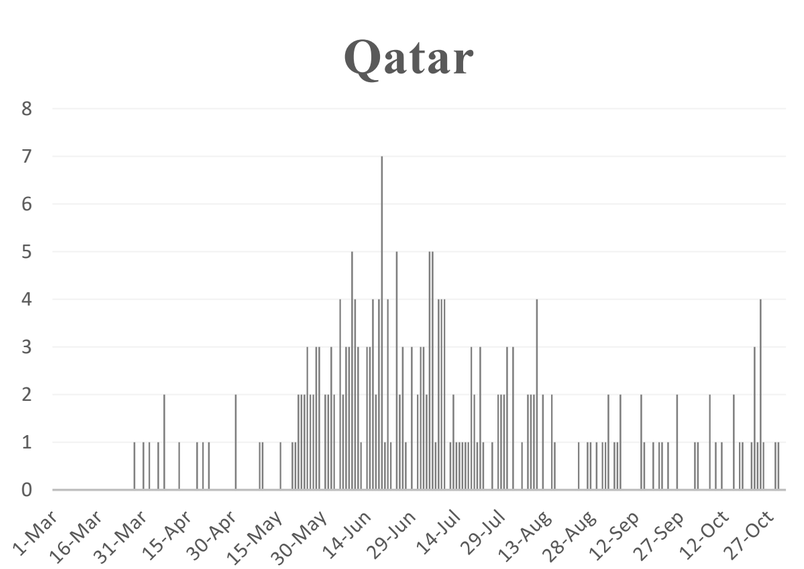
Source :WHO



Source :Oman ministry of health



Source : Kuwait ministry of health



Source : Qatar ministry of health

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*No announced statistic data on weekends and official holidays.

Article 1

SARS-CoV-2 Risk Misclassification Explains Poor COVID-19 Management

Published October 22, 2020, THE LANCET

- During COVID-19 pandemic, one of the most distinct facts is the remarkable difference in approach, attitude, control measures, case incidence, and mortality rates between eastern and western hemisphere. The differences in approach and mortality could be explained by the misclassification of the infectious agent risk.

- According to WHO biosafety manual, microorganisms can be classified into four risk levels. Group 4 agents (e.g. Ebola, Variola virus) includes new/known agents for which there is no vaccine/treatment and can be spread at the community level. Group 3 agents (e.g. Mycobacterium tuberculosis) that have available antibiotic therapy and other well-known control measures.

- When SARS-CoV-2 appeared in China, and other Asian countries, Australia, and New Zealand put in place contingency plans against an infectious agent of the highest risk. Given the uncertainty about the nature and real risk of the threat, strictest measures have been taken. Protective equipment similar to that used against Ebola was used, streets were disinfected with chlorine, patients diagnosed with COVID-19 were separated from other patients and mandatory individual quarantine. However, in the western approach (risk classification of group 2 or 3), COVID-19 was initially considered a new type of influenza that required general treatment without any mandatory quarantine or isolation.

Article 2 Influenza Control During the COVID-19 Pandemic

Published October 22, 2020, THE LANCET

- In Northern hemisphere, as influenza season begins, a simultaneous rise in cases of COVID-19 (with hospital admission and a higher risk of mortality) and influenza make the upcoming influenza season a public health disaster.

- Early research findings are consistent with the hypothesis that Non-pharmaceutical Interventions (NPIs) put in place to control the spread of COVID-19 could have reduced influenza and prevented winter epidemics. If this were the case, it would not be consistent with the existing dogma that specific NPIs prominent in the management of COVID-19 would have limited efficacy for influenza control, due to the characteristics and transmission dynamics of influenza virus and experience in previous influenza pandemics.

- In Europe, as restrictions are restored to control increasing COVID-19 cases, southern hemisphere experience suggests that consideration should be given if these NPIs could affect other infections specifically influenza and how this off-target effect on viruses other than SARS-CoV-2 could protect health system capacity. As evidence on costs and benefits of NPIs in the COVID-19 pandemic accumulates, their contribution to the management of future influenza pandemics can be cautiously considered.

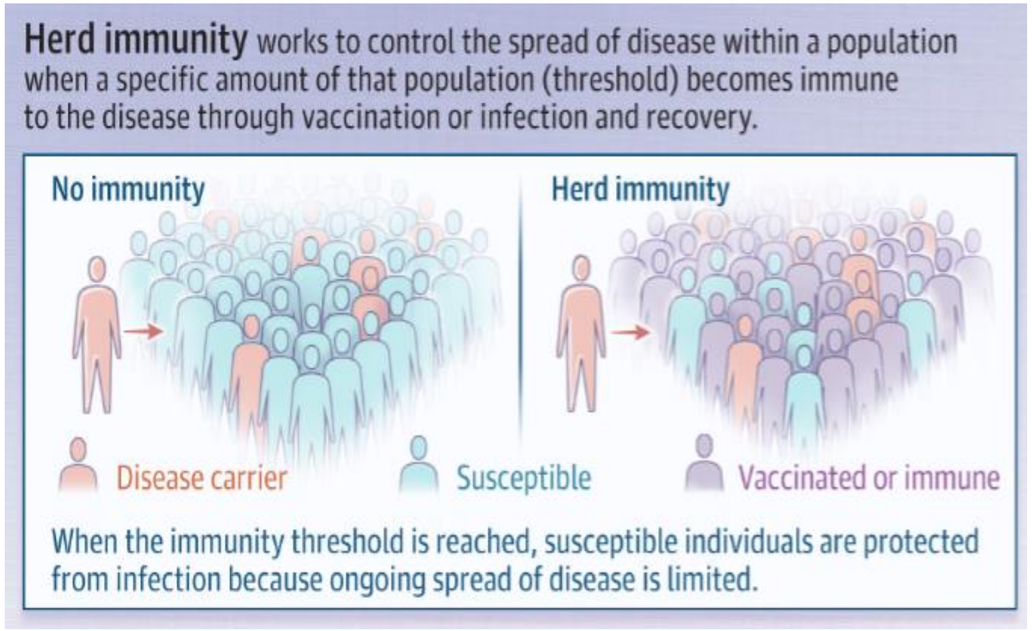
Article 3

What Is Herd Immunity?

Published October 19, 2020 JAMA

Herd Immunity

- Occurs when a significant portion of a population becomes immune to an infectious disease
- The risk of spread from person to person decreases;
- Those who are not immune are indirectly protected because ongoing disease spread is very small.
- The proportion of a population who must be immune to achieve herd immunity varies by disease, e.g. measles requires 95% of the population to be immune to achieve herd immunity.



How Is Herd Immunity Achieved?

- Herd immunity may be achieved through Infection and recovery or through vaccination
- Herd immunity also protects those who are unable to be vaccinated e.g. newborns and immunocompromised people.
  - Herd immunity reduces the risk of getting a disease but does not prevent it for nonimmune people.
- Communities with lower vaccine coverage may have outbreaks because the vaccinated population is below the herd immunity threshold.
- The protection offered by vaccines may wane over time, requiring repeat vaccination.

Herd Immunity and COVID-19

- There is no effective vaccine against coronavirus disease 2019 (COVID-19) yet.
- It is not yet known if having this disease confers immunity to future infection, and if so, for how long.
- To prevent disease transmission, keep distance between yourself and others, wash your hands often with soap and water or sanitizer that contains at least 60% alcohol, and wear a face-covering in public spaces.

THANK YOU

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