مركز أبوظبي
للصحة العامة
ABU DHABI PUBLIC
HEALTH CENTRE

SCIENTIFIC RESEARCH MONITORING ON COVID-19

31 JULY 2020

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SCIENTIFIC RESEARCH MONITORING ON COVID-19 (ISSUE 180)

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

Review on Vaccine Trials

EPIDEMIOLOGY

FROM 21 JAN TO 30 JUL 2020

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

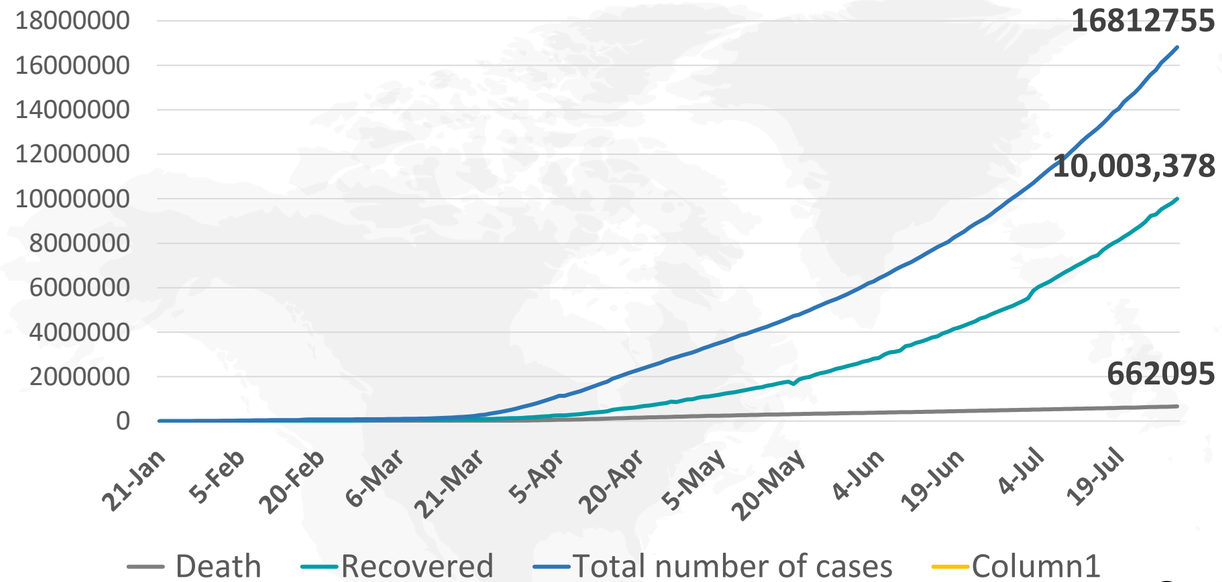


Figure 3: Total Number of Death Due to COVID-19 (China and result of the world)

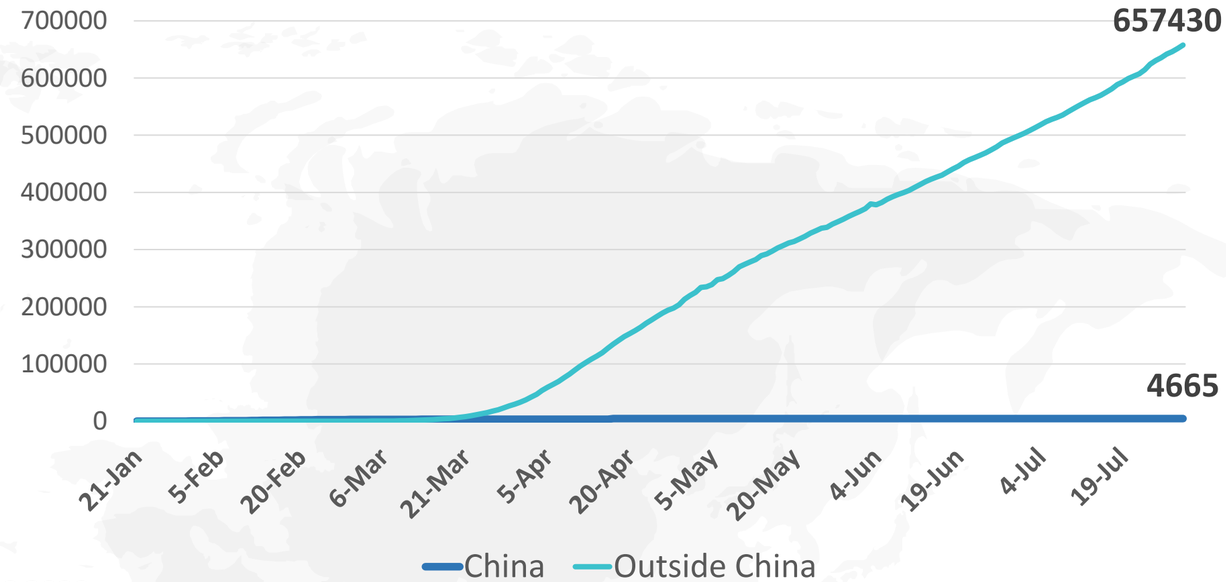


Figure 2: Daily New Infected COVID-19 Cases (China and rest of the world)

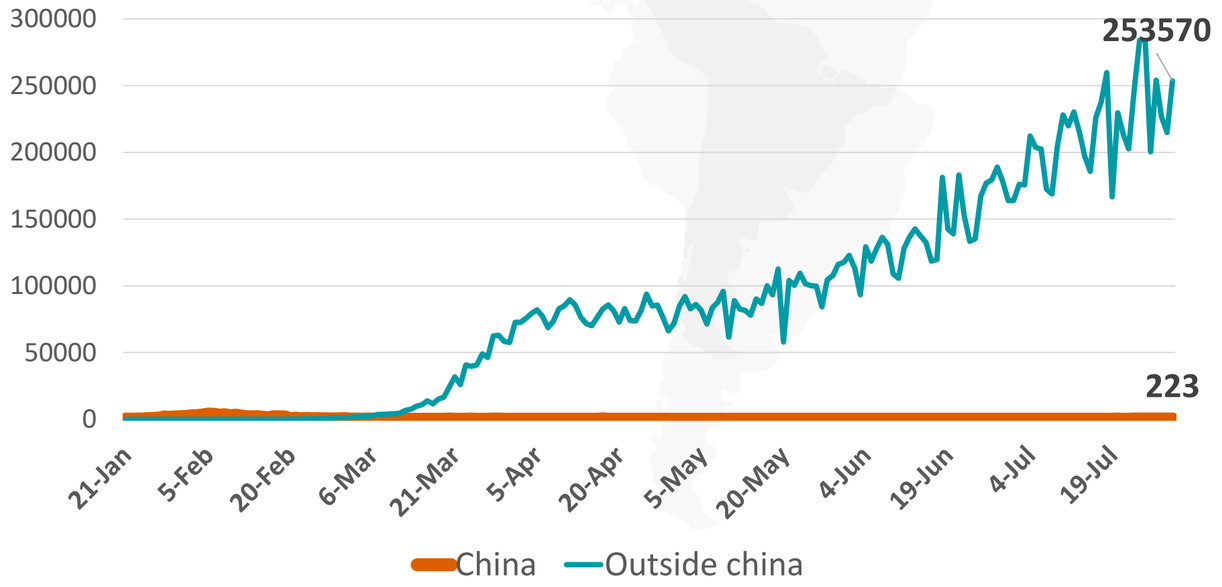
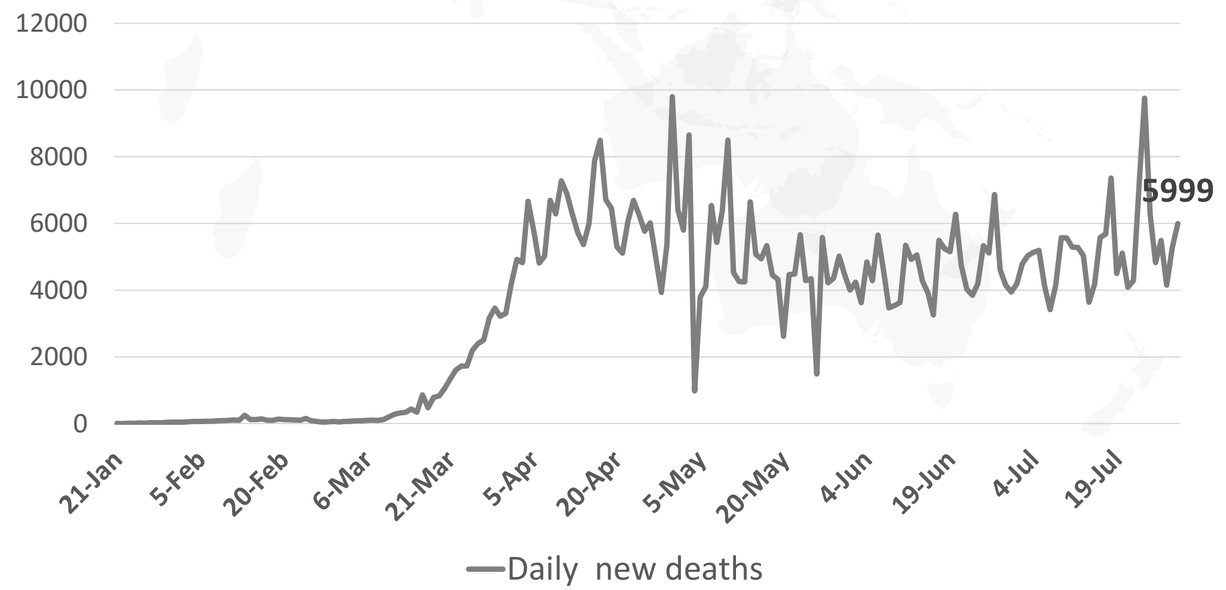


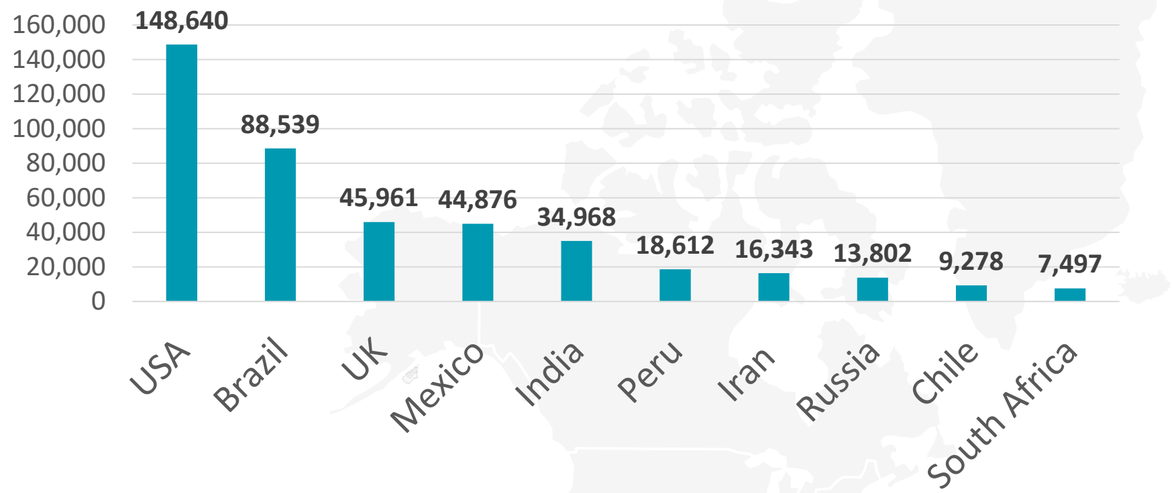
Figure 4: Global Daily New Deaths Due to COVID-19 (China and rest of the world)



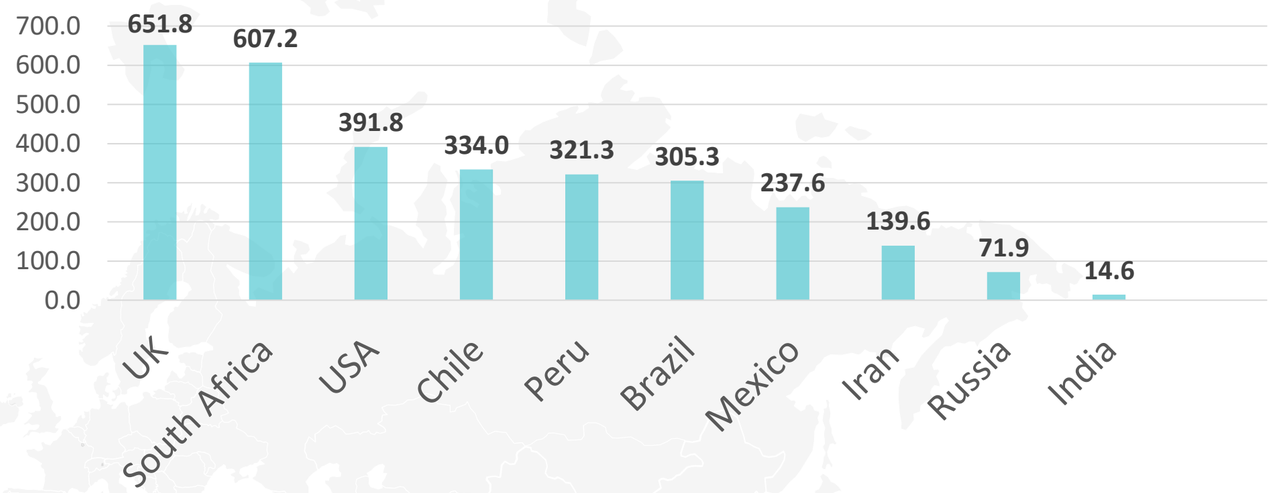
Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: WHO

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

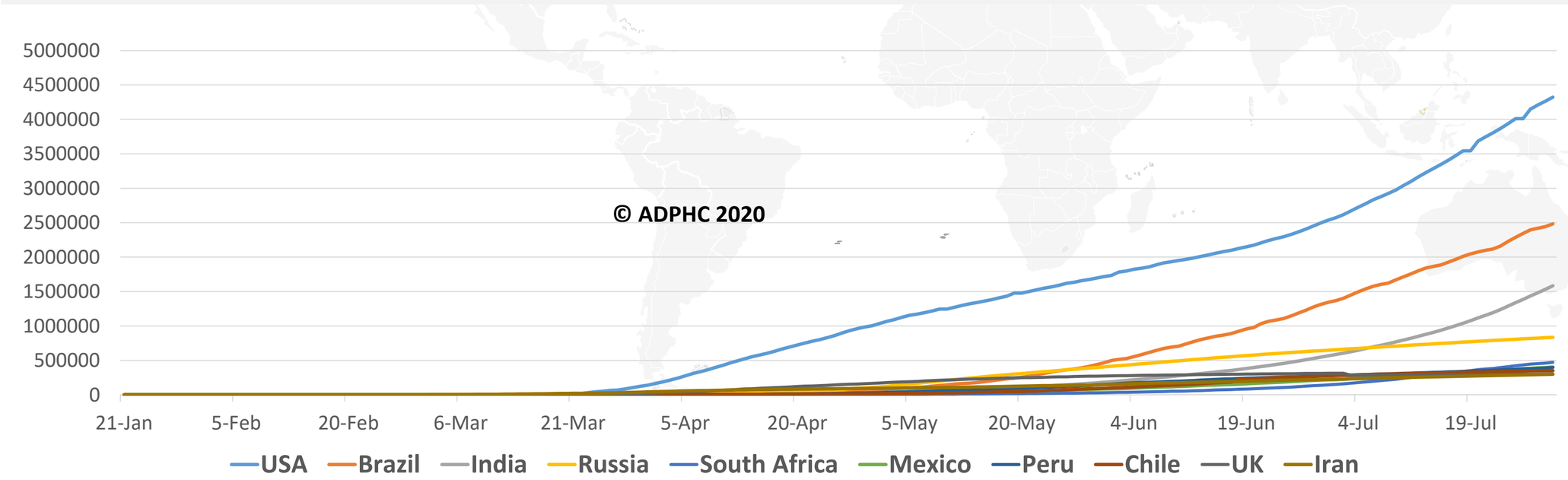
TOTAL DEATHS



DEATHS PER MILLION



TOTAL INFECTED CASES



USA	4,323,160
Brazil	2,483,191
India	1,583,792
Russi	834,499
South Africa	471,123
Peru	402,697
Mexico	395,005
Chile	351,575
UK	301,459
Iran	298,909

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

EPIDEMIOLOGY

FROM 21 JAN TO 30 JUL 2020

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

Daily Tests

50,376.7 Average Tests

509.3 per 100k population

0.6% Positive Rate

Daily Cases

325.1 Average Cases

3.3 per 100k population

Daily Recovered

402.1 Average Recovered

4.1 per 100k population

Daily Deaths

1.1 Average Deaths

0.0 per 100k population

0.4% Case Fatality Rate

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

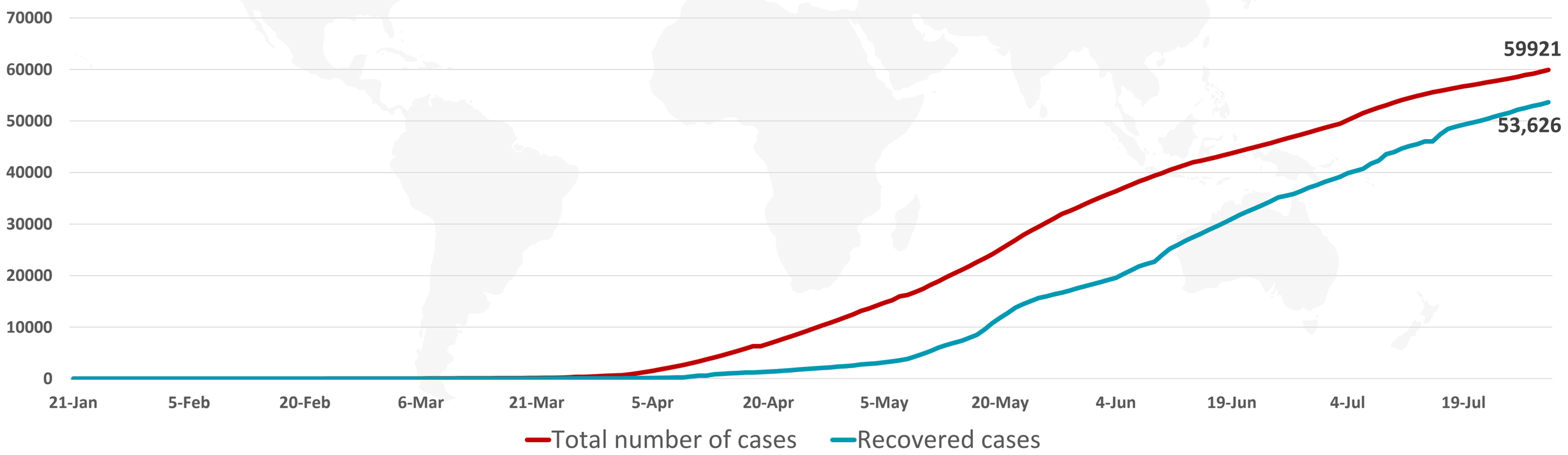

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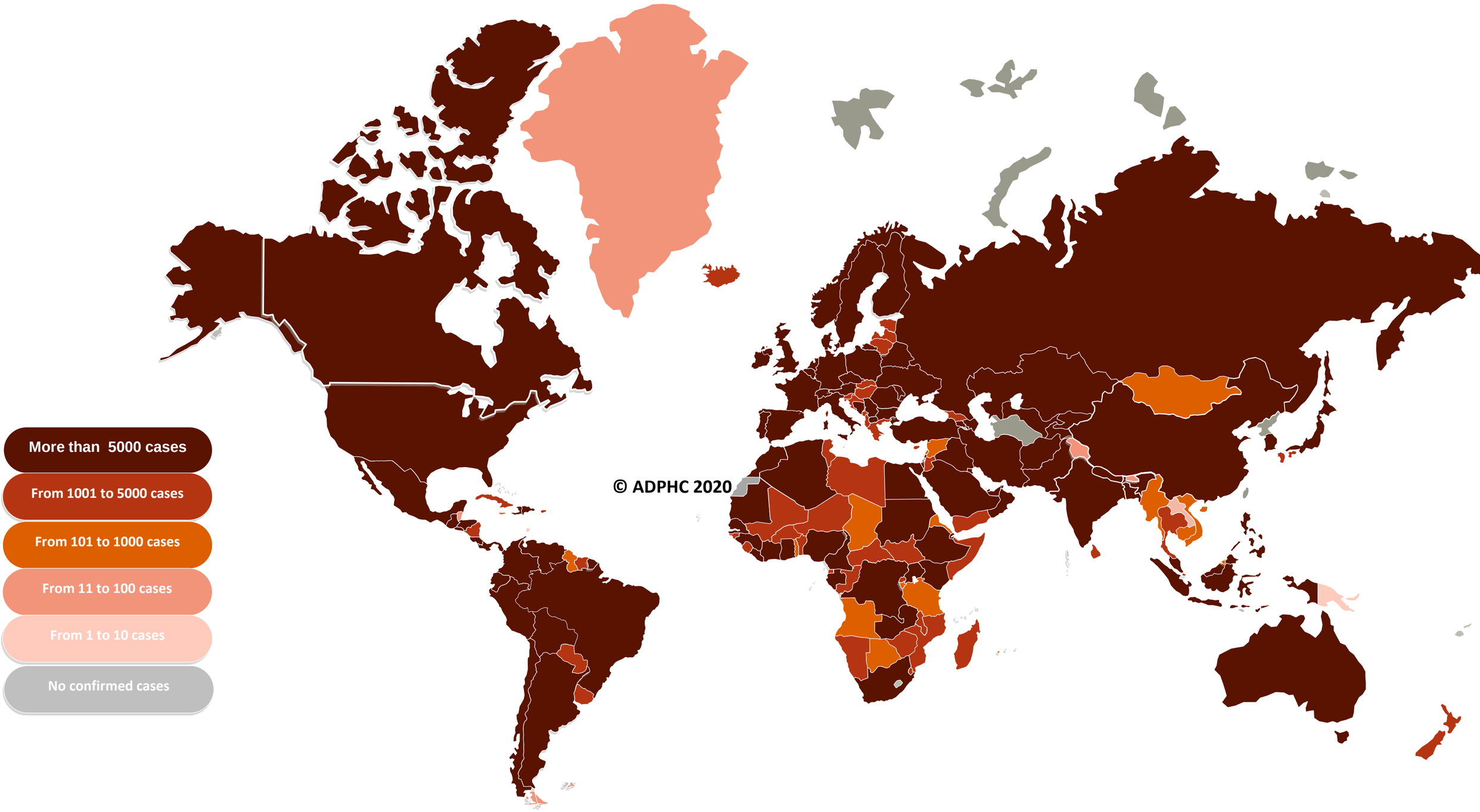
Figure 7A : Global Distribution of COVID-19 Cases



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

EPIDEMIOLOGY

Date: 30 JUL 2020

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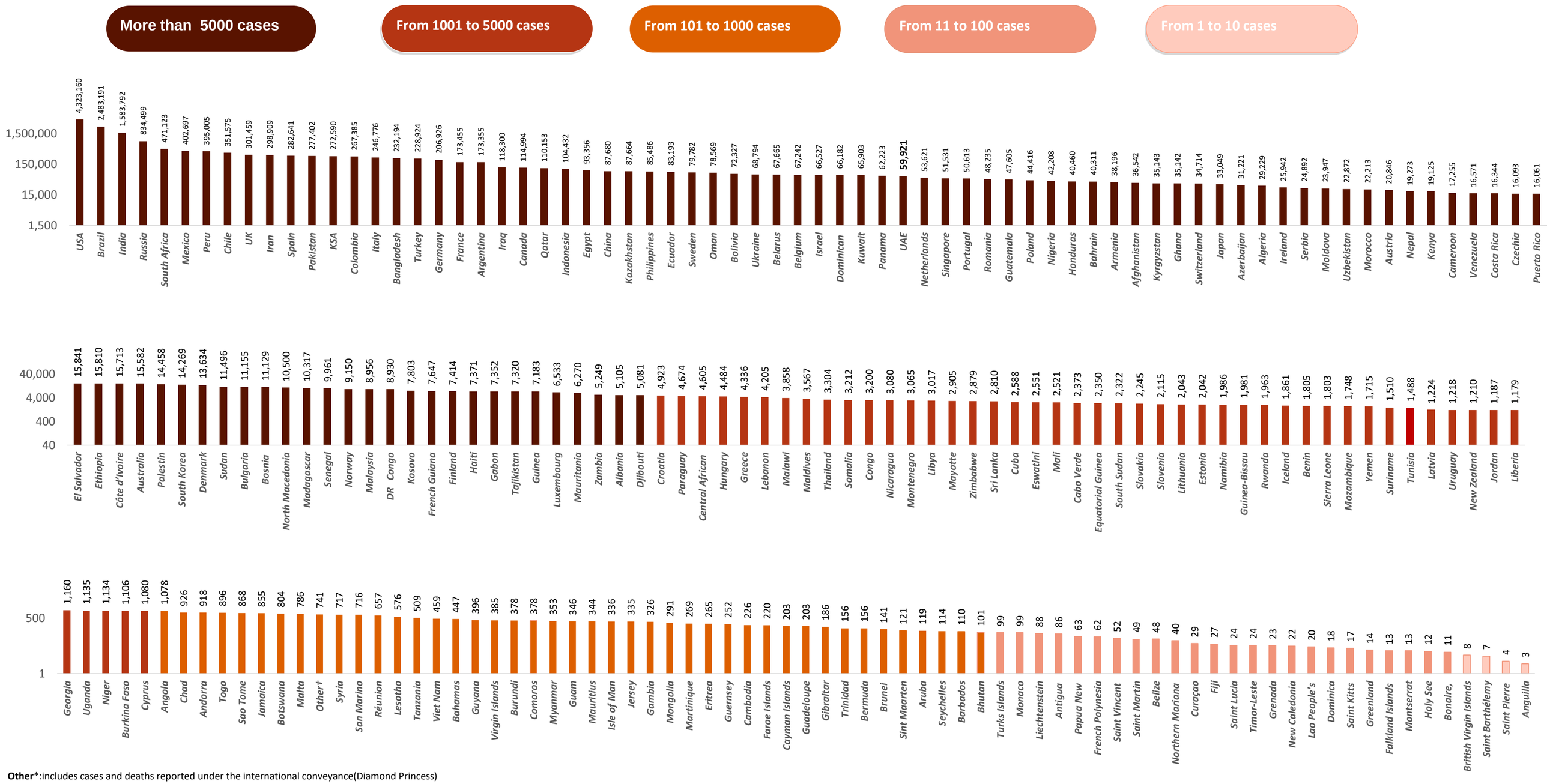
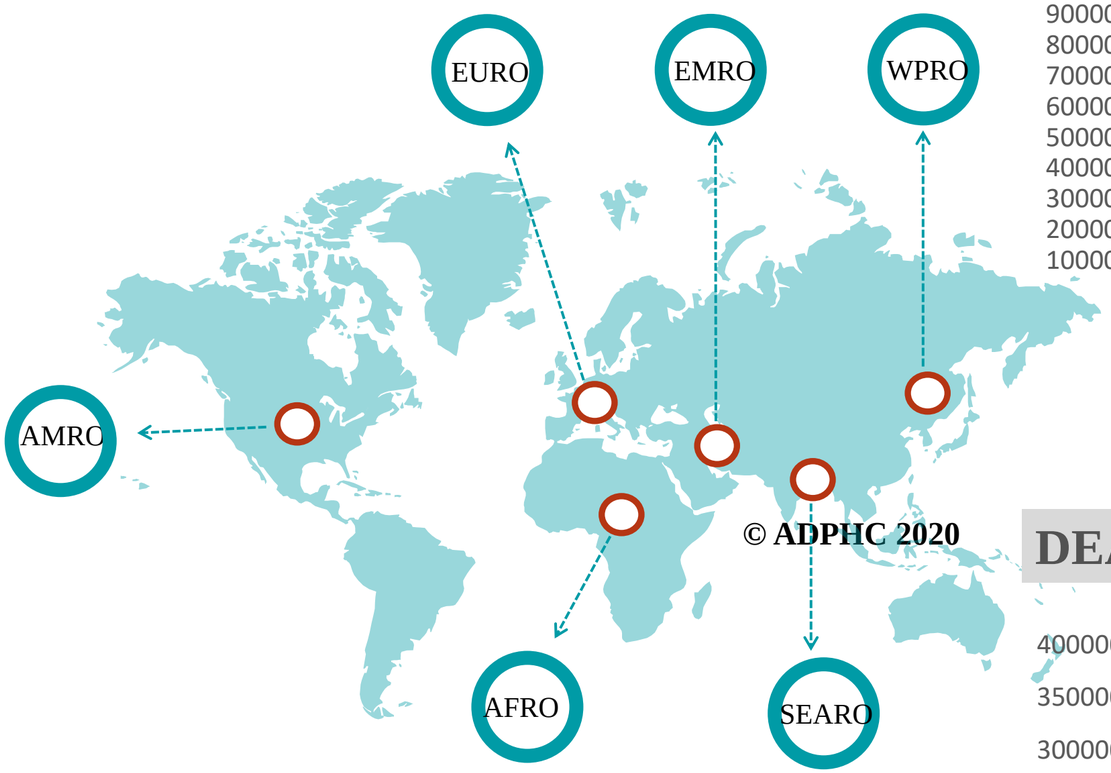
Figure 7B: Bar Chart Illustrates the Global Distribution of COVID19 Cases



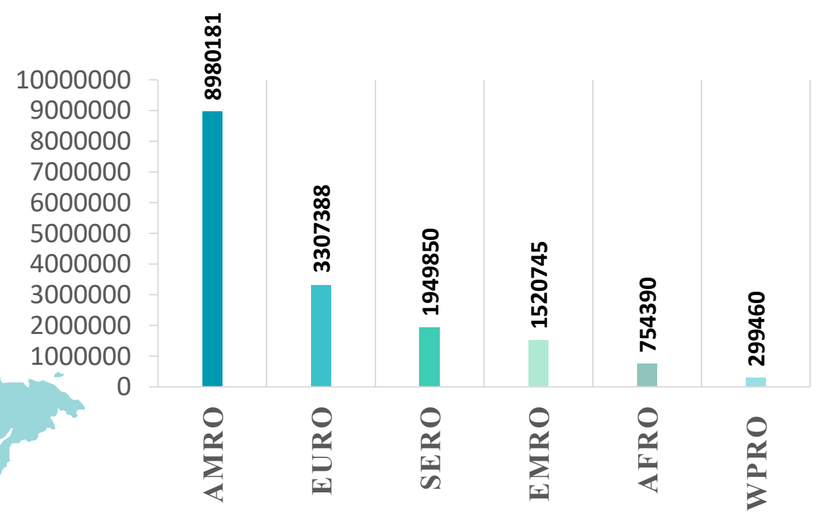
Other*:includes cases and deaths reported under the international conveyance(Diamond Princess)

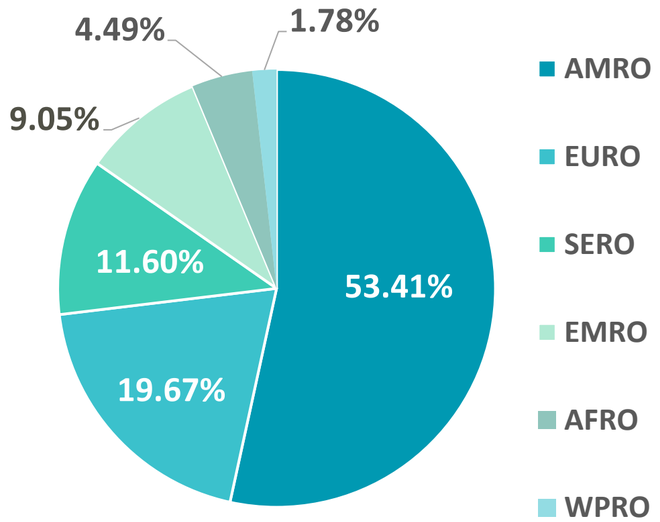
Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: WHO

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

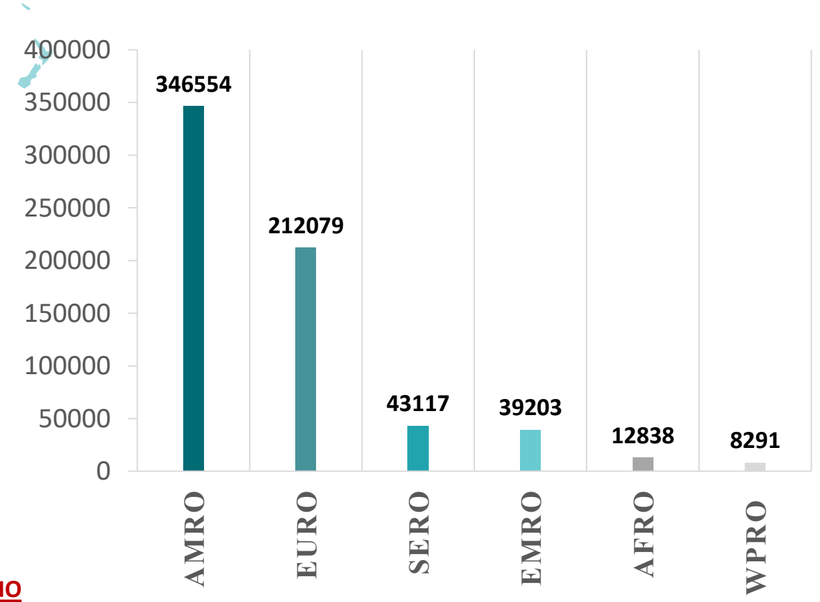


INFECTED





DEATH



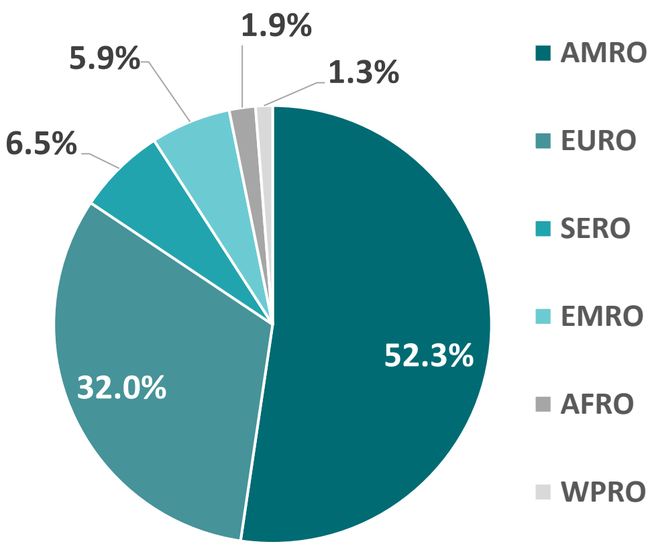


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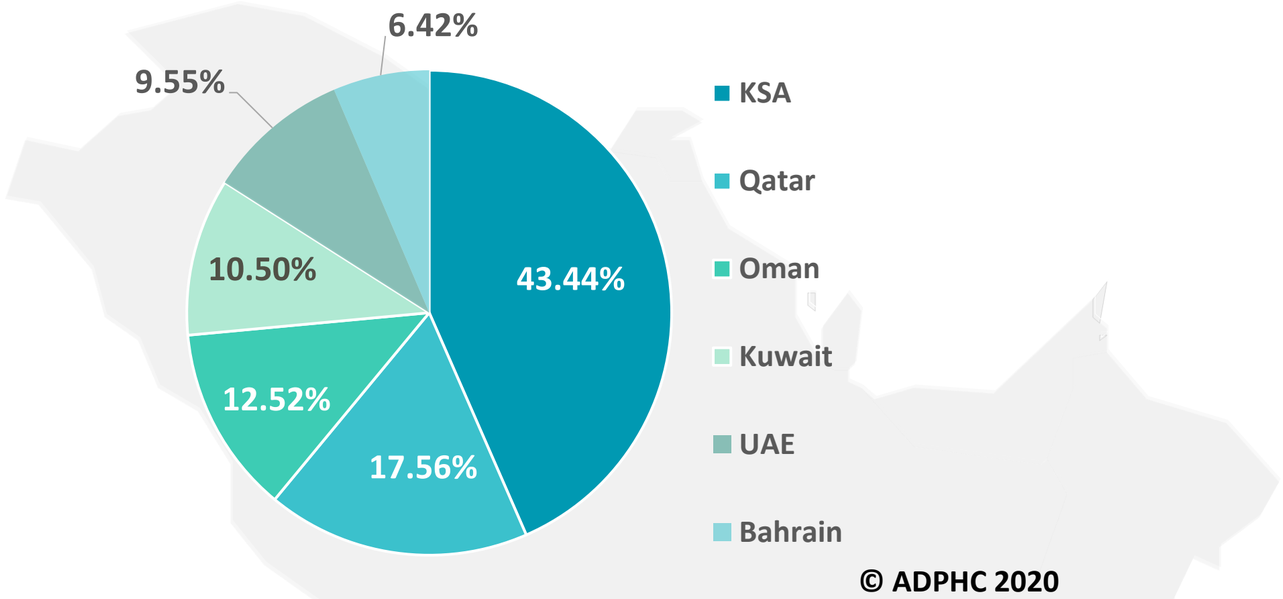
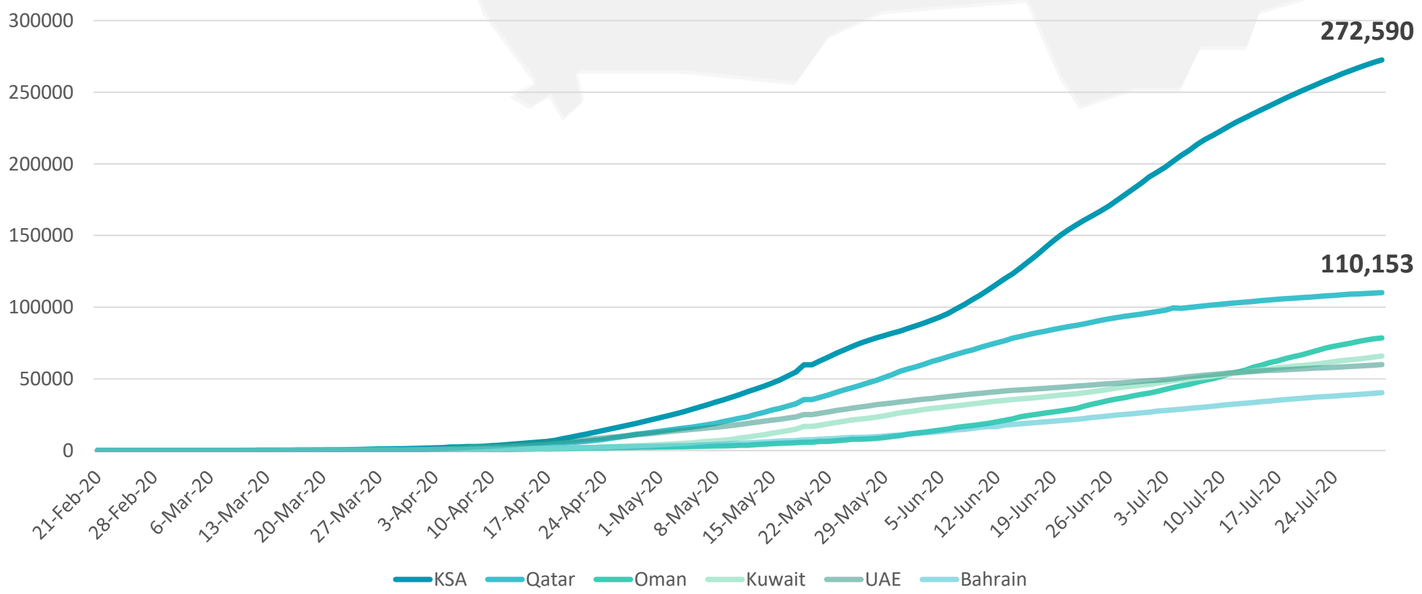
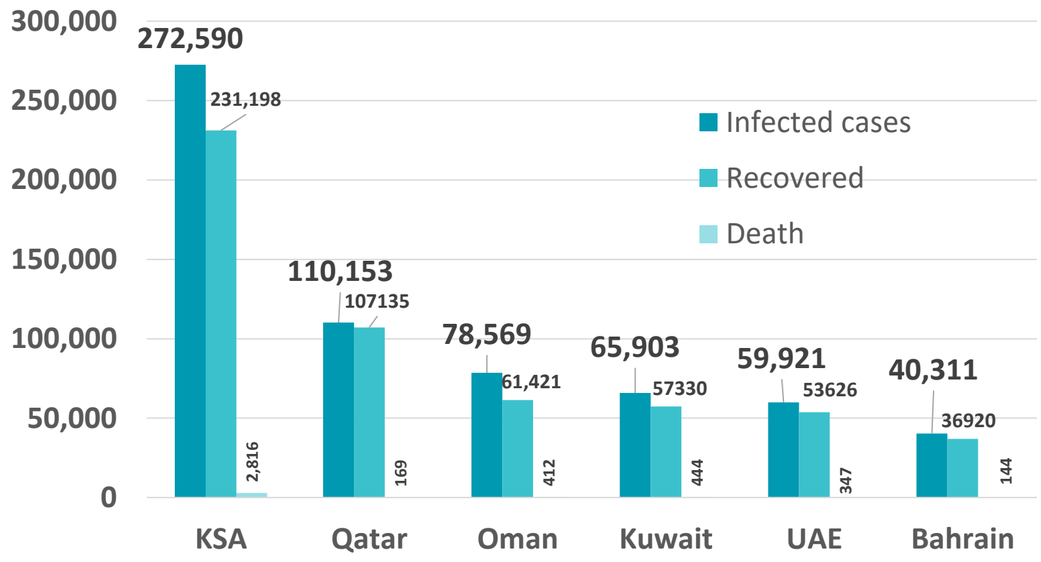
Figure 9: Comparative Analysis of the Distribution of COVID-19 Cases in GCC Countries

TOTAL NUMBER OF INFECTED CASES

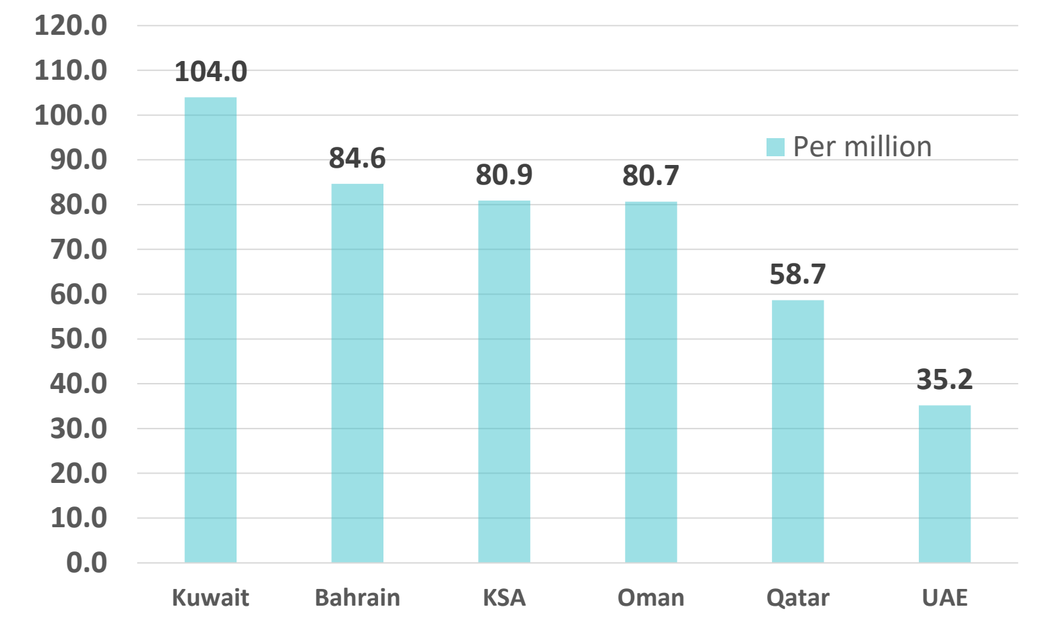




TOTAL NUMBER OF INFECTED, RECOVERED AND DEATHS

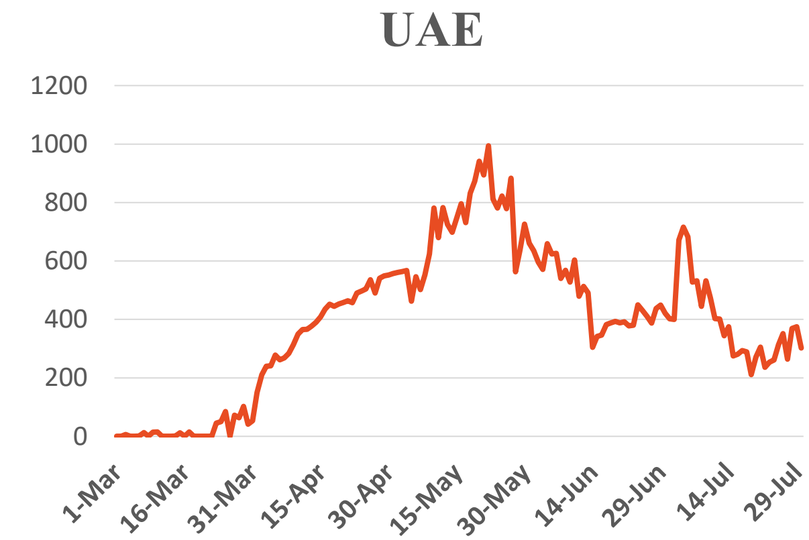


DEATH PER MILLION

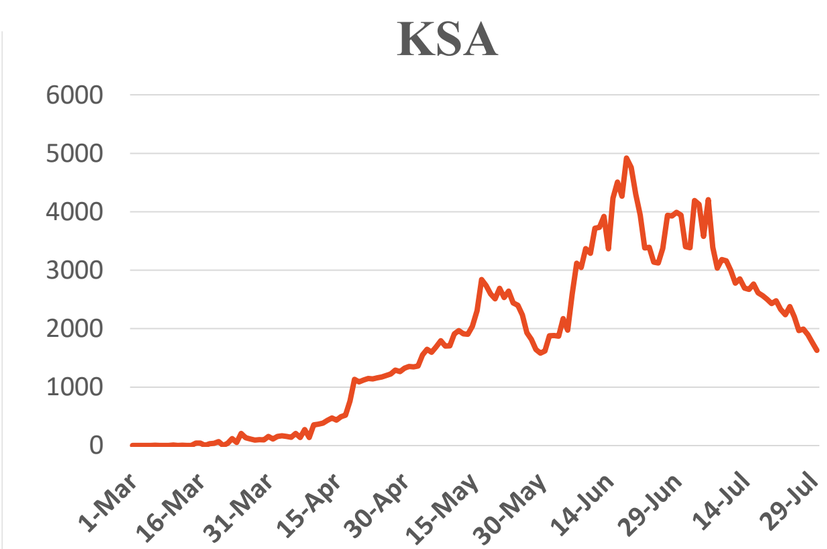


Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: WHO

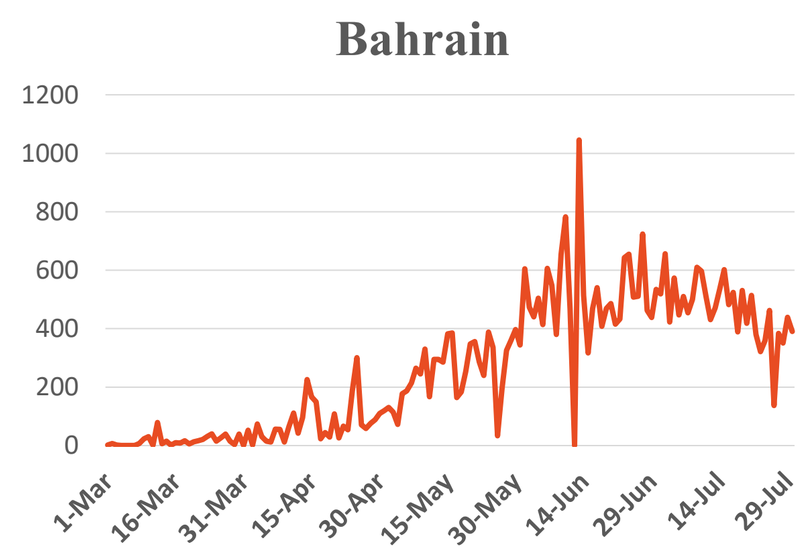
Figure 10: Comparative Analysis of the Distribution of COVID-19 New Cases in GCC Countries



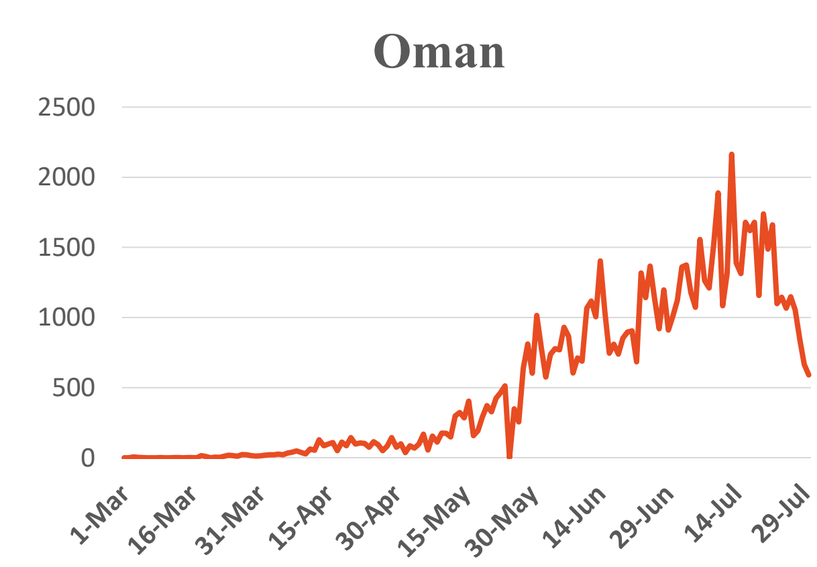
Source : National Emergency Crisis and Disaster Management Authority



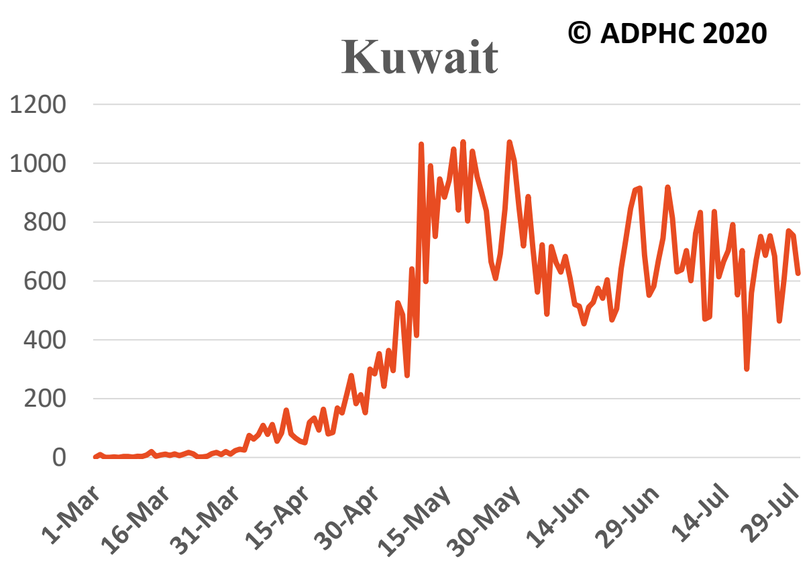
Source : KSA ministry of health



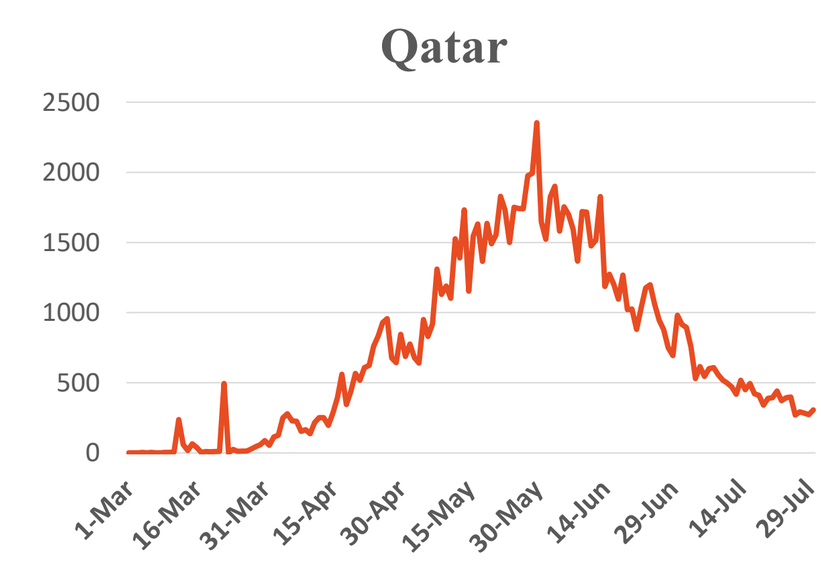
Source :WHO



Source :Oman ministry of health

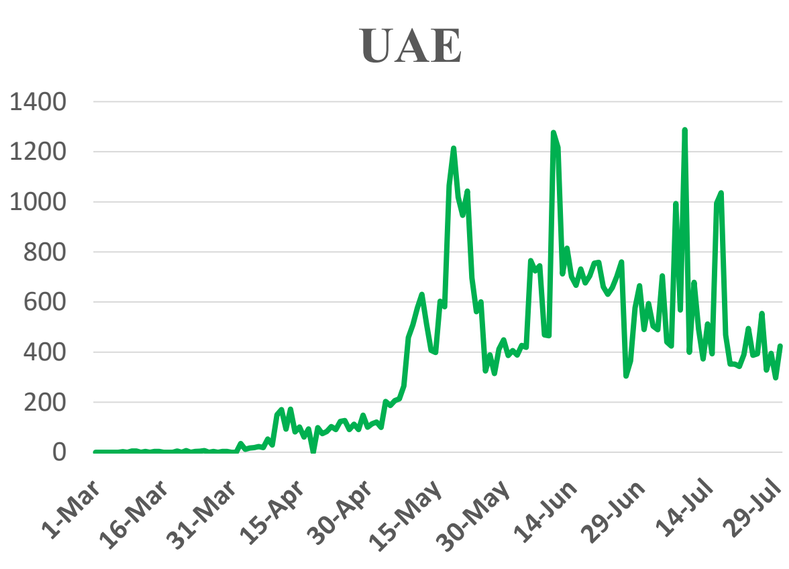


Source : Kuwait ministry of health

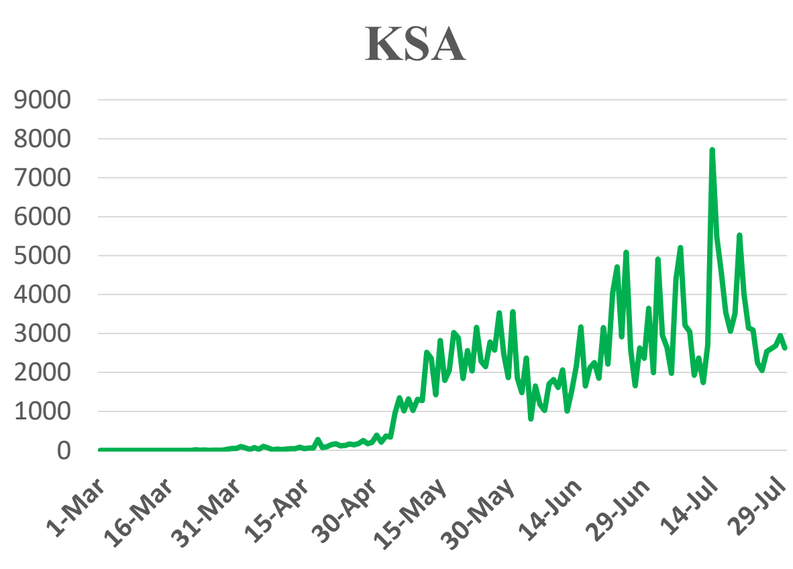


Source : Qatar ministry of health

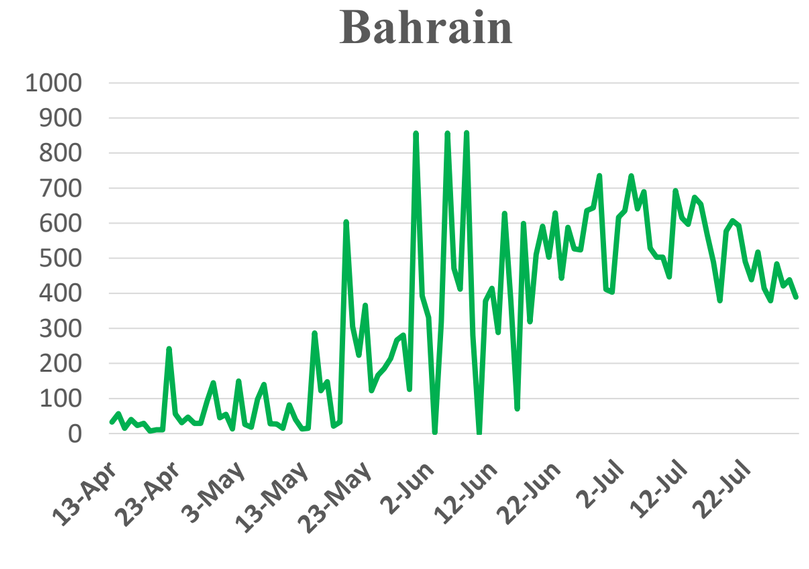
Figure 11: Comparative Analysis of the Distribution of COVID-19 Newly Recovered Cases in GCC Countries



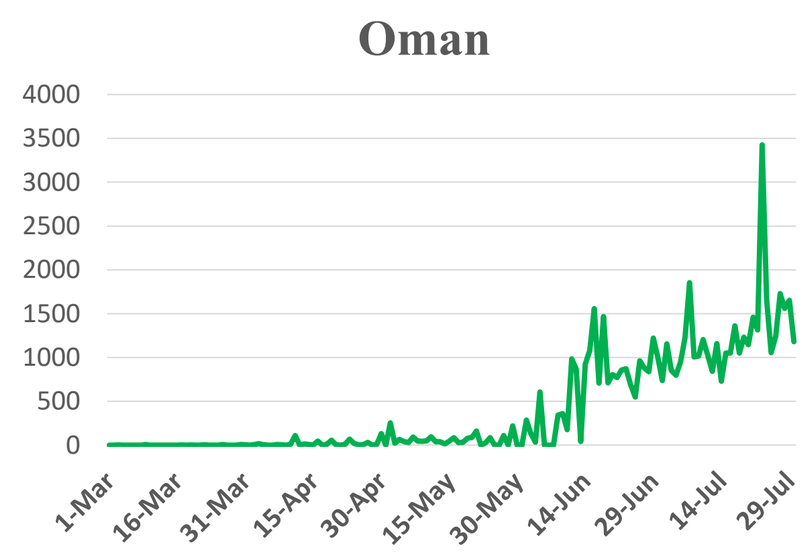
Source : National Emergency Crisis and Disaster Management Authority



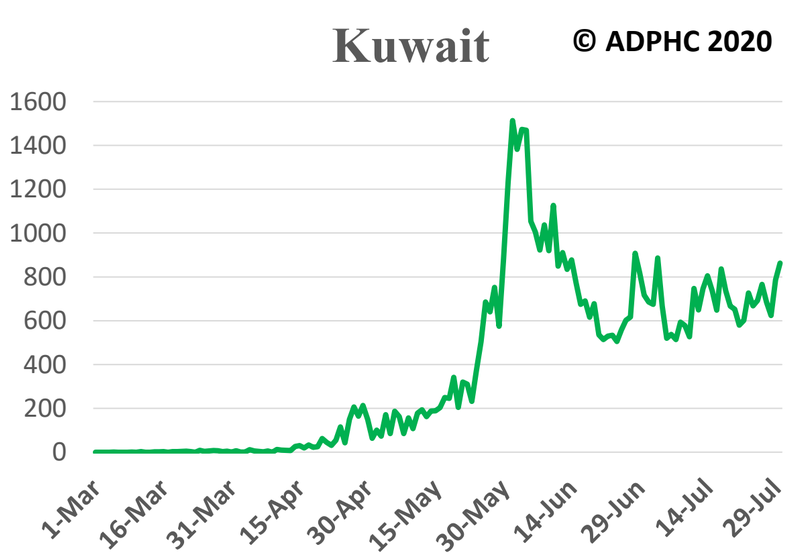
Source : KSA ministry of health



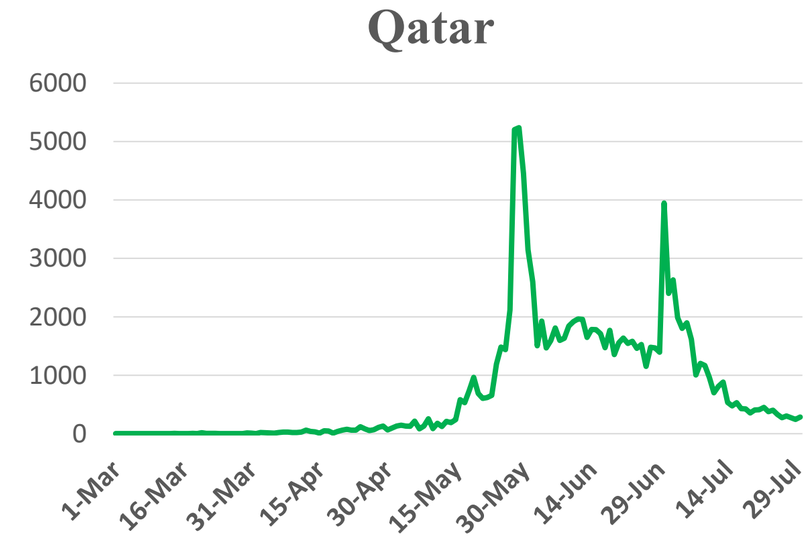
Source : GCCStat



Source :Oman ministry of health



Source : Kuwait ministry of health



Source : Qatar ministry of health

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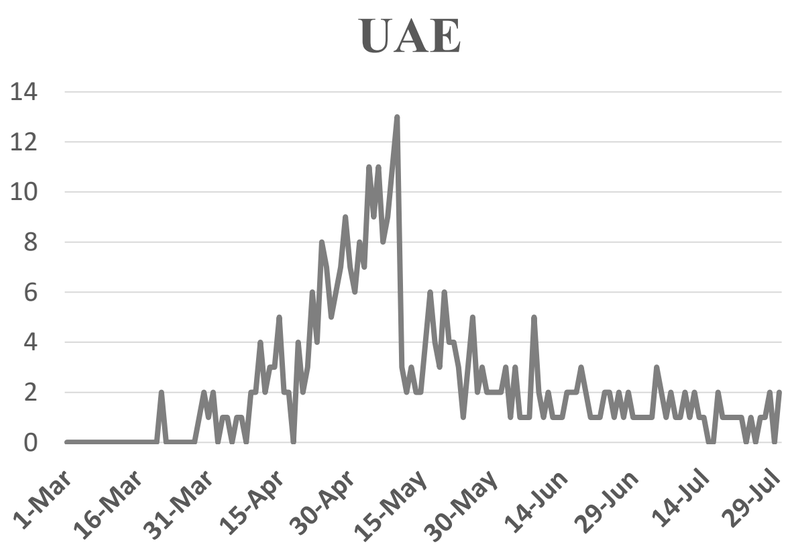
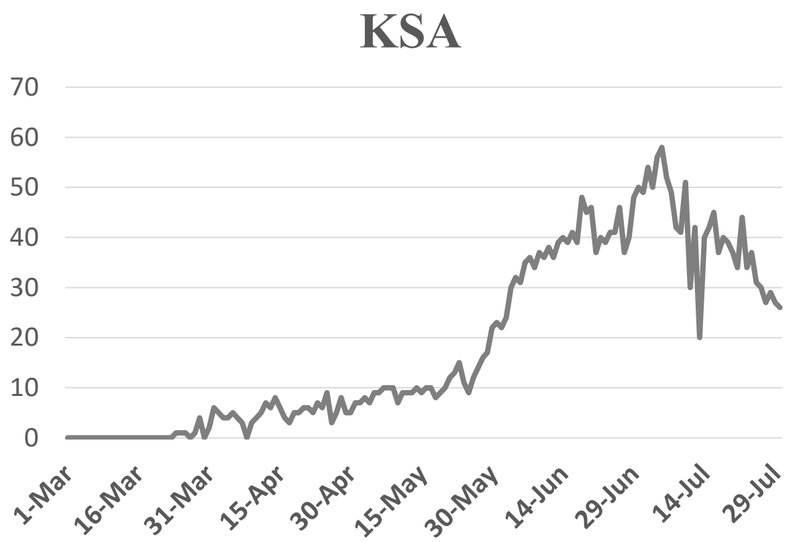
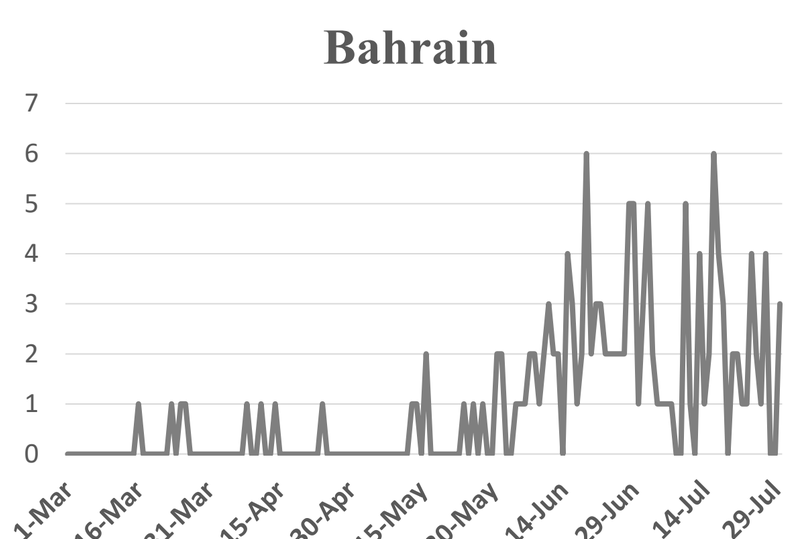
Figure 12: Comparative Analysis of the Distribution of COVID-19 New Death Cases in GCC Countries



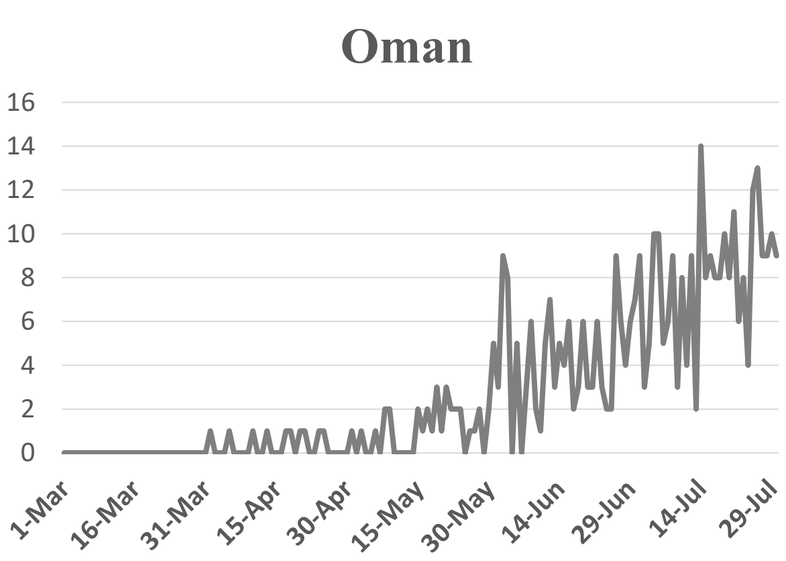
Source : National Emergency Crisis and Disaster Management Authority



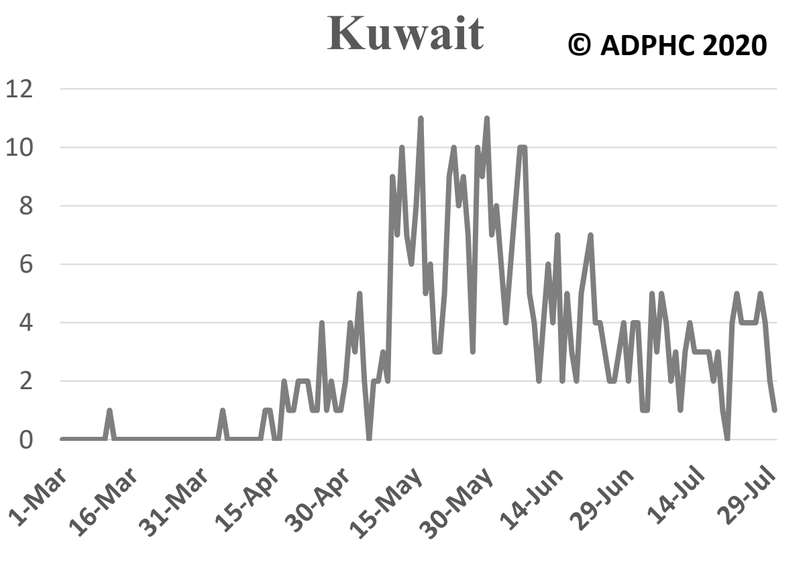
Source : KSA ministry of health



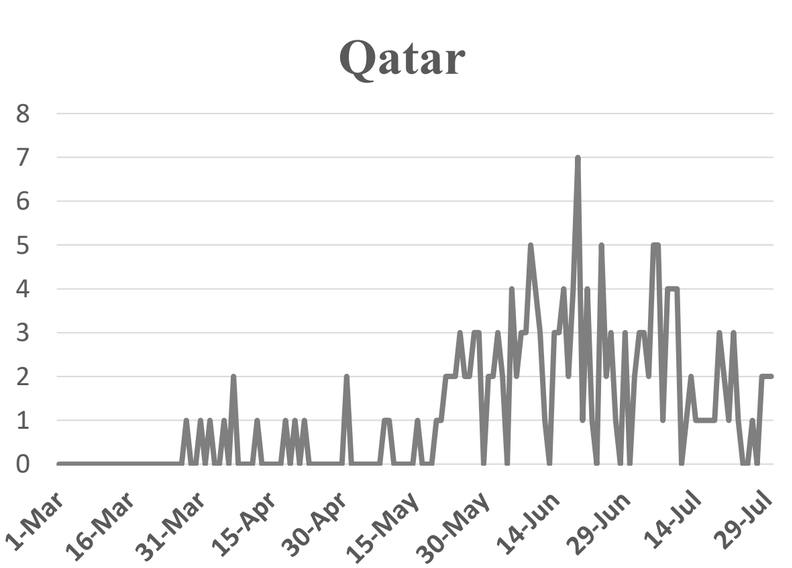
Source :WHO



Source :Oman ministry of health



Source : Kuwait ministry of health



Source : Qatar ministry of health

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VACCINE TRIALS (1/2)

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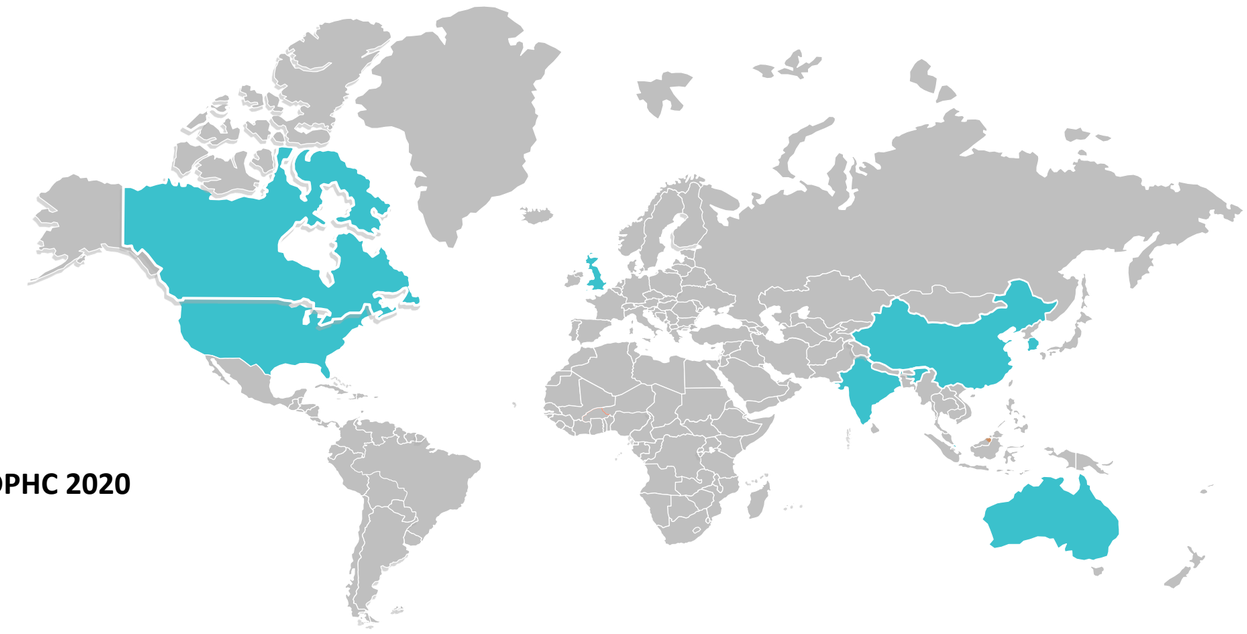
142
Pre-Clinical Evaluations

24
Phase 1

15
Phase 2

4
Phase 3

0
Approved



Whole virus vaccines

Vaccine Type:
Live, Attenuated Virus

Pros: Provides long-lasting protection.

Cons:
- Not suitable for weakened immune systems.
- Need to be refrigerated. Requires large quantities, takes time.

Vaccine Type:
Inactivated Virus

Pros: Suitable for weakened immune systems.

Cons:
- Less immune response.
- Requires large quantities, takes time.

Company: Sinovac, **Sinopharm**
Country: China

Vaccines that target part of a virus

Vaccine Type:
Protein Subunit

Pros: Can be produced more quickly than live vaccines.

Cons:
- Less immune response.
- Can't be scaled up quickly.

Company: Novavax, University of Queensland
Country: USA, Australia

Vaccine Type:
Virus-Like Particles

Pros:
- Stronger immune response.
- Faster production.

Cons:
- Stability and purification increases production time / Larger production is hard.

Company: Medicago
Country: Canada

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VACCINE TRIALS (2/2)

142
Pre-Clinical Evaluations

24
Phase 1

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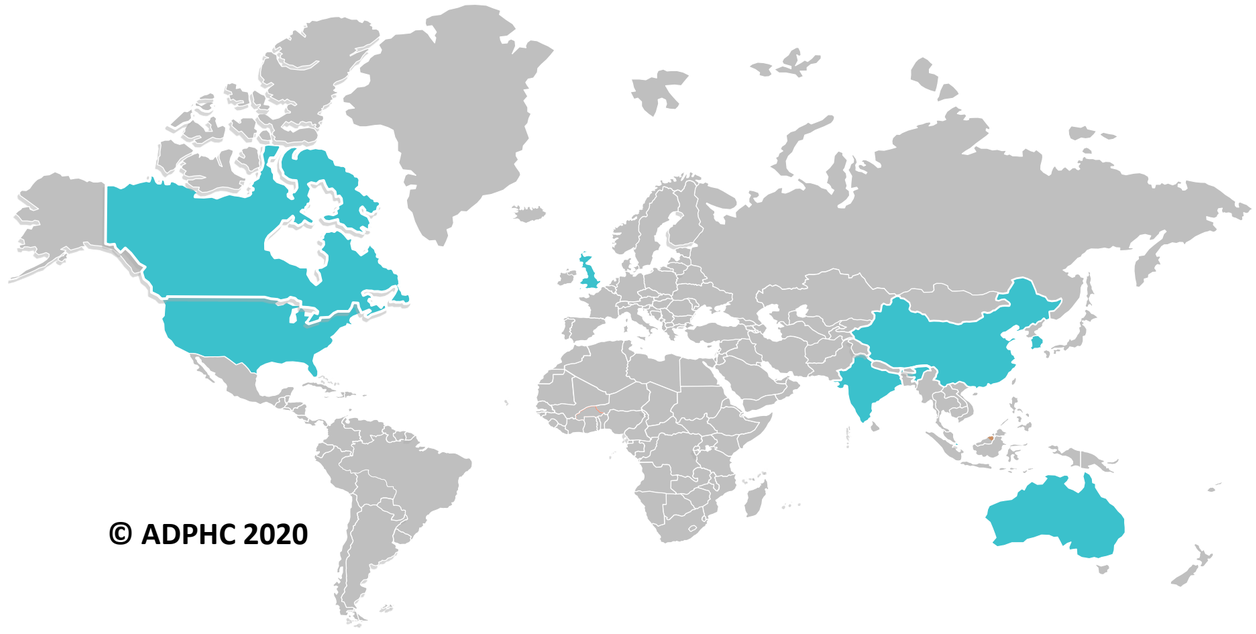
4
Phase 3

0
Approved



Vaccines that target part of a virus

Vaccine Type: Non-Replicating Viral Vector

Pros:
- Powerful immune response
- Don't have to be stored at very low temperatures.

Cons:
- People exposed to the viral vector may be resistant/ Harder to scale-up.

Company: University of Oxford/AstraZeneca, CanSino Biologics
Country: UK, China

Vaccine Type: Replicating Viral Vector

Pros:
- Mimics a real infection and has stronger immune response/ requires small quantity.

Cons:
- Requires more testing /stored at cool temperatures.

Vaccine Type: RNA

Pros:
- No virus is needed to make the vaccine
- Less production time

Cons:
- Less immune response
- Require adjuvants

Company: Moderna/NIAID, Arcturus/Duke-NUS
Country: USA/Singapore

Vaccine Type: DNA

Pros:
- Quick and inexpensive / Shelf stable and easy to switch to different gene/virus

Cons:
- Less immune response
- Require adjuvants for a good response

Company: Cadila Healthcare, Genexine Consortium
Country: India, South Korea

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THANK YOU

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