



Scientific Research Monitoring on COVID-19

10 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>

Summary on COVID19



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.

Summary on COVID19 (Cont.)

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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



Todays' Highlights

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

Scientific Research

Today's article review has been prepared by MOHHP:

- **Clinical Feature and Transmission:** COVID-19 and anosmia: A review based on up-to-date knowledge
- **Diagnosis :** COVID-19: is there a link between the course of infection and pharmacological agents in diabetes?
- **Diagnosis:** Seroprevalence of SARS-CoV-2 in Hong Kong and in residents evacuated from Hubei province, China: a multicohort study
- **Public Health response:** - Draft landscape of COVID-19 candidate vaccines
-Latest News on coronavirus impact on Middle East
- **Public Health Response:** COVID-19 vaccine development pipeline gears up
- **Public Health Response:** Active case finding with case management: the key to tackling the COVID-19 pandemic.
- **Public Health Response:** Advice on the use of masks in the context of COVID-19

WHO daily report



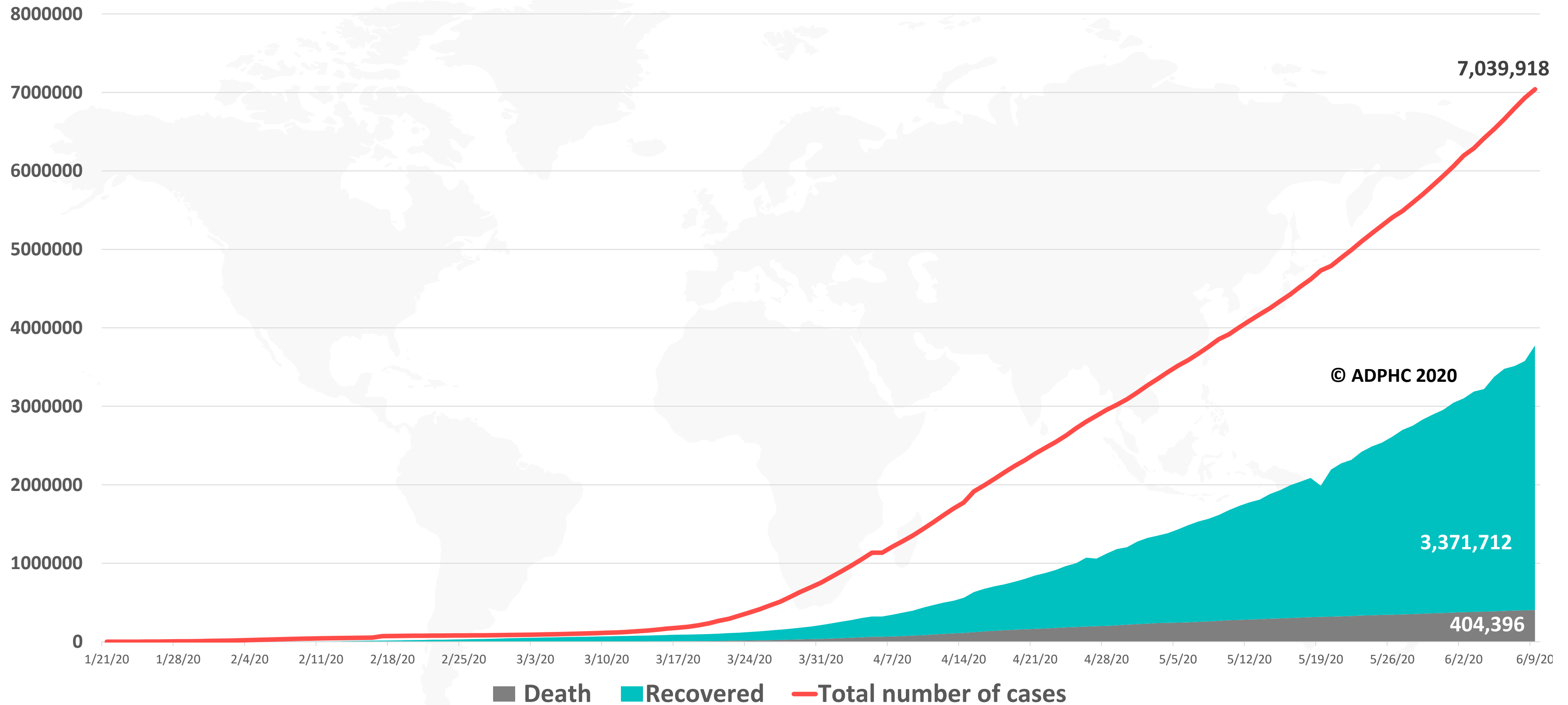
WHO Daily Report 9 June 2020

- More than 7 million cases of COVID-19 and over 400 000 deaths have now been reported to WHO. Although the situation in Europe is improving, globally it is worsening. On Sunday, more than 136 000 cases were reported, the most in a single day so far. In countries seeing positive signs, the WHO Director-General warned in his media briefing yesterday ‘the biggest threat now is complacency’.
- The WHO Regional Office for the Americas has published a guide with recommendations on measures to reduce COVID-19 transmission among indigenous populations, Afro-descendants, and other ethnic groups. The recommendations focus on promoting hygiene, social distancing, and improving access to basic health services in these communities.
- WHO fully supports equality and the global movement against racism. We encourage all those protesting around the world to do so safely: as much as possible, keep at least 1 metre from others, clean your hands, cover your cough and wear a mask if you attend a protest.
- WHO has published 14 new community and risk engagement posters on parenting during the pandemic. Some of the topics that these posters cover include: learning through play, keeping calm and managing stress, keeping children safe online, family budgeting in times of financial stress, and talking about COVID-19.

Epidemiology



Figure 1: Total number of infected, recovered , and death cases (January 21st to Jun 9, 2020)

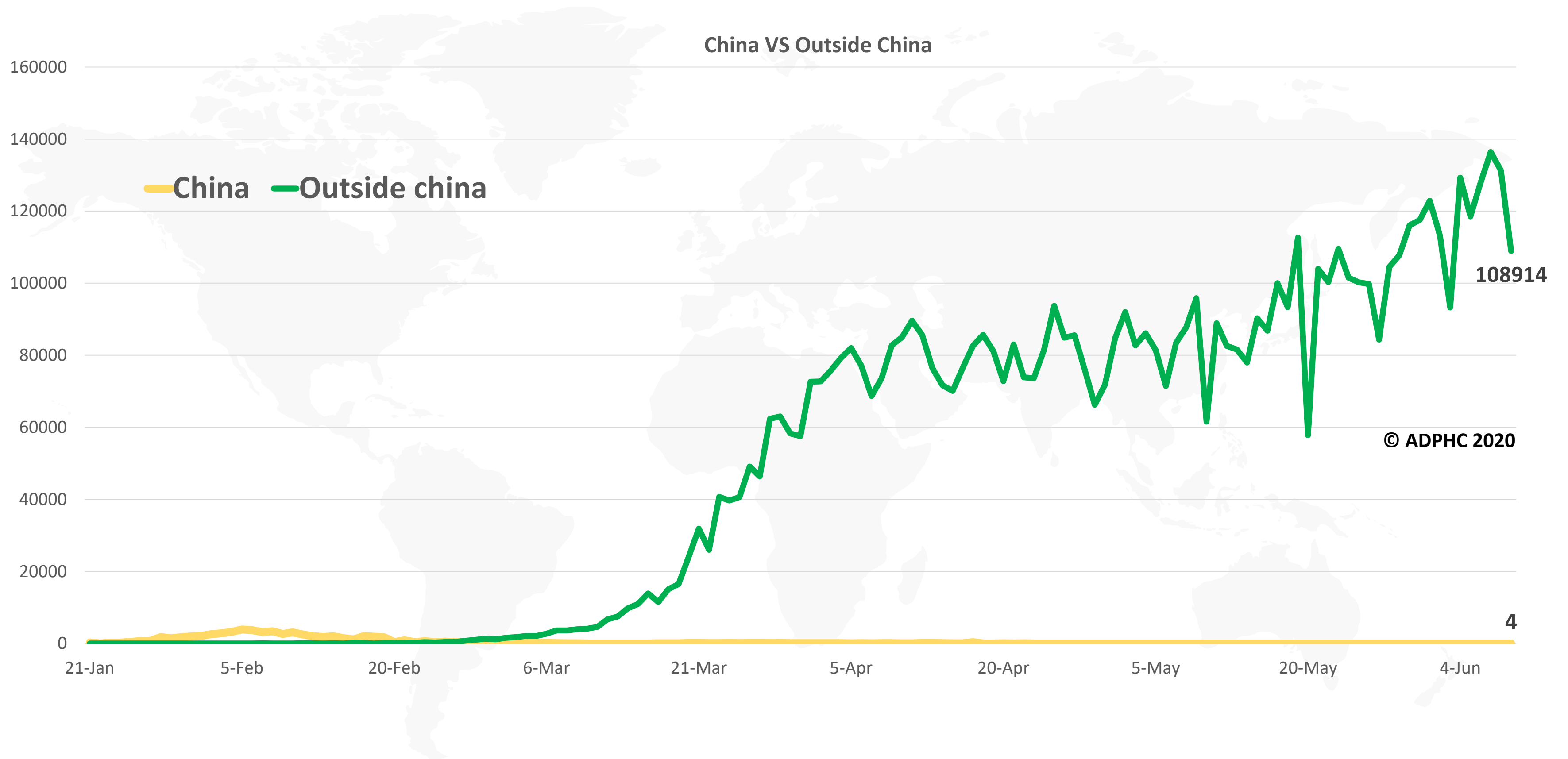


Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#), : [John Hopkins University](#)



Figure 2: Daily new infected COVID-19 cases reported between (January 21 to Jun 9, 2020).



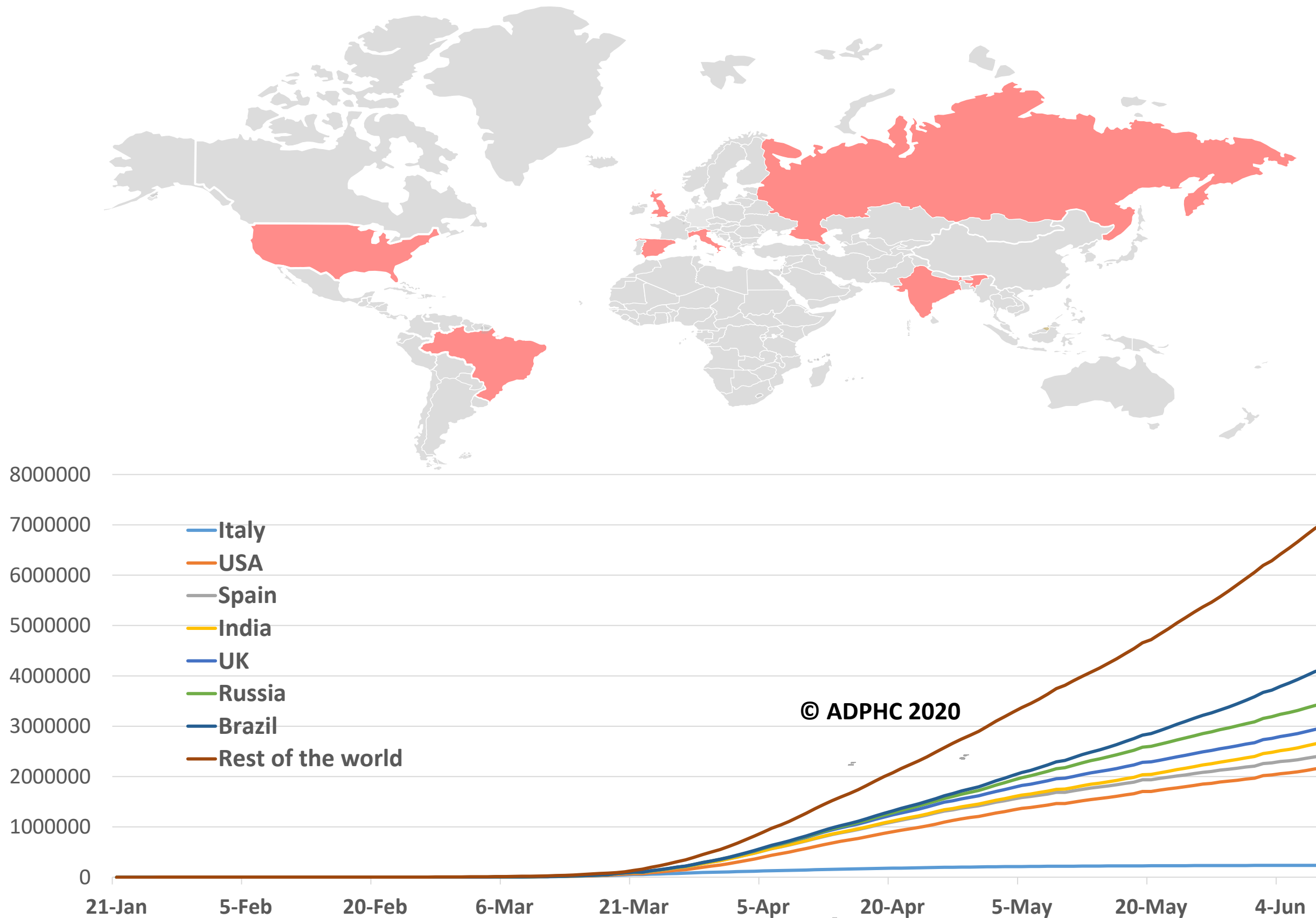
Line graph published by Abu Dhabi Public Health Center 2020.

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

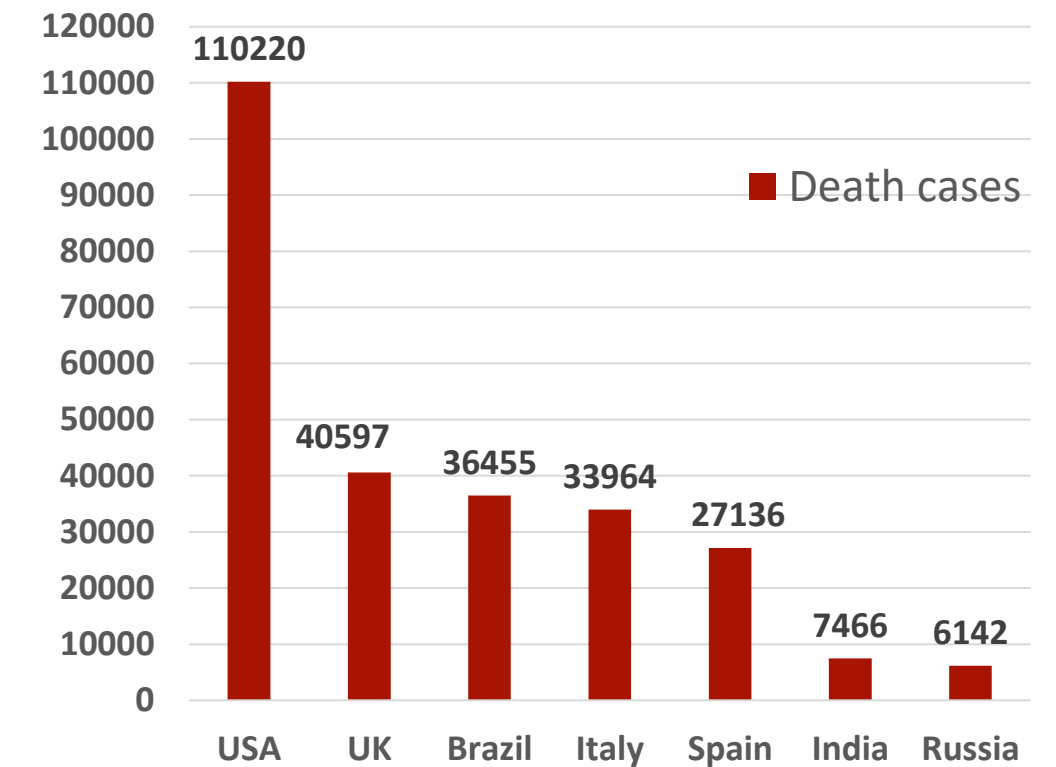
Epidemiology



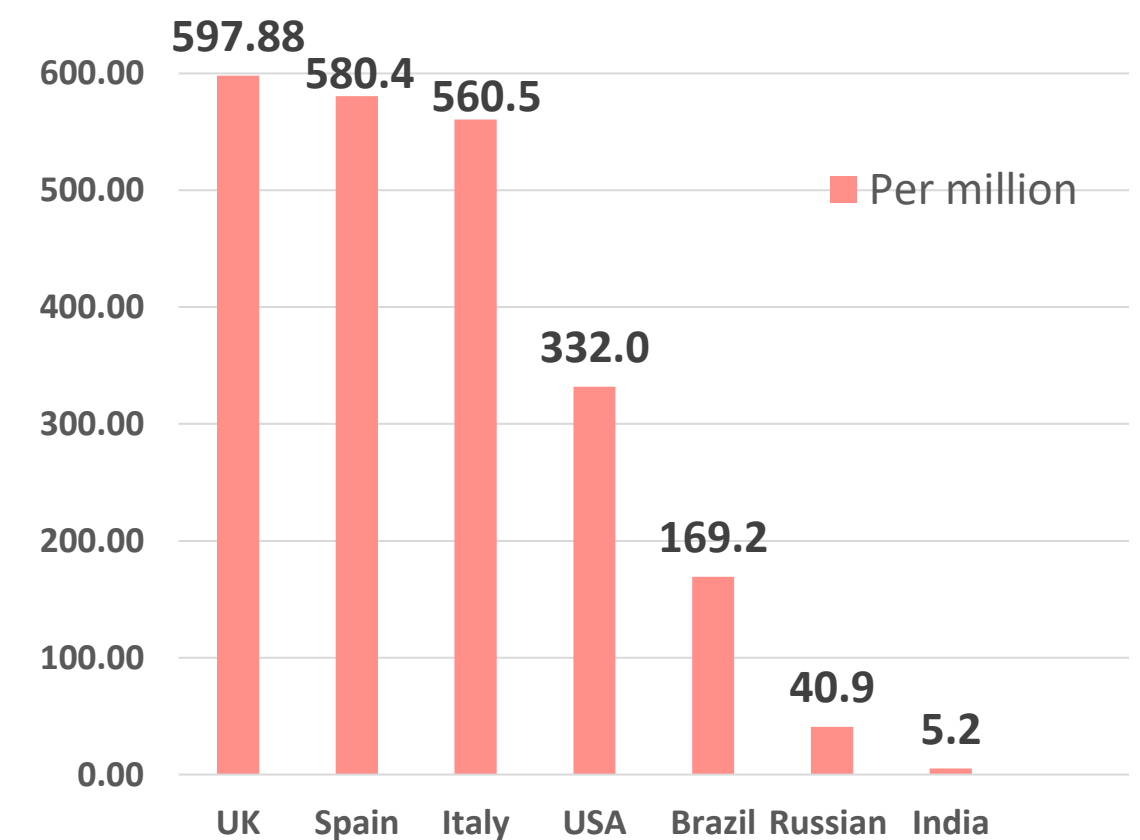
Figure 3 : Top 7 countries in the total number of cases due to COVID-19 (January 21 to Jun 9, 2020).



TOTAL DEATHS



DEATHS PER MILLION

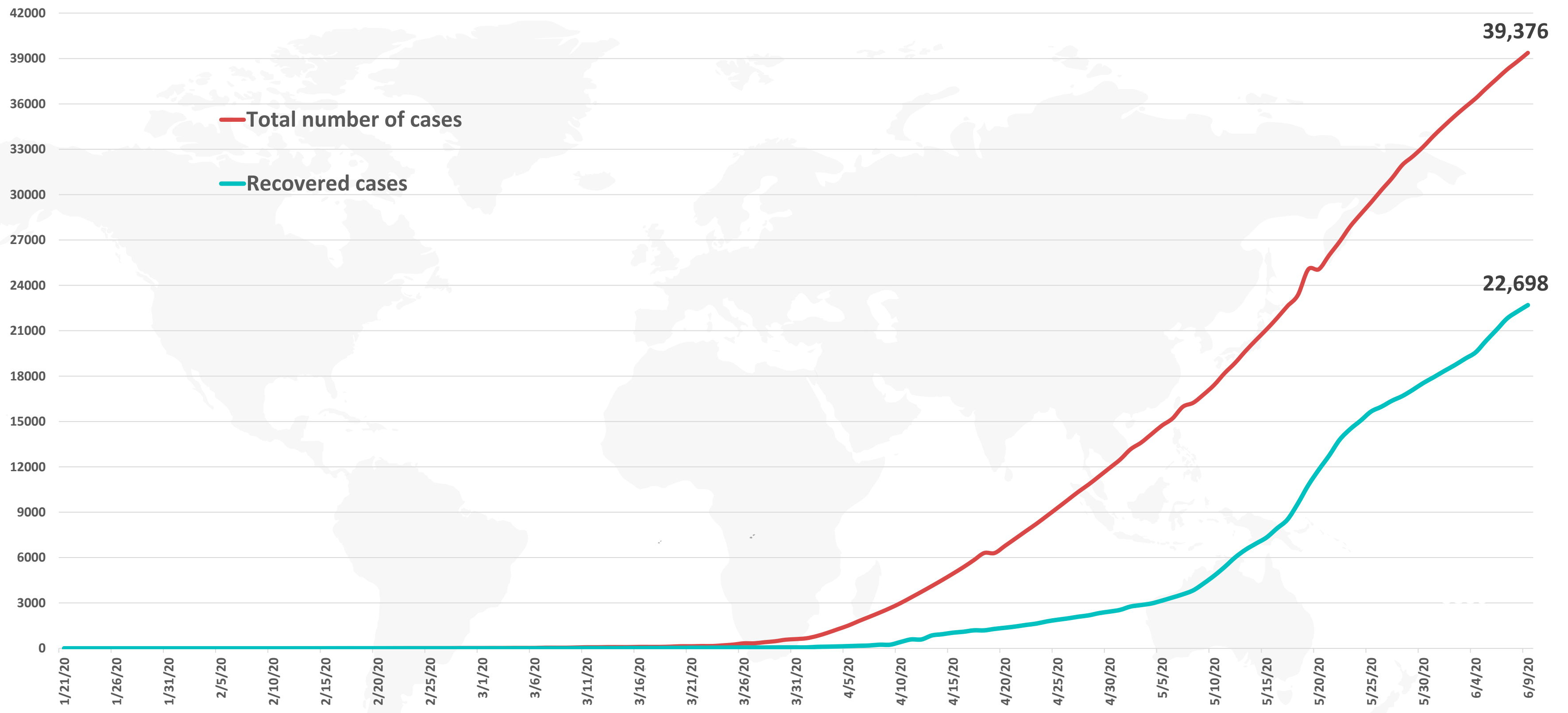


Line graph published by Abu Dhabi Public Health Center 2020.

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



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



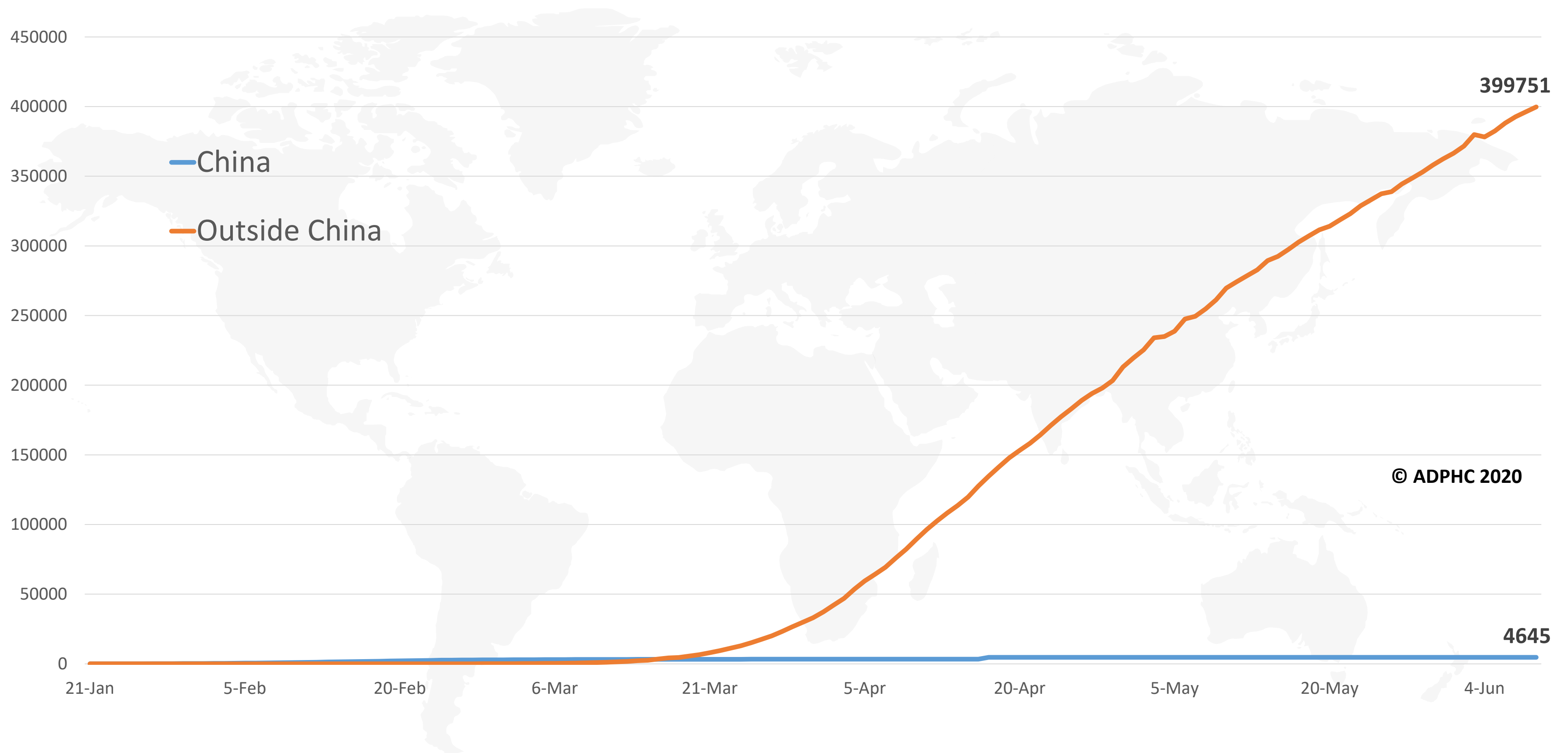
Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#), [John Hopkins University](#)

Epidemiology



Figure 5: Total number of death due to COVID-19 reported by China and the rest of the world (January 22 to Jun 9, 2020).



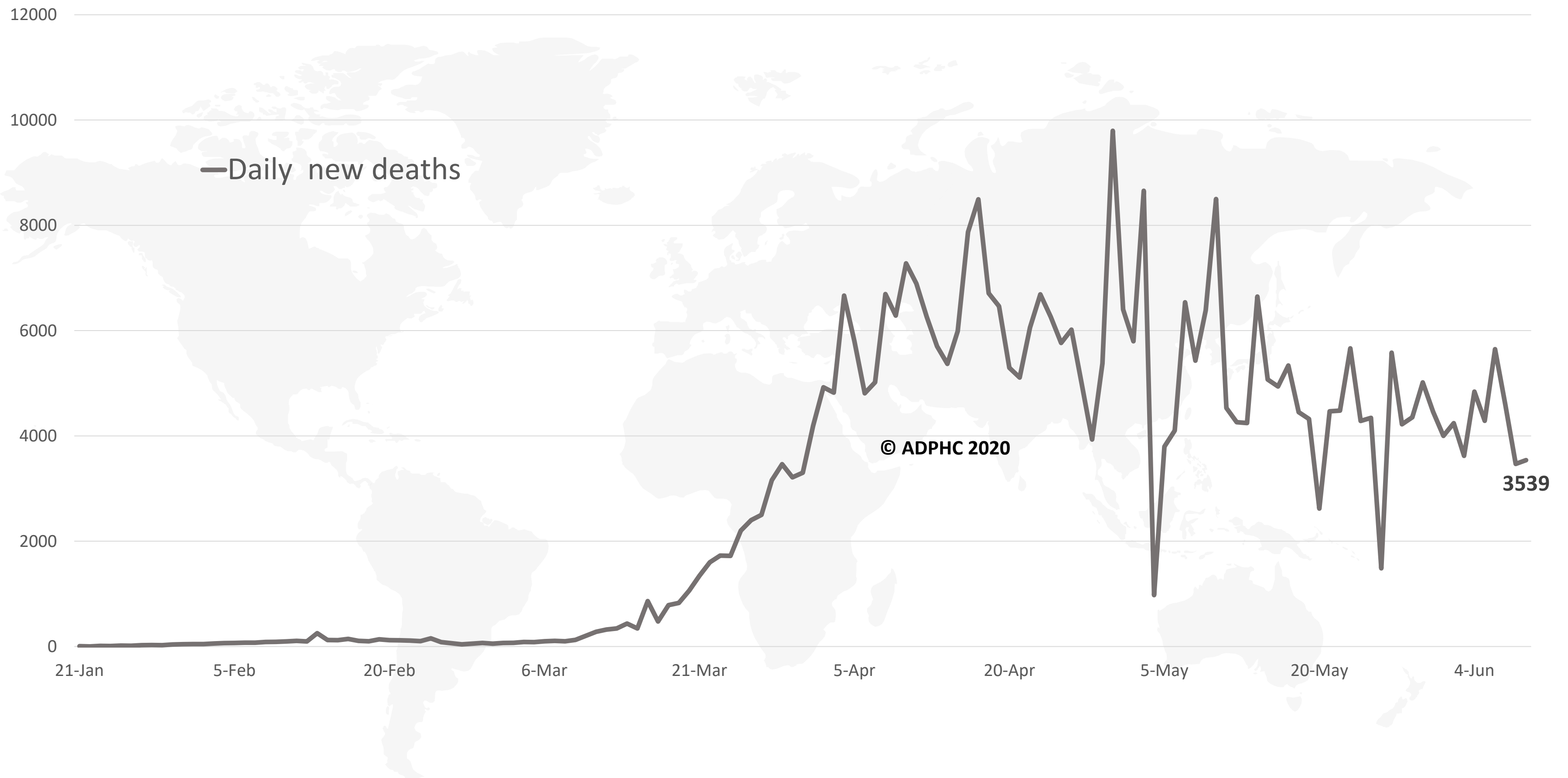
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Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)



Figure 6: Global daily new deaths due to COVID-19 (January 22 to Jun 9, 2020).



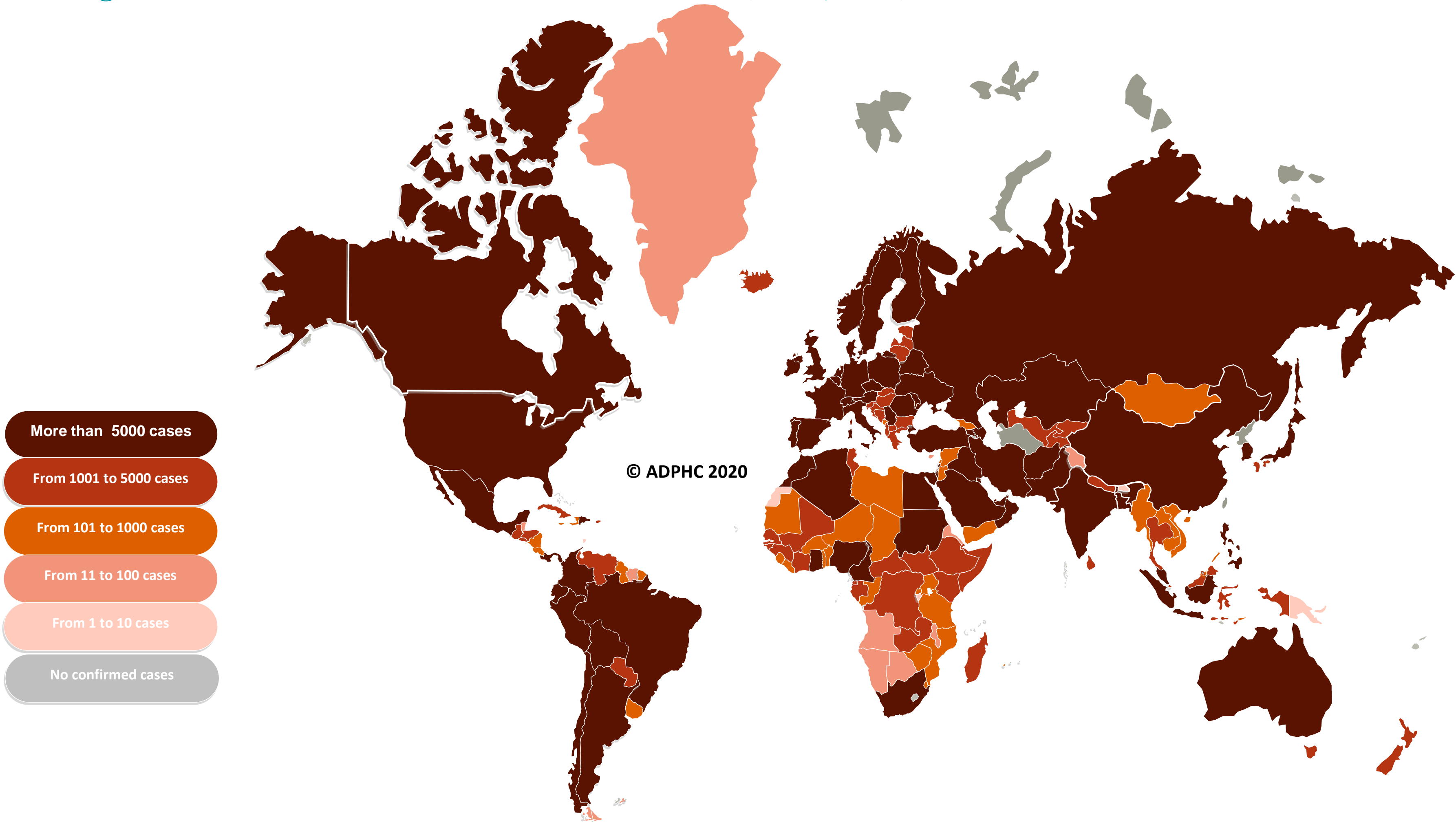
Line graph published by Abu Dhabi Public Health Center 2020.

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

Epidemiology



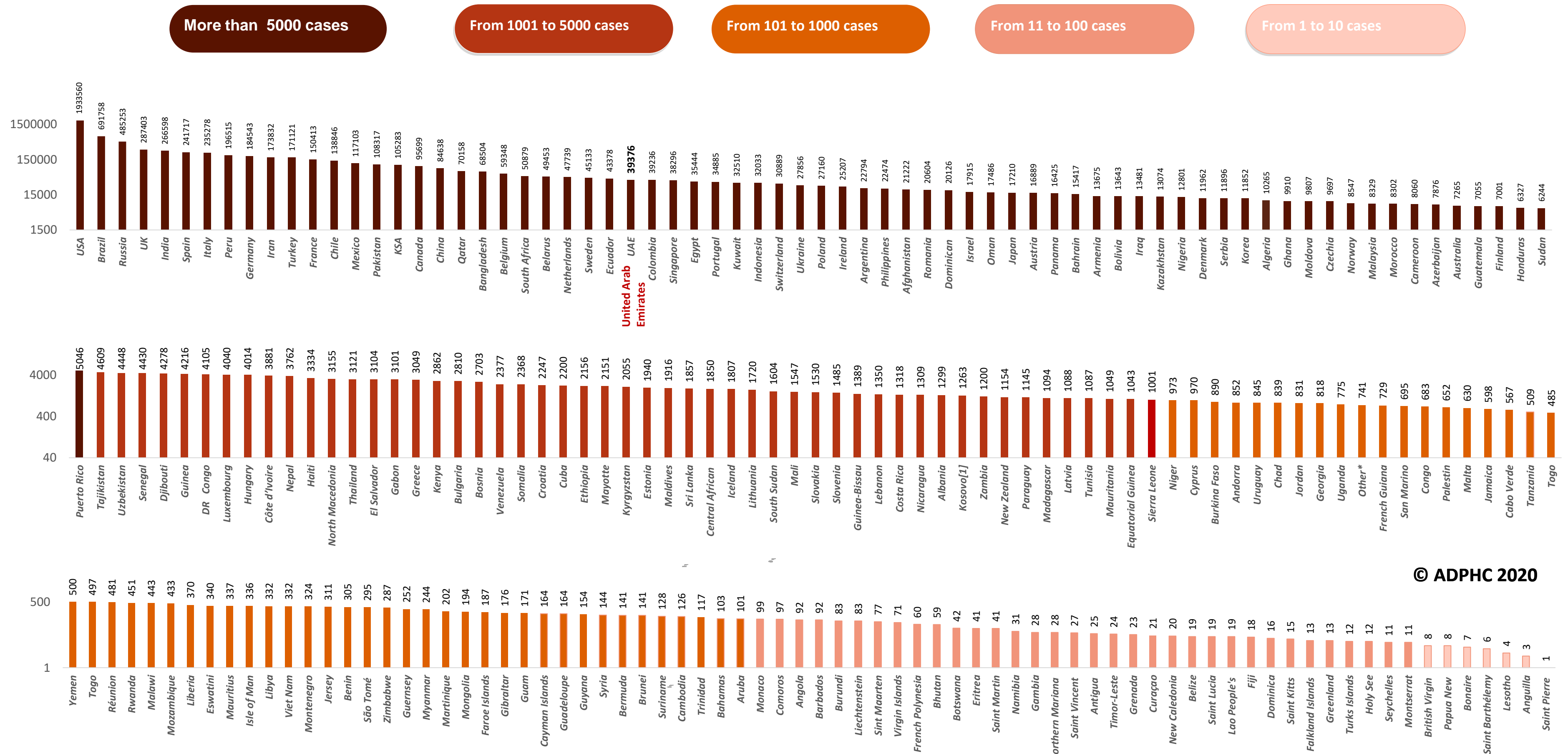
Figure 7a : Global distribution of COVID-19 cases (Jun 9, 2020).



Map chart published by Abu Dhabi Public Health Center 2020.



Figure 7B: Bar chart illustrate the global distribution of COVID19 cases Jun 9, 2020)



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

Map chart published by Abu Dhabi Public Health Center 2020.

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

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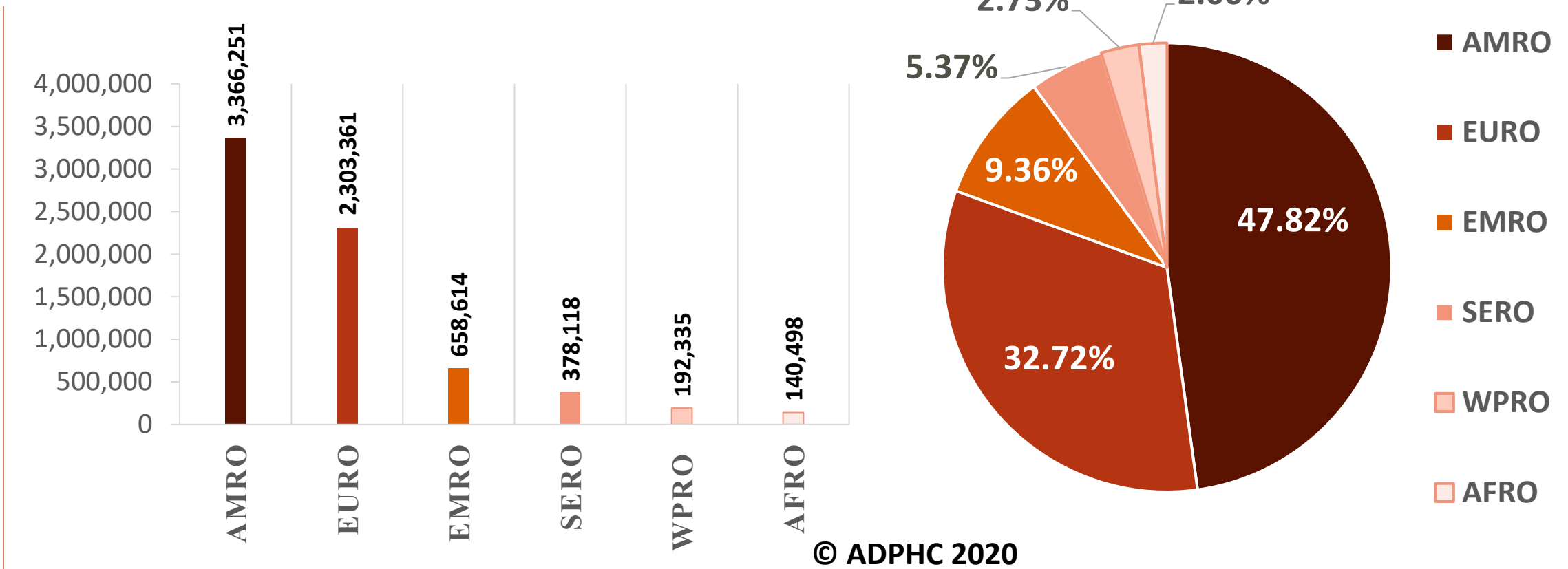
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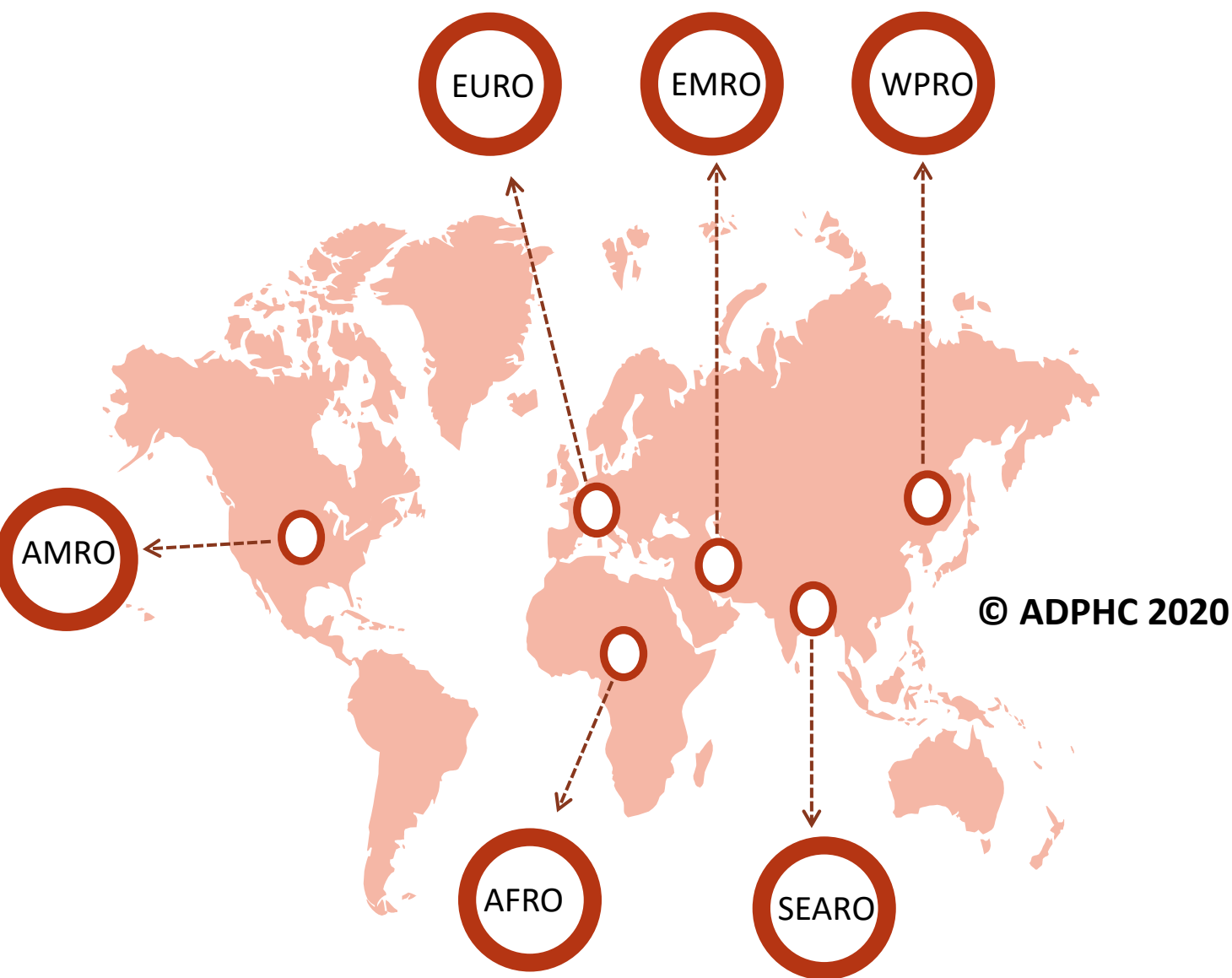
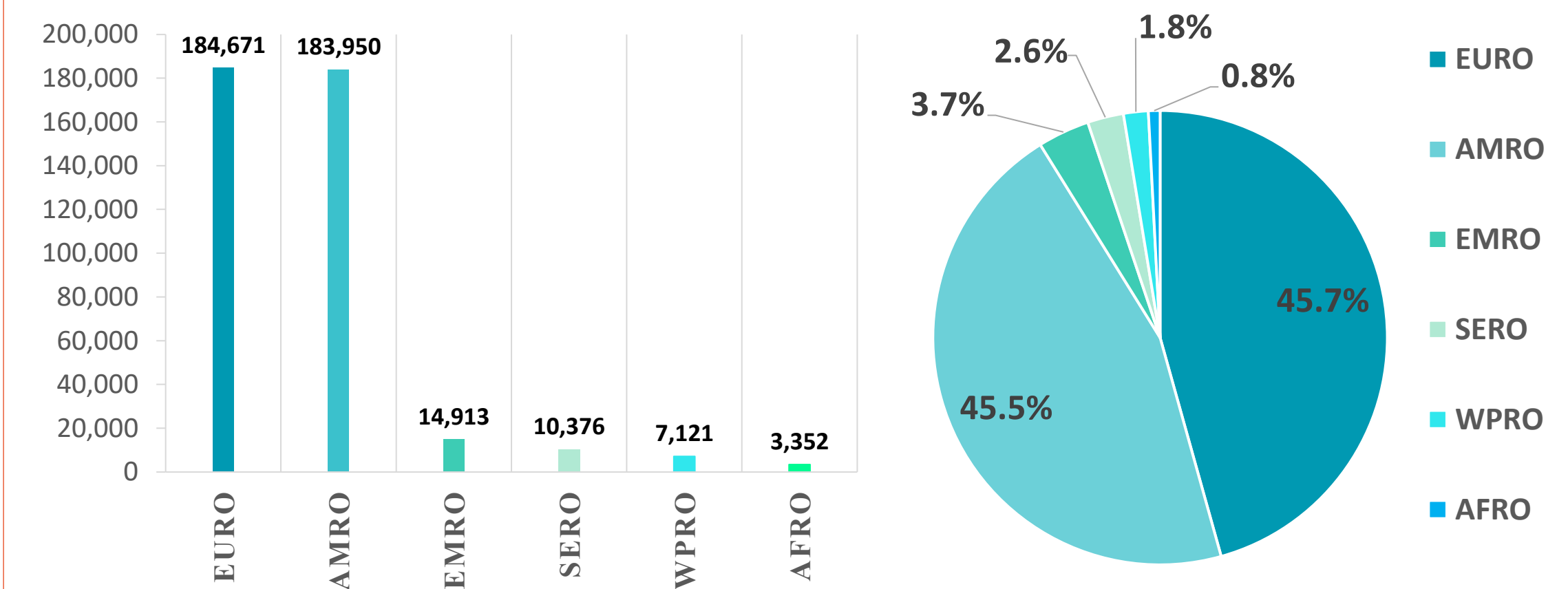


Figure 8: illustrate the Global distribution of COVID19 cases per region (Jun 9, 2020)

INFECTED



DEATH



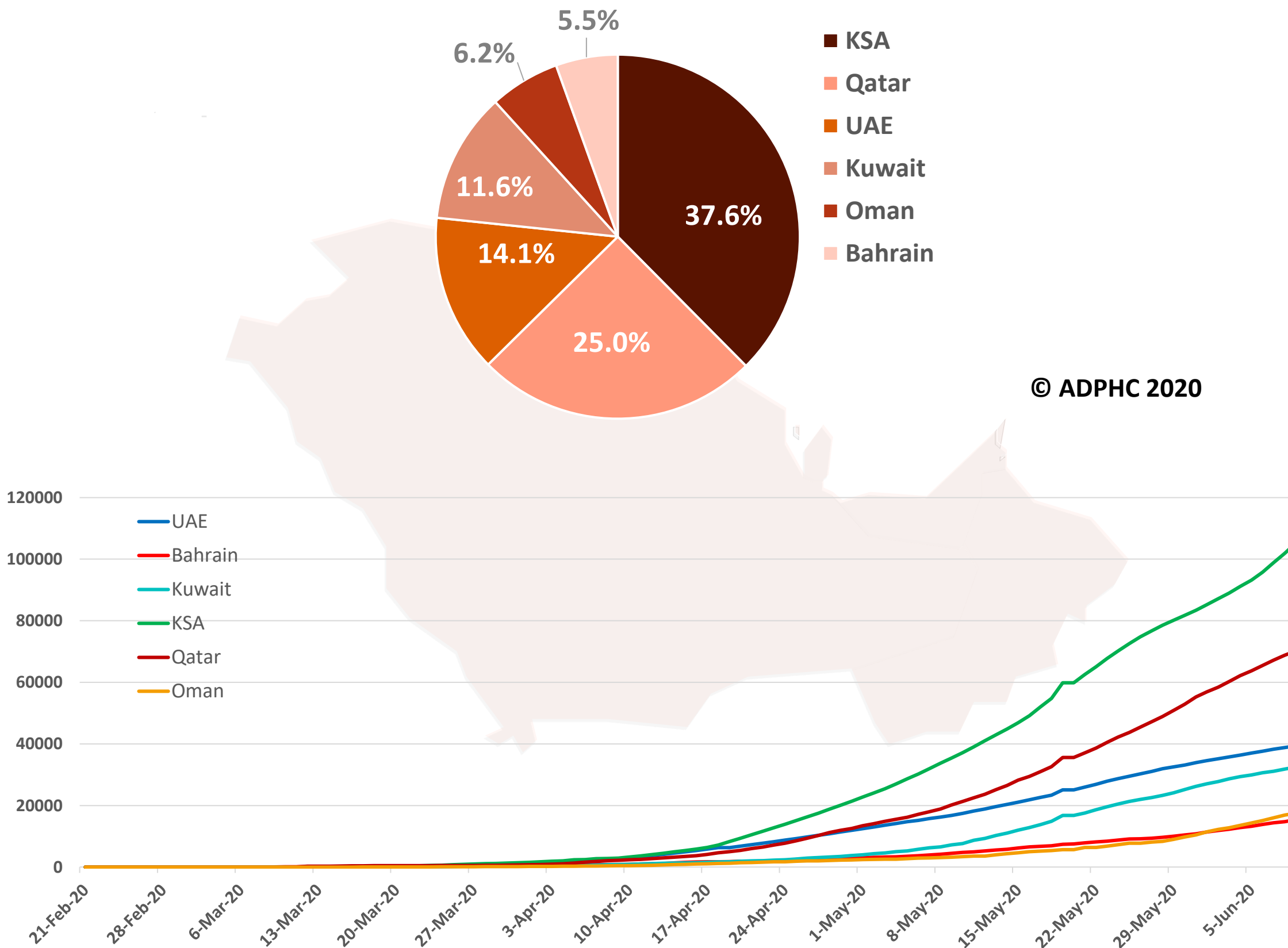
Map chart published by Abu Dhabi Public Health Center 2020.

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

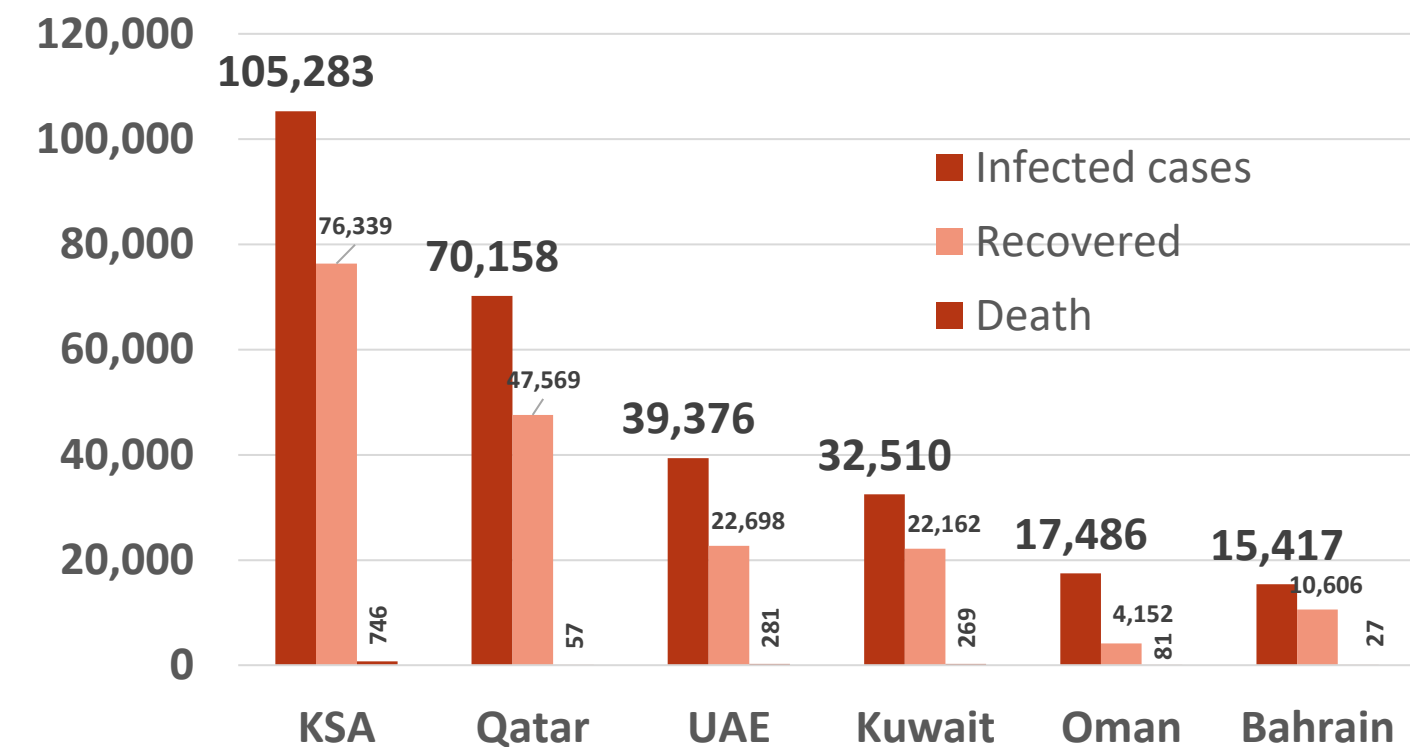


Figure 9: Comparative analysis of the distribution of COVID19 cases in GCC countries (Jun 9, 2020)

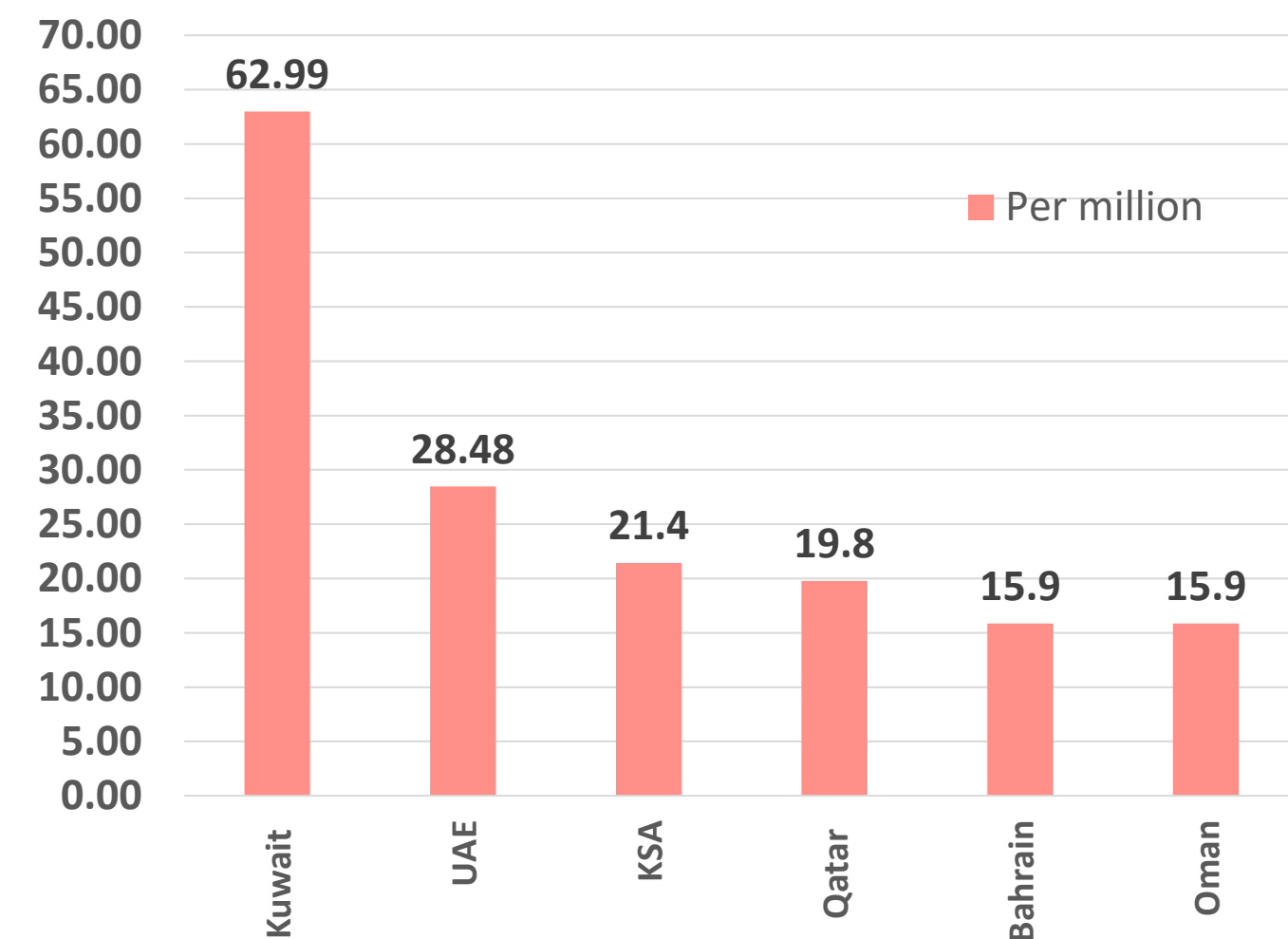
TOTAL NUMBER OF INFECTED CASES



Total number of infected, recovered and Deaths



Death per million



charts published by Abu Dhabi Public Health Center 2020.

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

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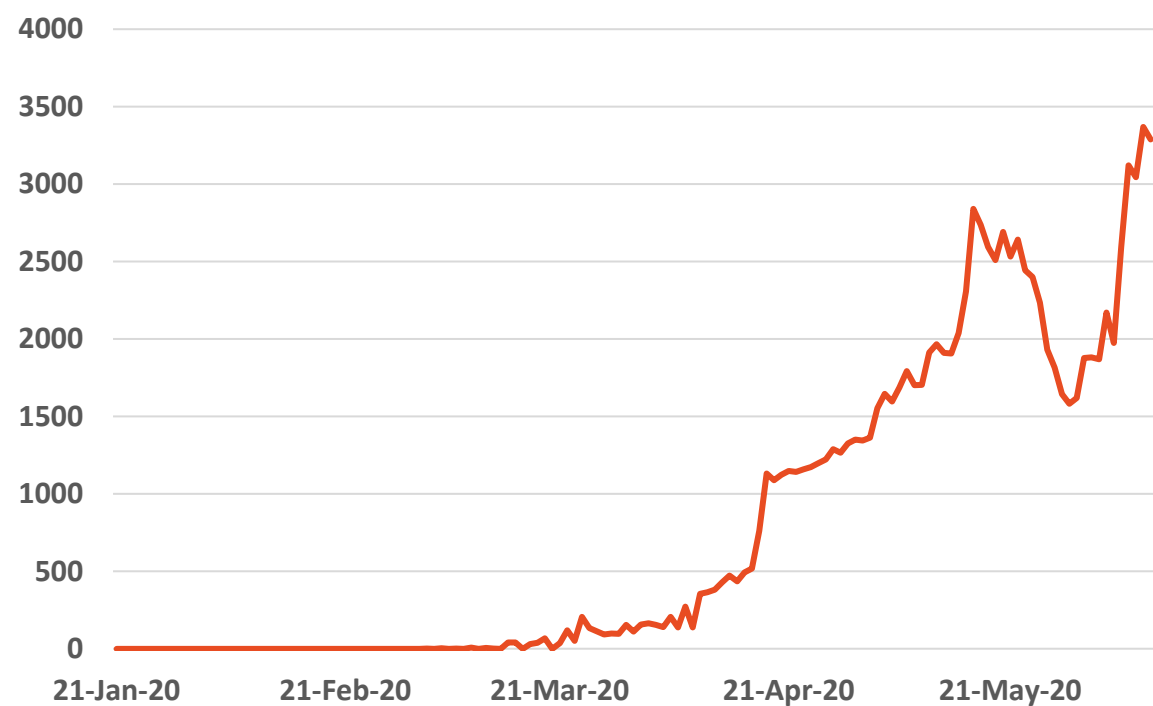
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Epidemiology



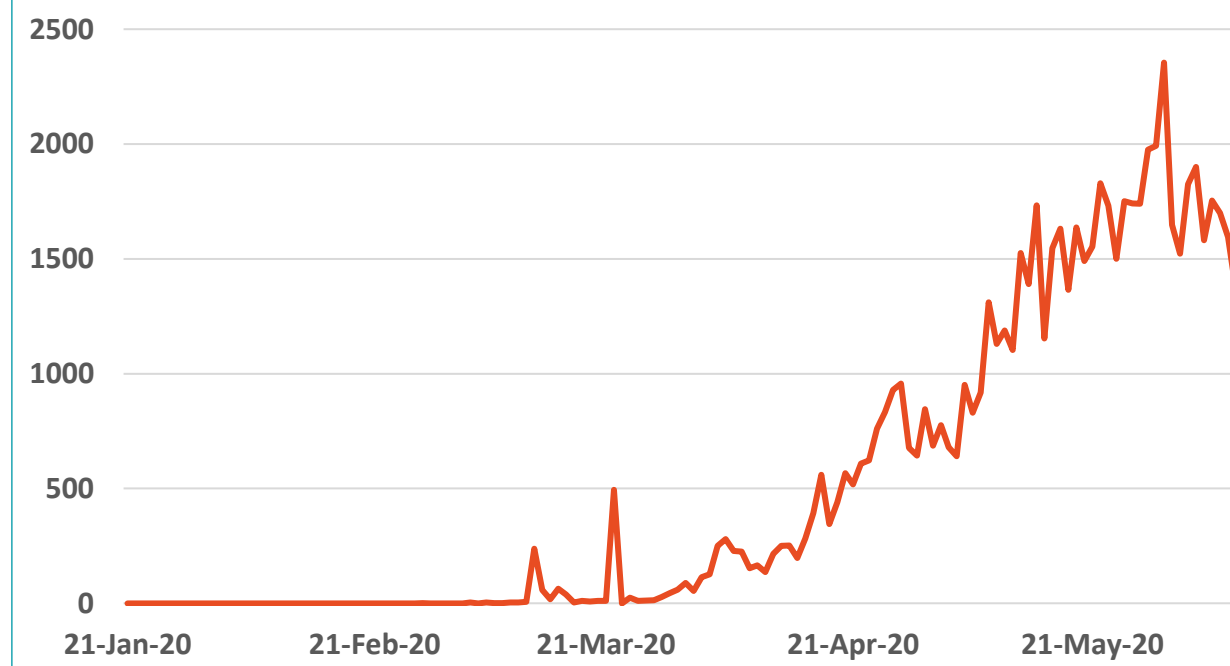
Figure 10: Comparative analysis of the distribution of COVID19 new cases in GCC countries (June 9, 2020)

KSA



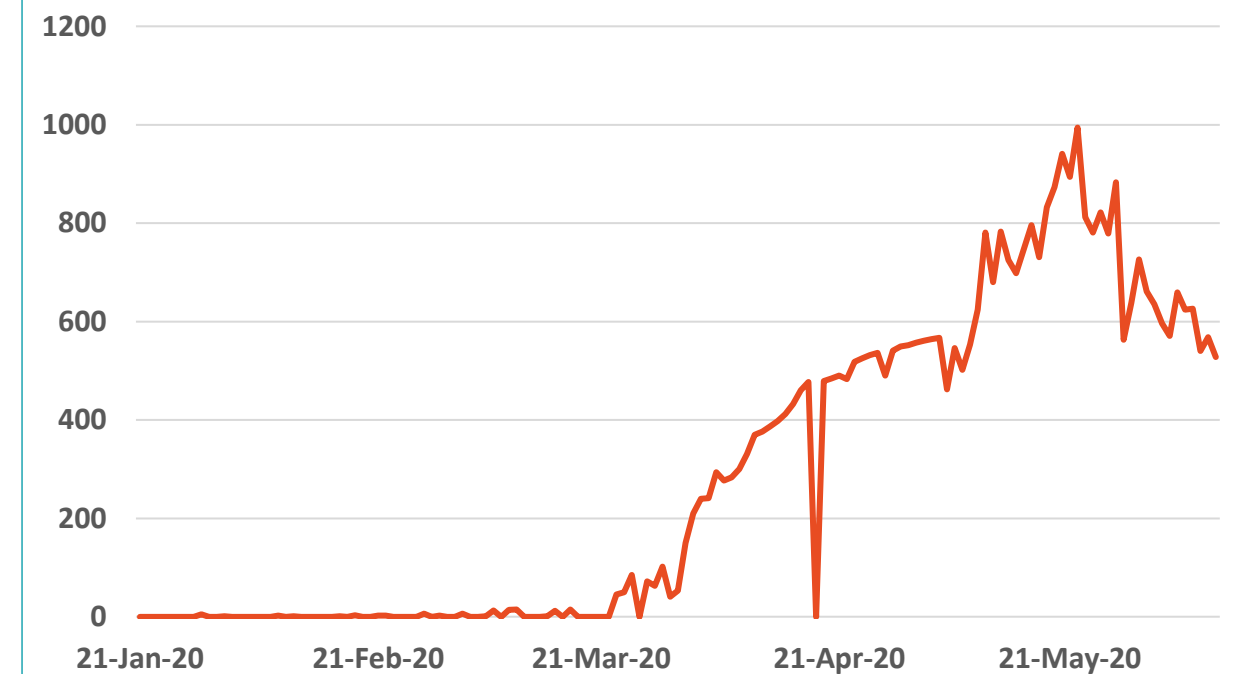
Source : KSA ministry of health & GCCStat

Qatar



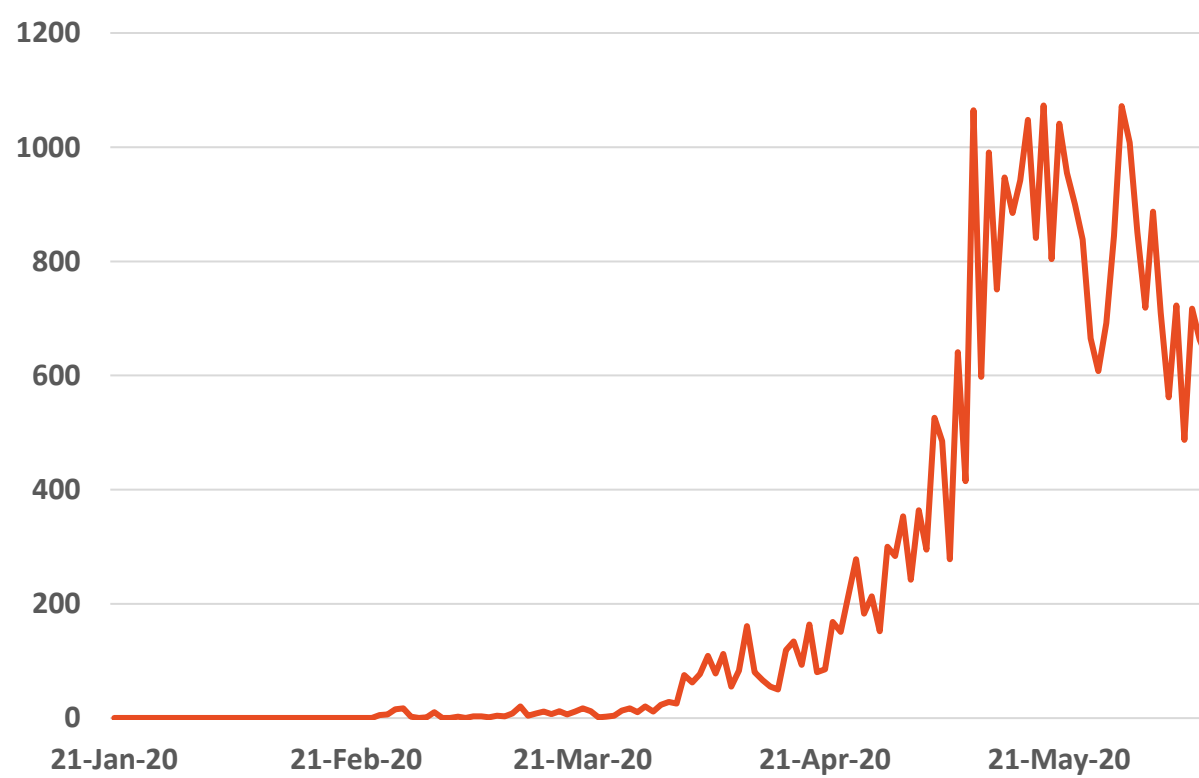
Source : Qatar ministry of health & GCCStat

UAE



Source : UAE ministry of health & GCCStat

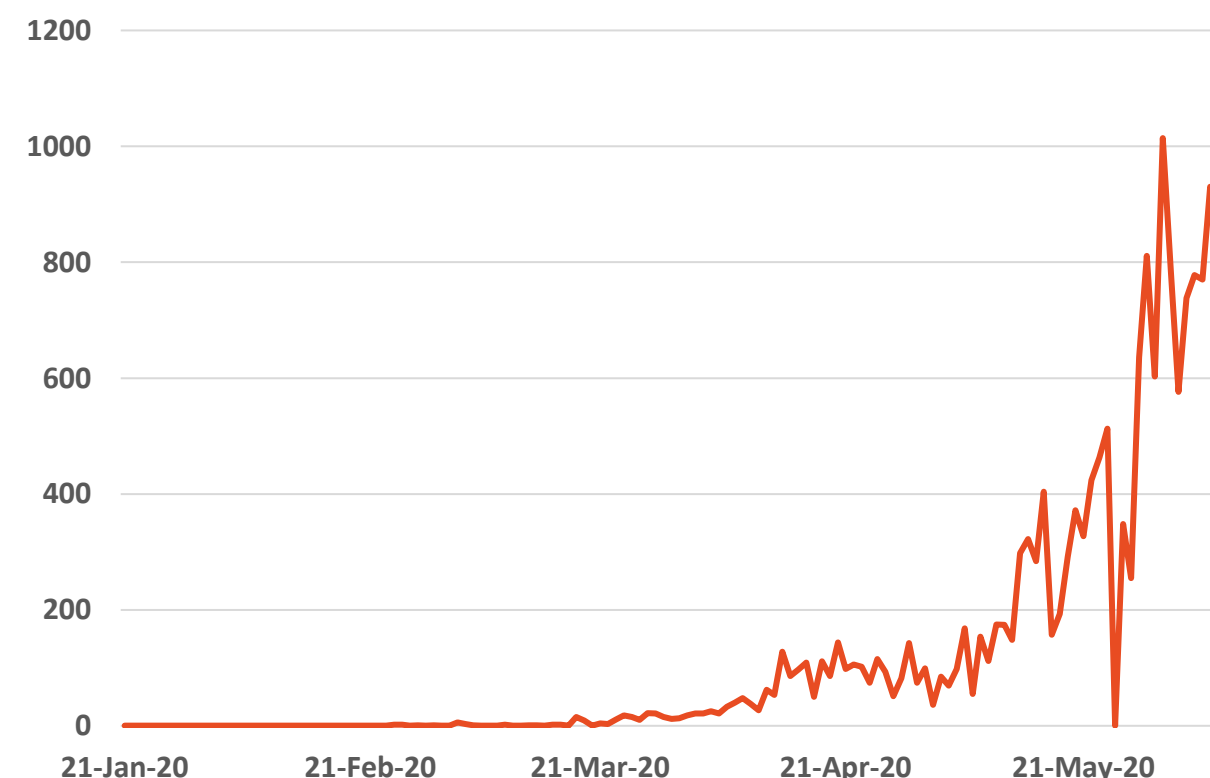
Kuwait



Source : Kuwait ministry of health & GCCStat

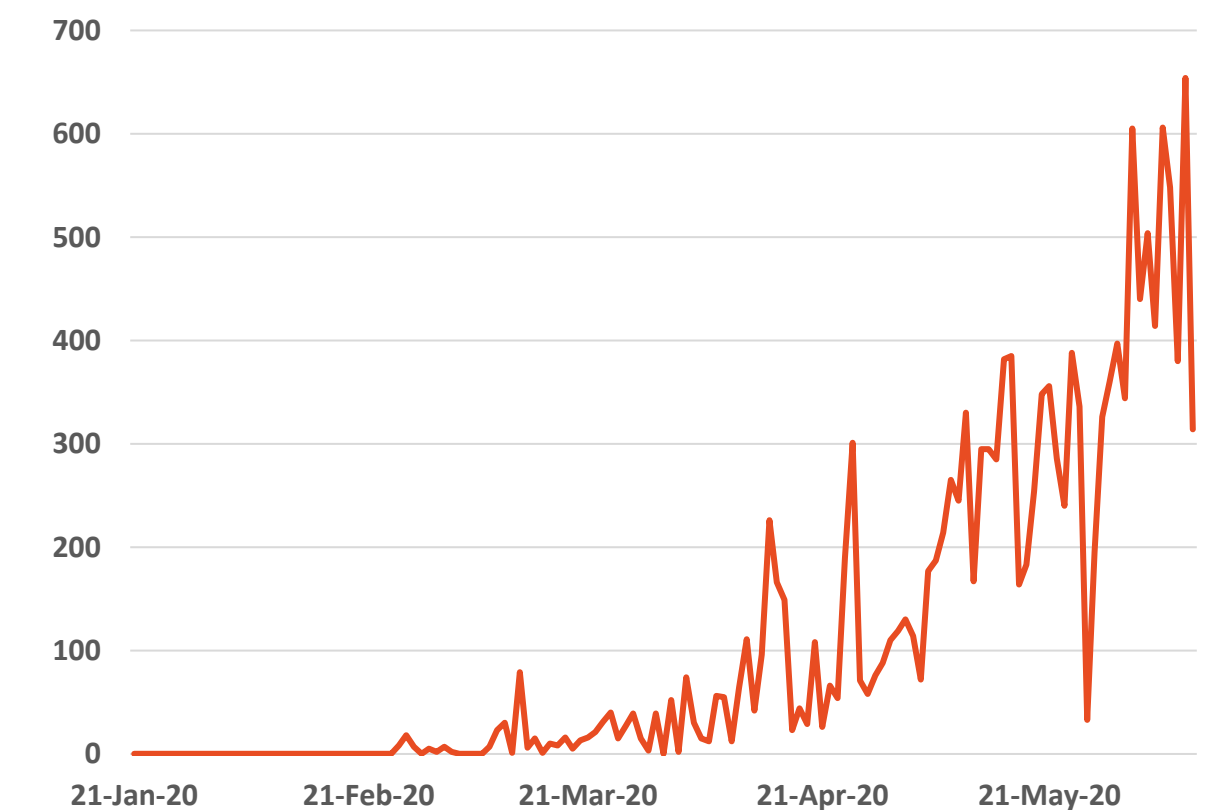
Oman

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Source : Oman ministry of health & GCCStat

Bahrain



Source : WHO & GCCStat

Epidemiology



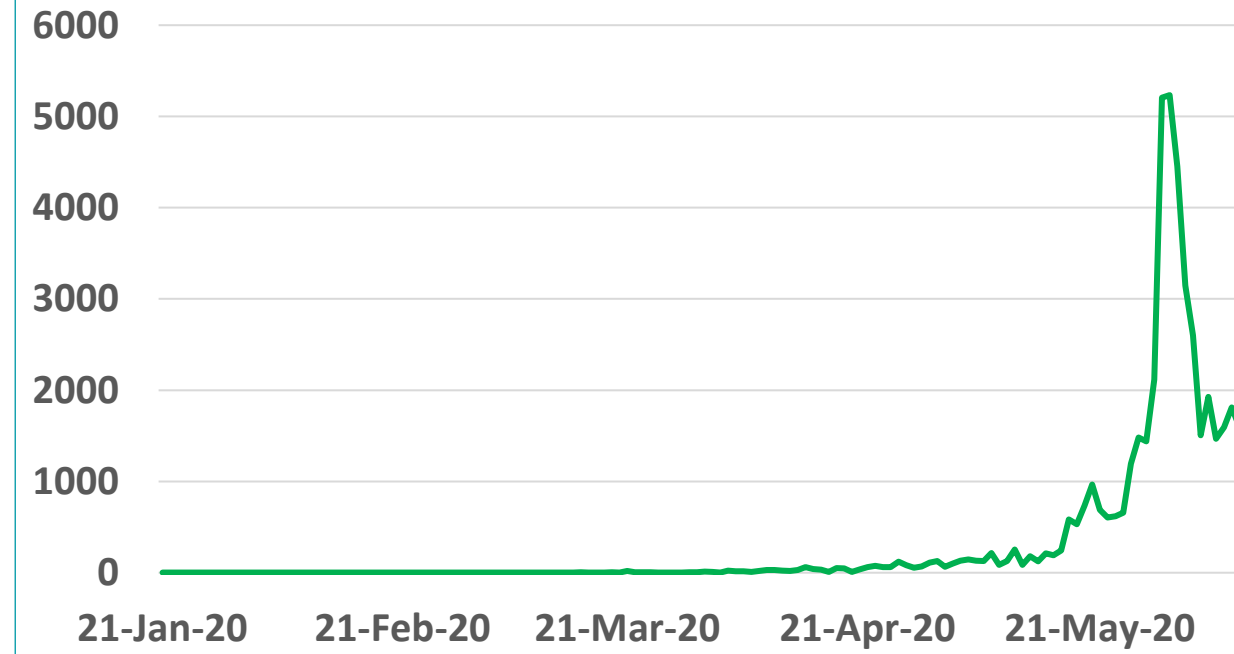
Figure 11 : Comparative analysis of the distribution of COVID19 newly recovered cases in GCC countries (June 9, 2020)

KSA



Source : KSA ministry of health & GCCStat

Qatar



Source : Qatar ministry of health & GCCStat

UAE



Source : UAE ministry of health & GCCStat

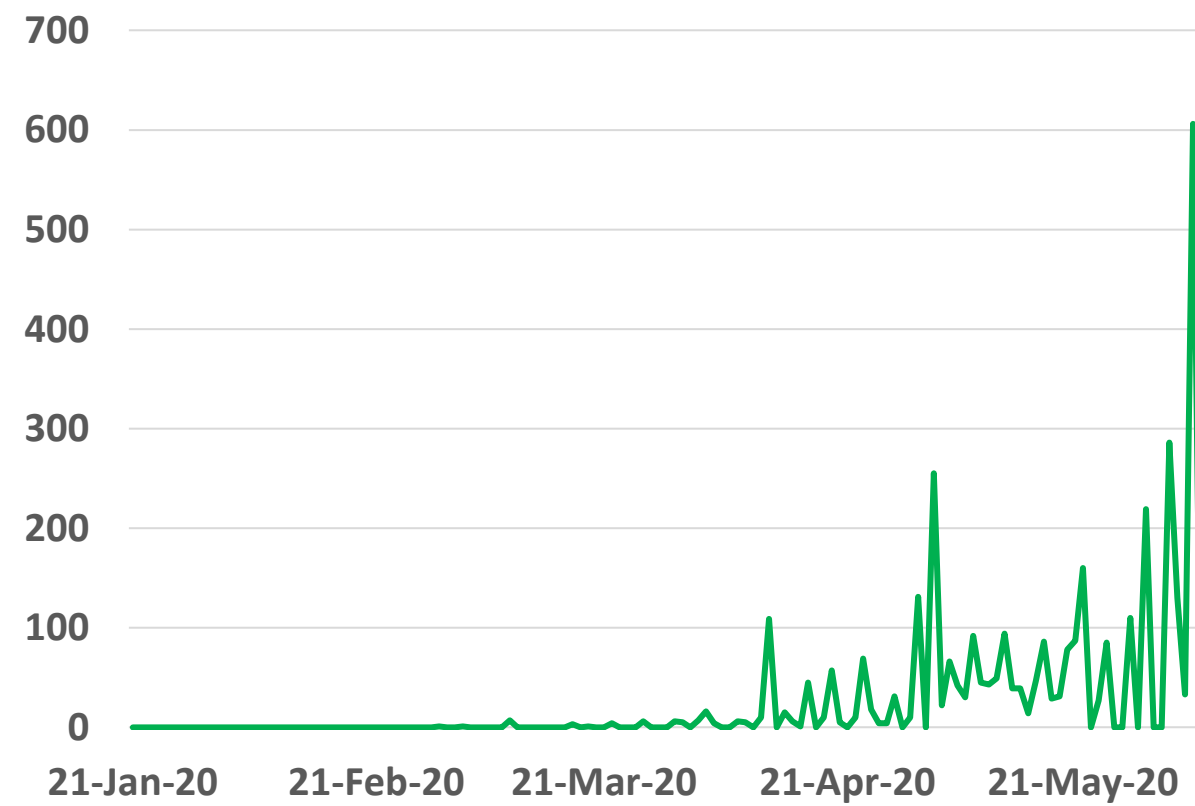
Kuwait



Source : Kuwait ministry of health & GCCStat

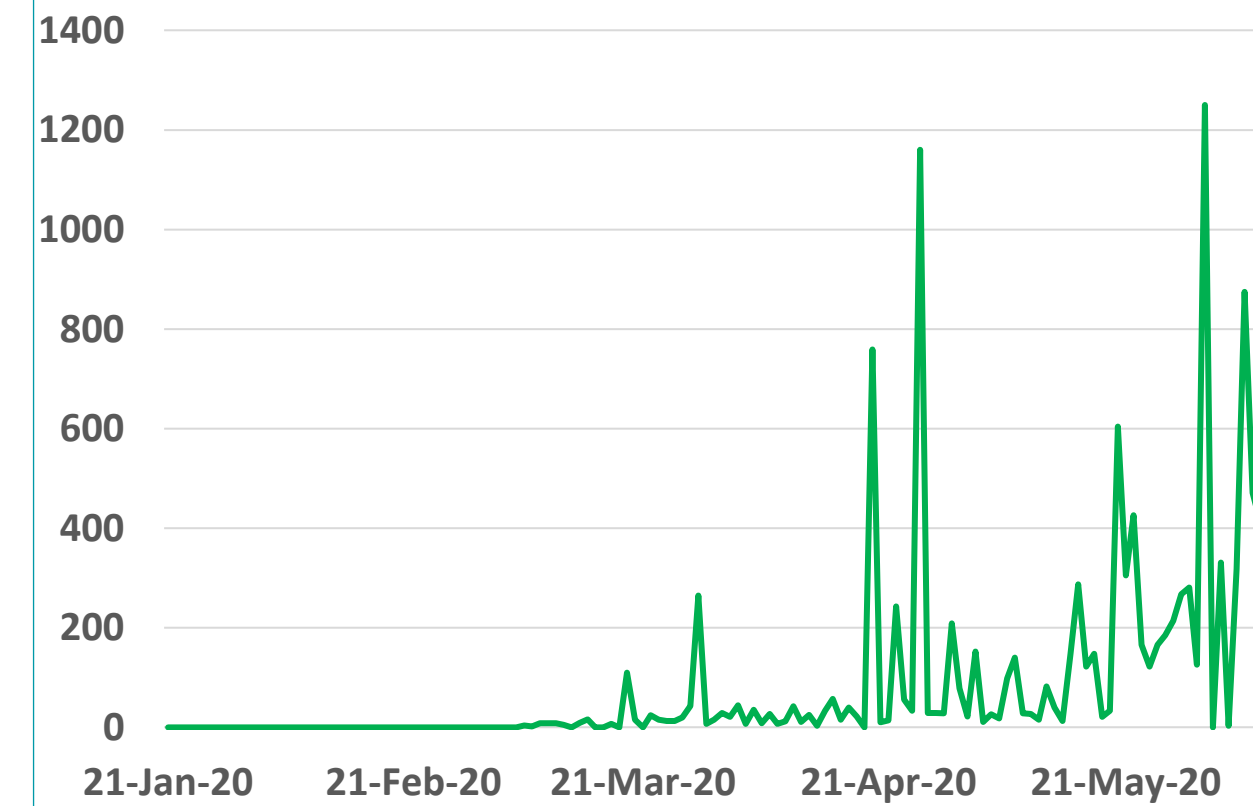
Oman

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Source : Oman ministry of health & GCCStat

Bahrain



Source : WHO & GCCStat

Epidemiology



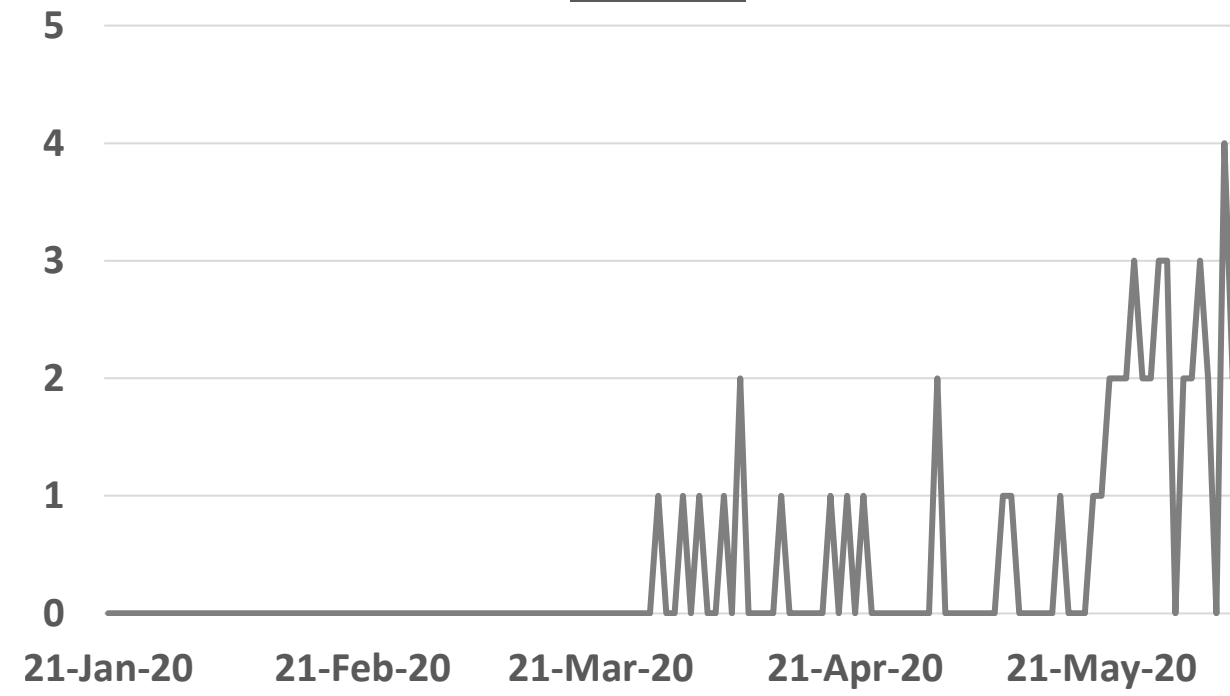
Figure 12: Comparative analysis of the distribution of COVID19 newly death cases in GCC countries (June 9, 2020)

KSA



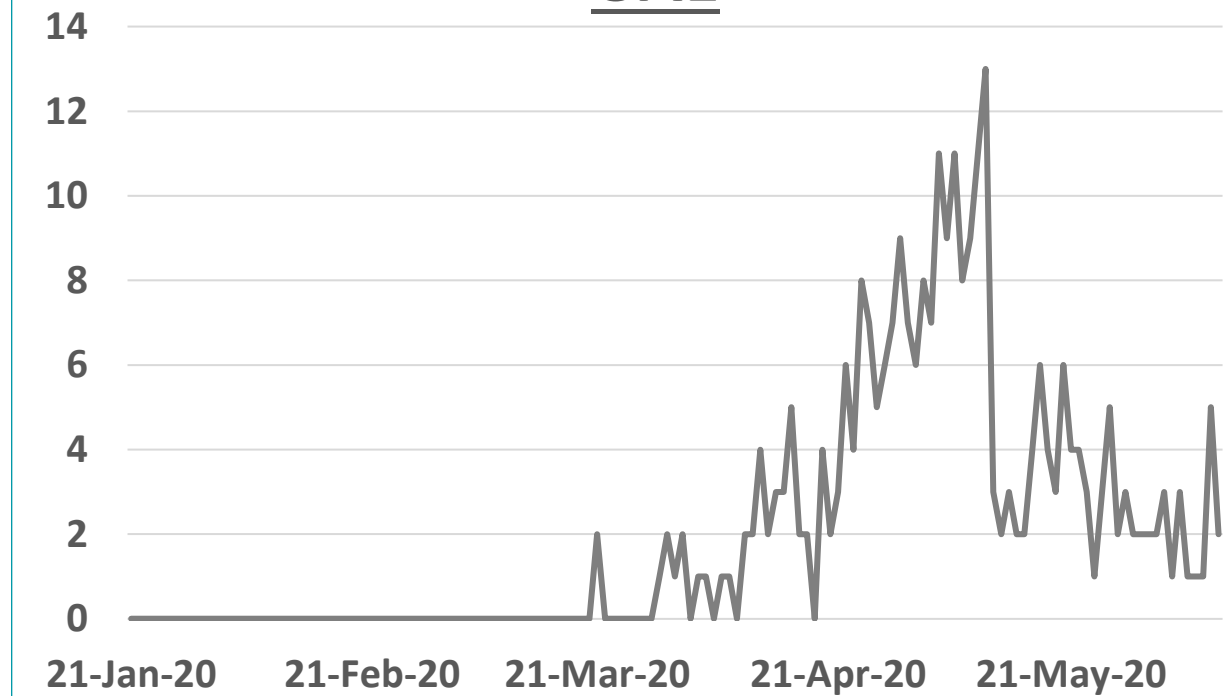
Source : KSA ministry of health & GCCStat

Qatar



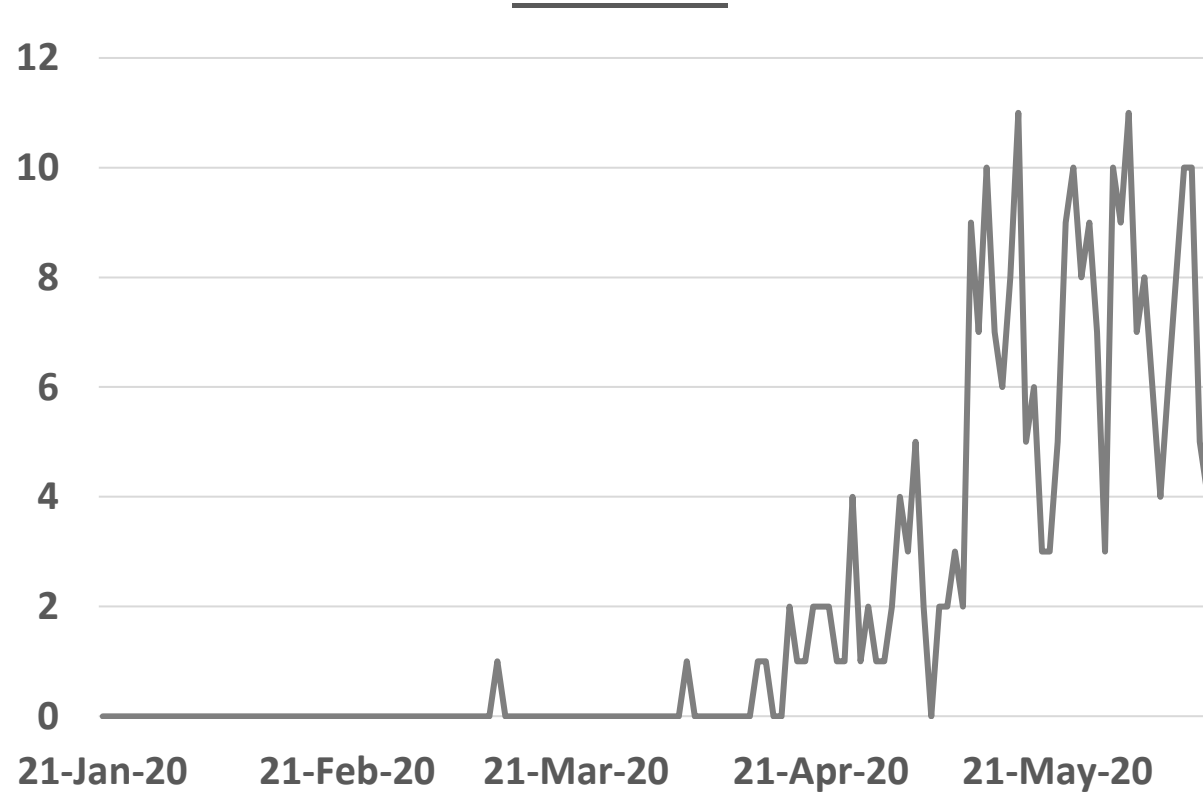
Source : Qatar ministry of health & GCCStat

UAE



Source : UAE ministry of health & GCCStat

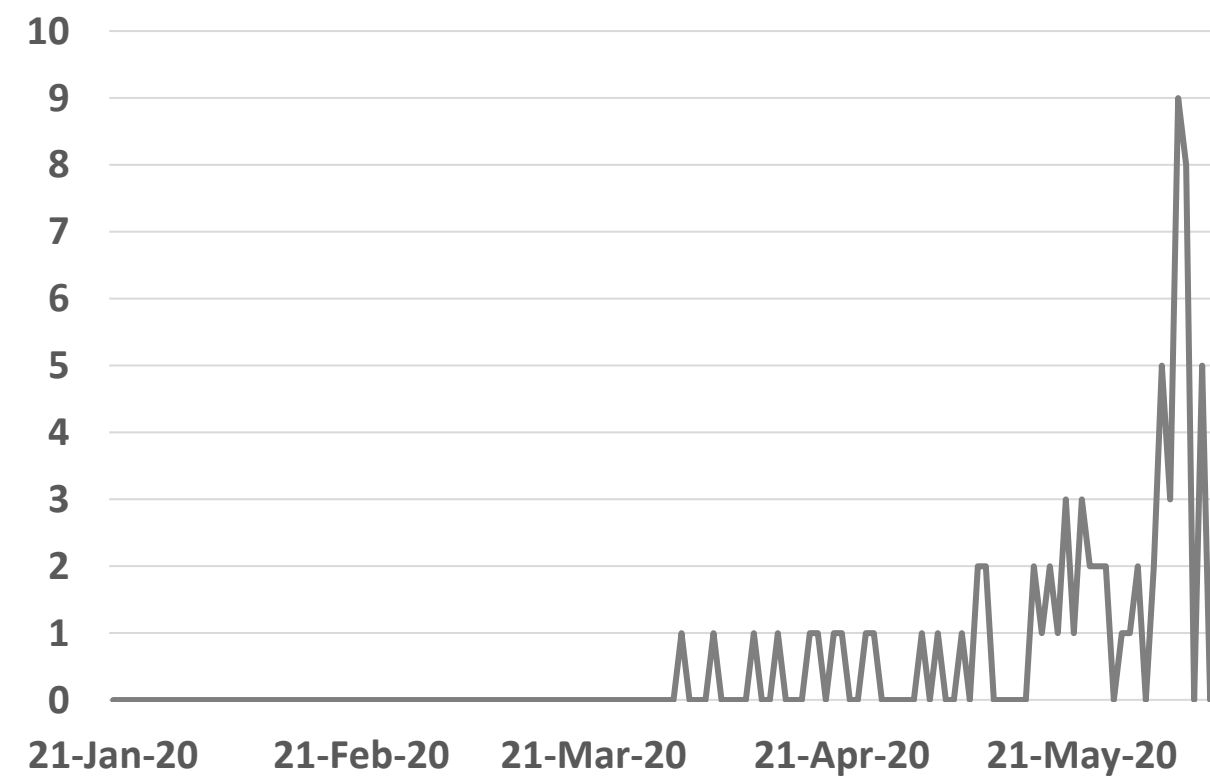
Kuwait



Source : Kuwait ministry of health & GCCStat

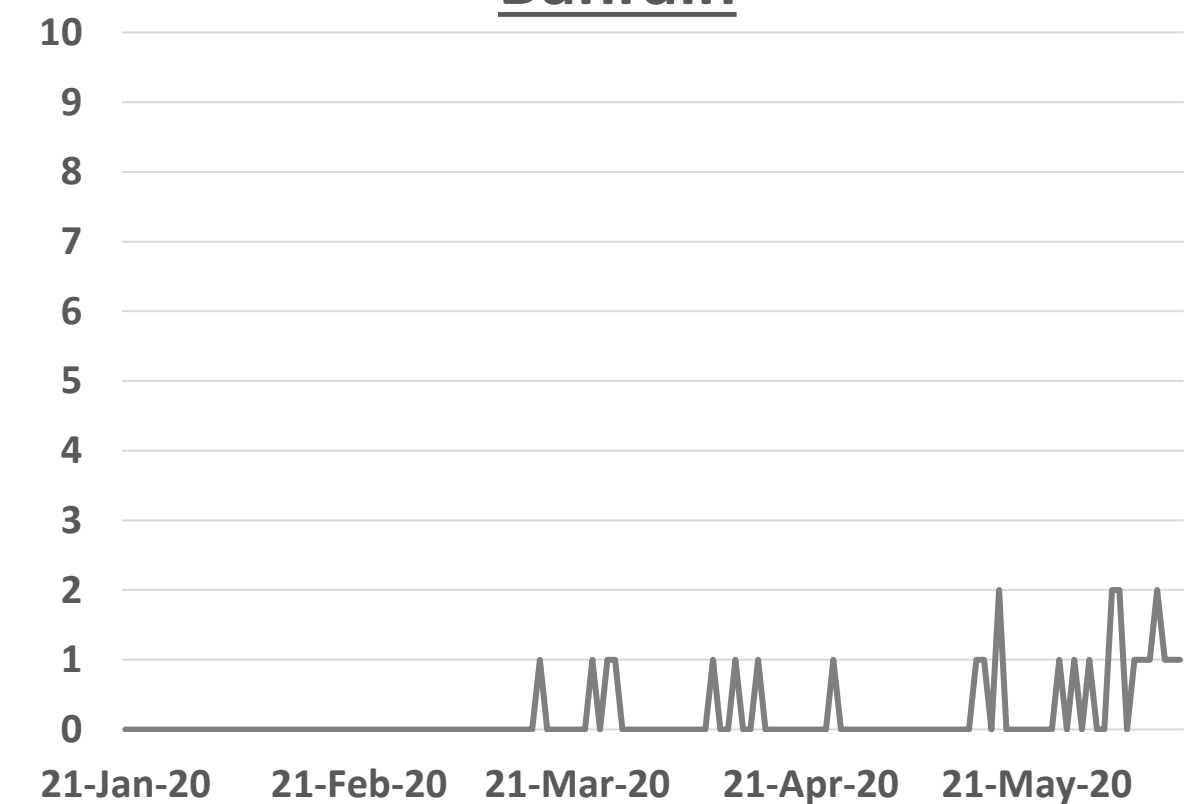
Oman

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Source : Oman ministry of health & GCCStat

Bahrain



Source : WHO & GCCStat



Clinical Feature and Transmission

Article 1: COVID-19 and anosmia: A review based on up-to-date knowledge

Published: June 2, 2020 in [the NCBI](#).

Summary

- This review summarizes the study published on Olfactory dysfunction (OD) during the COVID-19 pandemic and to explore its mechanisms of occurrence and coping strategies. Anosmia is the partial or complete loss of the sense of smell. This loss may be temporary or permanent. Anosmia can occur alone or can be accompanied by other symptoms of COVID-19, such as a dry cough. However, the pathogenic mechanism of olfactory dysfunction and its clinical characteristics in COVID-19 patients remains unclear. The rate of incidence of Olfactory dysfunction in the COVID-19 patients varies from 33.9–68% with female dominance. It is therefore important for an Otolaryngologists to be mindful of the anosmia symptoms in outpatients so as not to delay the diagnosis of COVID-19.



Diagnosis

Article 2: COVID-19: is there a link between the course of infection and pharmacological agents in diabetes?

Published: June 3, 2020 in [the NCBI](#)

Summary:

- This review study discusses some open questions about the association between COVID-19 and diabetes, primarily focusing on the possible effects of commonly utilized drugs in diabetic patients.

Findings

- Several cell types -the angiotensin receptor blockers (ARBs) and ACE inhibitors might increase ACE2 expression. Thus, the treatment from these agents influence the course of the infection, and both harmful and beneficial effects have been supposed. ACE2 expression is increased from other pharmacological agents such as proliferator-activated receptor gamma (PPAR- γ) agonists and statins. Thus, in type 2 diabetes all the classes of drugs are broadly adopted. Based on the recent studies the receptor for MERS-CoV (Middle East respiratory syndrome-related coronavirus), dipeptidyl peptidase-4 (DPP4), and ACE2 have similar expression profiles in the lung. **DPP4 has important immune and metabolic functions and is a target for commonly used therapies in T2D.**



Diagnosis

Article 3: Seroprevalence of SARS-CoV-2 in Hong Kong and in residents evacuated from Hubei province, China: a multicohort study

Published: June 3, 2020 in [the Lancet](#)

Summary:

- This multicohort study aims to establish the specificity and sensitivity of enzyme immunoassay and micro-neutralisation assay, and the seroprevalence of SARS-CoV-2 in Hong Kong before and after the pandemic, including the Hong Kong residents evacuated from Hubei province, China between Feb 26 and March 18, 2020. RT-PCR samples from 45 patients were assessed who had recovered from COVID-19 to establish the sensitivity of enzyme immunoassay and micro-neutralisation assay. The results suggests that sensitivity was 91.1% (41 of 45 [95% CI 78.8–97.5]) for the microneutralisation assay, 57.8% (26 of 45 [42.2–72.3]) for anti-nucleoprotein IgG, 66.7% (30 of 45 [51.1–80.0]) for anti-spike protein receptor binding domain (RBD) IgG, and 73.3% (33 of 45 [58.1–85.4]) for enzyme immunoassay (either positive for anti-nucleoprotein or anti-RBD IgG). The specificity was 100% (152 of 152 [95% CI 97.6–100.0]) for both the enzyme immunoassay and microneutralisation assay.
- Among the Hong Kong general population, 53 (2.7%) of 1938 were enzyme immunoassay positive, but of those who were positive, all 53 were microneutralisation negative, and no significant increase was observed in the seroprevalence between April 12, 2018, and Feb 13, 2020. Among asymptomatic Hubei returnees, 17 (4%) of 452 were seropositive with the enzyme immunoassay or the microneutralisation assay, with 15 (88%) of 17 seropositive with the microneutralisation assay, and two familial clusters were identified.

Public Health response



Article 4: Draft landscape of COVID-19 candidate vaccines

Published: June 9, 2020 in [the WHO](#)

Summary:

- This landscape document of COVID-19 candidate vaccines has been prepared by the World Health Organization (WHO) for information purposes only concerning the 2019-2020 global of the novel coronavirus.

Article 5: Latest News on coronavirus impact on Middle East

Published: June 9, 2020 in [the MEED](#)



Article 6: COVID-19 vaccine development pipeline gears up

Published: June 6, 2020 in [the Lancet](#)

Summary:

- Development of a vaccine is typically a long game. It takes 10 years to develop a vaccine on an average. With the approaching COVID-19 crisis, everyone is hoping that this time will be different. According to this report, ten vaccines against severe acute respiratory syndrome coronavirus 2 (SARS-COV-2) are in clinical trials and researchers hope to have the first phase 3 data in hand. Vaccine developers will also need to align behind correlates of immunity, the immune response biomarkers that are measured in a laboratory to assess the effects of vaccination. When successes are claimed, independent validation will be needed to ensure that only the best candidates are moved forward.

Article 7: Active case finding with case management: the key to tackling the COVID-19 pandemic

Published: June 4, 2020 in [the Lancet](#)

Summary:

- This study provides measures and strategies based on evidence and disease control practices in China, with the goal of promoting active case finding and case management in suppression and containment strategies, that reduces the health and socioeconomic damage caused by COVID-19 allowing for resumption of a normal life. The study further addresses risk-based lifting of restrictions, which were used to contain the coronavirus in China, and planned pathways towards long-term prevention and control of COVID-19. The results indicate that countries need to implement measures tailored to epidemiological circumstances and system capacities as well as focus on practices that works such as identification and management of infected people and their close contacts.

Public Health response



Article 8: Advice on the use of masks in the context of COVID-19:

Published: June 5, 2020 in [the WHO](#)

Summary:

- The World Health Organisation (WHO) has updated its guidelines on wearing masks in public to help limit the spread of coronavirus. This document provides advice on the use of masks in communities, during home care, and in health care settings in areas that have reported COVID-19 cases. It is intended for individuals in the community, public health and infection prevention and control (IPC) professionals, health care managers, health care workers (HCWs), and community health workers.