

ABU DHABI PUBLIC
HEALTH CENTRE

مركز أبوظبي
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Scientific Research Monitoring on COVID-19

22 April 2020

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.
- SARS-COV2 stay viable in aerosol for hours and in surface up to 3 days.
- Two strain have been identified for SARS-COV2 (L type (more aggressive) and S type .

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).
- Isolation is the best measure to control transmission.

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. No evidence of transmission through breast milk.

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.
- WHO forum held 11-12 Feb 2020 to mobilize research on COVID19 vaccinations and therapies.

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)



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

Diagnosis: a study suggest if two negative test were negative after positive testing additional chest CT scans could be implemented to guide decisions on further repeat testing and de-isolation in such patients.

Transmission: The overall risk for family members to get infected from an already positive COVID-19 patient is 16.3%, which is higher than previous infections of SARS, MERS, and Influenza A pandemic.

Due to abundant COVID19 information resources and given the urgent need to keep up with the updates .Below is a cluster of other academic articles for interested reviewer..

Others

[Psychological support in times of COVID-19: the Essen community-based CoPE concept](#)
[Two Middle East respiratory syndrome vaccines: first step for other coronavirus vaccines?](#)



WHO daily report 21 April 2020

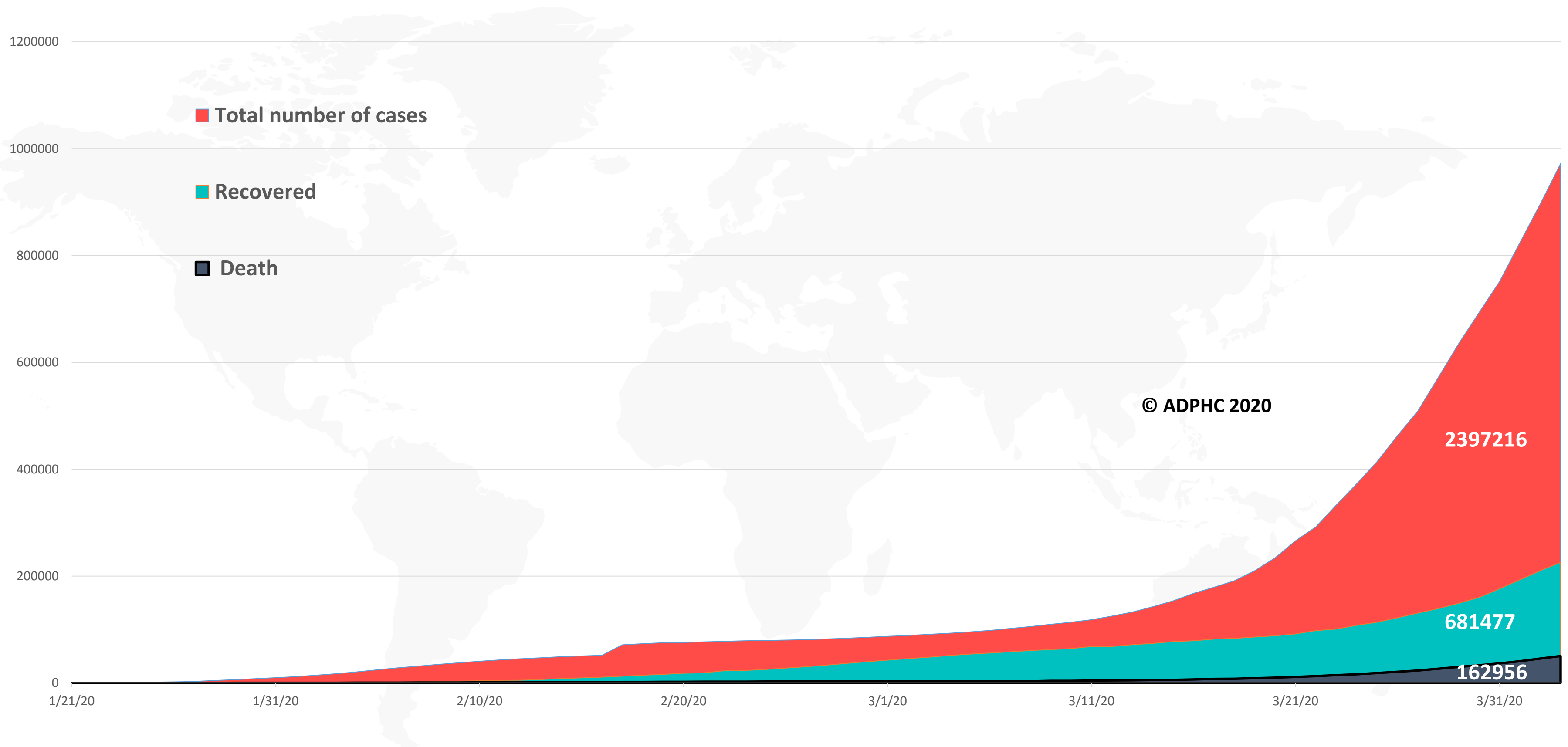
- No new country/territory/area reported cases of COVID-19 in the past 24 hours.
- WHO Director-General, Dr Tedros Adhanom Ghebreyesus, in his media briefing yesterday, thanked health ministers from the G20 countries for their support, as well as the support received from the G77 (that comprises 135 countries) and The Non-Aligned Movement (that comprises over 130 countries). He reiterated that WHO is committed to supporting all countries to save lives.
- As of 21 April, over 100 countries have joined **the Solidarity Trial** to evaluate therapeutics for COVID-19. The trial will compare four treatment options against local standard of care, to assess their relative effectiveness against COVID-19.*
- WHO has published ‘International Guidelines for Certification and Classification (Coding) of COVID-19 as Cause of Death.
- During a virtual meeting convened by WHO, national regulatory authorities and national ethics committees across Africa agreed to combine their expertise to expedite clinical trial reviews and approvals.
- WHO continues to secure vital supply chains, set-up logistical hubs, and deliver critical supplies.
- New humanitarian air hub in Ethiopia delivers WHO cargo of critical supplies to 32 countries across Africa

* Note the UAE have joined recently the Solidarity trial having one Principle Investigator representing the National level, this efforts are done under the National Research Committee of for COVID19 initiative.

Epidemiology



Figure 1: Total number of infected, recovered, and death cases (January 21st to April 21th, 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 April 21^h, 2020).



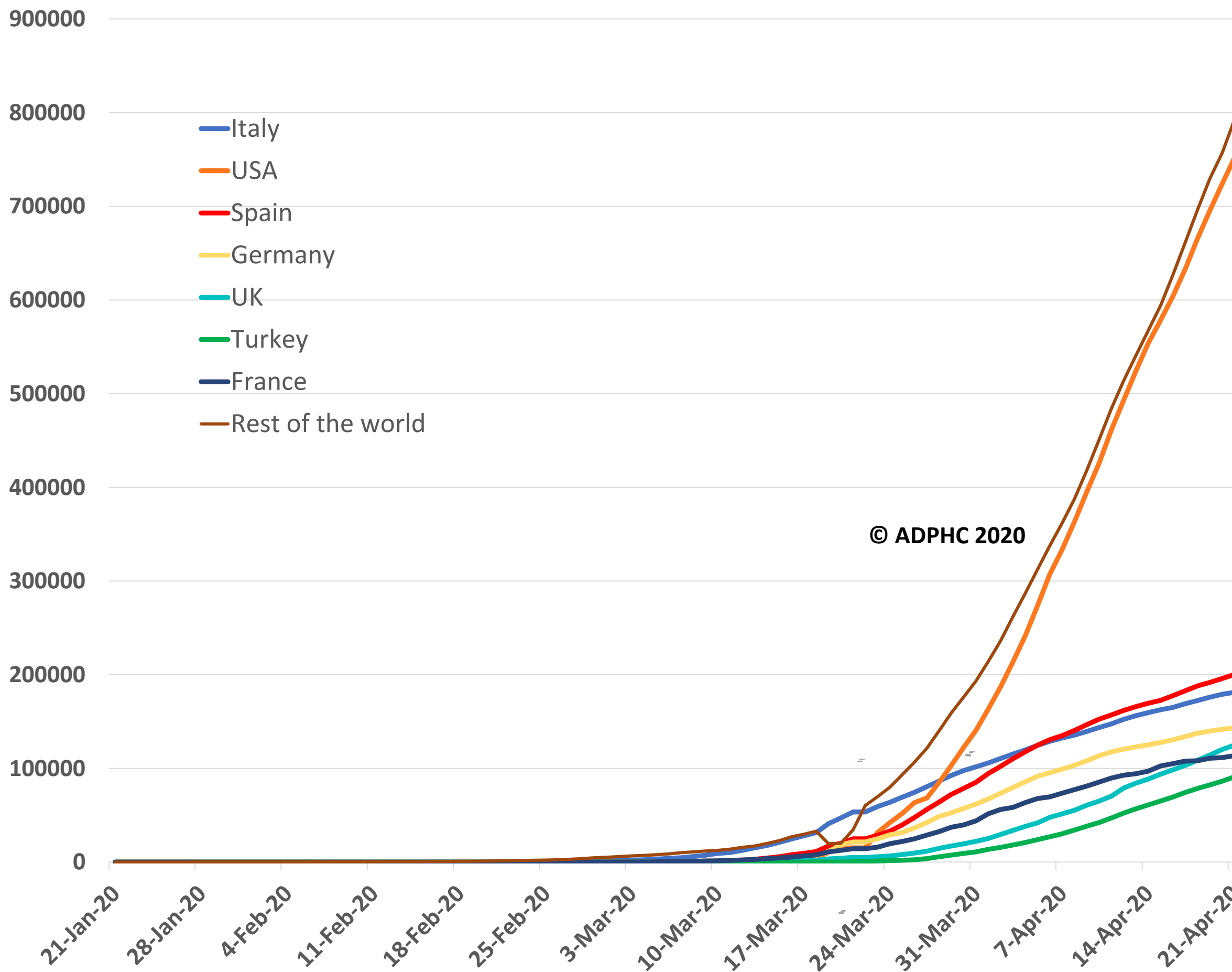
Line graph published by Abu Dhabi Public Health Center 2020.

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

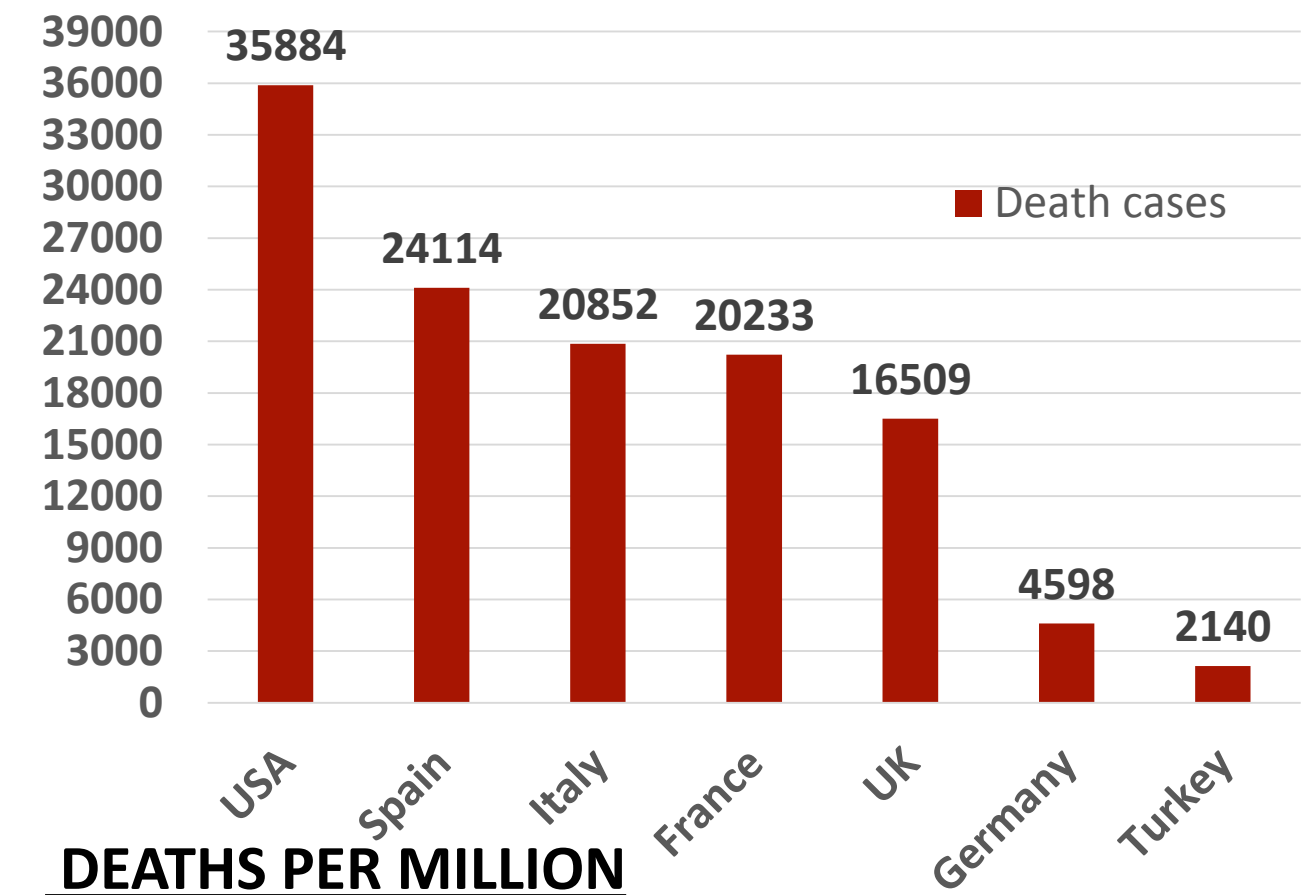
Epidemiology



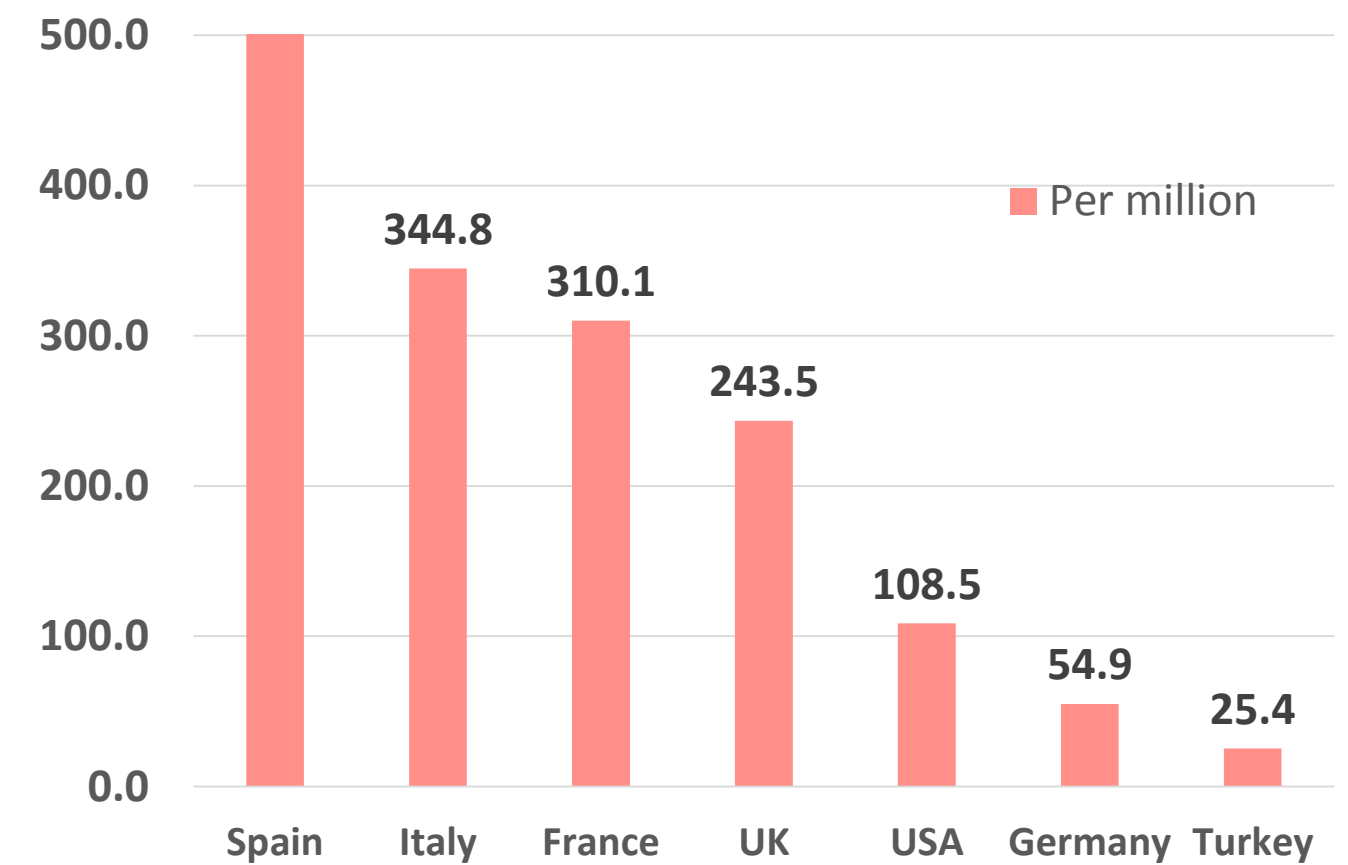
Figure 3 : Top 7 countries in the total number of cases due to COVID-19 (January 21 to April 21th, 2020).



TOTAL DEATHS



DEATHS PER MILLION



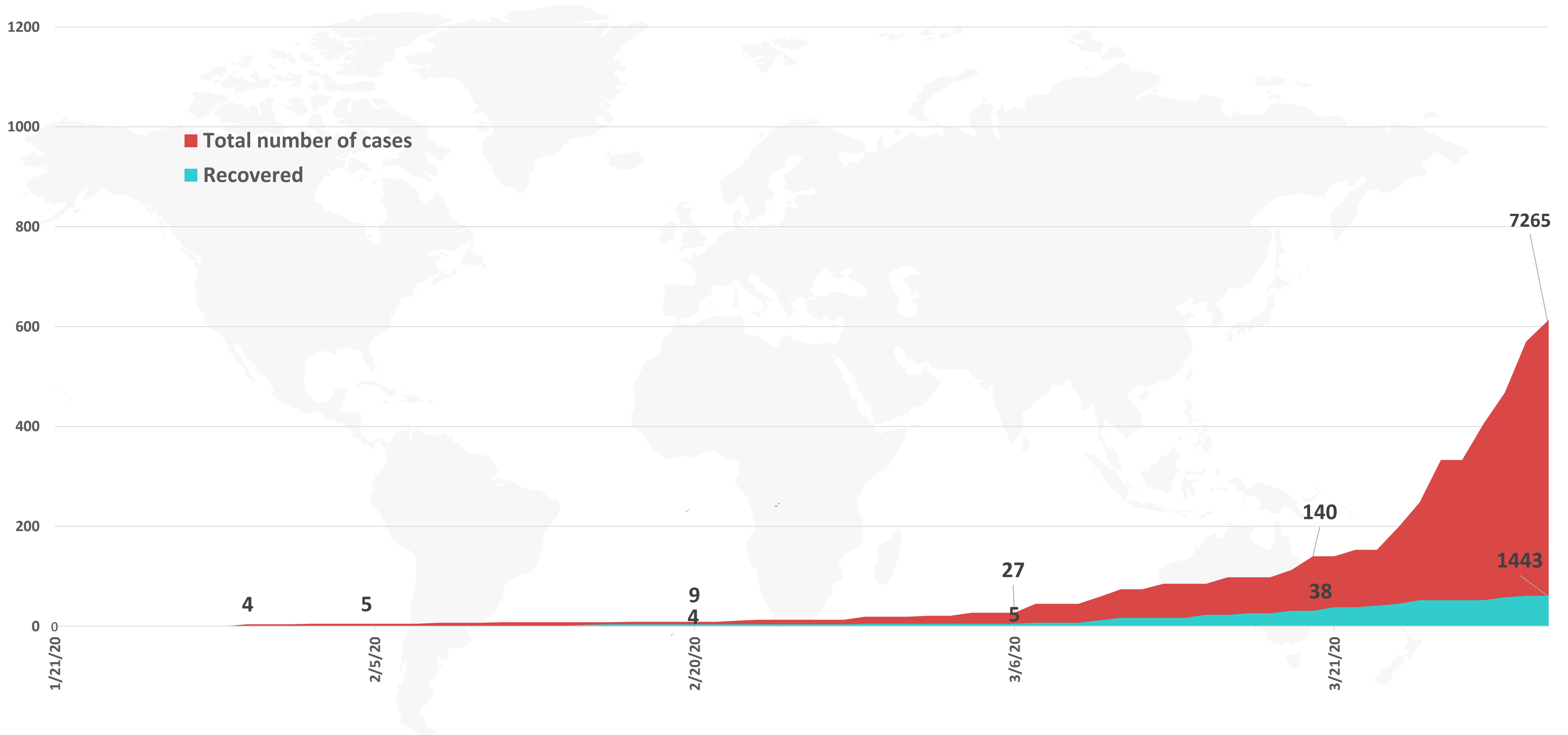
Line graph published by Abu Dhabi Public Health Center 2020.

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

Epidemiology



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



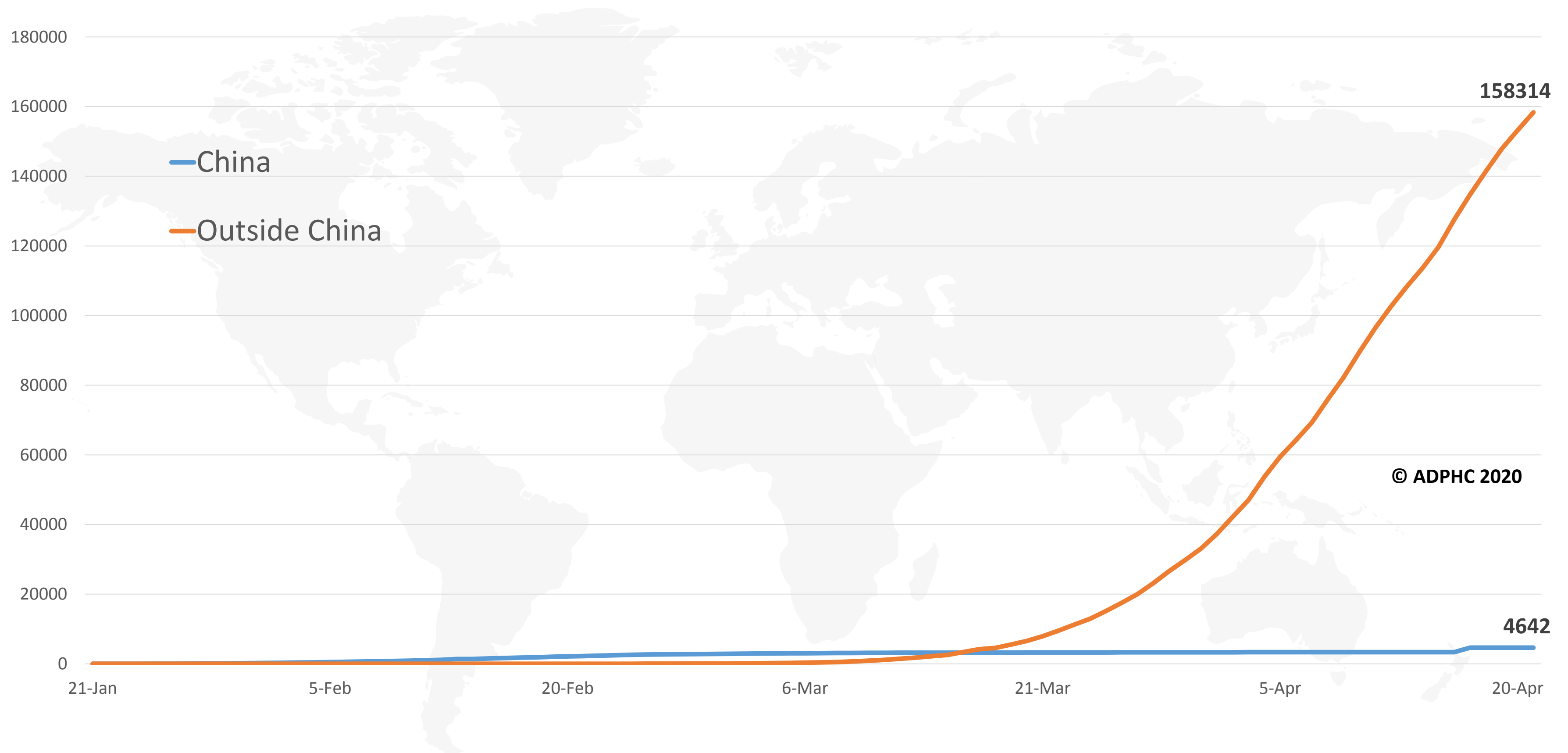
Line graph published by Abu Dhabi Public Health Center 2020.

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 21 to April 21th, 2020).



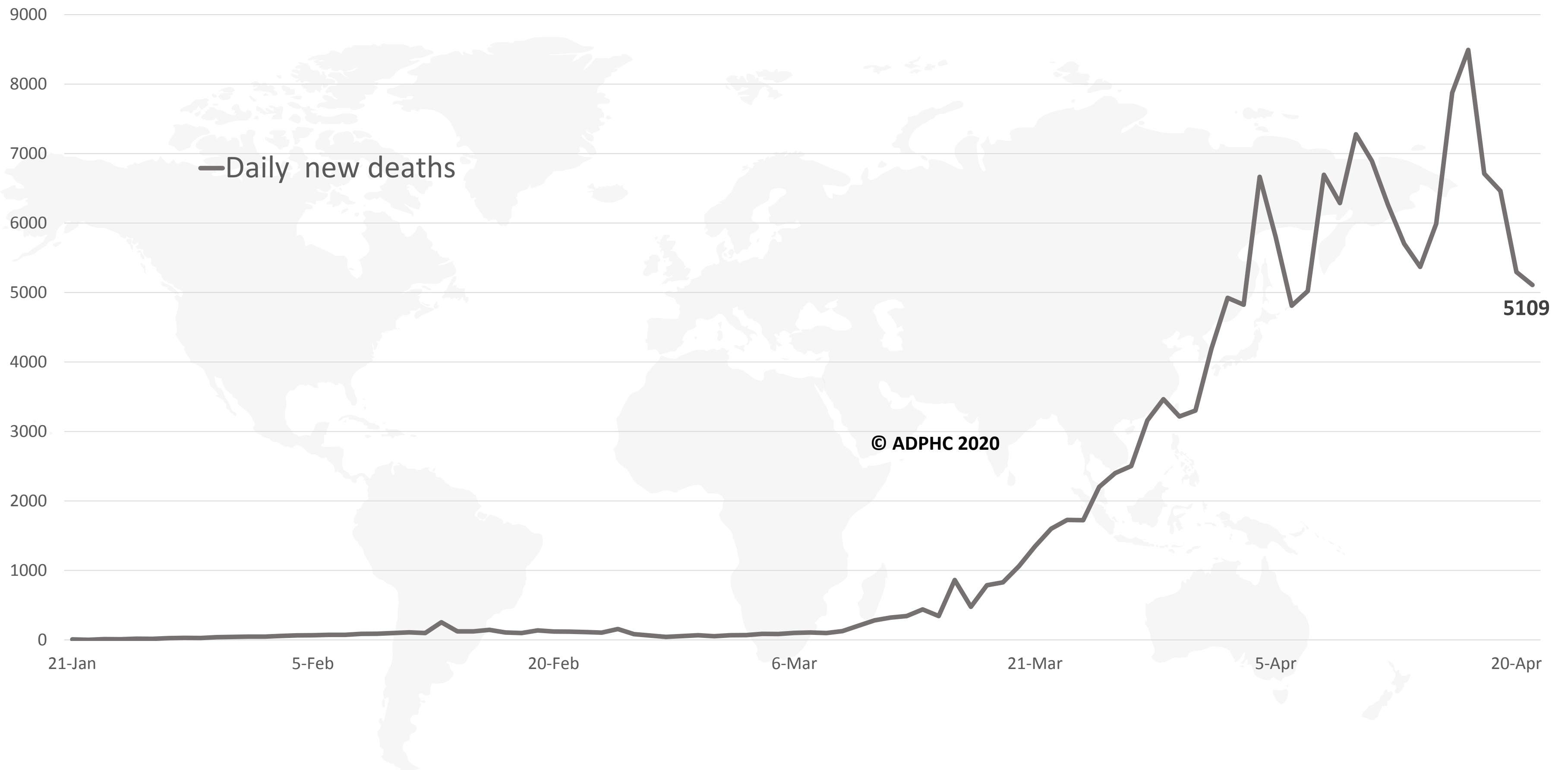
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Line graph published by Abu Dhabi Public Health Center 2020.

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



Figure 6: Global daily new deaths due to COVID-19 (January 21 to April 21th, 2020).



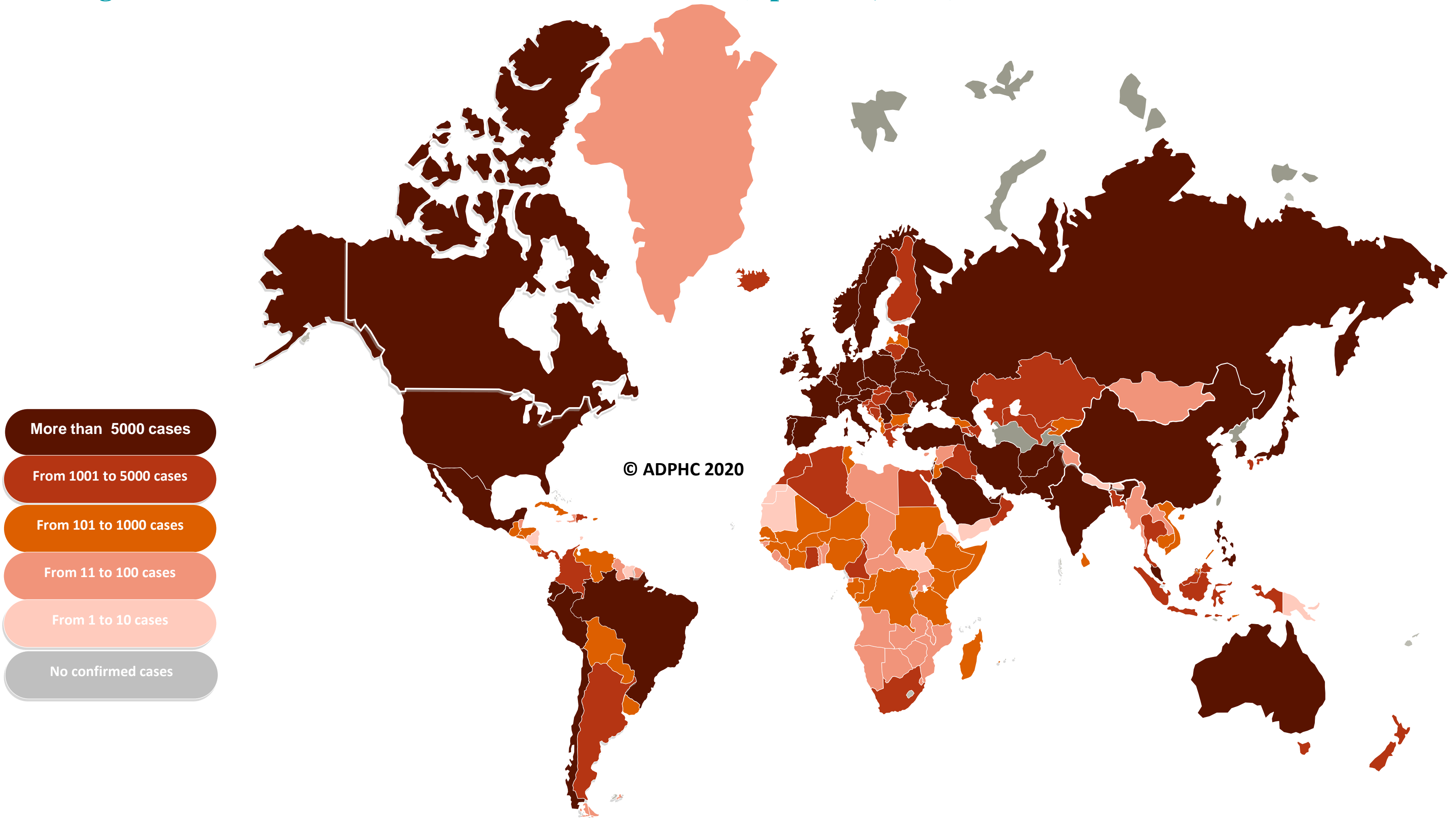
Line graph published by Abu Dhabi Public Health Center 2020.

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

Epidemiology



Figure 7a : Global distribution of COVID-19 cases (April 21th, 2020).

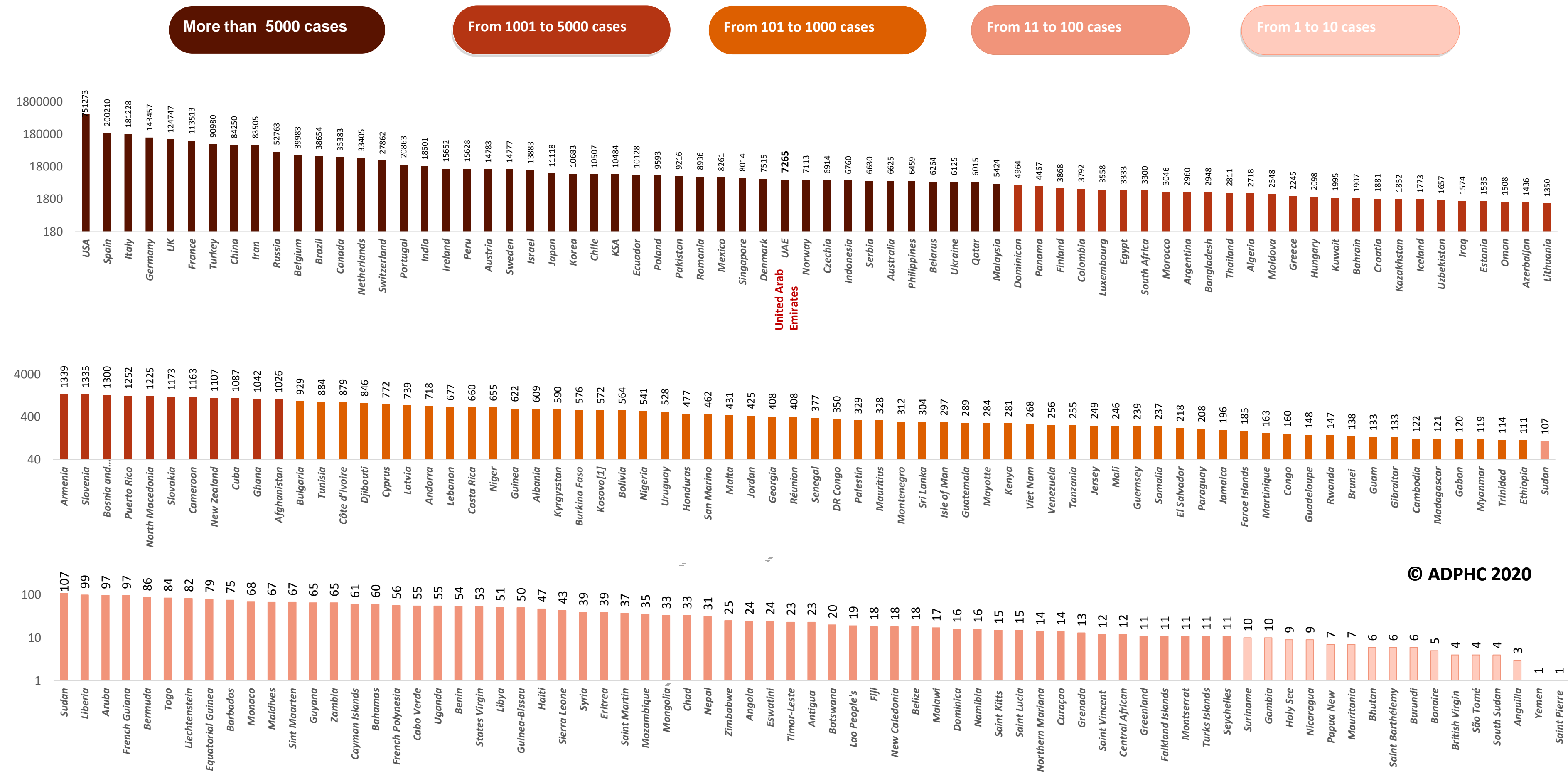


Map chart published by Abu Dhabi Public Health Center 2020.

Epidemiology



Figure 7B: Bar chart illustrate the global distribution of COVID19 cases April 21th, 2020)



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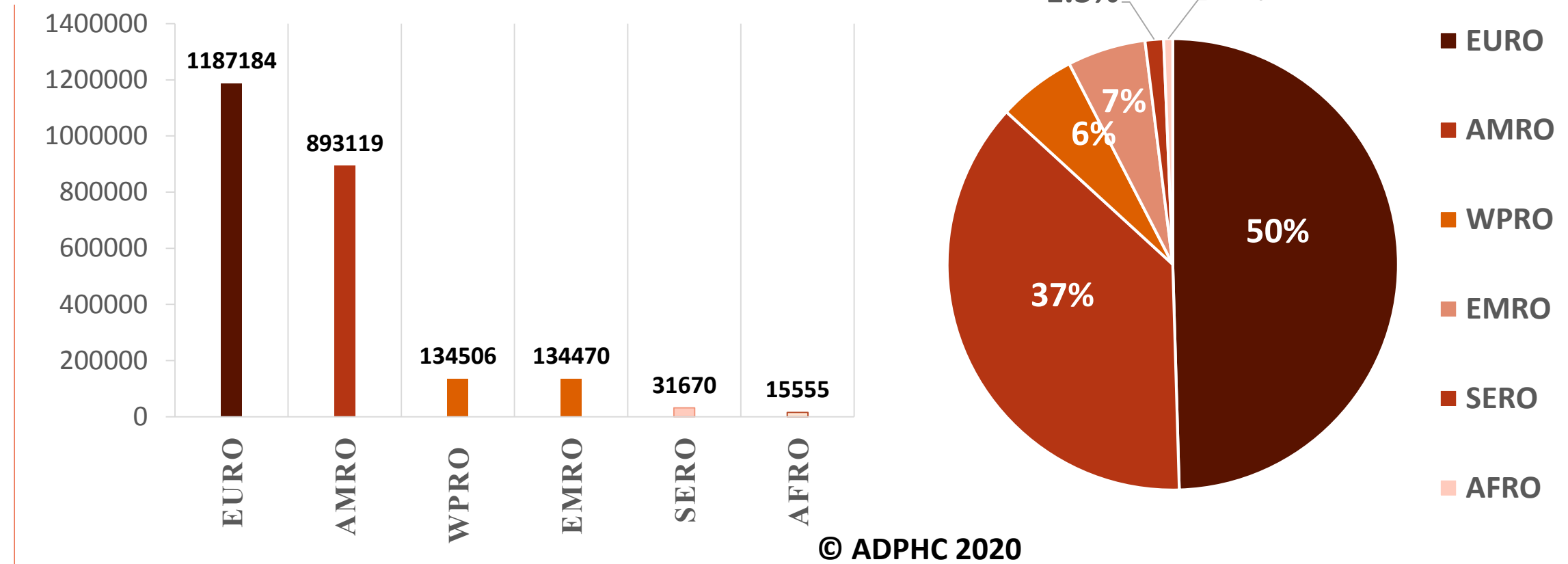
Map chart published by Abu Dhabi Public Health Center 2020.

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

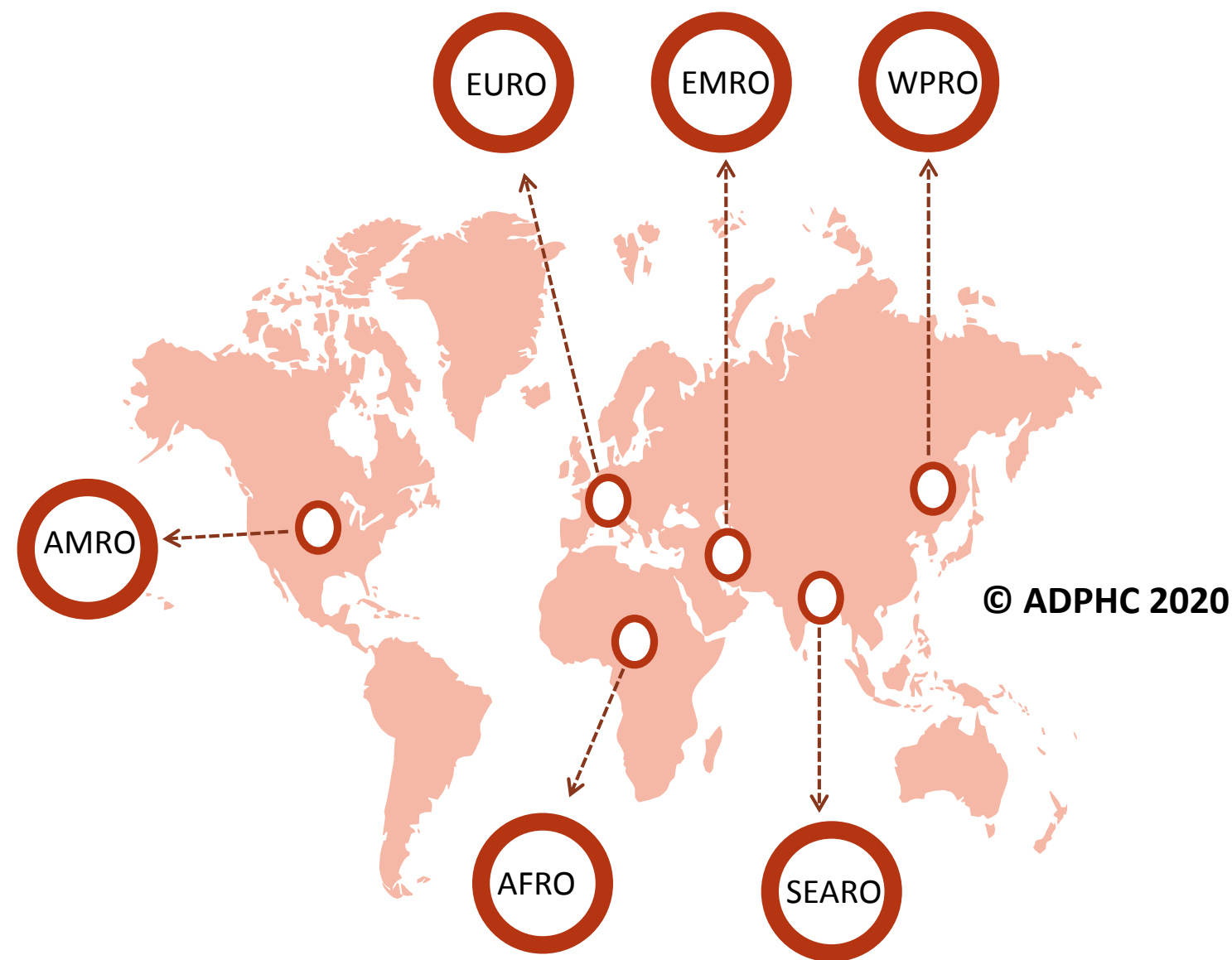
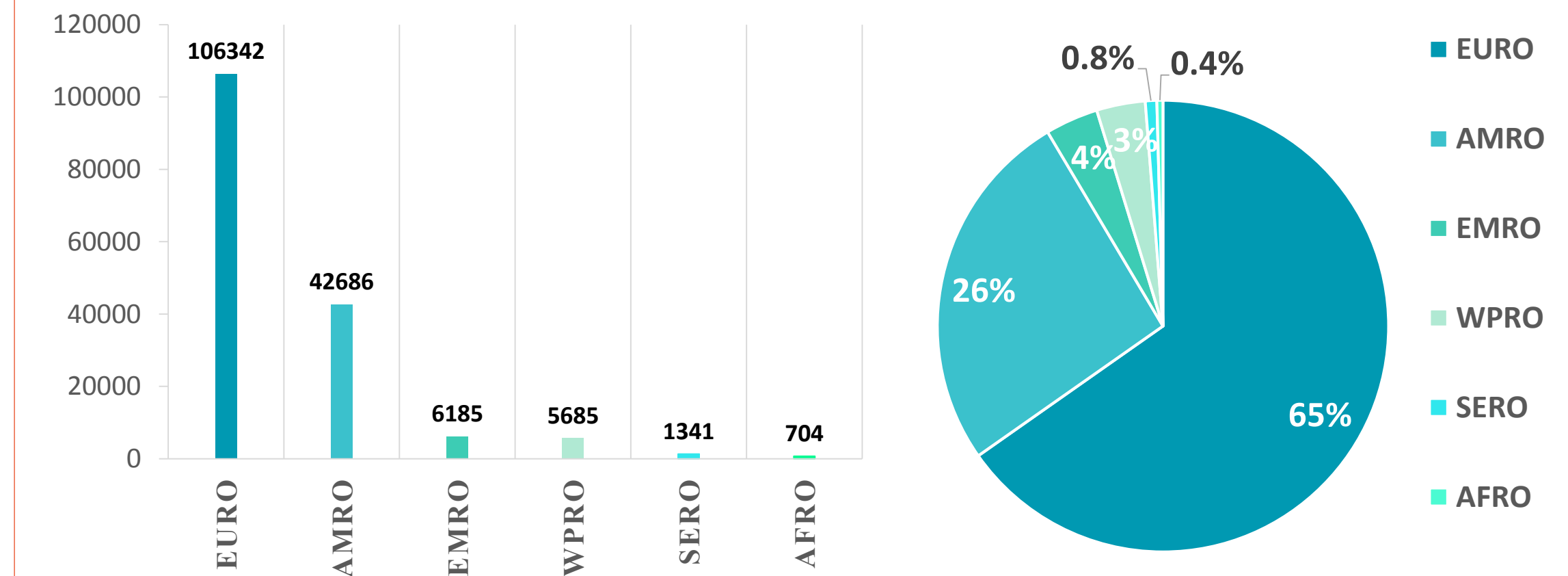


Figure 8: illustrate the Global distribution of COVID19 cases per region (April 21th, 2020)

INFECTED



DEATH



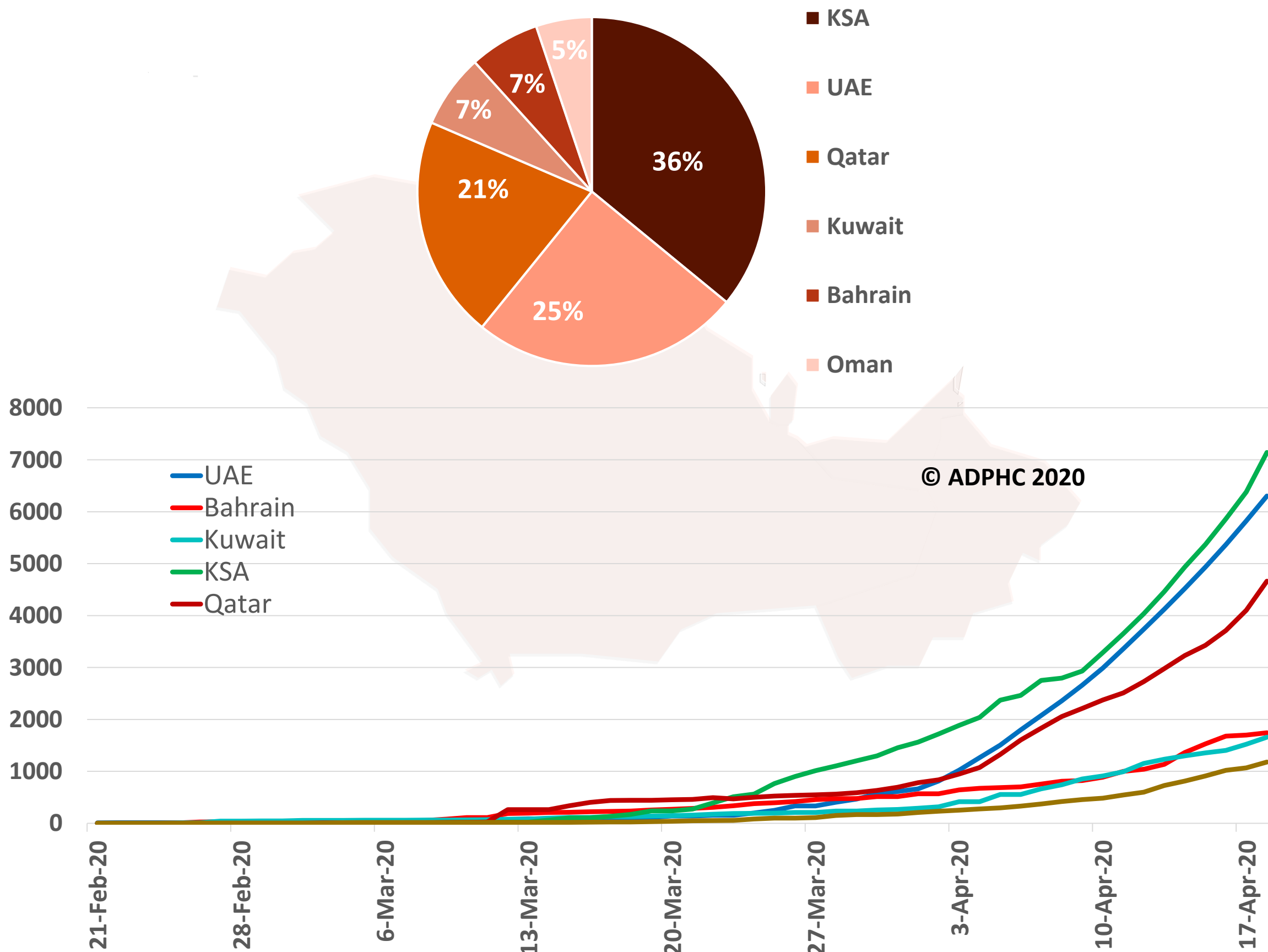
Map chart published by Abu Dhabi Public Health Center 2020.

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

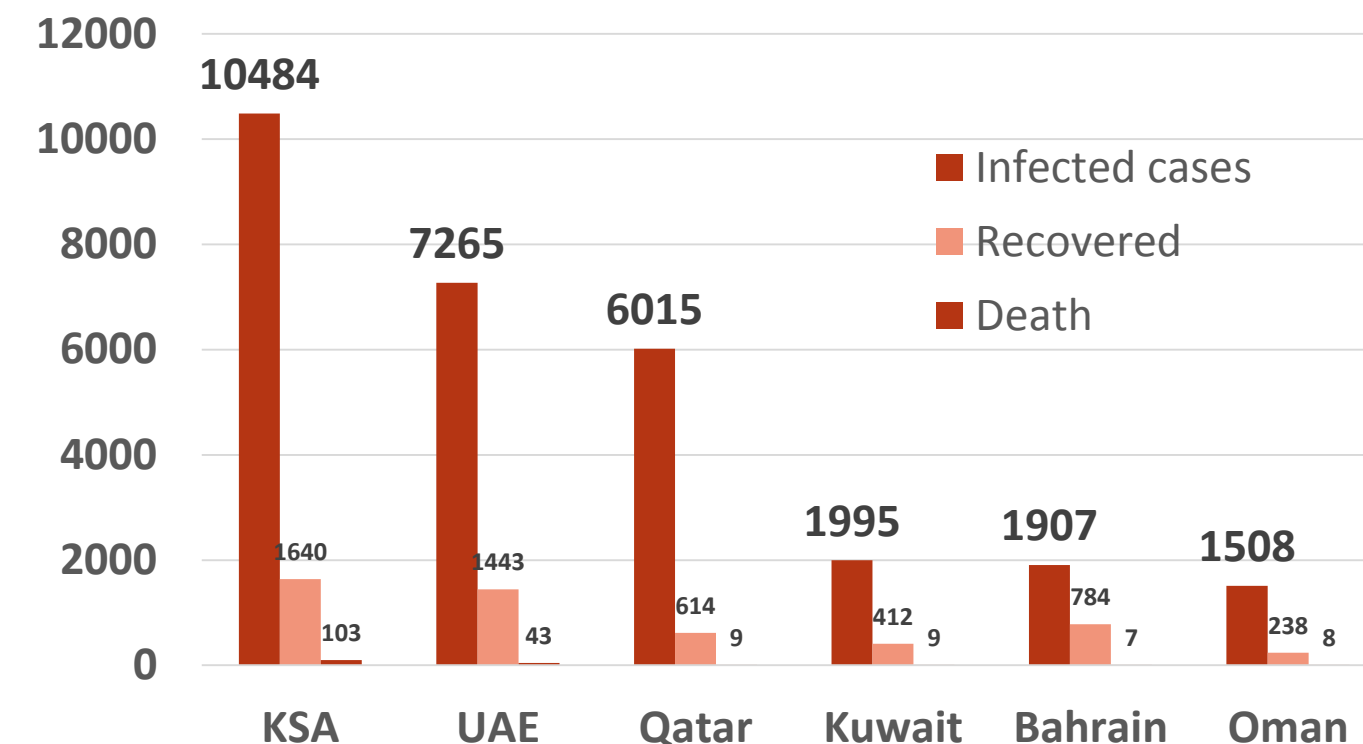


Figure 9: Comparative analysis of the distribution of COVID19 cases in GCC countries (April 21th, 2020)

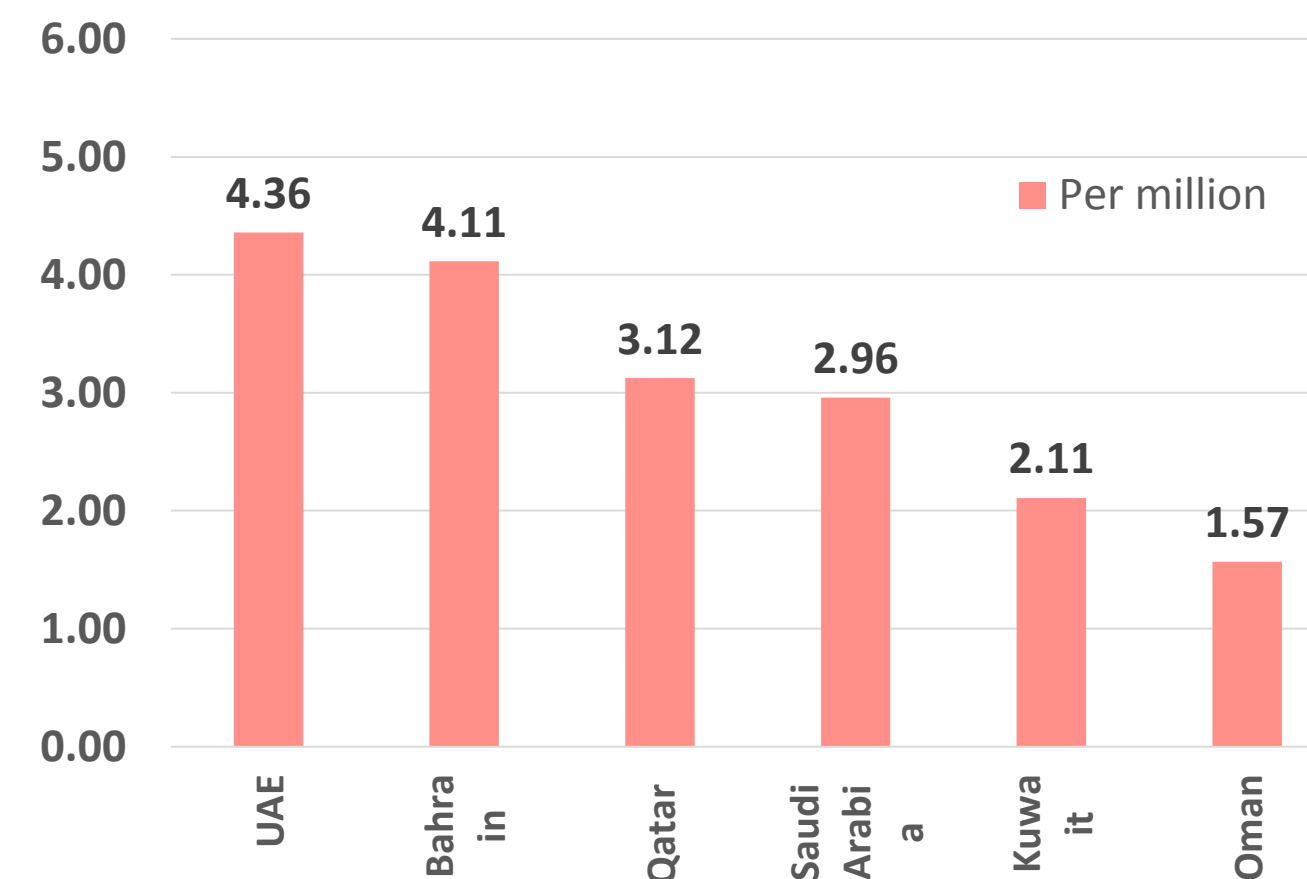
TOTAL NUMBER OF INFECTED CASES



Total number of infected, recovered and Deaths



Death per million



charts published by Abu Dhabi Public Health Center 2020.

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

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Clinical Feature and transmission



Article 1 : The characteristics of household transmission of COVID-19

Published: April 17 2020 in [Oxford Academic](#)

Summary:

summarized by subject matter expert

This article investigated the features of household transmission of COVID-19.

- 105 index patients (first member of the house to be positive)
- 392 negative house members
- Immediately after the index cases were confirmed, all the family contacts were quarantined in special places designated by the local governments and monitored everyday by the health service personnel.
- Family members with symptoms (fever, cough, fatigue) were tested at least four times for COVID-19 until they were positive.
- Family members without symptoms were tested two times for COVID-19: 1st day and 7th day of quarantine

Results

- 16.3% (64 out of 392) of family contacts also got COVID-19 infection.
- Only 4% (4 out of 100) of positive family members were below 18 years of age.
- No family member was positive in those houses (n=14) where the index patient quarantined (wearing mask, residing alone and eating separately) himself/herself within the house.
- Nine positive cases (14.1%) among family members showed no symptoms - they stayed physically healthy.
- The spouses of the index patients were two times more likely to get the infection.
- After the symptoms onset of index patient, it took between 4 to 10 days for family members to show the symptoms of COVID-19.

Public Health Message

- The overall risk for family members to get infected from an already positive Covid-19 patient is 16.3%, which is higher than previous infections of SARS, MERS, and Influenza A pandemic.
- Quarantine of family member since onset of symptom is helpful to prevent Covid-19 spread.

Public Health Response



Article 2: Testing for SARS-CoV-2: Can We Stop at Two?

Published: April 19, 2020 in [theBMJ](#)

Summary:

- In Singapore, all individuals who met the suspect criteria for COVID-19 such as travelers with acute respiratory symptoms from Hubei province, China or close contact with a confirmed case of COVID-19 were admitted to public hospitals. Nasopharyngeal swabs, sputum, and stool (in case of diarrhea) were collected for testing. Minimum two-specimens were collected at least 24 hours apart to account for disease progression and to increase yield. The diagnosis was confirmed through RT-PCR testing for SARS-CoV-2.
- Seventy patients were included in this study. Of those, sixty-two (88.6%) had SARS-CoV-2 detected from first clinical specimen collected on the first day of admission. In five (7.1%) patients, SARS-CoV-2 was detected from second clinical specimen that was collected 24 hours after the first specimen, increasing the yield of the strategy to 95.7%. The remaining three (4.3%) patients needed more than two samples in order to confirm the diagnosis.



Article 2: Cont.,

- In this study, active case detection of suspects in the early stage of disease combined with daily sequential sampling of upper respiratory tract specimens over two days has allowed to detect majority of COVID-19 cases. However, precaution should be taken in negative results among patients with suspicious clinical or epidemiological features. Additional chest CT scans could be implemented to guide decisions on further repeat testing and de-isolation in such patients.

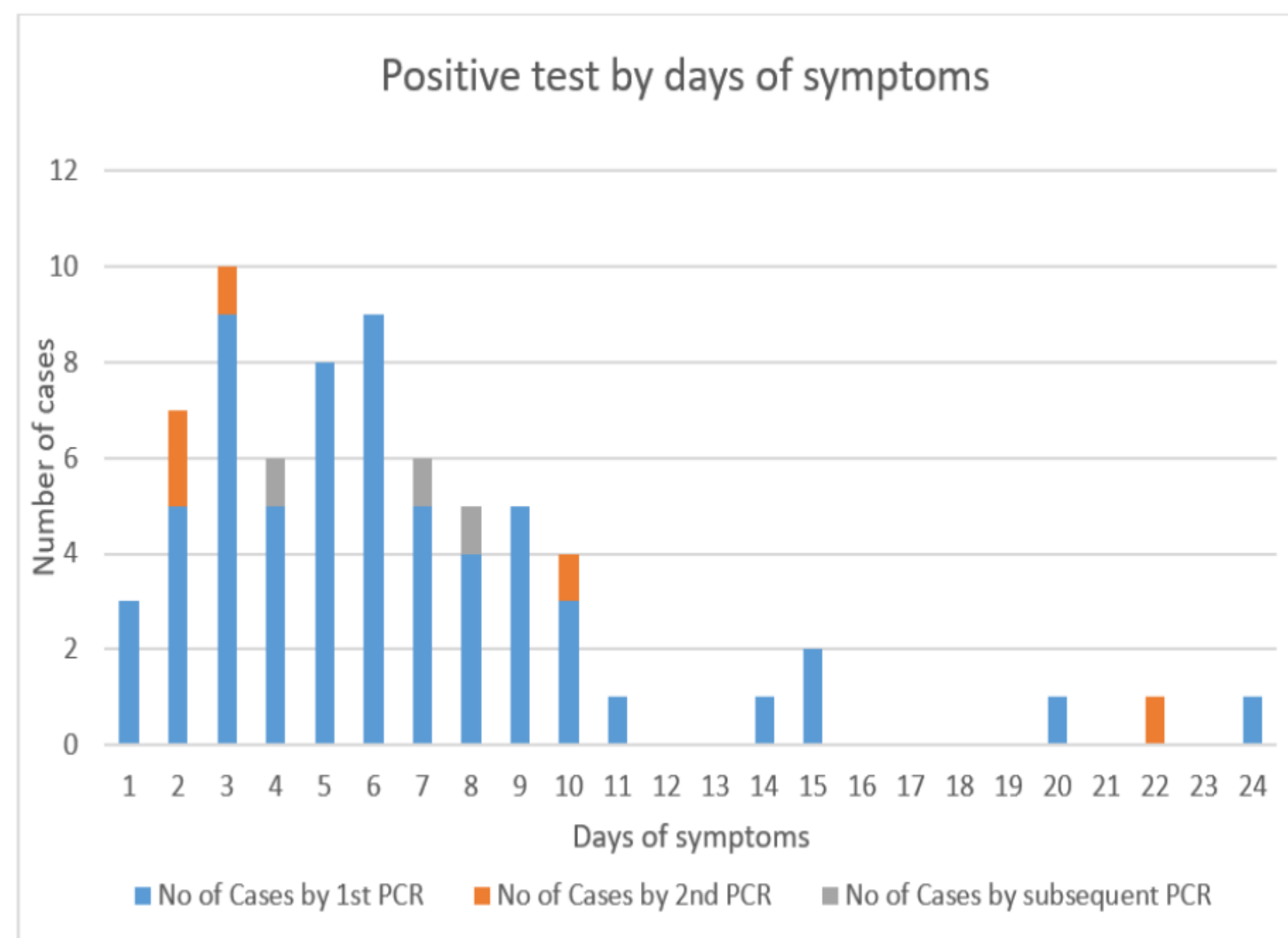


Figure 1a: Number of cases that tested positive for SARS-CoV-2 by days of symptoms.