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HEALTH CENTRE

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# Scientific Research Monitoring on COVID-19

10 May 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

- **Treatment:** the HCQ have been removed from one of the hospitals in the US after a cohort study done in that hospital which show no difference in outcome between HCQ and no HCQ treatment group.
- **Public health response:** In a study measuring the impact of pandemic in condition other than COVID19; the number of patients who underwent imaging decreased by 39%.
- **Transmission:** A study on health care worker in the UK showed that most likely the transmission of HCW is local transmission rather than nosocomial and there is no need to fear visiting hospitals by the public.

*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

- [Sharpening the global focus on ethnicity and race in the time of COVID-19](#)
- [Evidence mounts on the disproportionate effect of COVID-19 on ethnic minorities](#)
- [Diagnosing COVID-19-associated pulmonary aspergillosis](#)
- [COVID-19: a public health approach to manage domestic violence is needed](#)



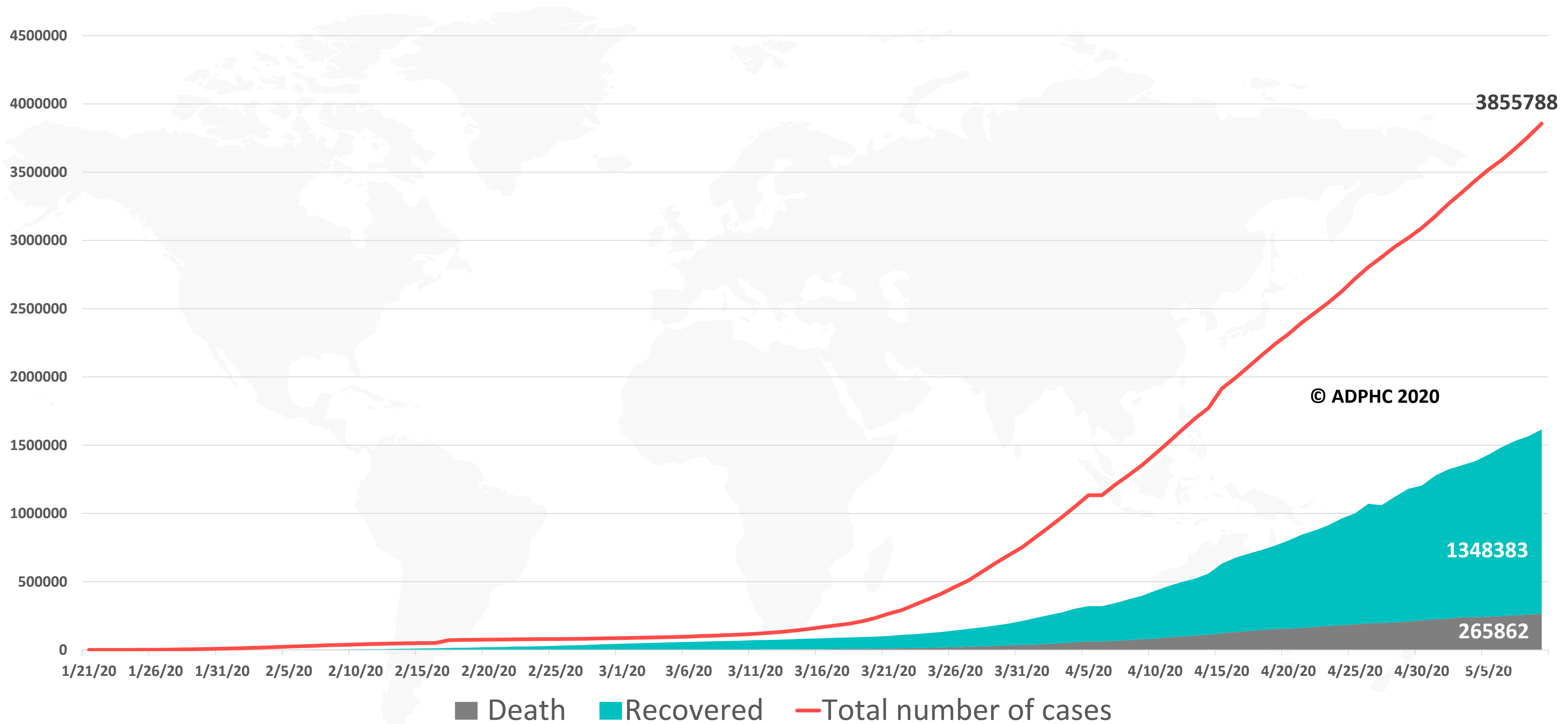
## WHO daily report 9 May 2020

- The Emergency Relief Coordinator/UN Under-Secretary-General for Humanitarian Affairs Mark Lowcock launched an update to the **Global Humanitarian Response Plan** for COVID-19 (GHRP). The GHRP has a funding requirement of U\$6.7 billion to protect millions of people already facing humanitarian crises in several countries.
- New interim guidance has been released by the Inter-Agency Standing Committee on **how to adapt COVID-19 prevention and response measures for use in low capacity and humanitarian settings.**

# Epidemiology



Figure 1: Total number of infected, recovered, and death cases (January 21<sup>st</sup> to May 9, 2020)

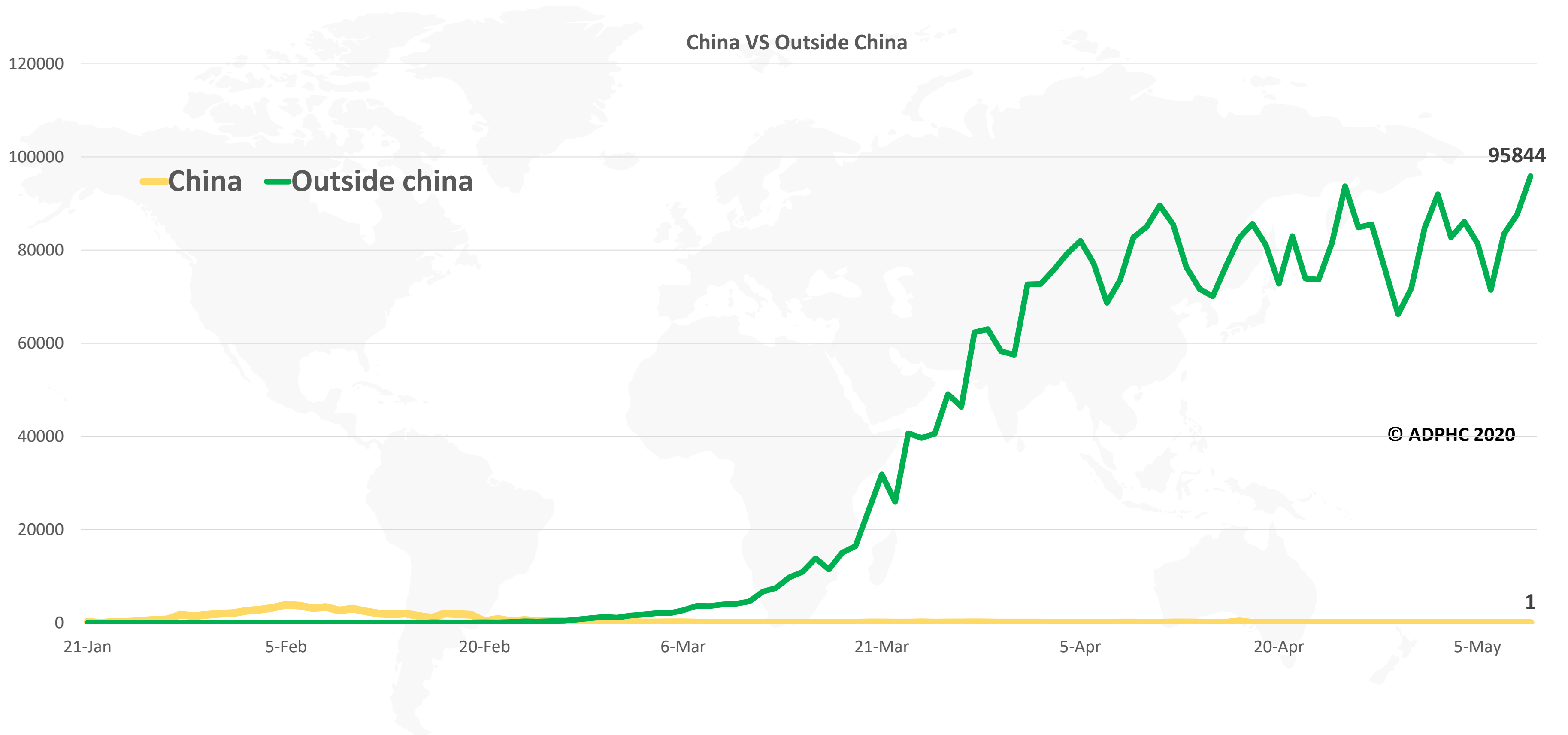


Line graph published by Abu Dhabi Public Health Center 2020.

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



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



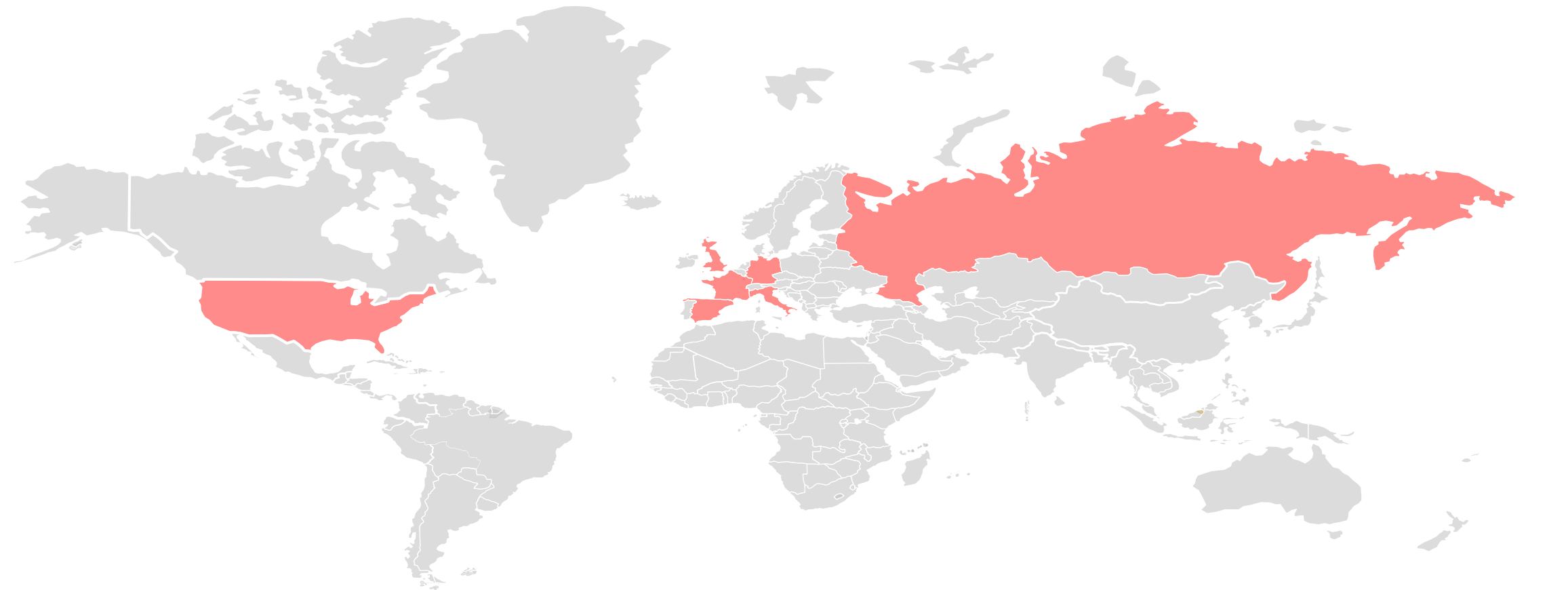
Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)

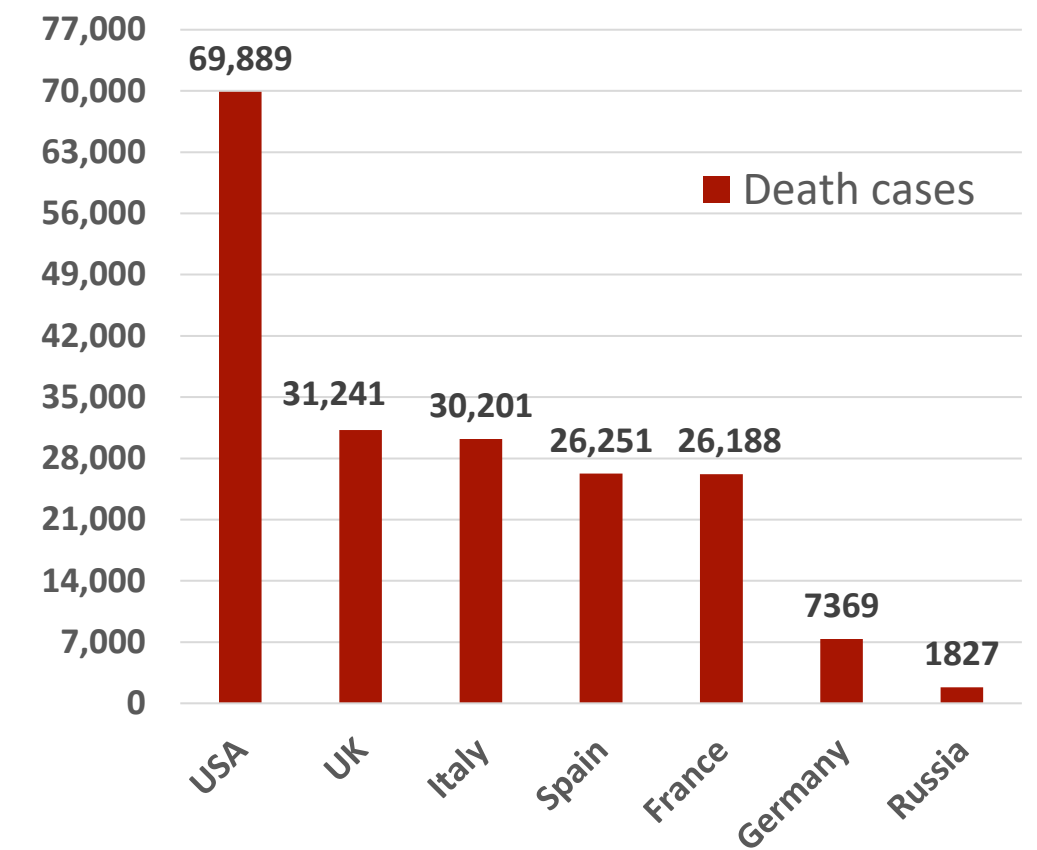
# Epidemiology



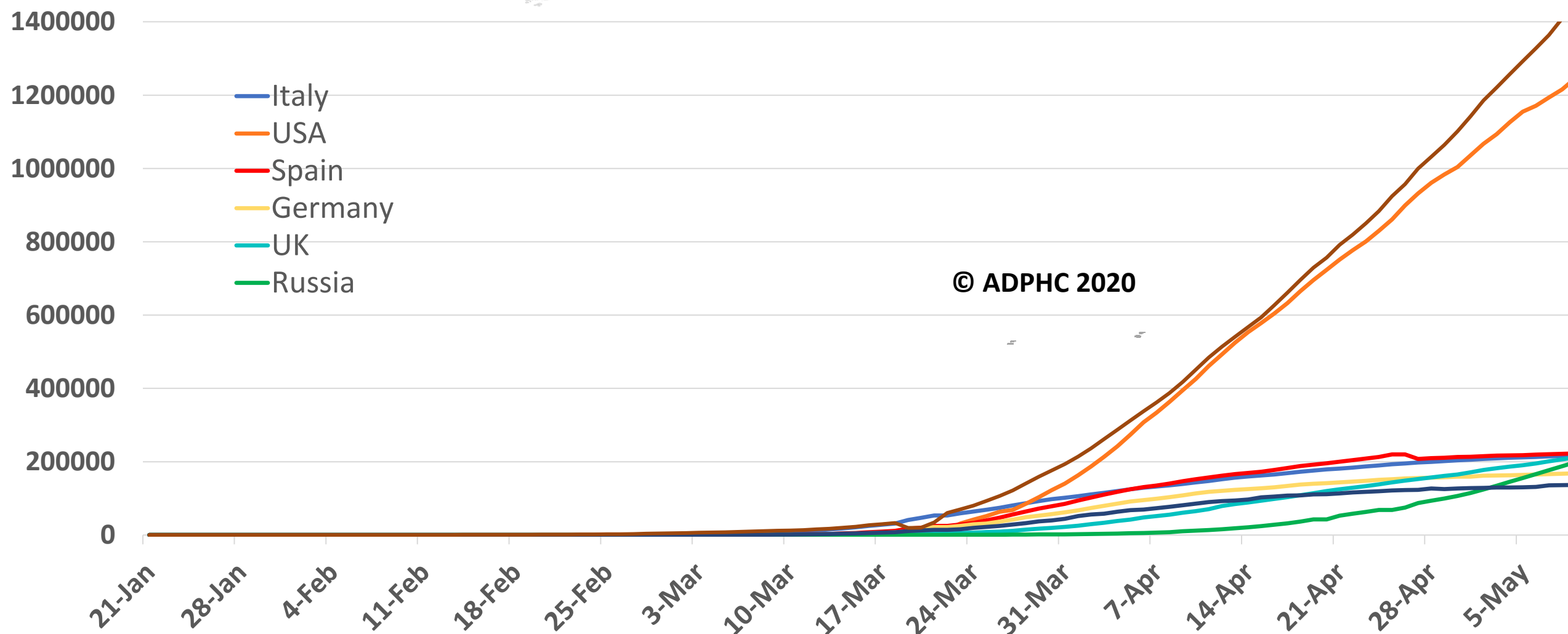
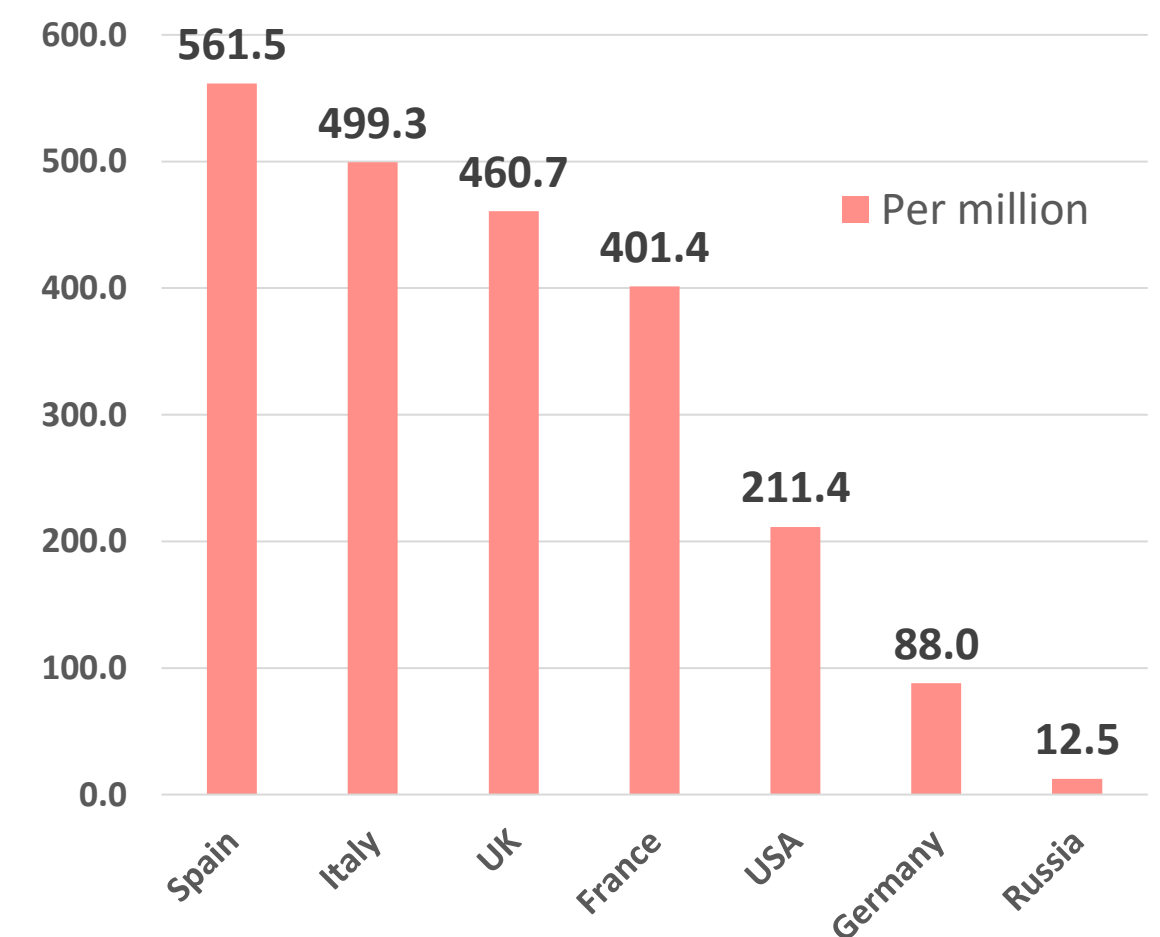
Figure 3 : Top 7 countries in the total number of cases due to COVID-19 (January 21 to May 9, 2020).



## TOTAL DEATHS



## DEATHS PER MILLION



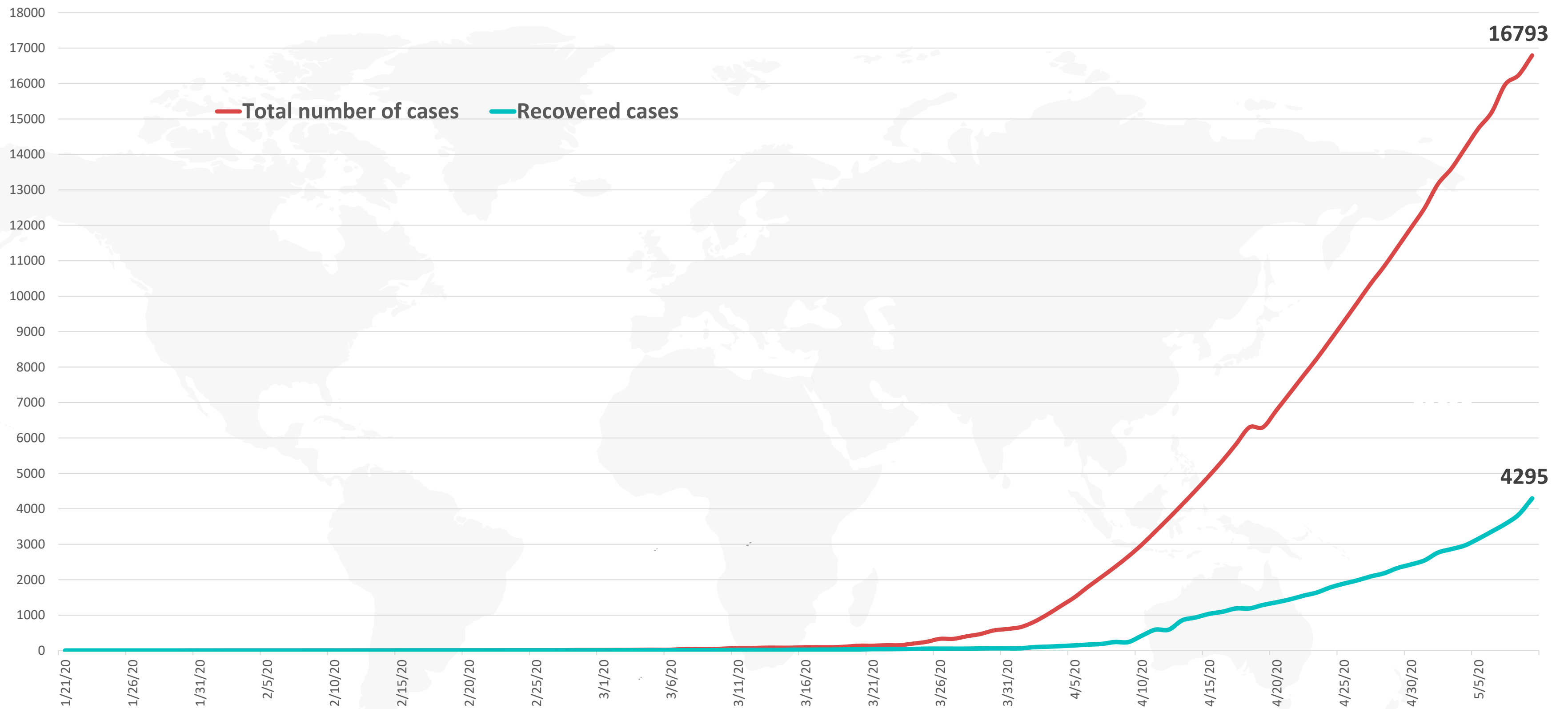
Line graph published by Abu Dhabi Public Health Center 2020.

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





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



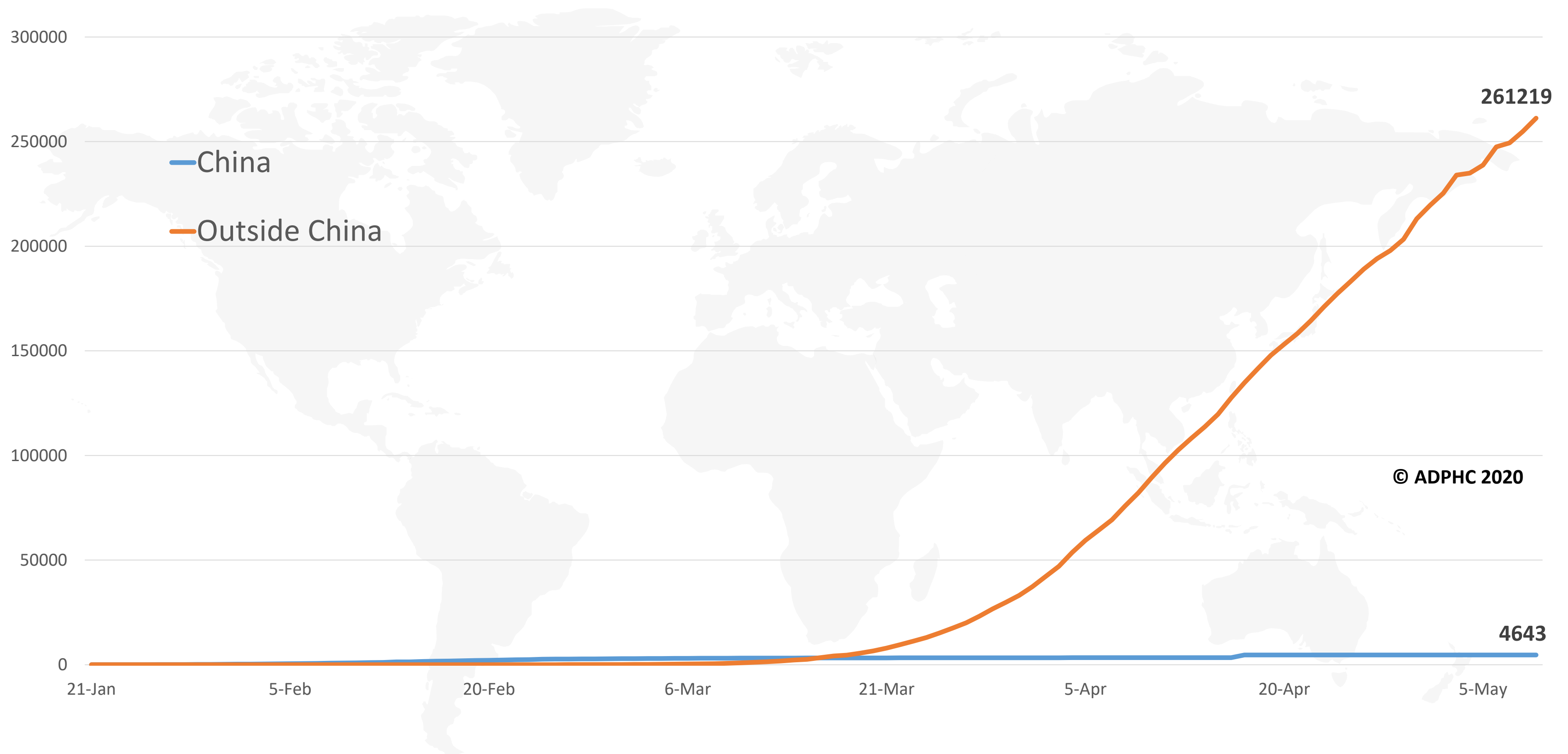
Line graph published by Abu Dhabi Public Health Center 2020.

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 May 9, 2020).**



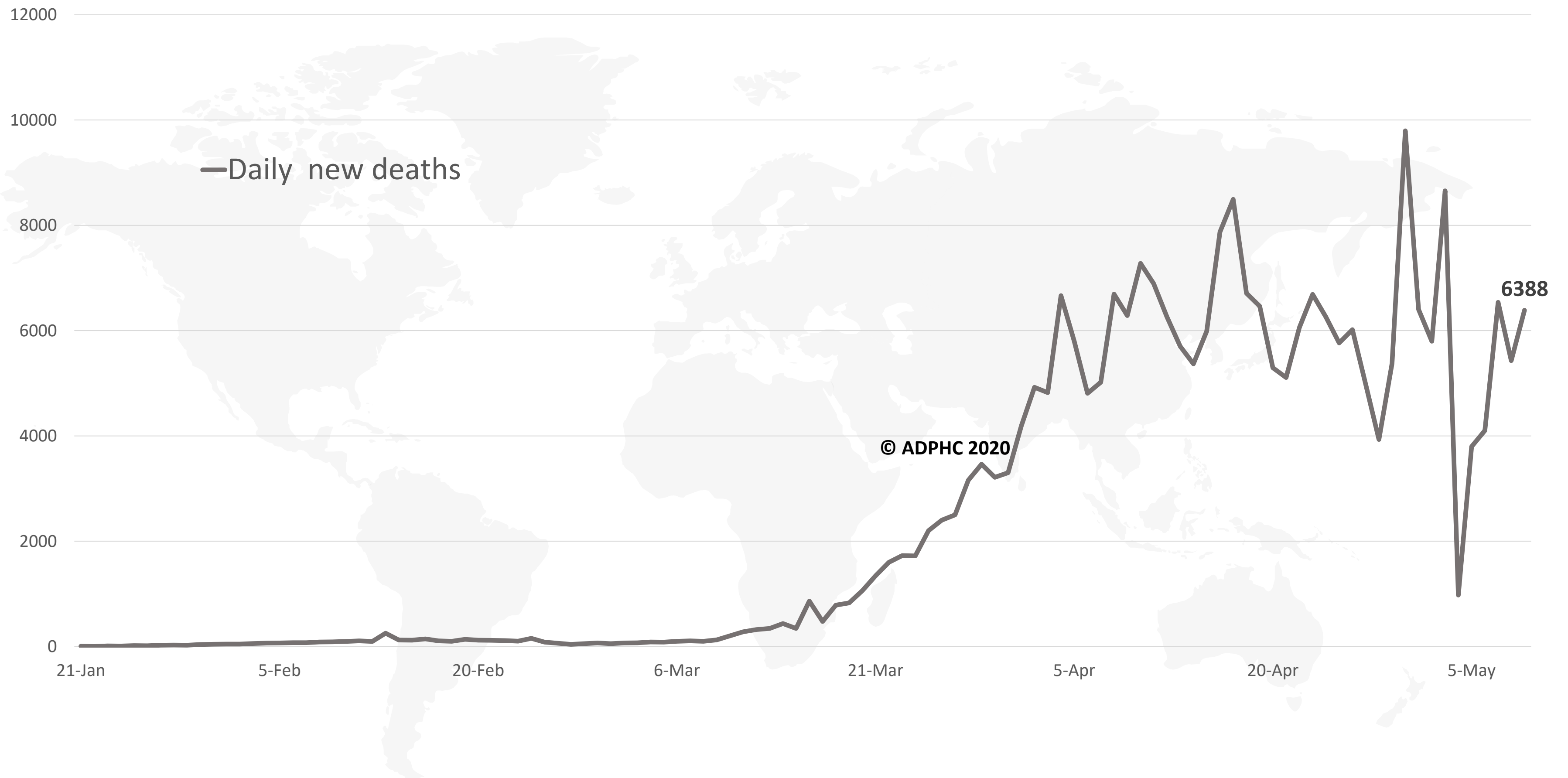
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Line graph published by Abu Dhabi Public Health Center 2020.

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



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



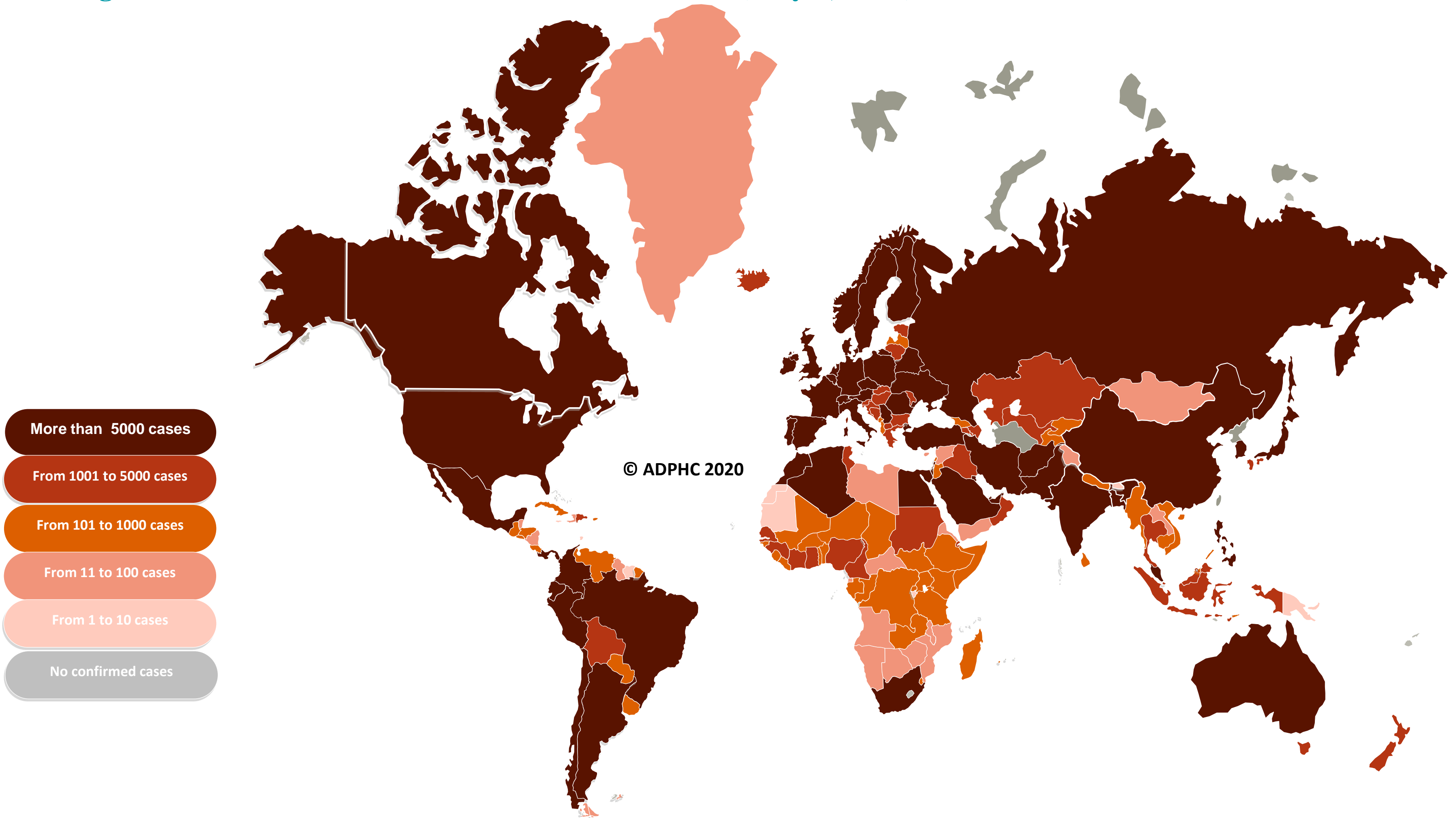
Line graph published by Abu Dhabi Public Health Center 2020.

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

# Epidemiology



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

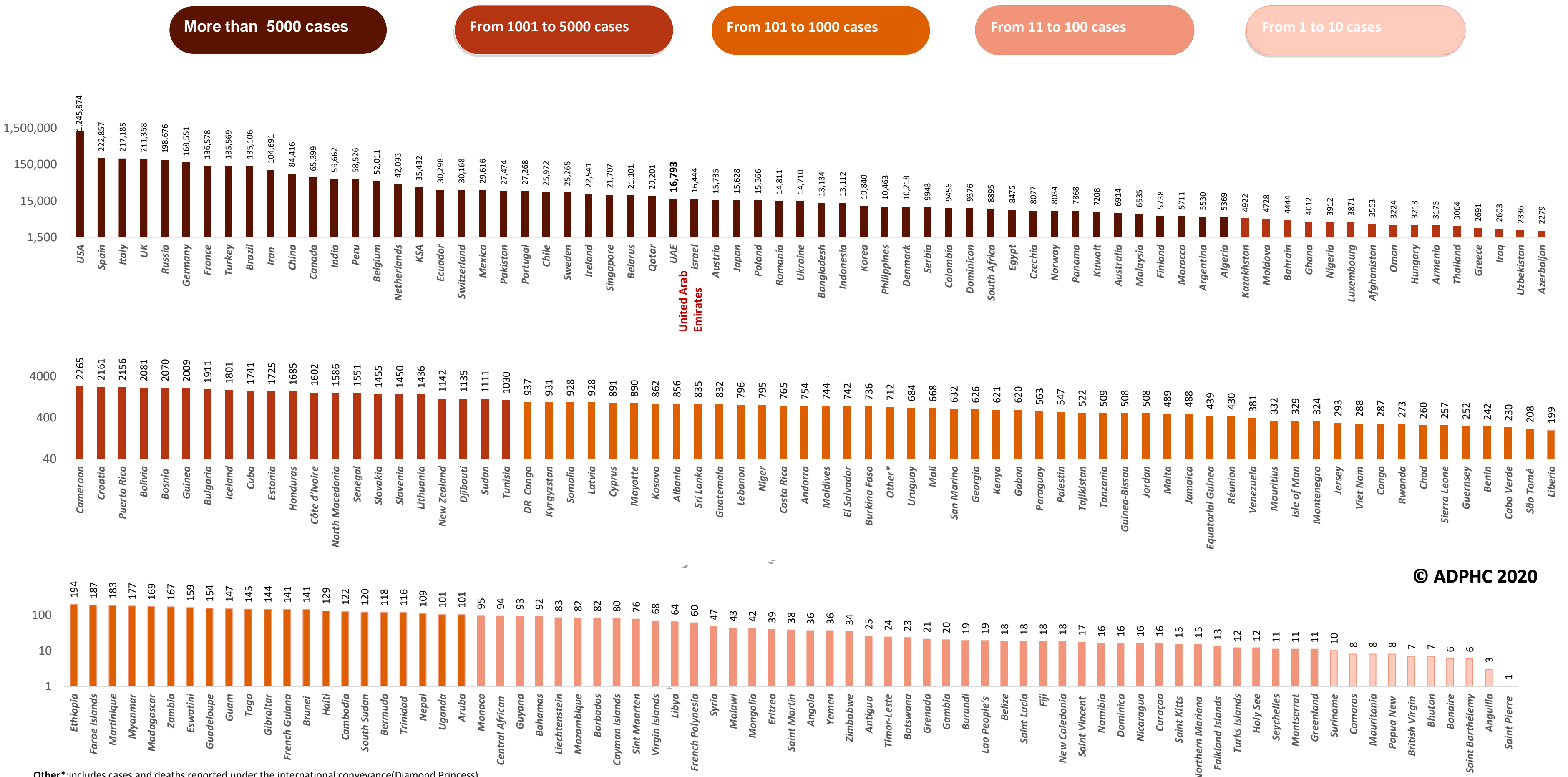


Map chart published by Abu Dhabi Public Health Center 2020.

# Epidemiology



Figure 7B: Bar chart illustrate the global distribution of COVID19 cases May 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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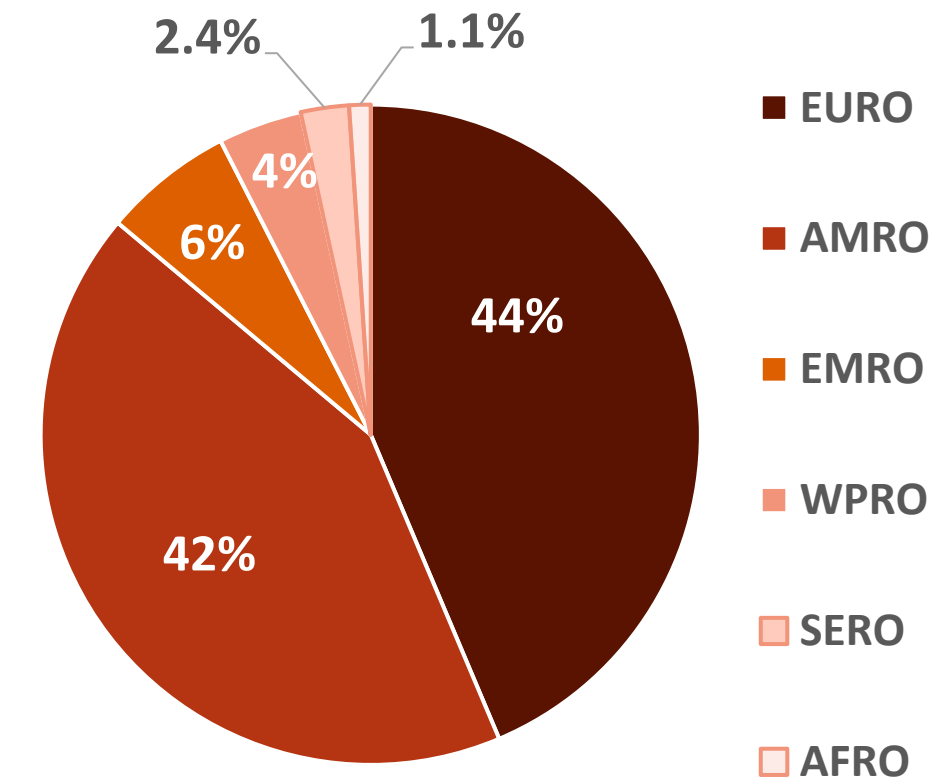
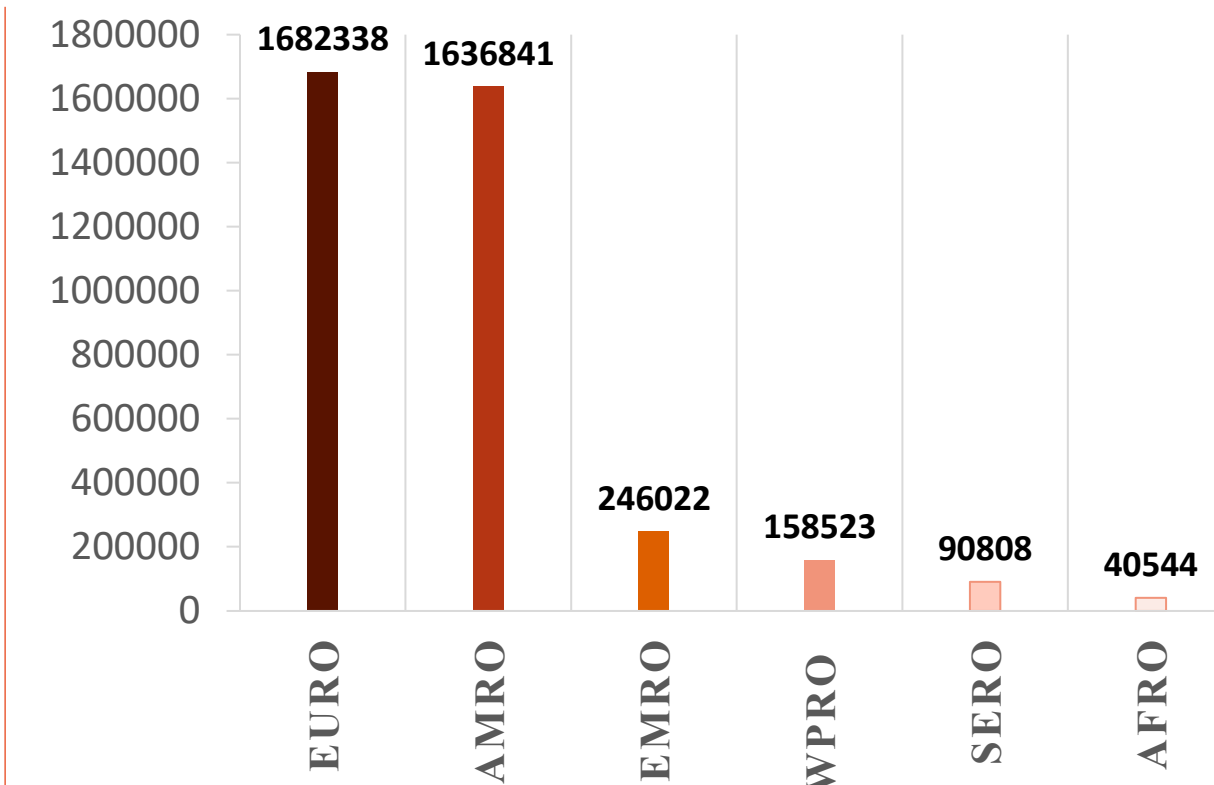
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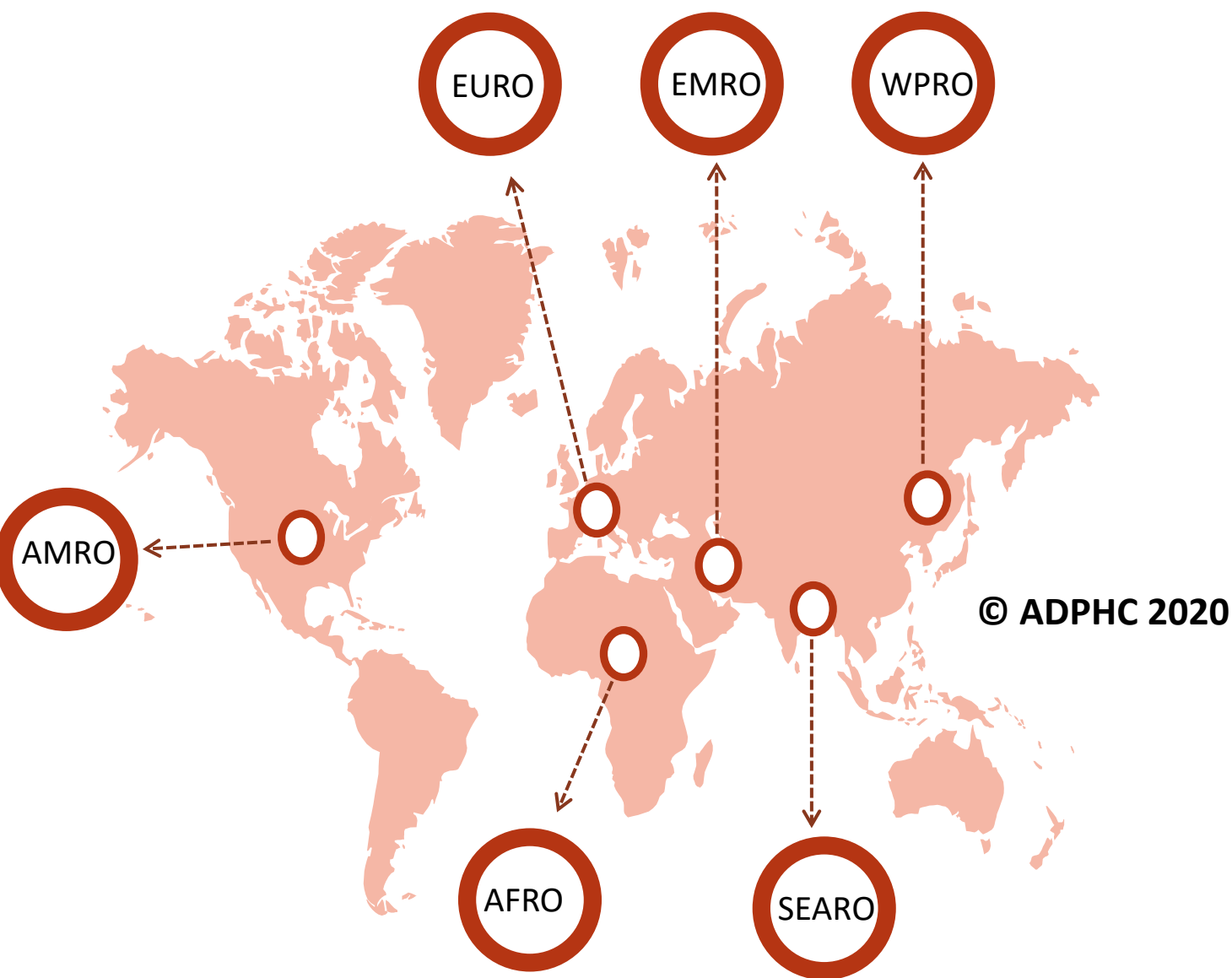
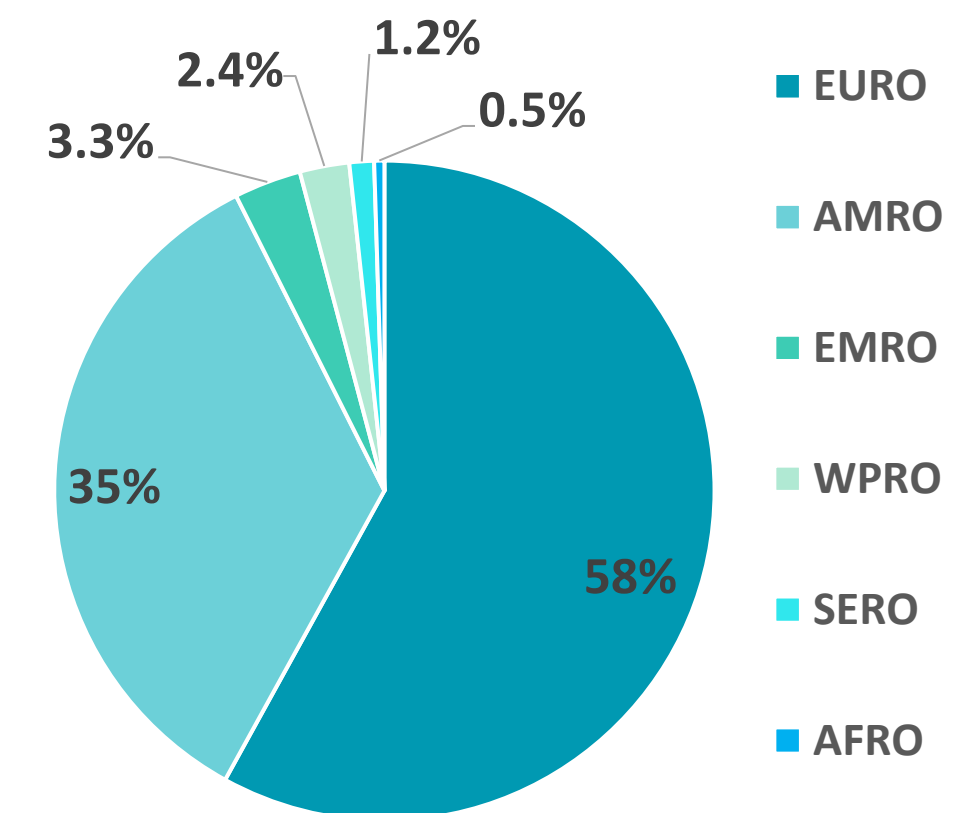
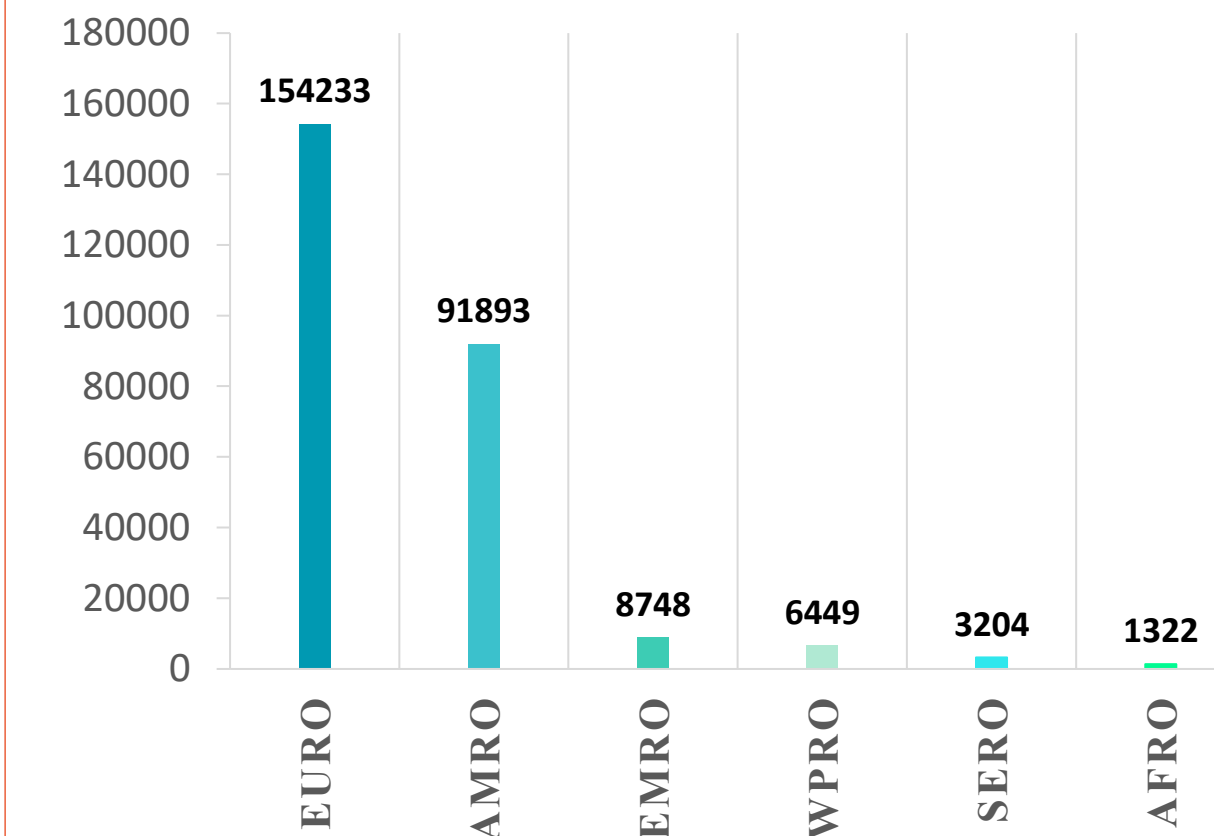
Figure 8: illustrate the Global distribution of COVID19 cases per region (May 9, 2020)

## INFECTED



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## DEATH



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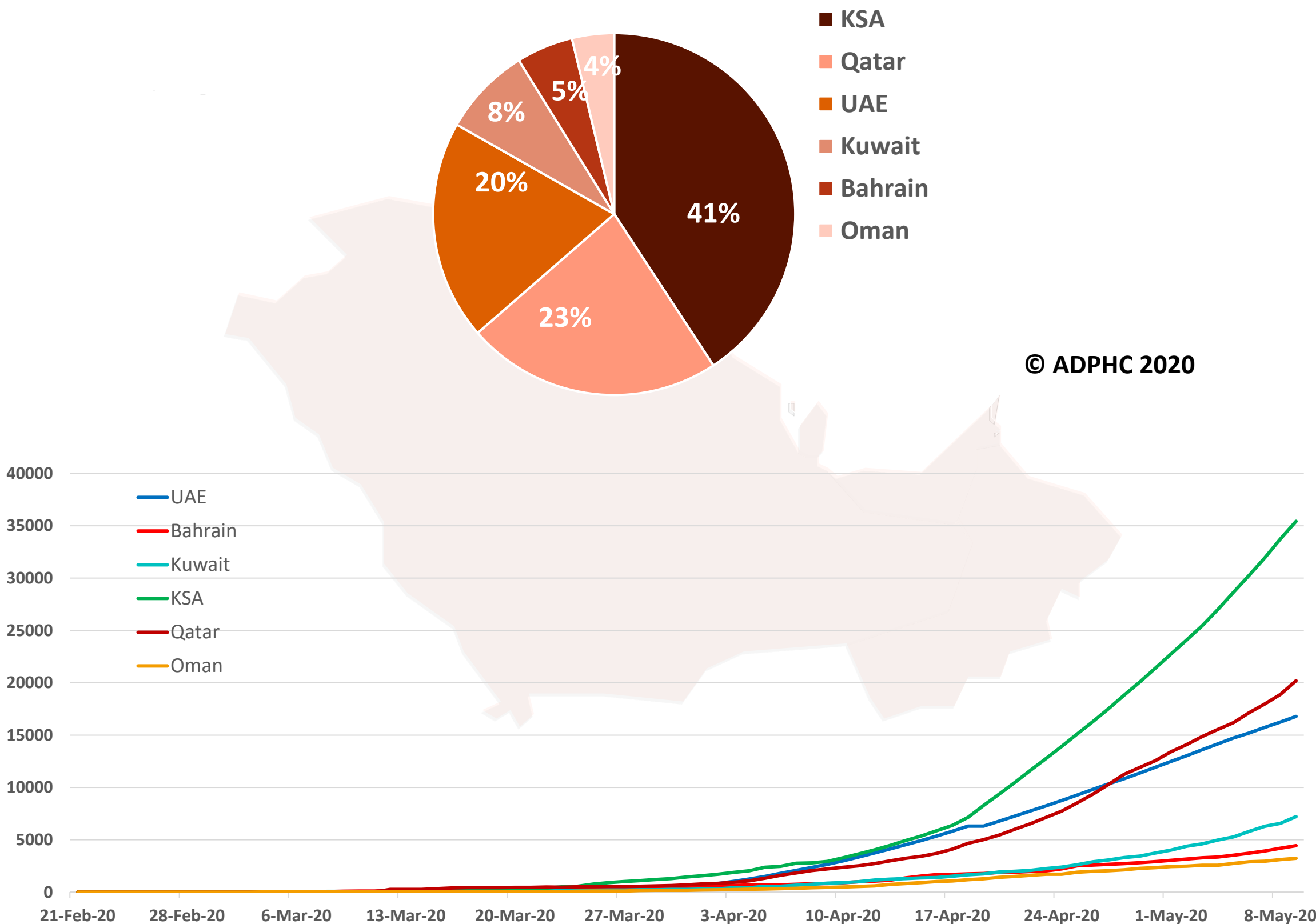
Map chart published by Abu Dhabi Public Health Center 2020.

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

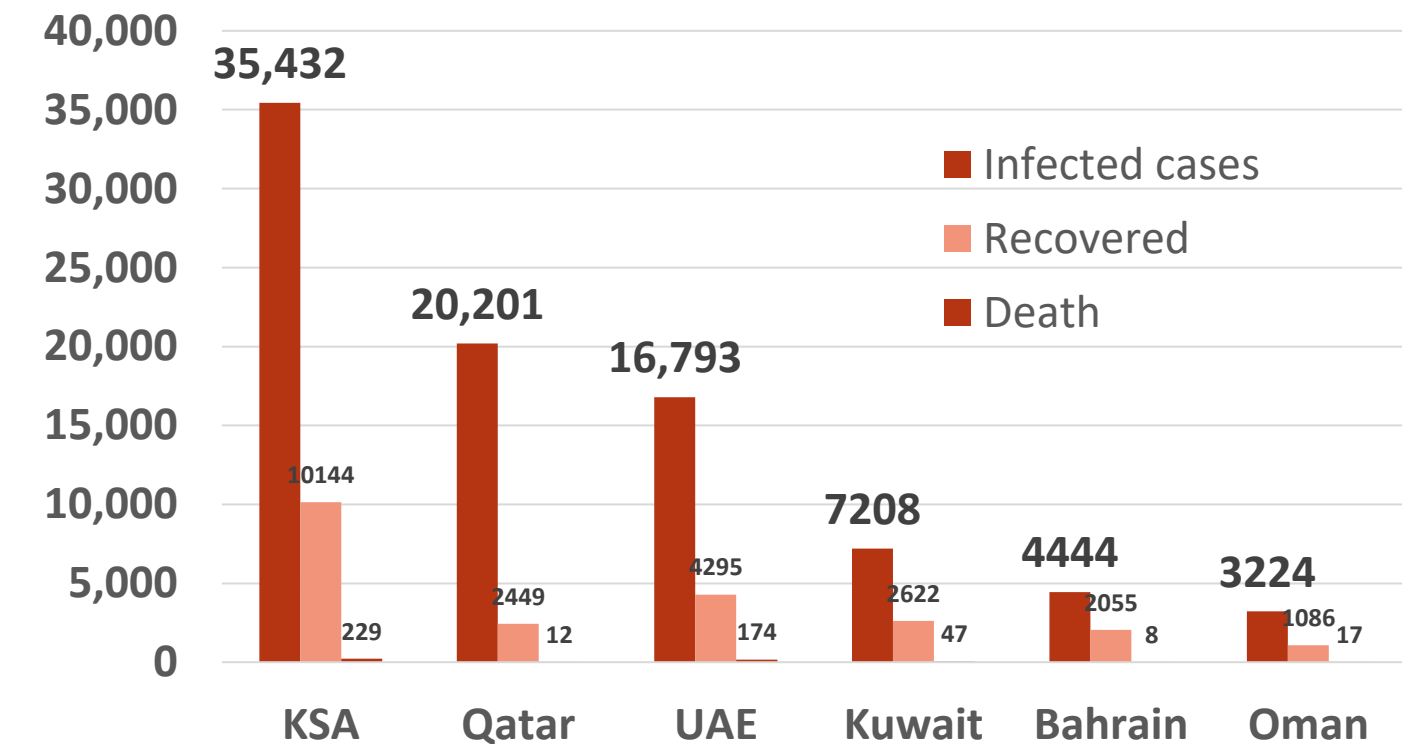


**Figure 9: Comparative analysis of the distribution of COVID19 cases in GCC countries (May 9, 2020)**

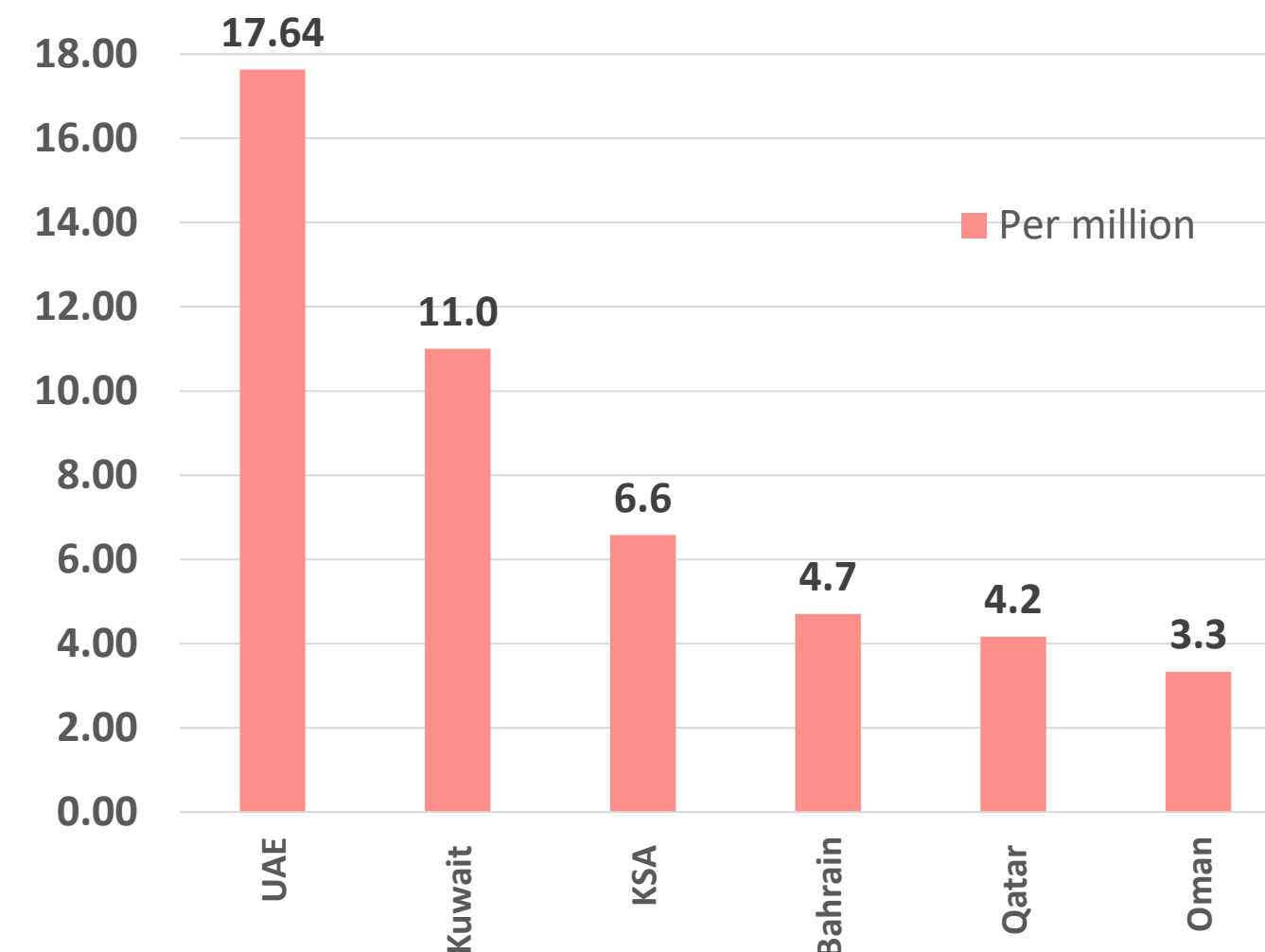
## TOTAL NUMBER OF INFECTED CASES



## 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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# Treatment

## Article 1: Observational Study of Hydroxychloroquine in Hospitalized Patients with Covid-19

**Published:** May 7, 2020 in the [NEMJ](#)

### Summary:

Cohort Study of 1446 consecutive patients with Covid-19 who were admitted to a hospital in NY between March 7 and April 8, 2020,

The study examined the association between hydroxychloroquine use and **intubation or death**.

Out of the 811 (58.9%) received hydroxychloroquine (median duration of treatment, 5 days) and 565 (41.1%) did not. Among the patients who received hydroxychloroquine.

Outcome as in the table.

There was no significant association between hydroxychloroquine use and intubation or death (hazard ratio, 1.04, 95% confidence interval, 0.82 to 1.32).

After this results the Clinical guidance at the hospital has been updated to remove the suggestion that patients with Covid-19 be treated with hydroxychloroquine. ( the guidelines use to suggest HCQ for moderate to sever cases)

The author suggest that the results do not support the use of hydroxychloroquine at present, outside randomized clinical trials testing its efficacy.

**Table 2.** Associations between Hydroxychloroquine Use and the Composite End Point of Intubation or Death in the Crude Analysis, Multivariable Analysis, and Propensity-Score Analyses.

Analysis	Intubation or Death
No. of events/no. of patients at risk (%)	
Hydroxychloroquine	262/811 (32.3)
No hydroxychloroquine	84/565 (14.9)
Crude analysis — hazard ratio (95% CI)	2.37 (1.84–3.02)
Multivariable analysis — hazard ratio (95% CI)*	1.00 (0.76–1.32)
Propensity-score analyses — hazard ratio (95% CI)	
With inverse probability weighting†	1.04 (0.82–1.32)
With matching‡	0.98 (0.73–1.31)
Adjusted for propensity score§	0.97 (0.74–1.28)



# Public health response



## Article 2: Collateral Effect of Covid-19 on Stroke Evaluation in the United States

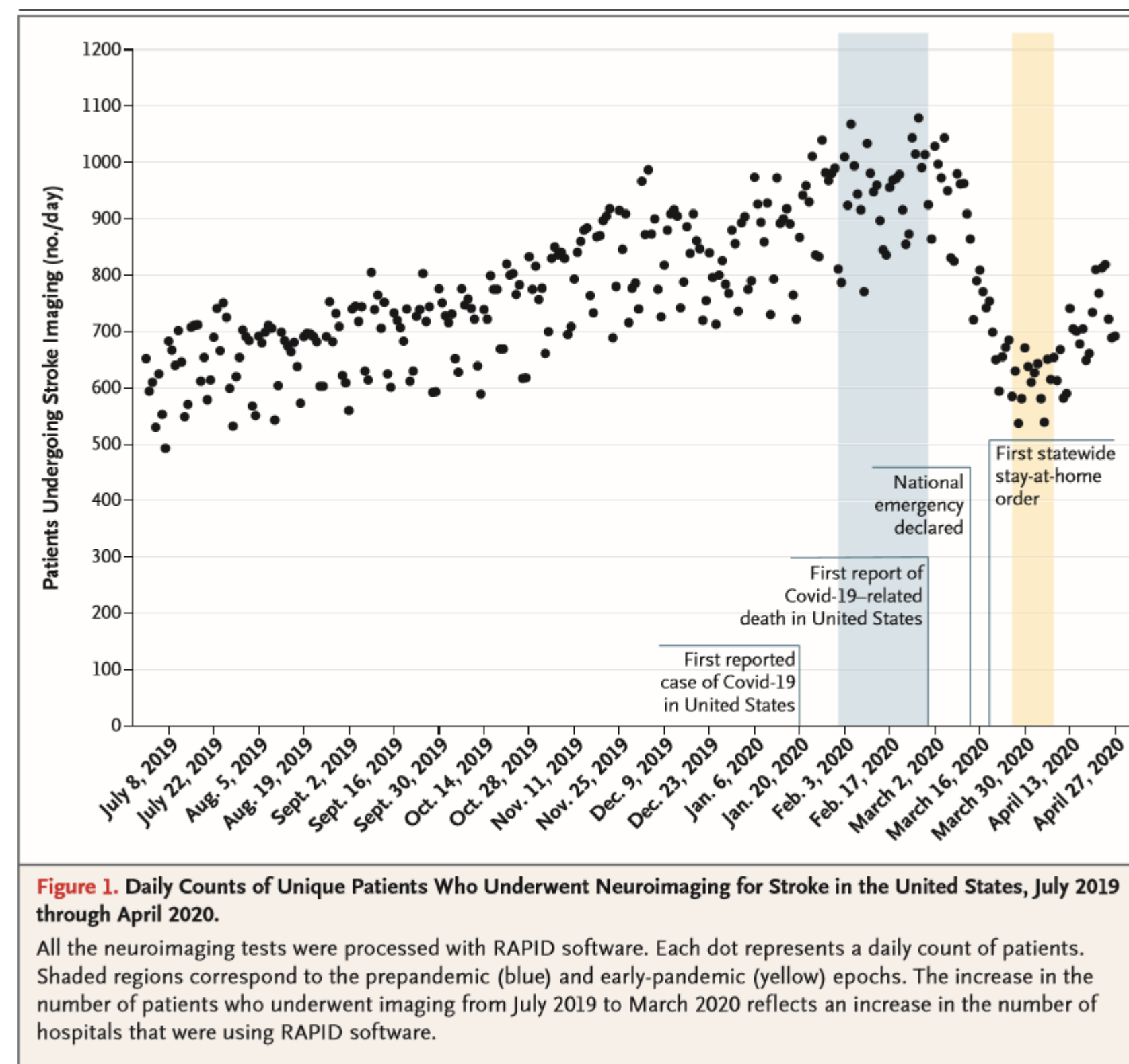
Published: May 8, 2020 in The [NEJM](#)

### Summary:

The effect of the Covid-19 pandemic on medical care for conditions other than Covid-19 has been difficult to quantify. We had access to data on 231,753 patients with suspected brain artery occlusion who underwent neuroimaging processed with RAPID software (to determine the need for endovascular thrombectomy) in 856 hospitals in the United States from **July 1, 2019 through April 27, 2020**. This database has been used to quantify of care that hospitals provided to patients with acute ischemic stroke.

### Findings:

The number of patients who underwent imaging decreased by 39%, from 1.18 patients per day per hospital in the pre-pandemic epoch (1-29 Feb 2020 ) to 0.72 patients per day per hospital in the early-pandemic epoch (26 March-8 April 2020).





# Public Health Response

## Article 3: COVID-19: PCR screening of asymptomatic healthcare workers at London hospital

Published: May 7, 2020 in [the lancet](#)

### Summary:

Due to the Public fear of hospitals is currently high, many serious and treatable diseases are presenting late with adverse outcomes.

A study on UK on health care worker tested prospectively a 400 cases of Health Care worker (HCW) after 23 March ( the peak period of cases in the UK ) and they continue testing them at 5 time points. Participant were not informed on the swab results.

### Findings:

- Infection rates among HCWs tracked the London general population infection curve, peaking at 7.1% and falling six-fold over 4 weeks, despite the persistence of a high burden of COVID-19 patients through this time (representing most inpatients).
- These data suggest that the rate of asymptomatic infection among HCWs more likely reflects general community transmission than in-hospital exposure.

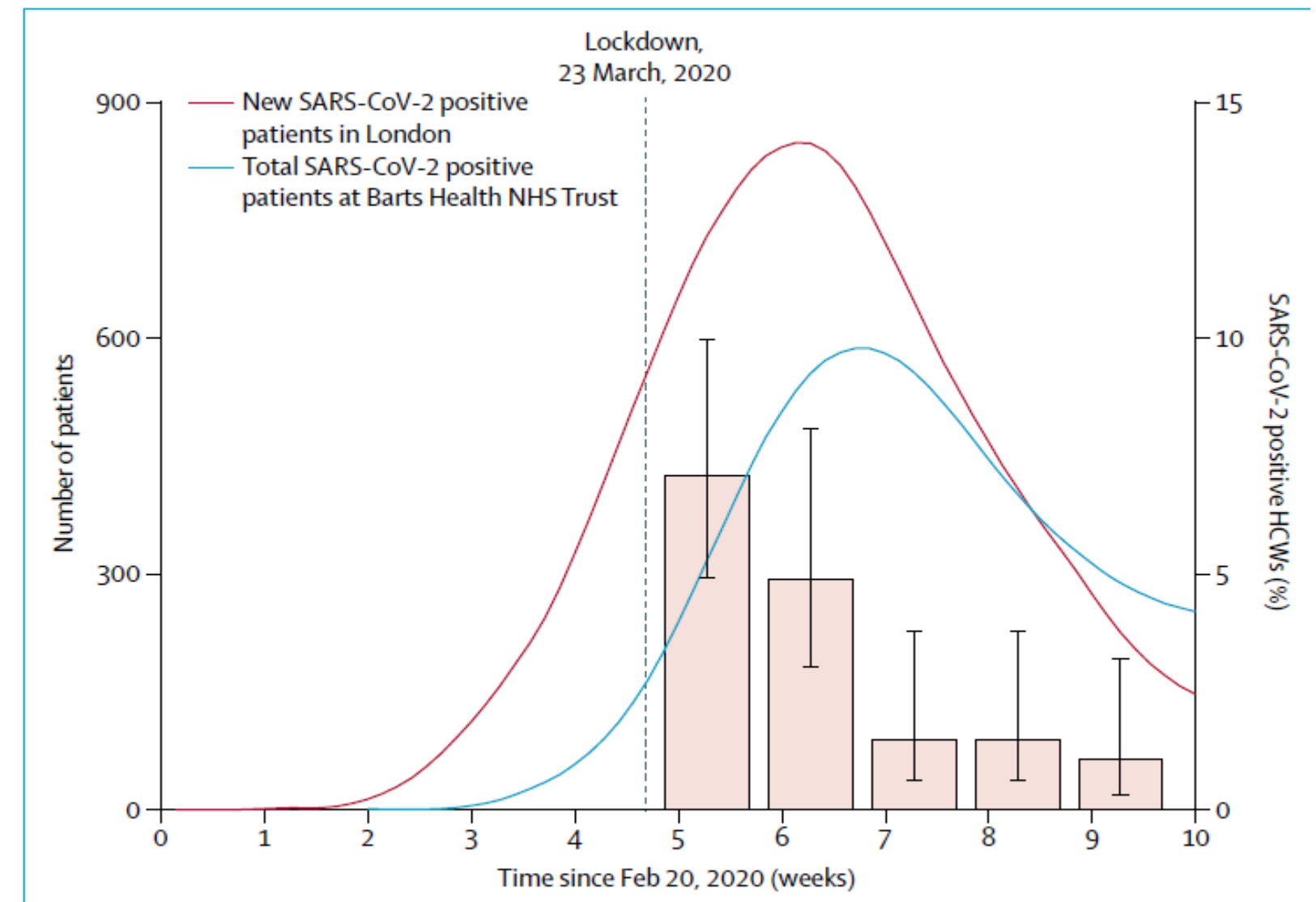


Figure: Number of patients testing positive for SARS-CoV-2 in Greater London and Barts Health NHS Trust and proportion of the HCW study cohort with SARS-CoV-2-positive nasal swab

**Conclusion:** Prospective patients should be reassured that as the overall epidemic wave recedes, asymptomatic infection among HCWs is low and unlikely to be a major source of transmission. These data reinforce the importance of epidemic multi-time point surveillance of HCWs.