

SCIENTIFIC RESEARCH MONITORING ON COVID-19

10 JULY 2020

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SCIENTIFIC RESEARCH MONITORING ON COVID-19

(ISSUE 159)

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.

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).

Vaccine

Developing a SARS-CoV-2 Vaccine at Warp Speed

Clinical Features

Excess Deaths From COVID-19 and Other Causes, March - April 2020

Epidemiology

Mortality and Morbidity: The Measure of a Pandemic

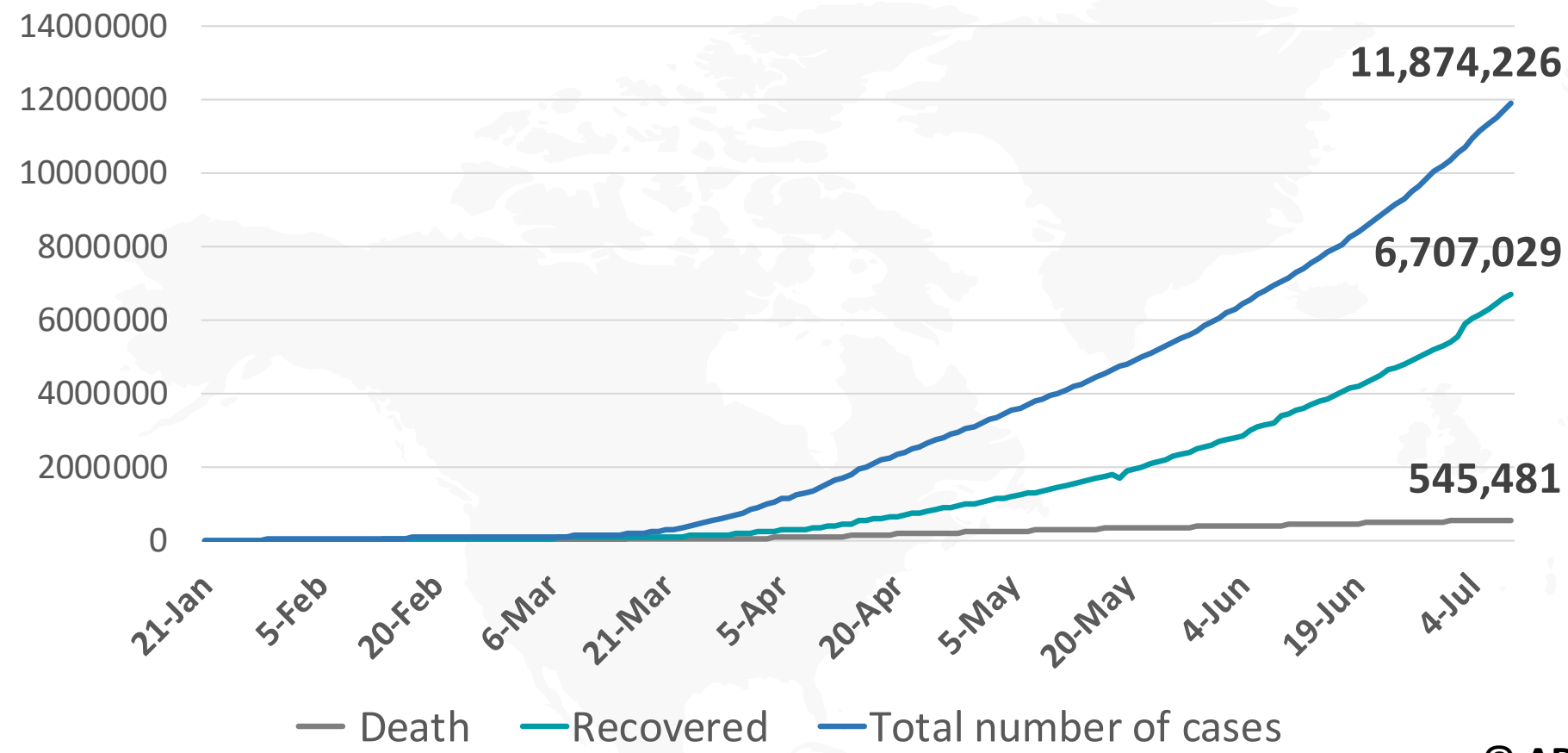




- WHO has partnered with Facebook and Praekelt.org to provide COVID-19 information in Free Basics and Discover, in a mobile-friendly format. This will enable some of the most vulnerable people to access health information without any data charges, in more than 50 countries.
- A WHO mission arrived yesterday in Ashgabat, Turkmenistan, to assess the risks and develop the response mechanisms required to tackle COVID-19.
- The Regional Office for the Americas has been holding webinars on a range of issues in relation to COVID-19. Tomorrow, they will hold a webinar focusing on ‘Caring for the Carers: Managing your Mental Health While Caring for Others’ .
- OpenWHO.org, WHO’s health emergencies online learning platform, has published courses on thirteen COVID-19 topics with more than 3.7 million enrollments. In the meantime, the WHO Academy, which aims to build one of the world’s largest and most innovative digital learning platforms, is holding a survey from 8 to 29 July.



Figure 1: Total number of infected, recovered, and death cases



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Figure 3: Total number of death due to COVID-19 (china and the result of the world)

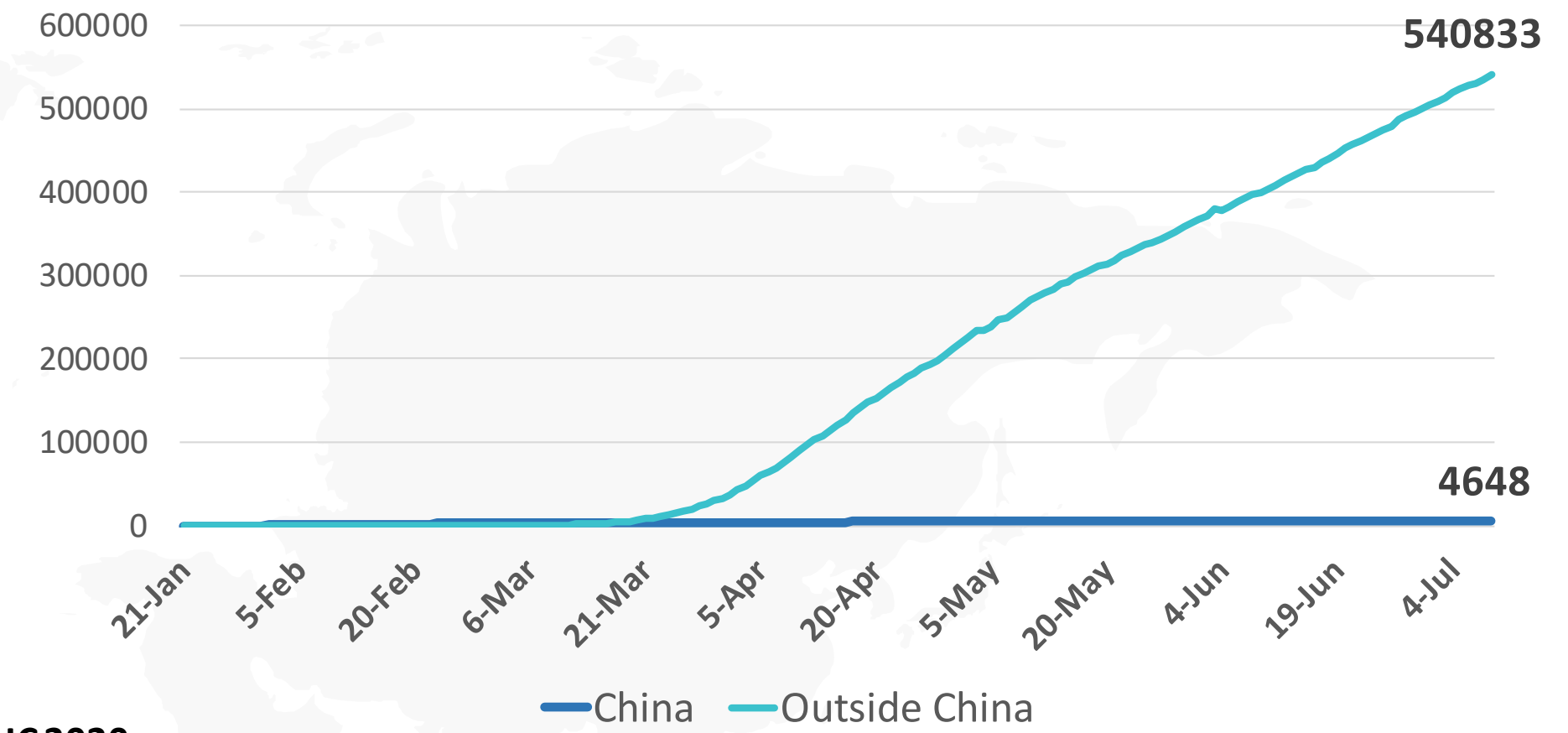


Figure 2: Daily new infected COVID-19 cases (china and the rest of the world)

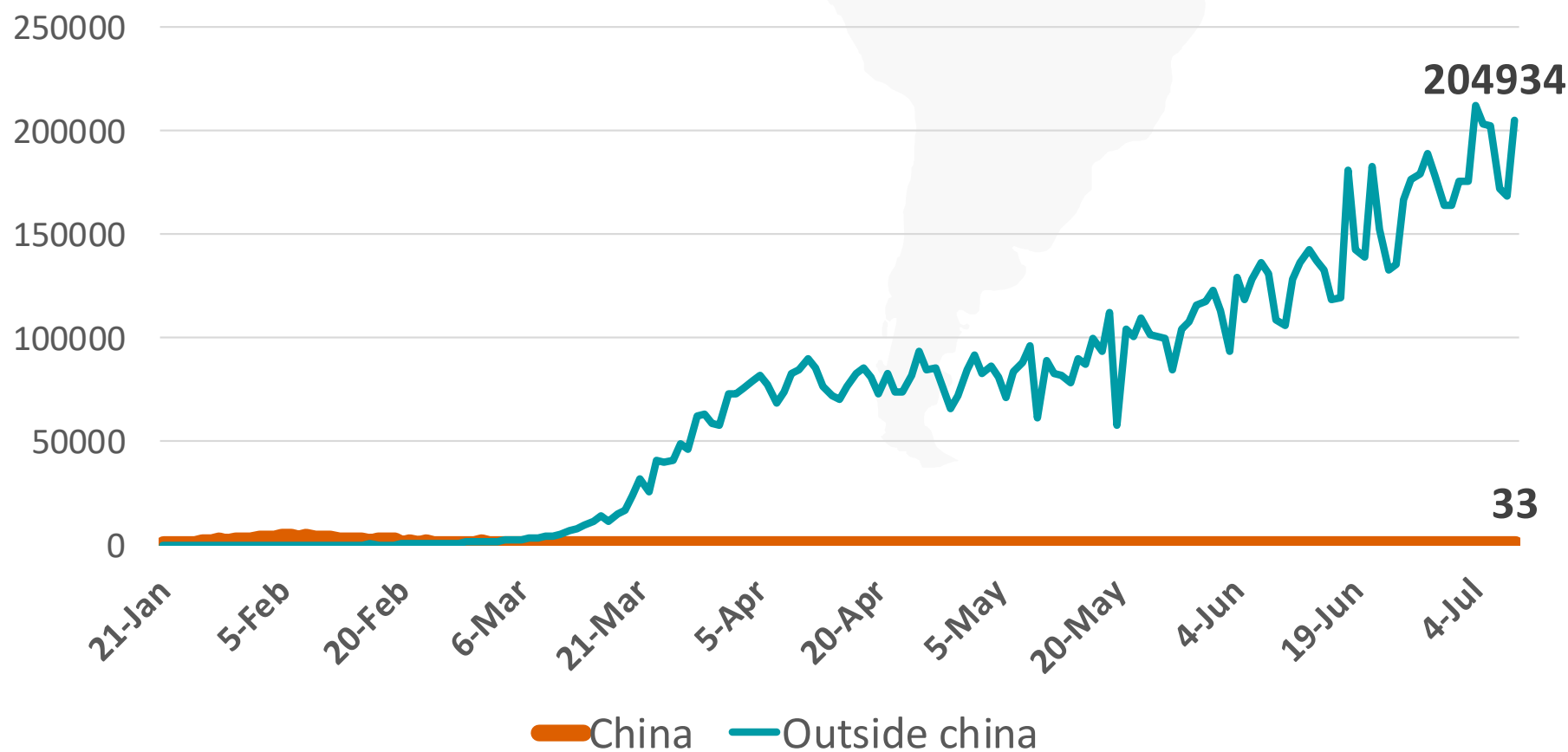


Figure 4: Global daily new deaths due to COVID-19 (china and rest world)

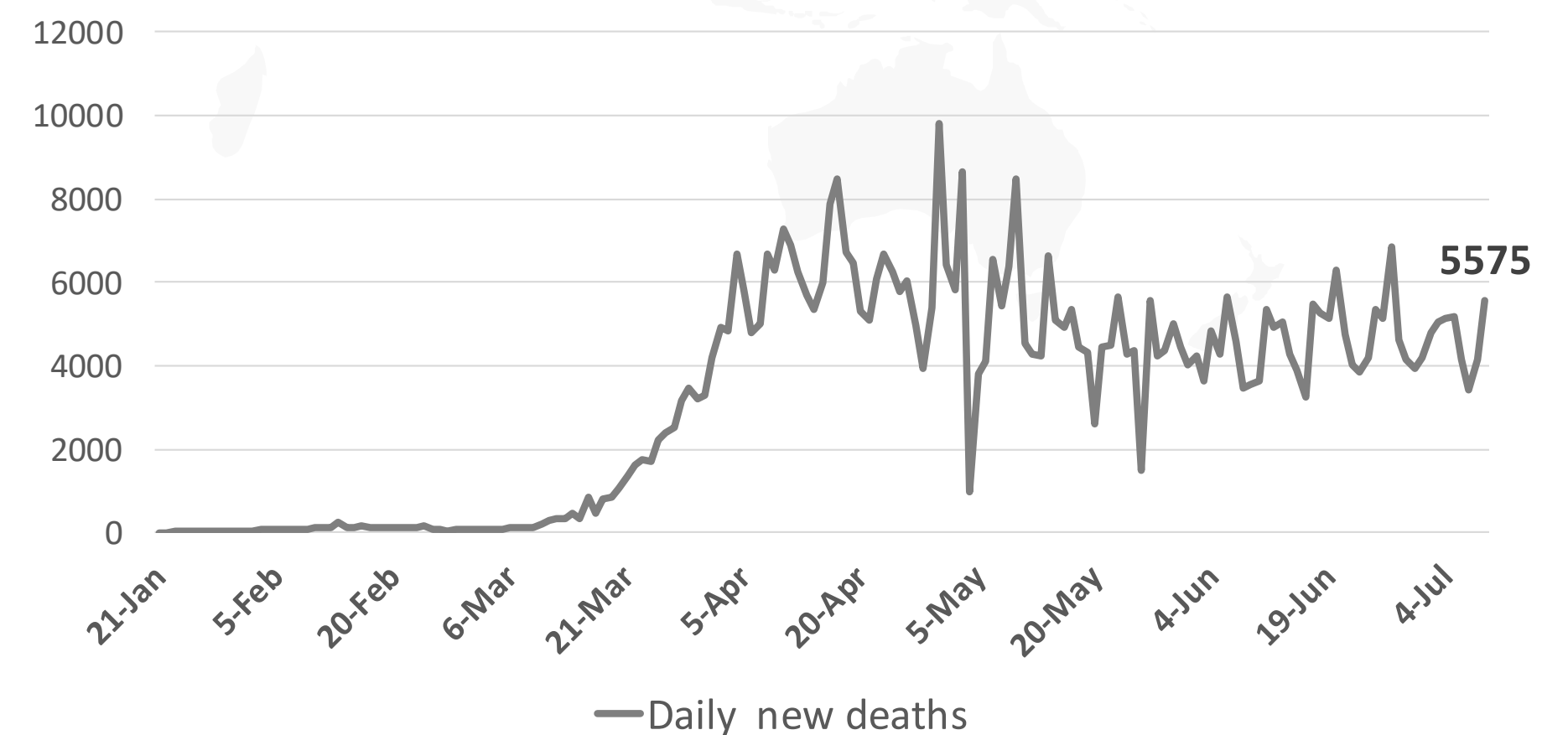
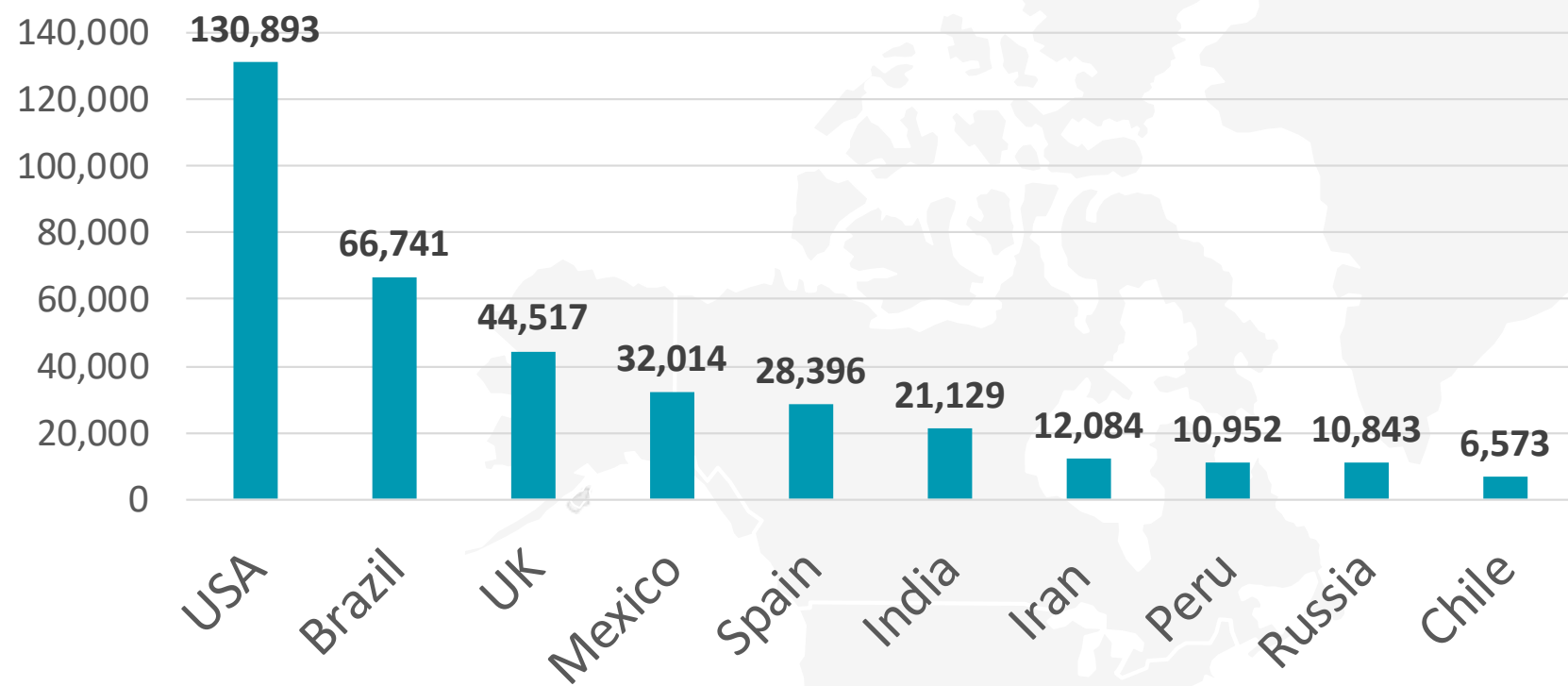
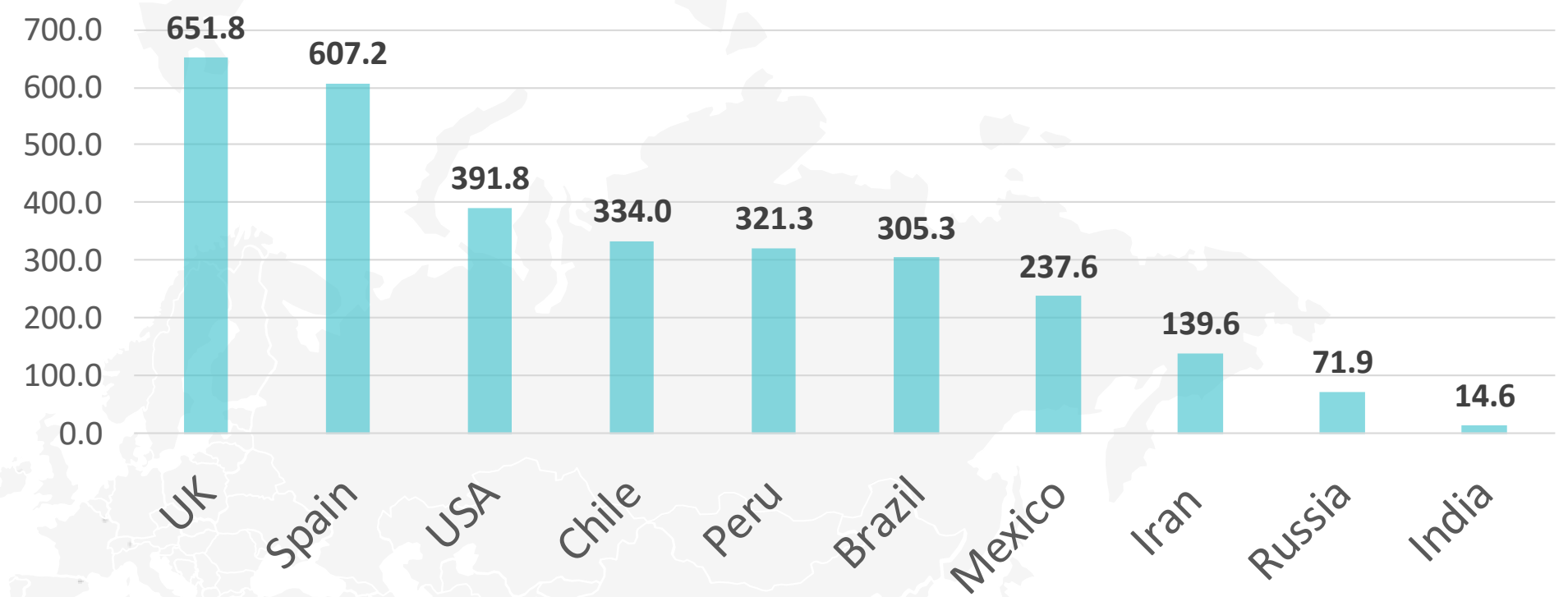


Figure 3: Top 10 countries in the total number of cases due to COVID-19

TOTAL DEATHS



DEATHS PER MILLION



TOTAL INFECTED CASES

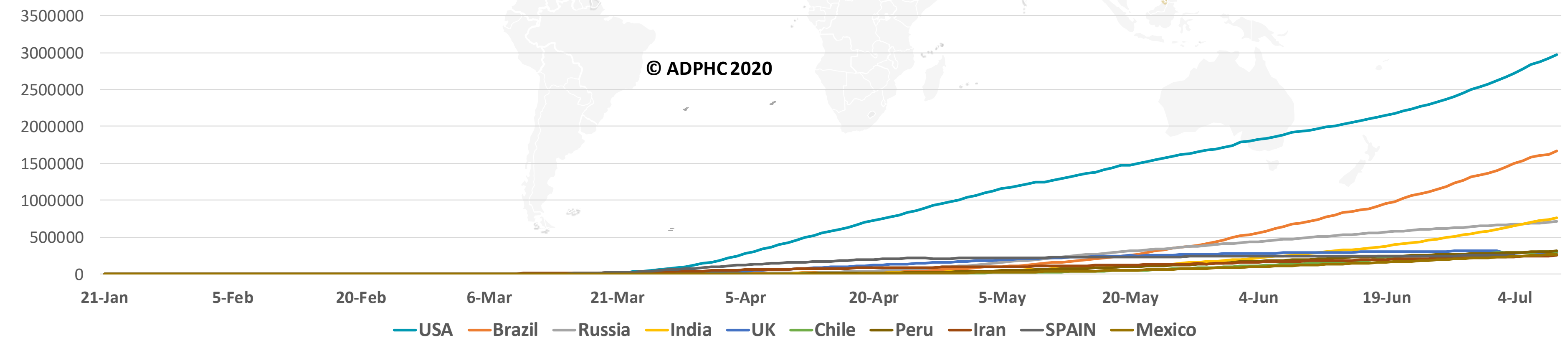
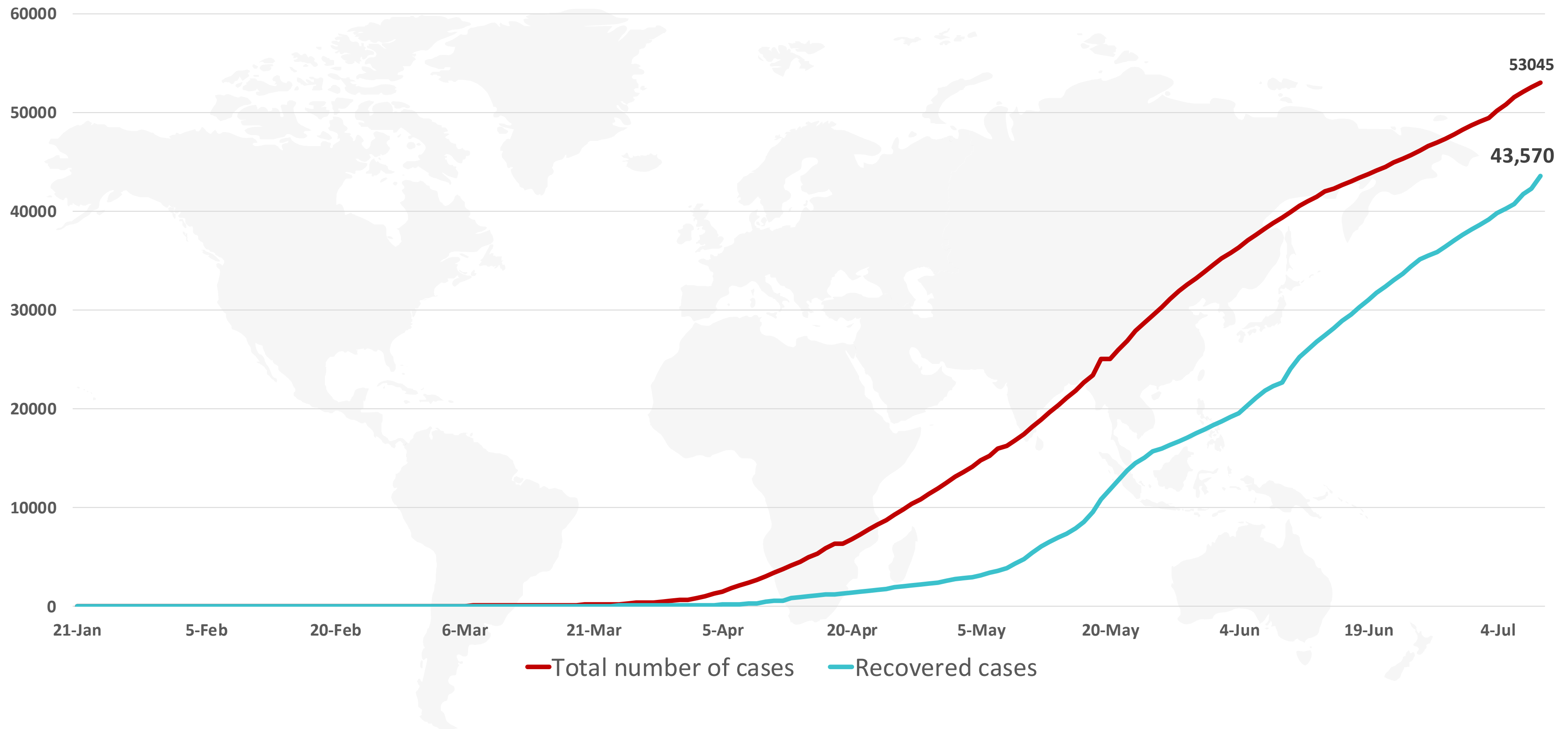
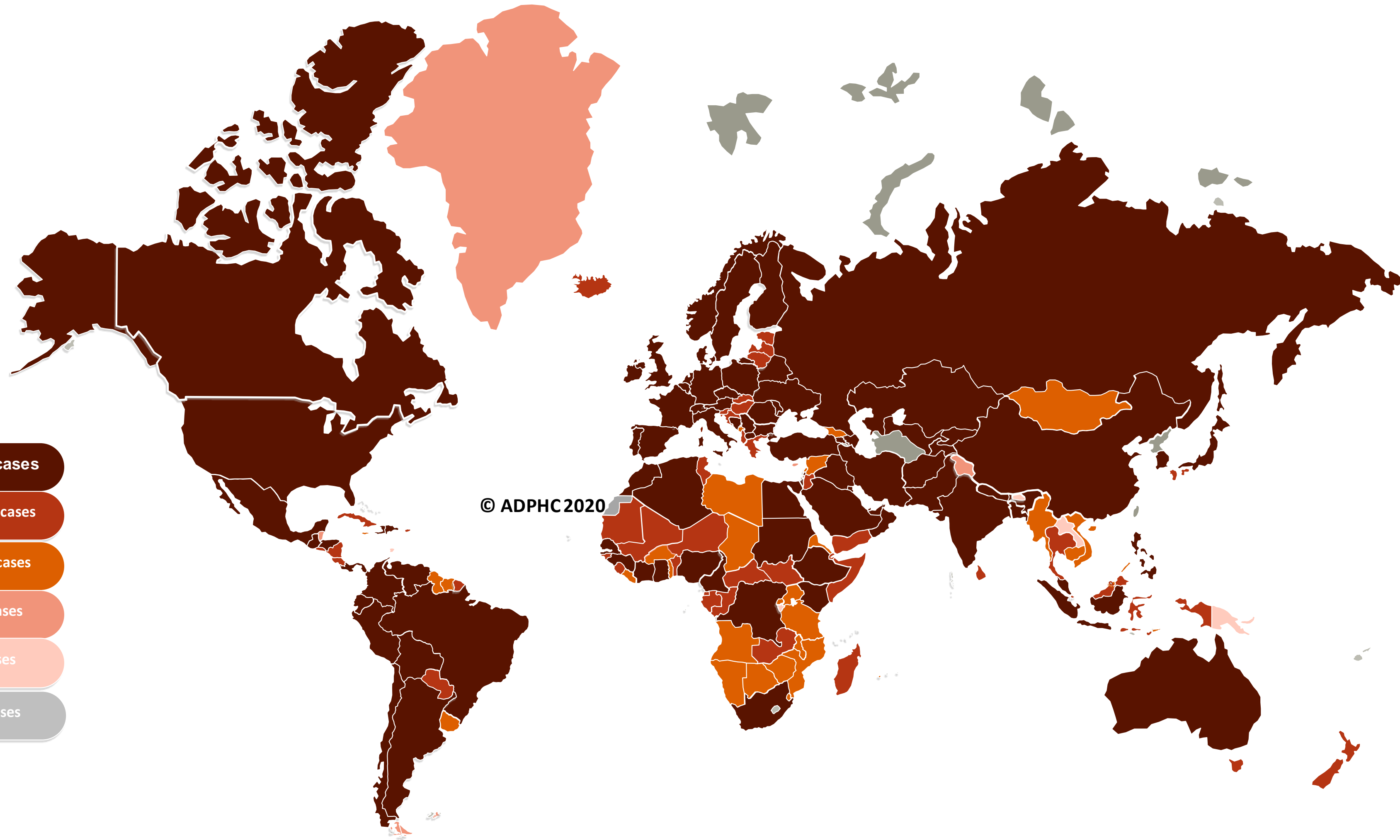


Figure 5: Total number of infected and recovered due to COVID-19 reported by the UAE



— Total number of cases — Recovered cases

Figure 7A : Global distribution of COVID-19 cases



More than 5000 cases

From 1001 to 5000 cases

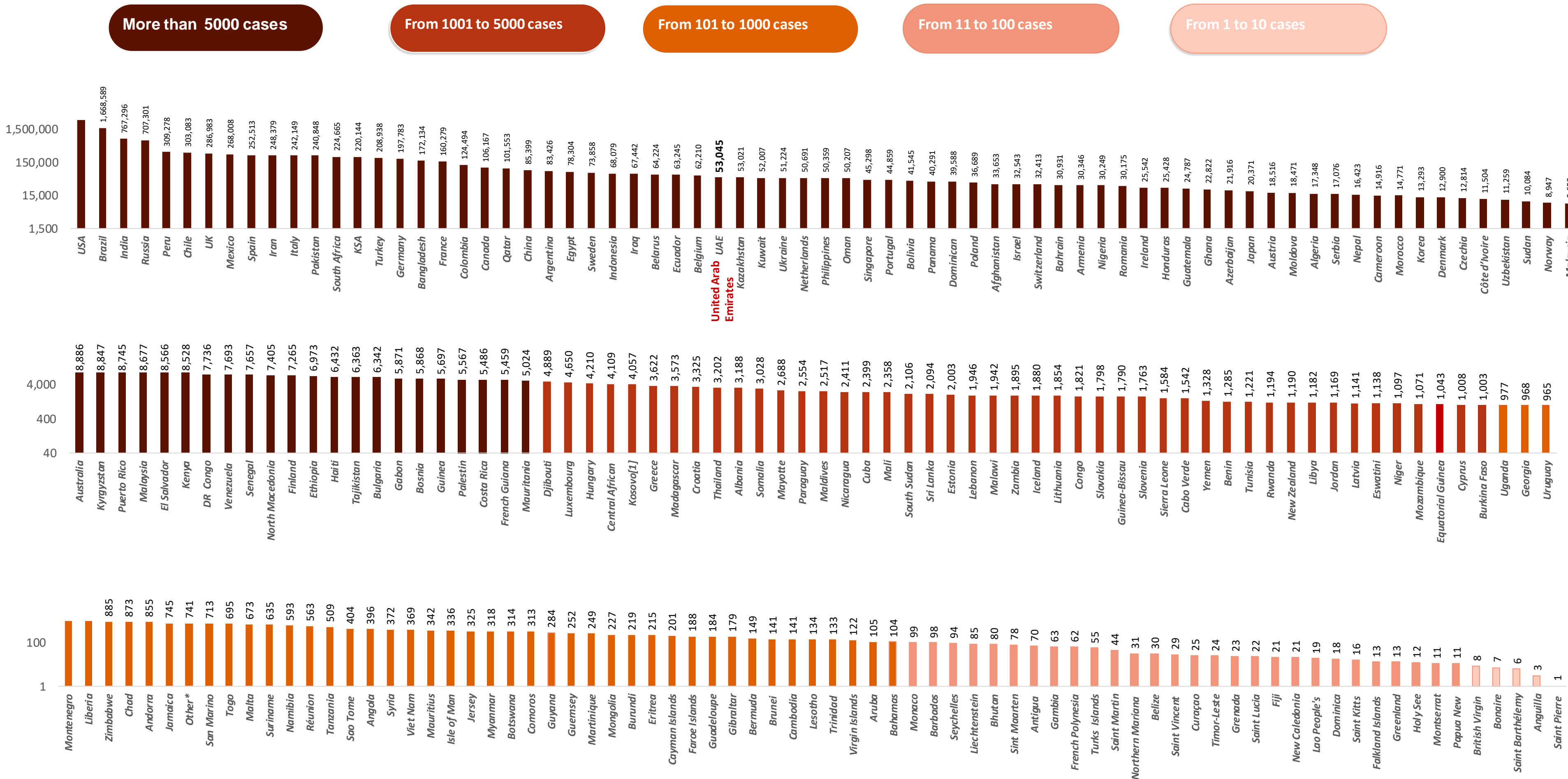
From 101 to 1000 cases

From 11 to 100 cases

From 1 to 10 cases

No confirmed cases

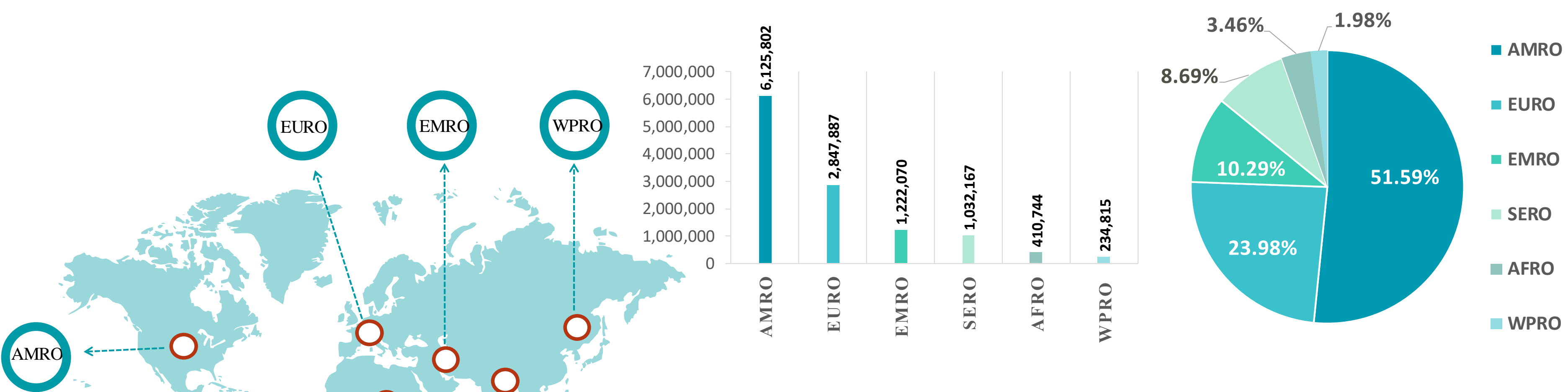
Figure 7B: Bar chart illustrate the global distribution of COVID19 cases



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

Figure 8: illustrate the Global distribution of COVID19 cases per region

INFECTED



DEATH

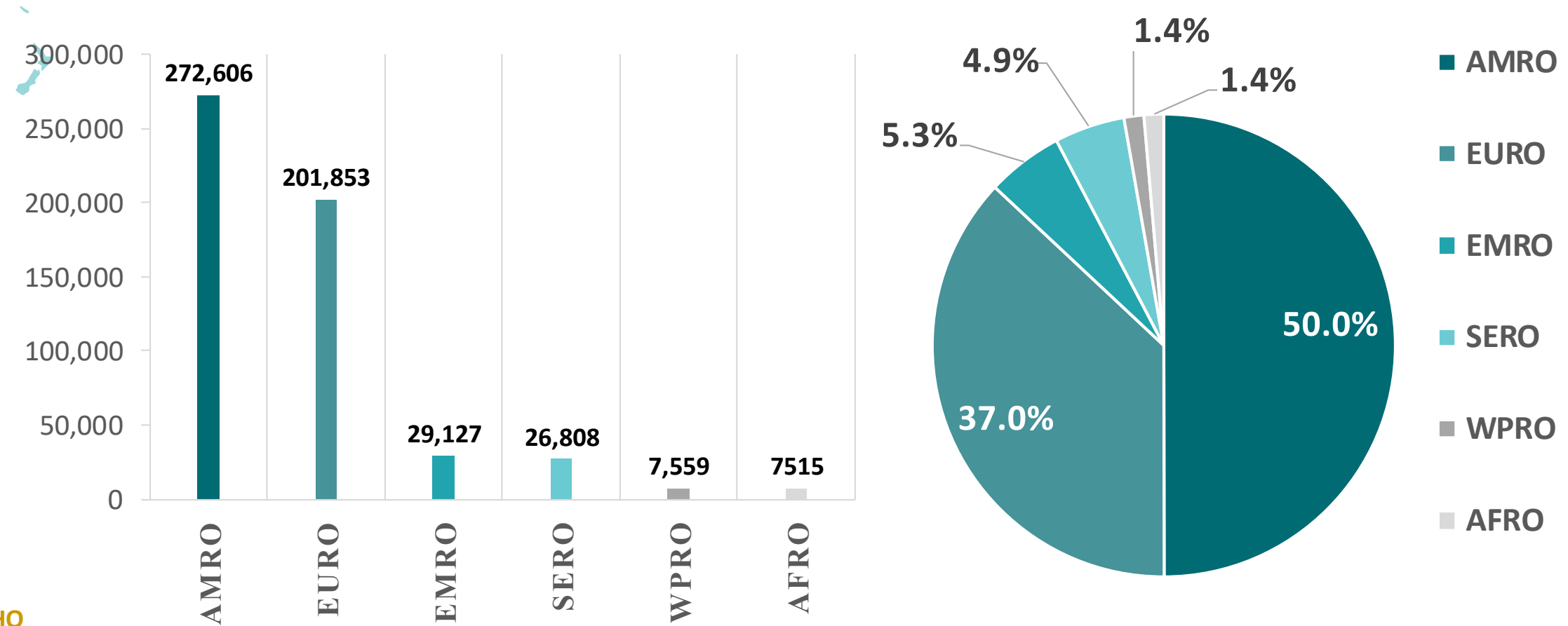
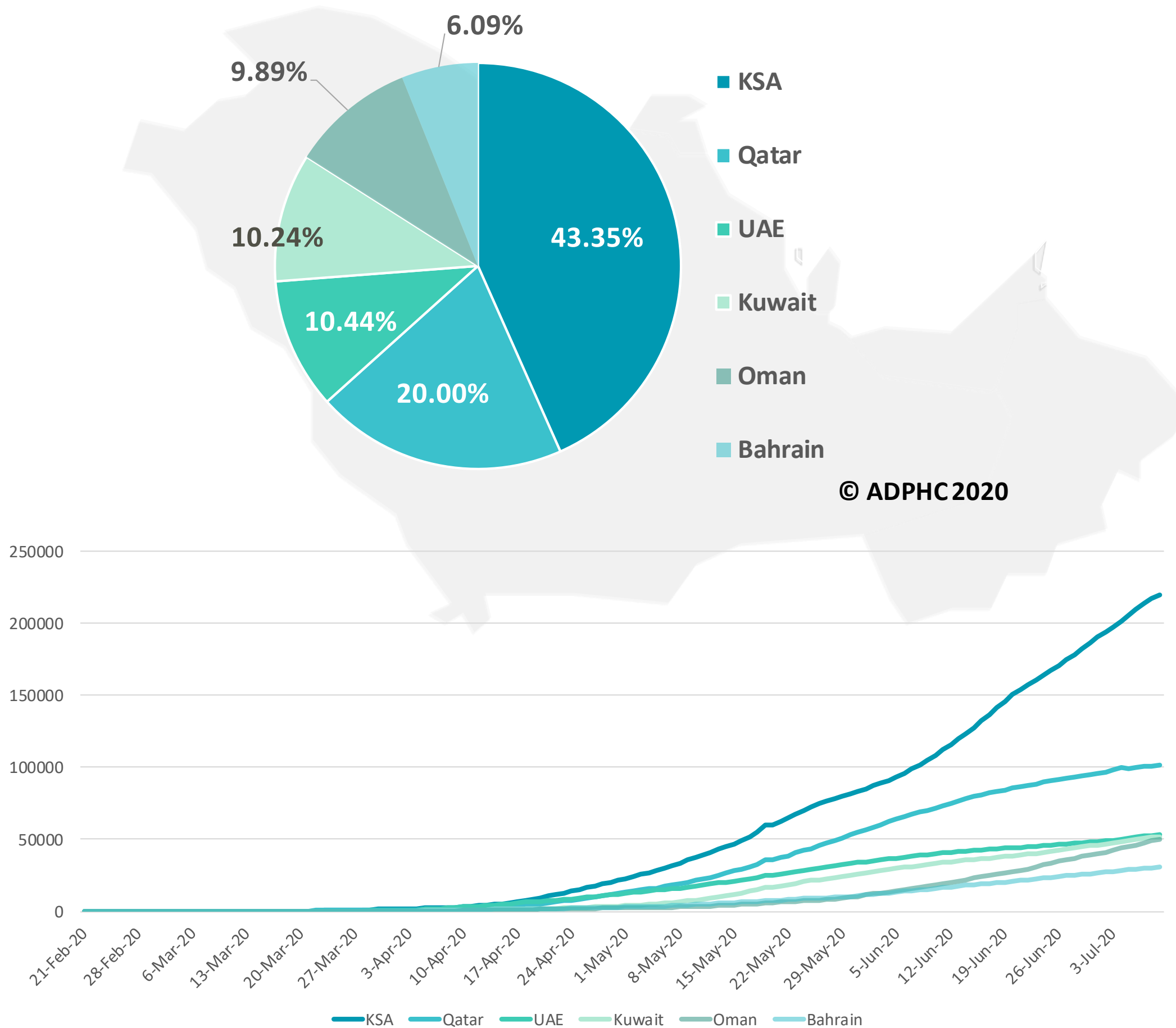
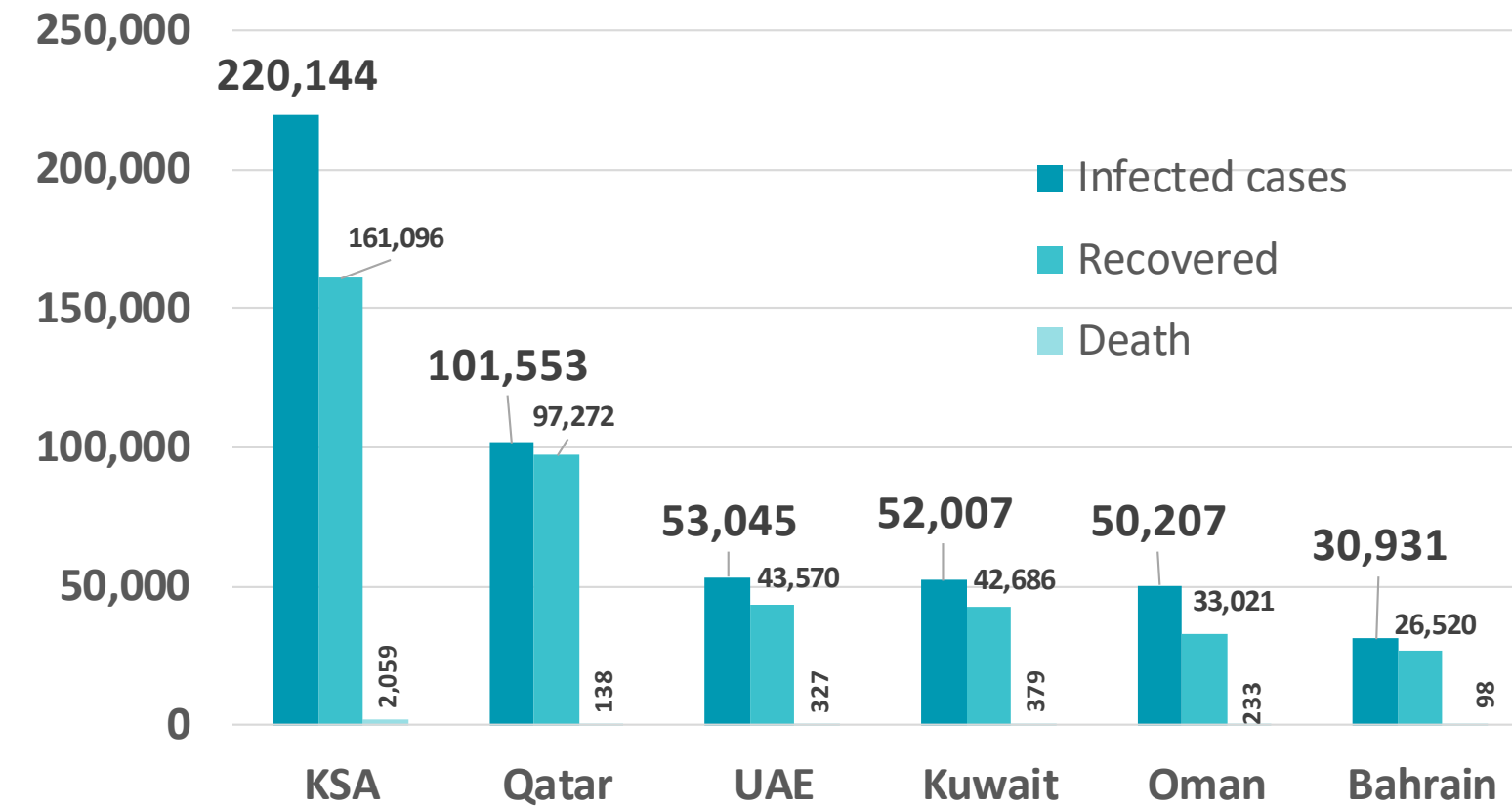


Figure 9: Comparative analysis of the distribution of COVID19 cases in GCC countries

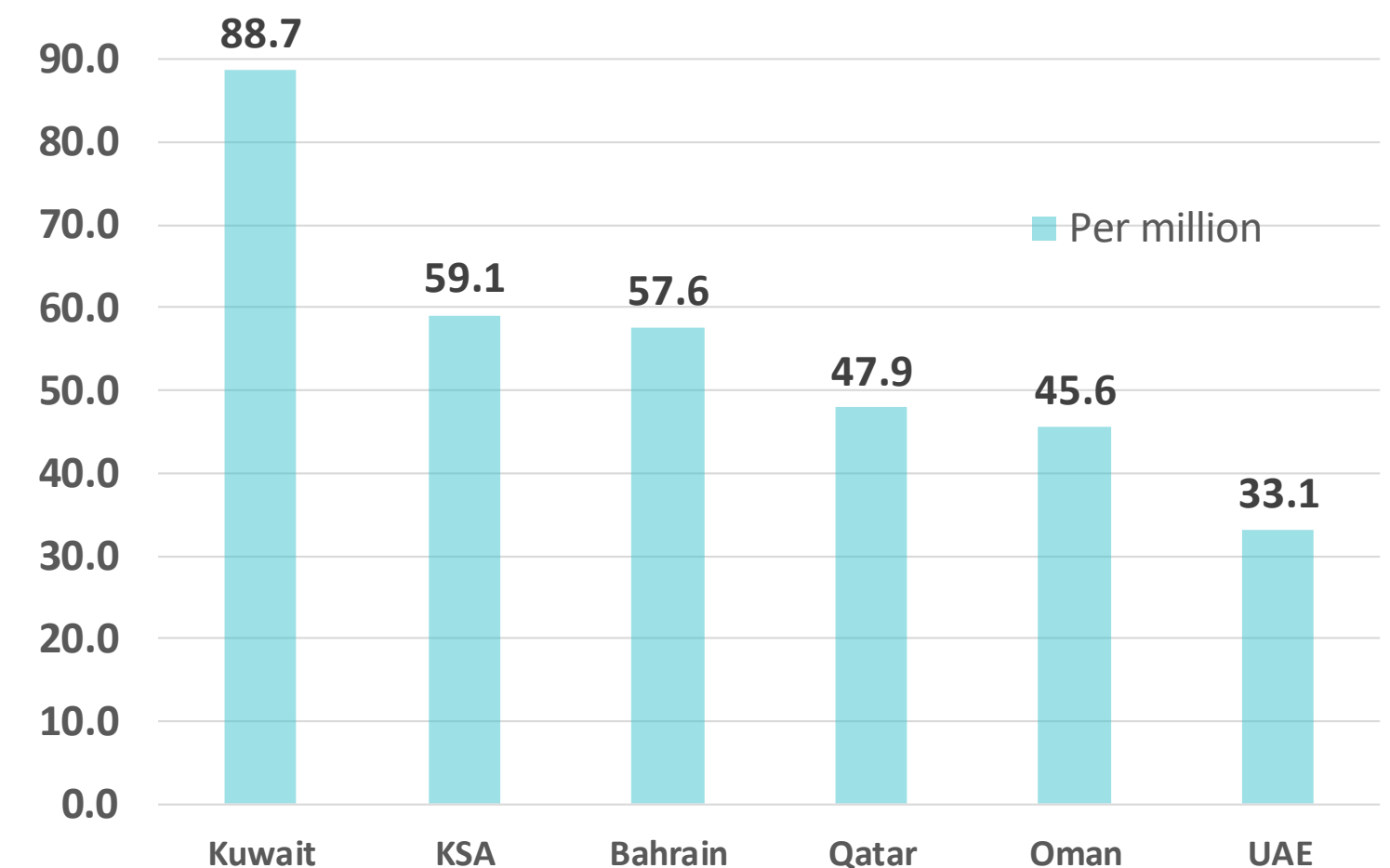
TOTAL NUMBER OF INFECTED CASES



TOTAL NUMBER OF INFECTED, RECOVERED AND DEATHS



DEATH PER MILLION



Graphs published by Abu Dhabi Public Health Center 2020 | Data resources: [WHO](#)

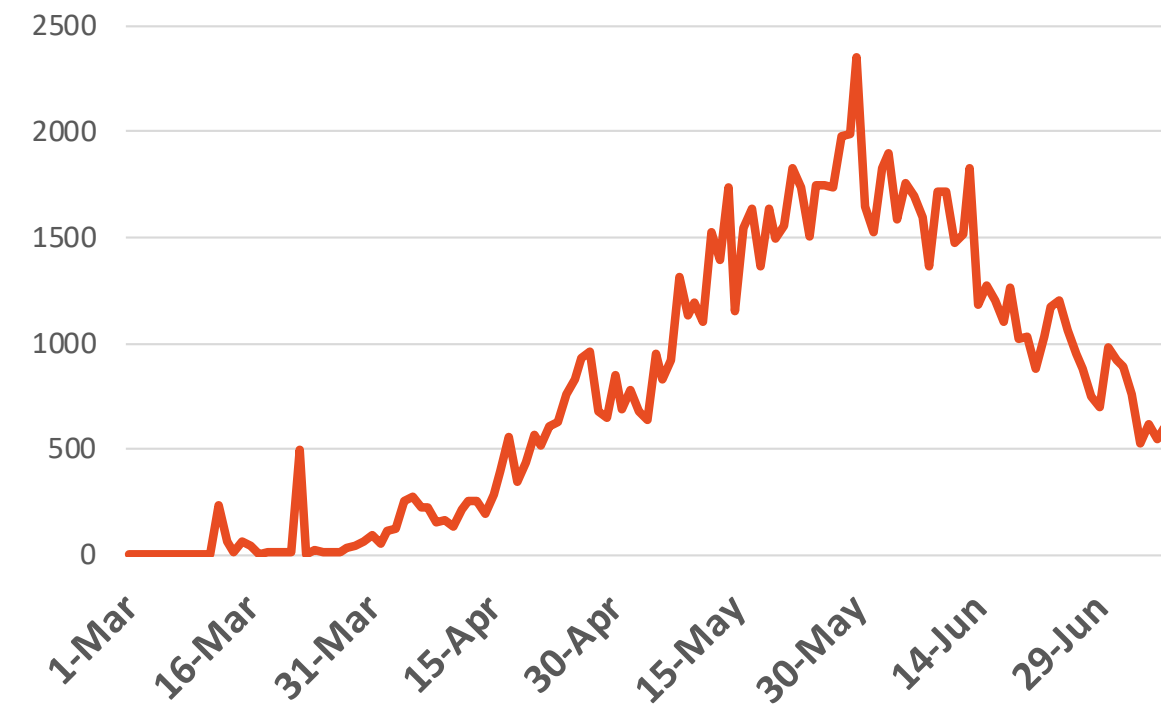
Figure 10: Comparative analysis of the distribution of COVID19 new cases in GCC countries

KSA



Source : KSA ministry of health

Qatar



Source : Qatar ministry of health

UAE



Source : National Emergency Crisis and Disaster Management Authority

Kuwait



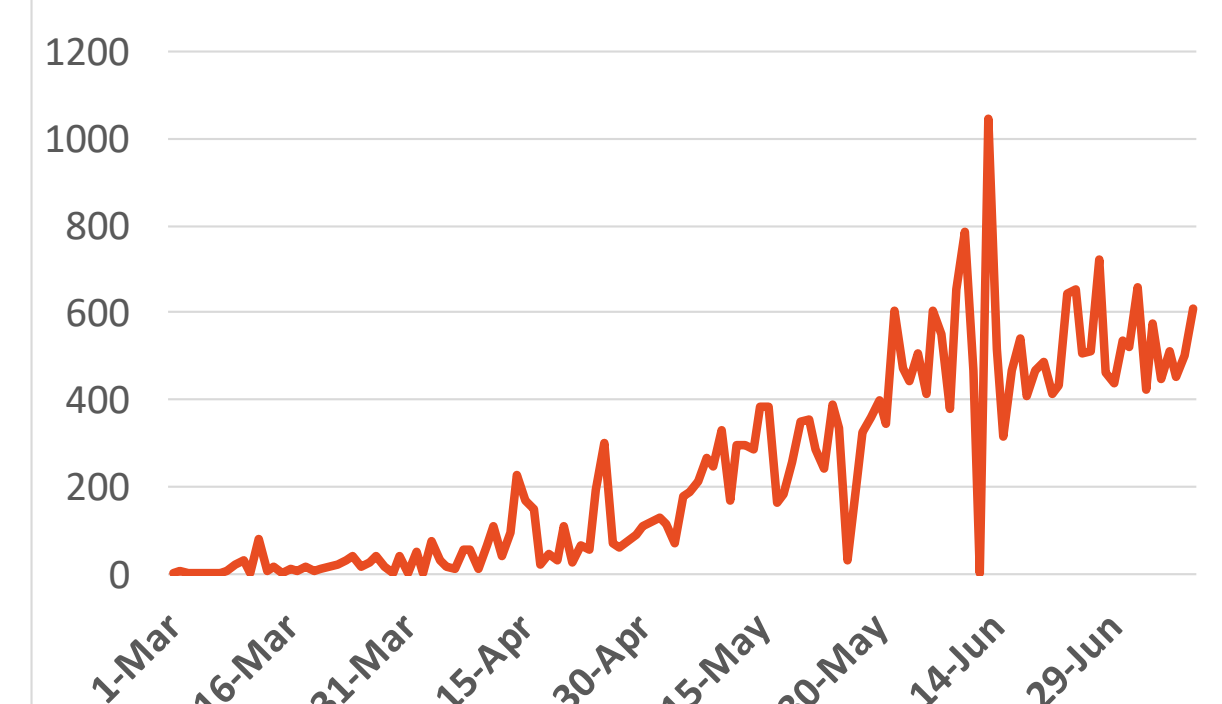
Source : Kuwait ministry of health

Oman © ADPHC 2020



Source : Oman ministry of health

Bahrain

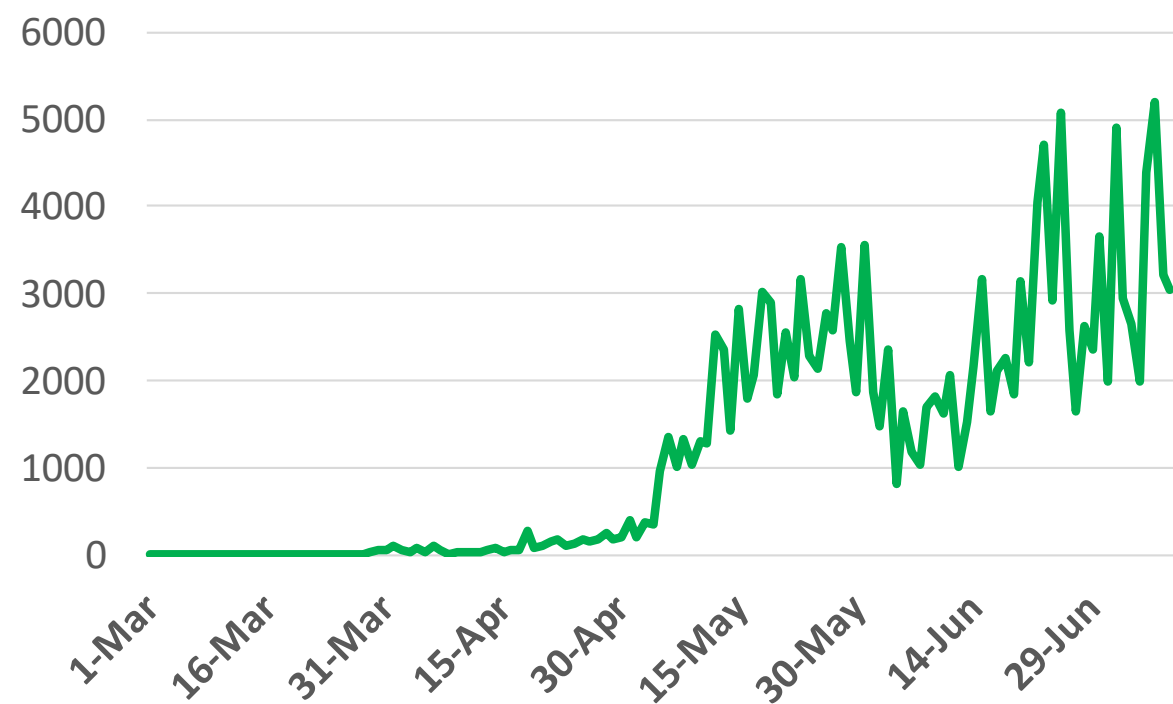


Source : WHO



Figure 11: Comparative analysis of the distribution of COVID19 newly recovered cases in GCC Countries

KSA



Source : KSA ministry of health

Qatar



Source : Qatar ministry of health

UAE



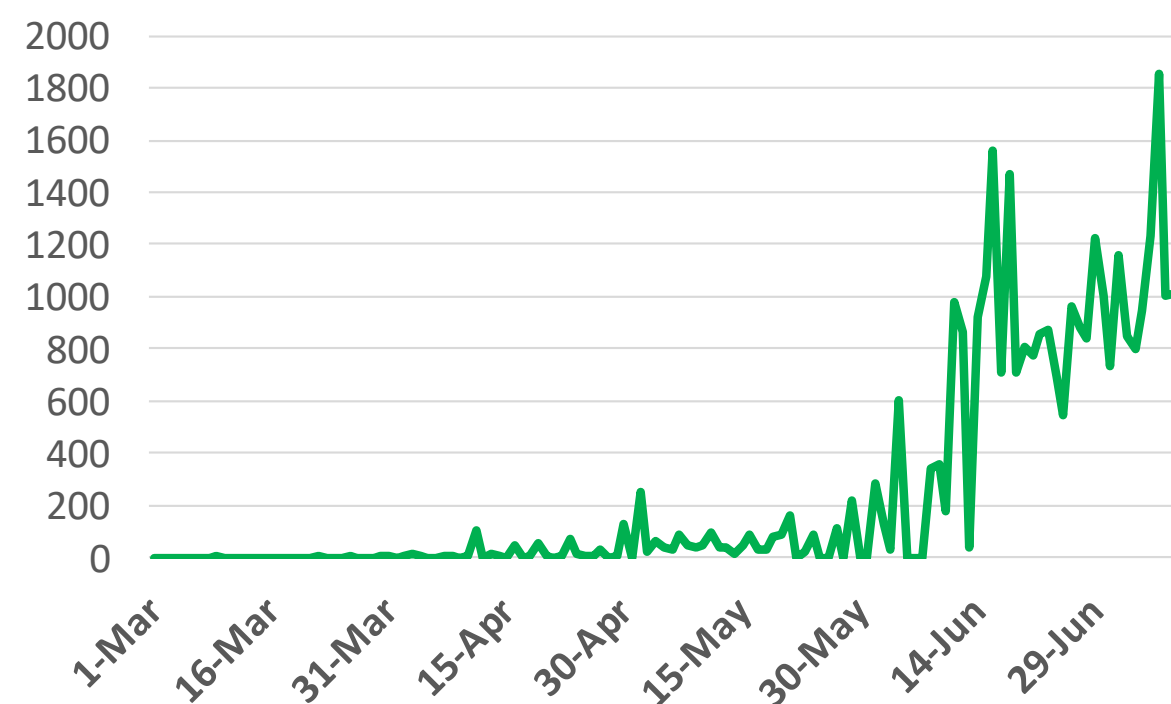
Source : National Emergency Crisis and Disaster Management Authority

Kuwait



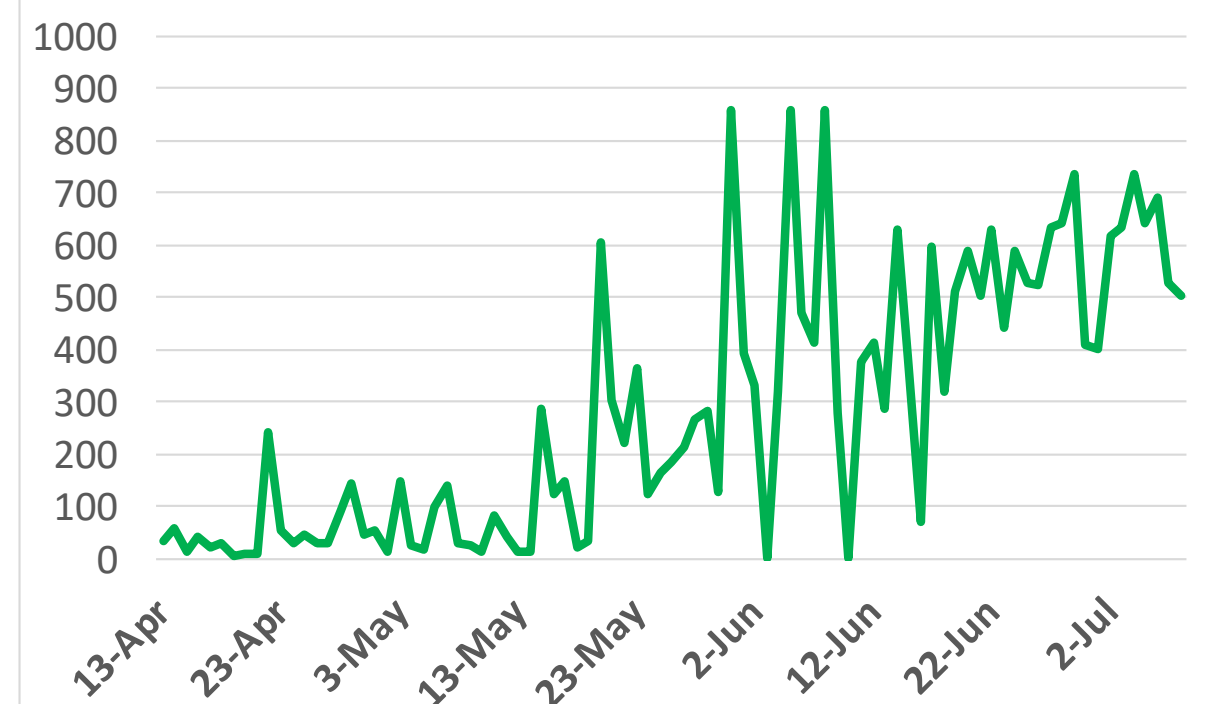
Source : Kuwait ministry of health

Oman © ADPHC 2020



Source : Oman ministry of health

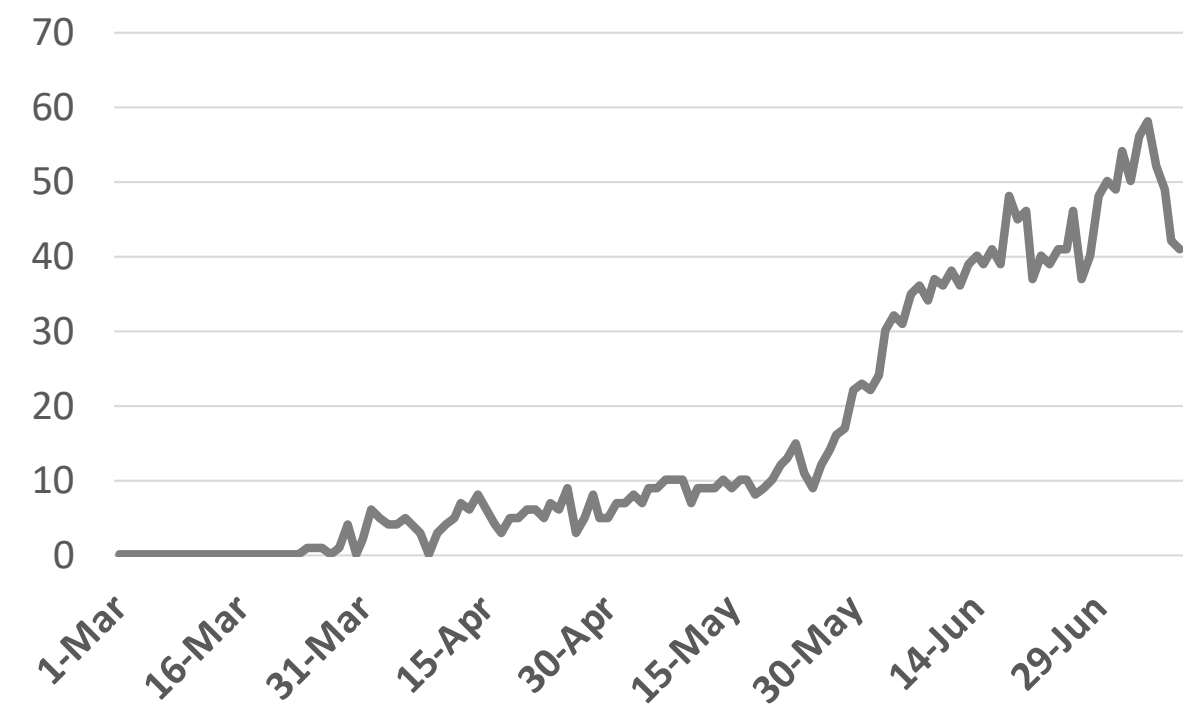
Bahrain



Source : GCCStat

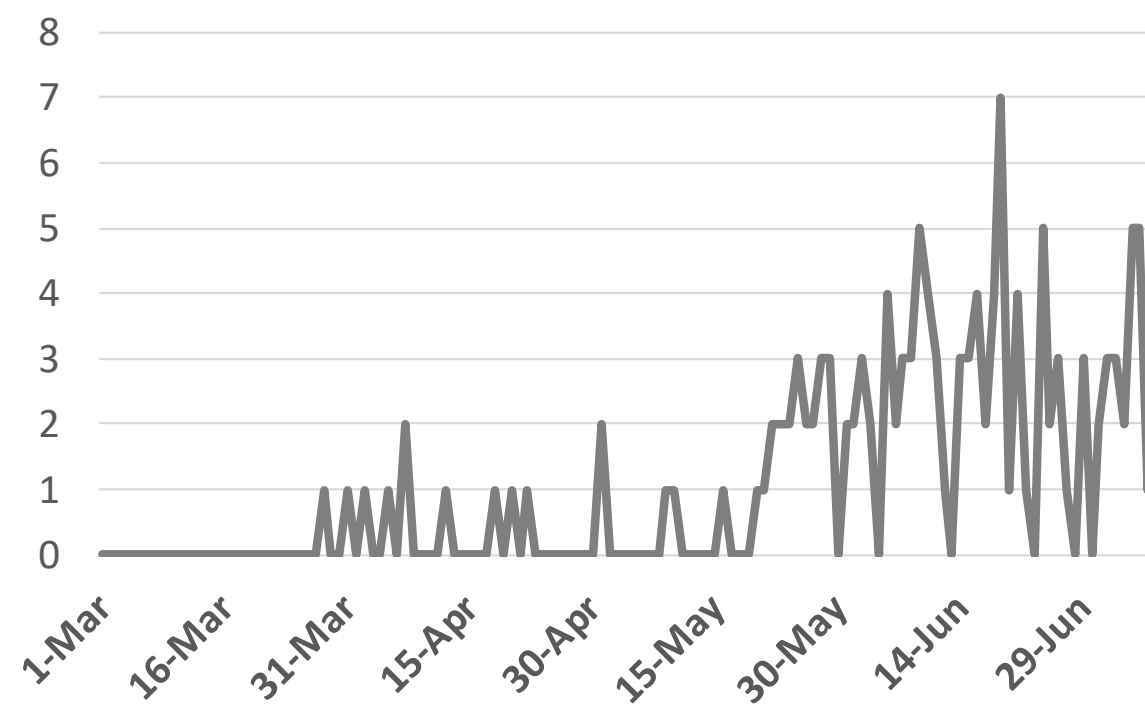
Figure 12: Comparative analysis of the distribution of COVID19 newly death cases in GCC countries

KSA



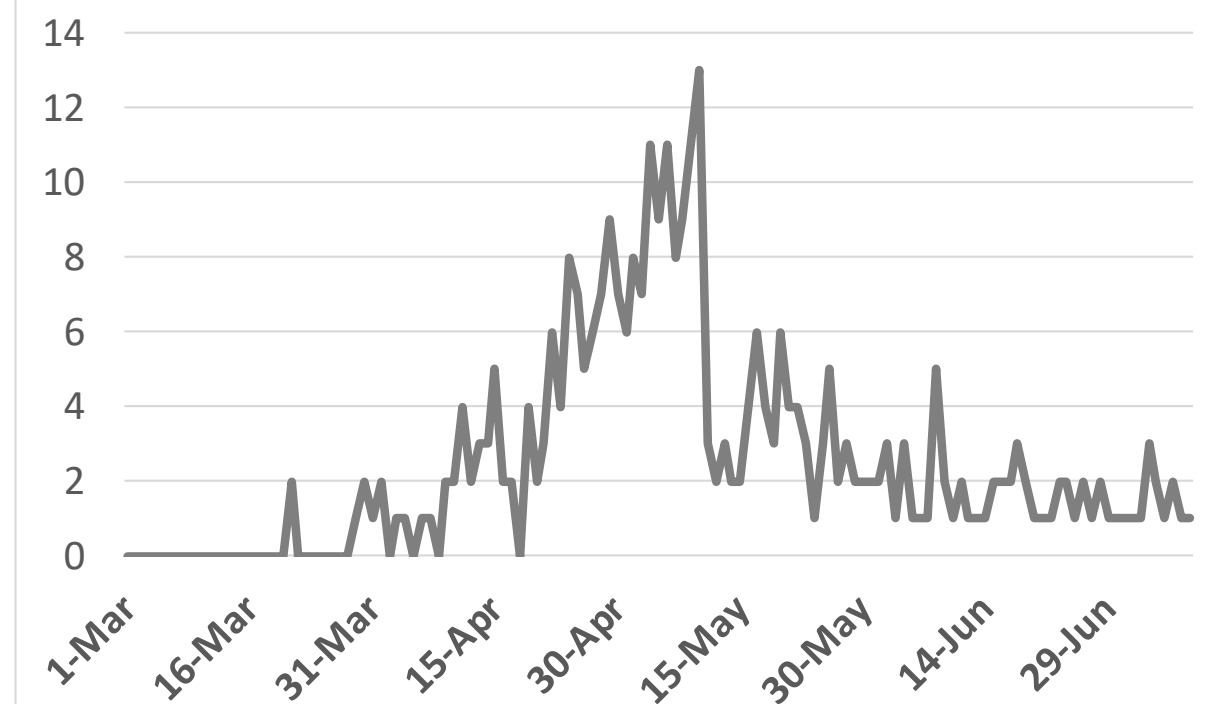
Source : KSA ministry of health

Qatar



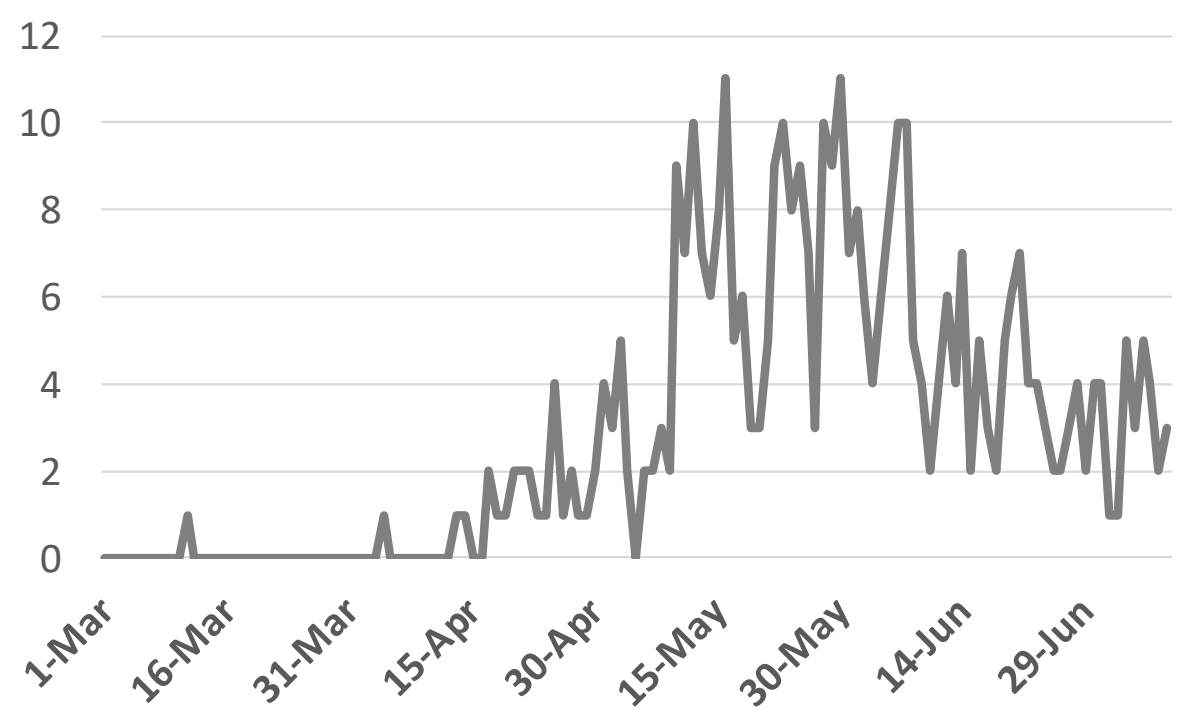
Source : Qatar ministry of health

UAE



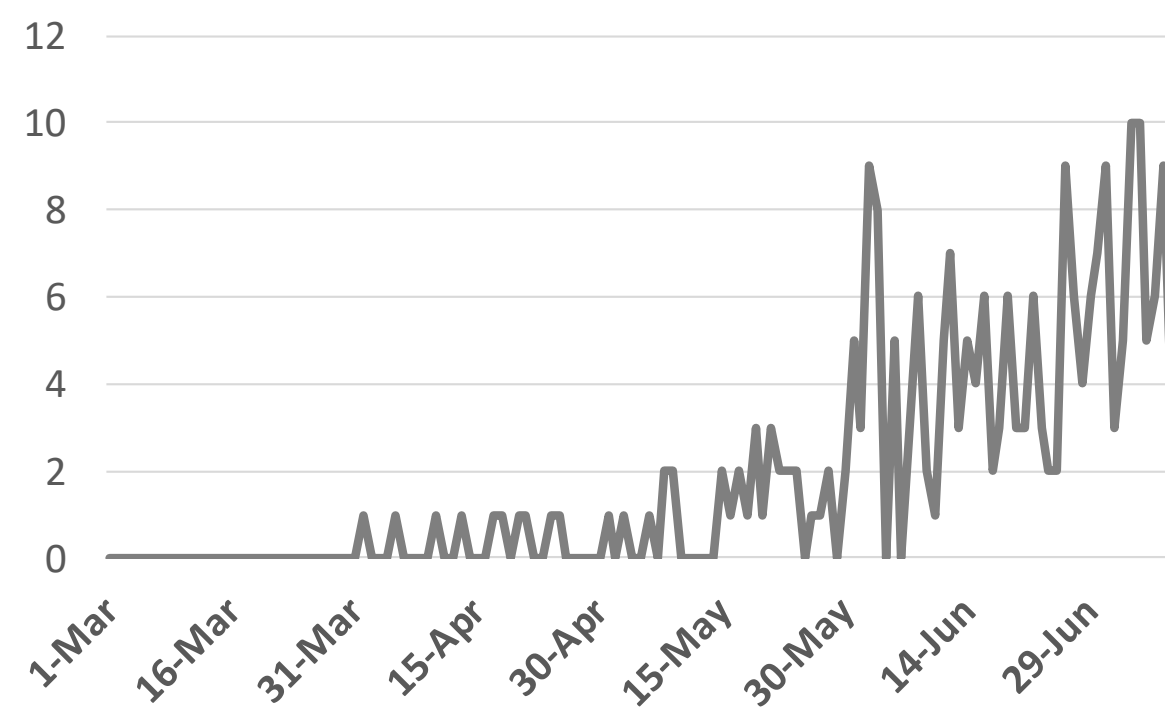
Source : National Emergency Crisis and Disaster Management Authority

Kuwait



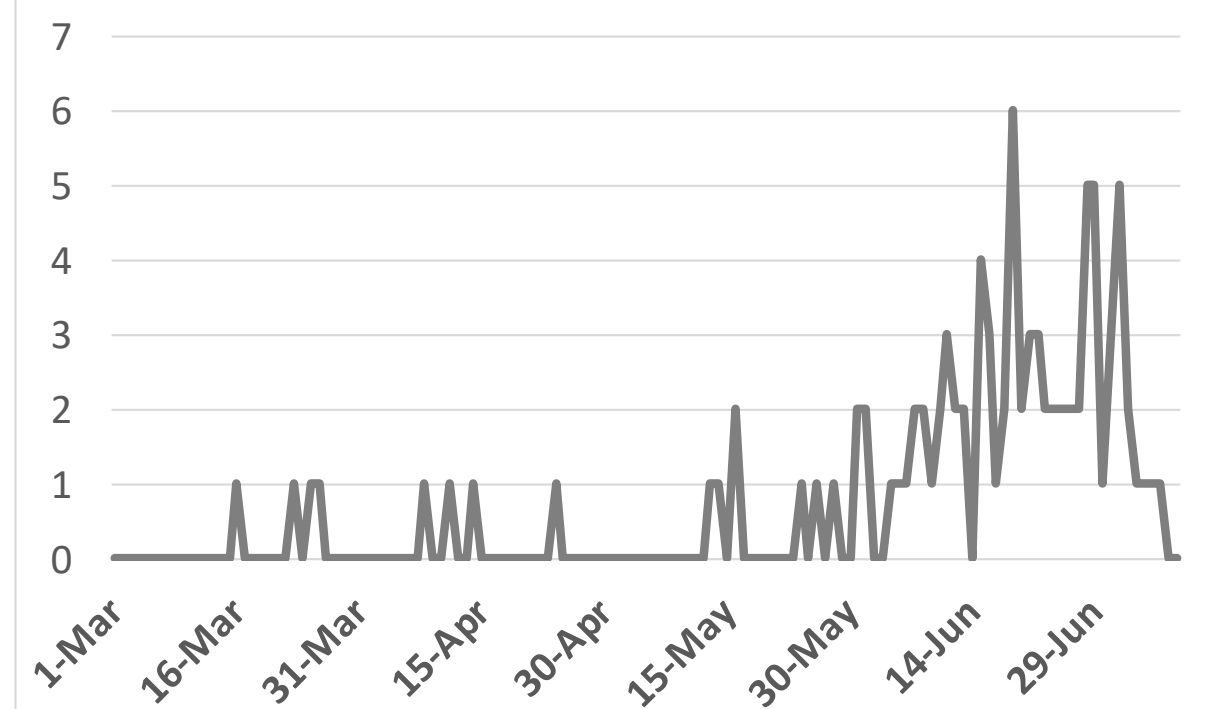
Source : Kuwait ministry of health

Oman © ADPHC 2020



Source :Oman ministry of health

Bahrain



Source :WHO



Article 1: Developing a SARS-CoV-2 Vaccine at Warp Speed

Published

6 July 2020 [JAMA](#)

- In the United States, Department of Health and Human Services (HHS) launched Operation Warp Speed - a partnership between government and industry with the goal to deliver 300 million doses of a safe and effective vaccine by January 2021. This plan initially focused on 125 potential vaccine candidates; however, as of June 2020, the list was narrowed to 5 core vaccine candidates.
- All of these candidates are undergoing thorough investigation of their safety profile including unintended adverse events. In the setting of accelerated vaccine development timelines, robust safety monitoring will be crucial in setting a foundation of public trust in the ultimately successful candidate vaccine.

Table. Operation Warp Speed Vaccine Candidates

Candidate	Technology	Single dose	Stage
Moderna (mRNA-1273)	Messenger RNA	No	Phase 2a clinical trial
BioNTech/Fosun Pharma/Pfizer (BNT162a1, BNT162b1, BNT162b2, BNT162c2)	Messenger RNA	Potentially	Phase 1-2 clinical trials
Merck, Sharpe & Dohme and the International AIDS Vaccine Initiative	Recombinant vesicular stomatitis virus vector	Unknown	Preclinical
Johnson & Johnson/Janssen Pharmaceuticals	Replication-defective human adenovirus 26 vector	Yes	Phase 1-2a clinical trials
AstraZeneca and the University of Oxford (ChAdOx1 nCoV-19)	Replication defective simian adenovirus vector	Yes	Phase 1-2 clinical trials



Article 2:

Excess Deaths From COVID-19 and Other Causes, March - April 2020

Published

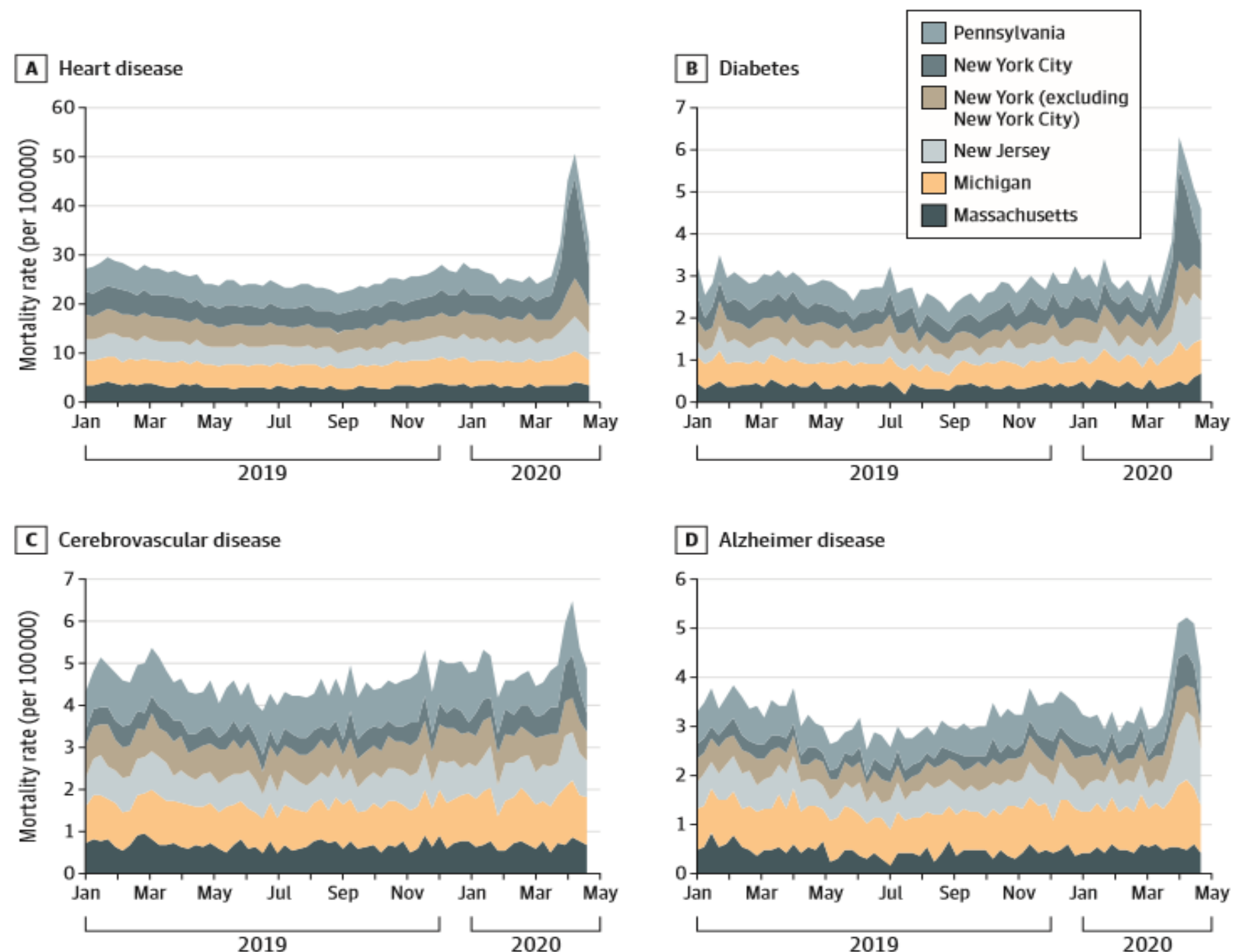
July 1, 2020 [JAMA](#)

- In the United States, weekly death data were obtained from the National Center for Health Statistics for January through April 2020 and the preceding 6 years (2014-2019). Total deaths and deaths from COVID-19, influenza/pneumonia, heart disease, diabetes etc. were included in the analysis. In order to calculate mortality rate, number of population were obtained from the US Census Bureau.
- A total of 505,059 deaths were reported from March 1 to April 25, 2020. Excess deaths were 87,001, of those 56,246 (65%) were attributed to COVID-19. Over 50% of excess deaths were attributed to underlying causes other than COVID-19 in the 14 states. The 5 states with the most COVID-19 deaths experienced large proportional increases in deaths from non-respiratory underlying causes such as diabetes (96%), heart diseases (89%), Alzheimer disease (64%), and cerebrovascular diseases (35%).



- Results suggested that death from COVID-19 reported in the first weeks of the pandemic captured only two thirds of excess deaths. Potential explanations included delayed reporting of COVID-19 deaths and misattribution of COVID-19 deaths to other respiratory illnesses (e.g. pneumonia) or to non-respiratory causes reflecting complications of COVID-19 (e.g. coagulopathy).
- Future research is required to assess the extent to which these trends represent non-respiratory manifestations of COVID-19 or secondary pandemic mortality caused by disruptions in society that diminished or delayed access to health care and the social determinants of health.

Figure. Weekly Death Rates From January 2019 Through April 2020



Article 3: Mortality and Morbidity: The Measure of a Pandemic

Published

1 July 2020 [JAMA](#)

- In the United States (US), the number of deaths attributed to COVID-19 in official reports is probably an underestimate of deaths caused by SARS-CoV-2. People who died of COVID-19 during the early stage of pandemic may not have been recognized due to inadequate knowledge of the infection or unavailability of test. These deaths would not be counted in mortality related to the pandemic.
- Estimates of excess deaths (deaths beyond what would be expected) is one way to assess the true effect of this pandemic. The number of excess deaths in the US between March 1 and April 25, 2020 was compared with the preceding 6 years (2014-2019). During that period, it was expected 419,058 deaths but observed 505,059, an excess of 87,001 deaths. It was estimated that 65% were attributable to COVID-19, **leaving 35% of the excess deaths unexplained**. If the same pattern continued through the end of May 2020, there would be 100,000 deaths attributable to COVID-19 but an estimated 135,000 total deaths attributable to the pandemic. Hospitalizations from COVID-19 may be a direct measure to help assess morbidity.
- It is important to have an accurate number of deaths from this pandemic either directly or indirectly. The goal is to update the counts during fall 2020 so that a precise measurement of the pandemic status and of efforts to reduce the morbidity and mortality are available to be debated prior to 2020 US presidential election.



THANK YOU

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