

ABU DHABI PUBLIC
HEALTH CENTRE

مركز أبوظبي
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Scientific Research Monitoring on COVID-19

14 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)



Today's 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

- **Clinical features:** article discusses a case report of a patient who developed a syndrome that is caused usually from clots formation in COVID19 infected patient.
- **Public health response:** article discuss the evidence of using cloth mask.
- **Treatment:** Summery review on recent publications and trials of Convalescent plasma as a therapy for COVID19.

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.

Listed articles may represent information that has been previously shared in the report and/or may target specific technical audience.

Others

1. [The clinical feature of silent infections of novel coronavirus infection \(COVID-19\) in Wenzhou](#)
2. [Cluster of coronavirus disease 2019 \(Covid-19\) in the French Alps, 2020](#)
3. [Ensuring Access to Medications in the US During the COVID-19 Pandemic](#)
4. [Critical Illness in Patients With COVID-19](#)



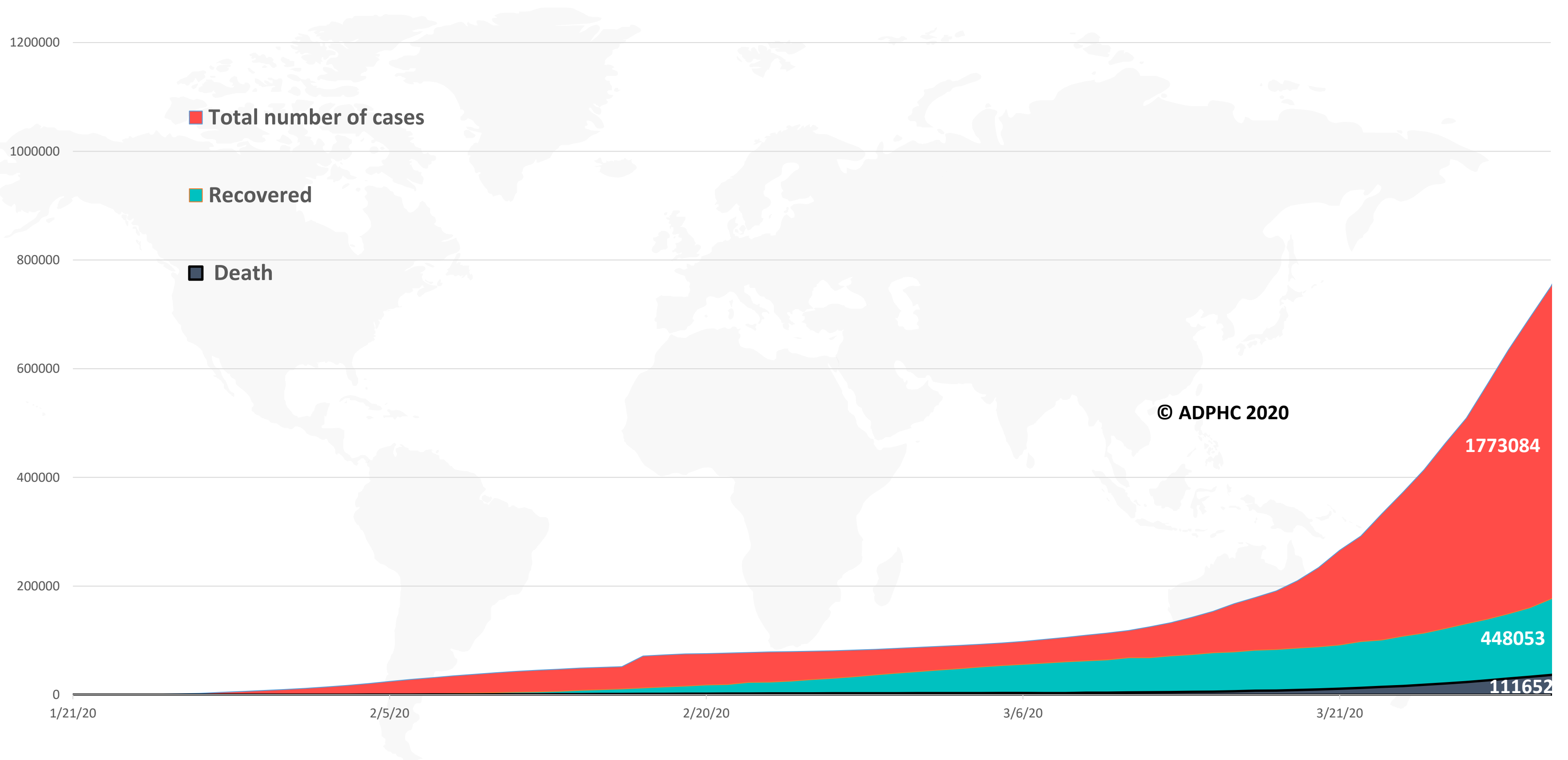
WHO daily report 12.April 2020

- No new country/territory/area reported cases of COVID-19 in the past 24 hours.
- There is no evidence that the Bacille Calmette-Guérin vaccine (BCG) protects people against infection with COVID-19 virus. Two clinical trials addressing this question are underway, and WHO will evaluate the evidence when it is available. In the absence of evidence, WHO does not recommend BCG vaccination for the prevention of COVID-19.

Epidemiology



Figure 1: Total number of infected, recovered, and death cases (January 21st to April 13th, 2020)

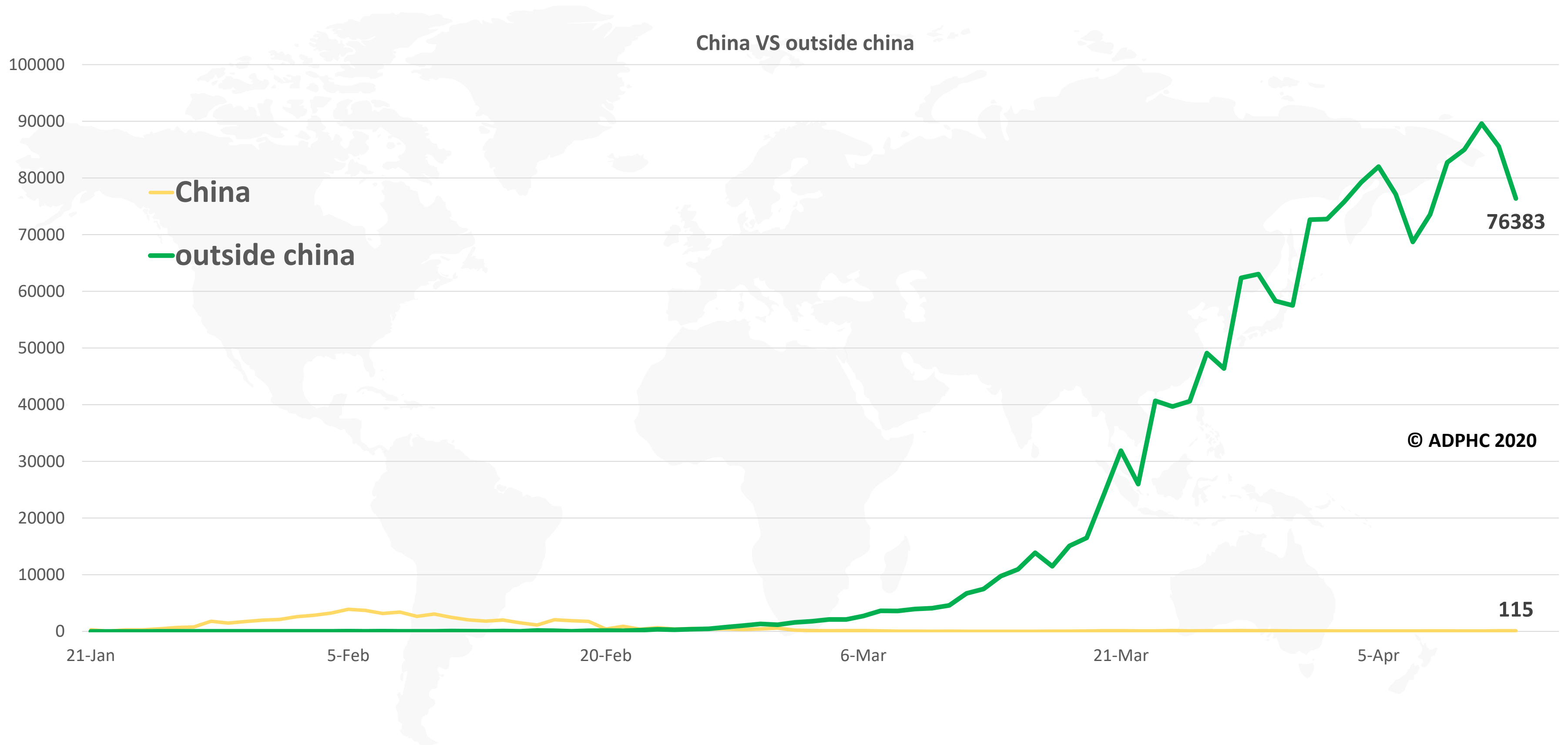


Line graph published by Abu Dhabi Public Health Center 2020.

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



Figure 2: Daily new infected COVID-19 cases reported between (January 21 to April 13^h, 2020).



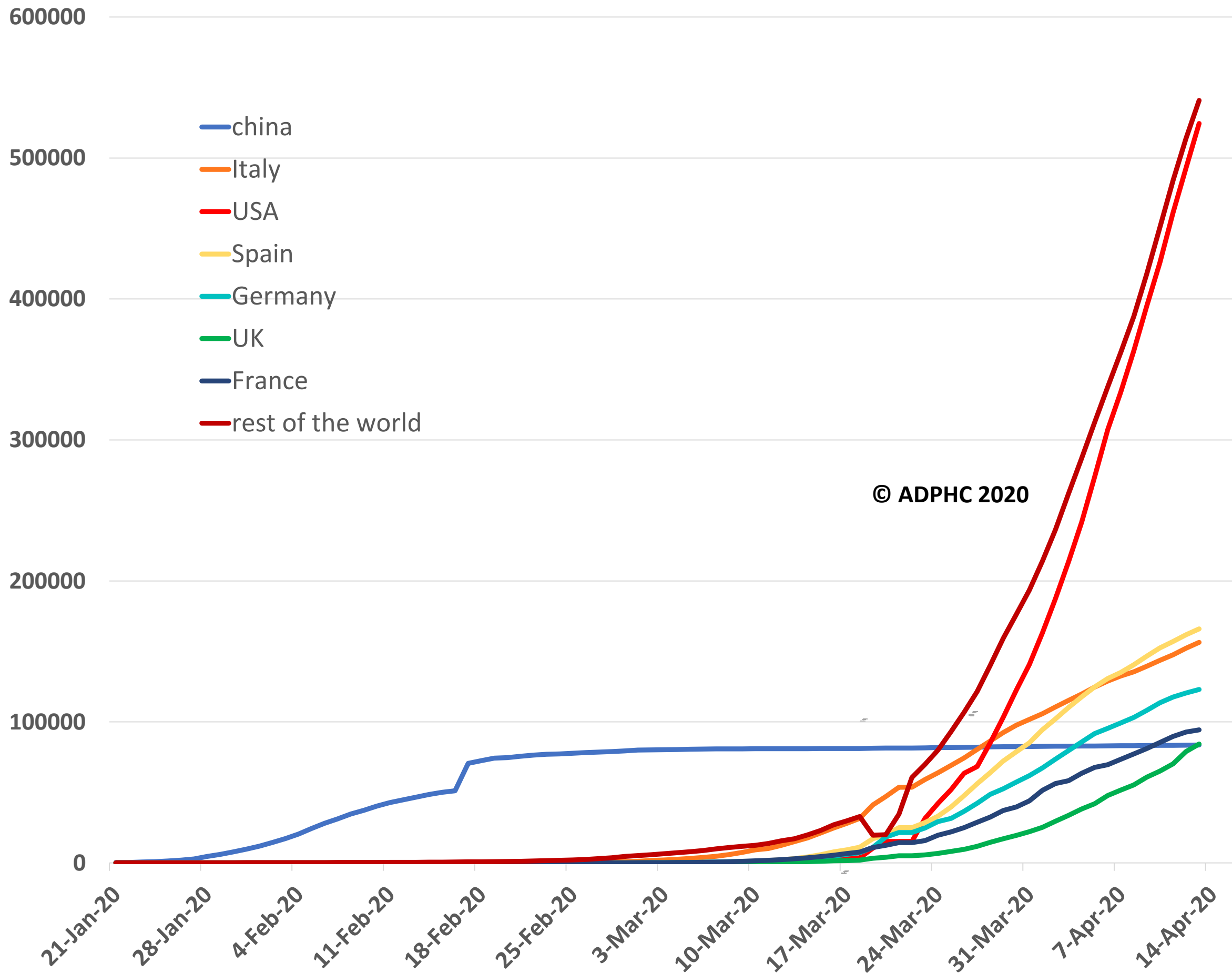
Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)

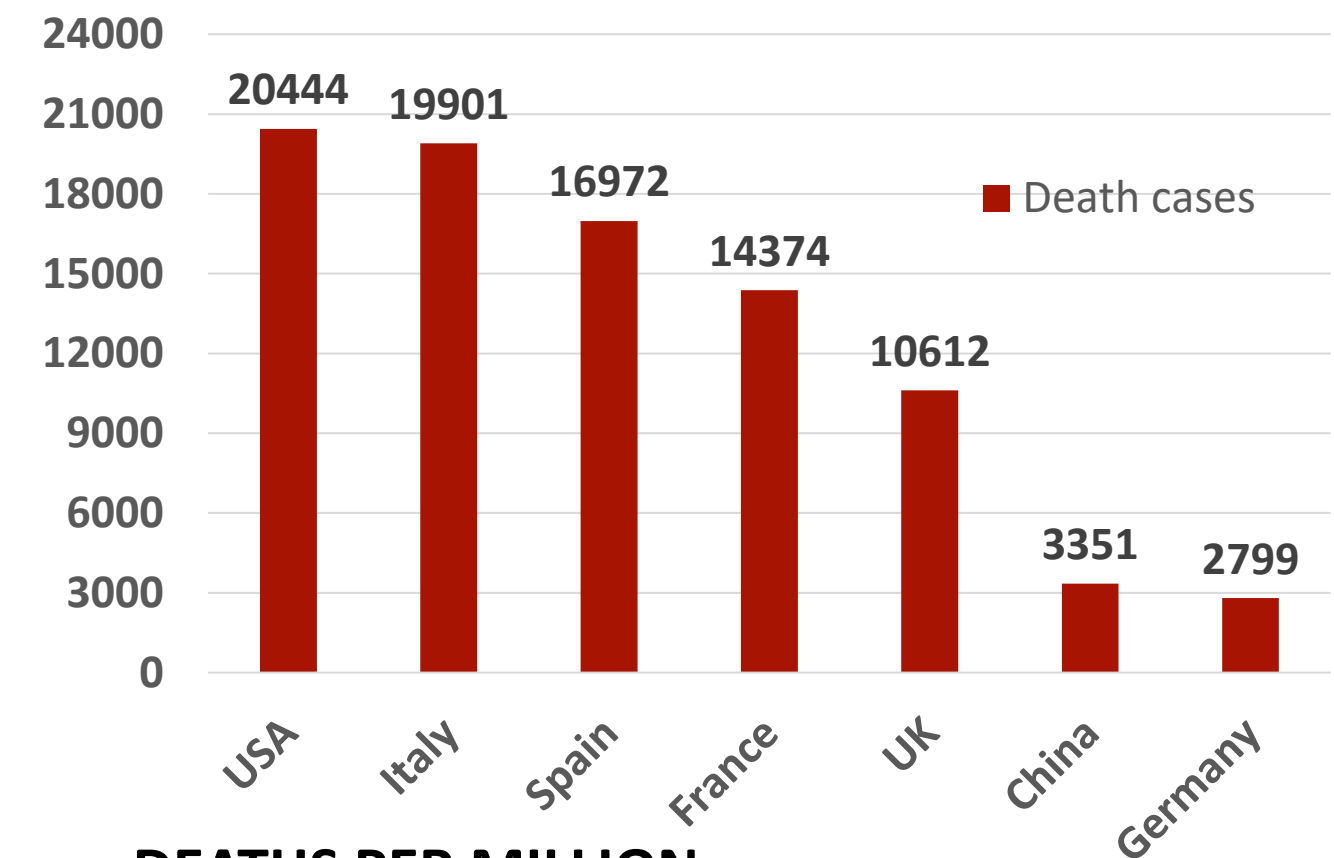
Epidemiology



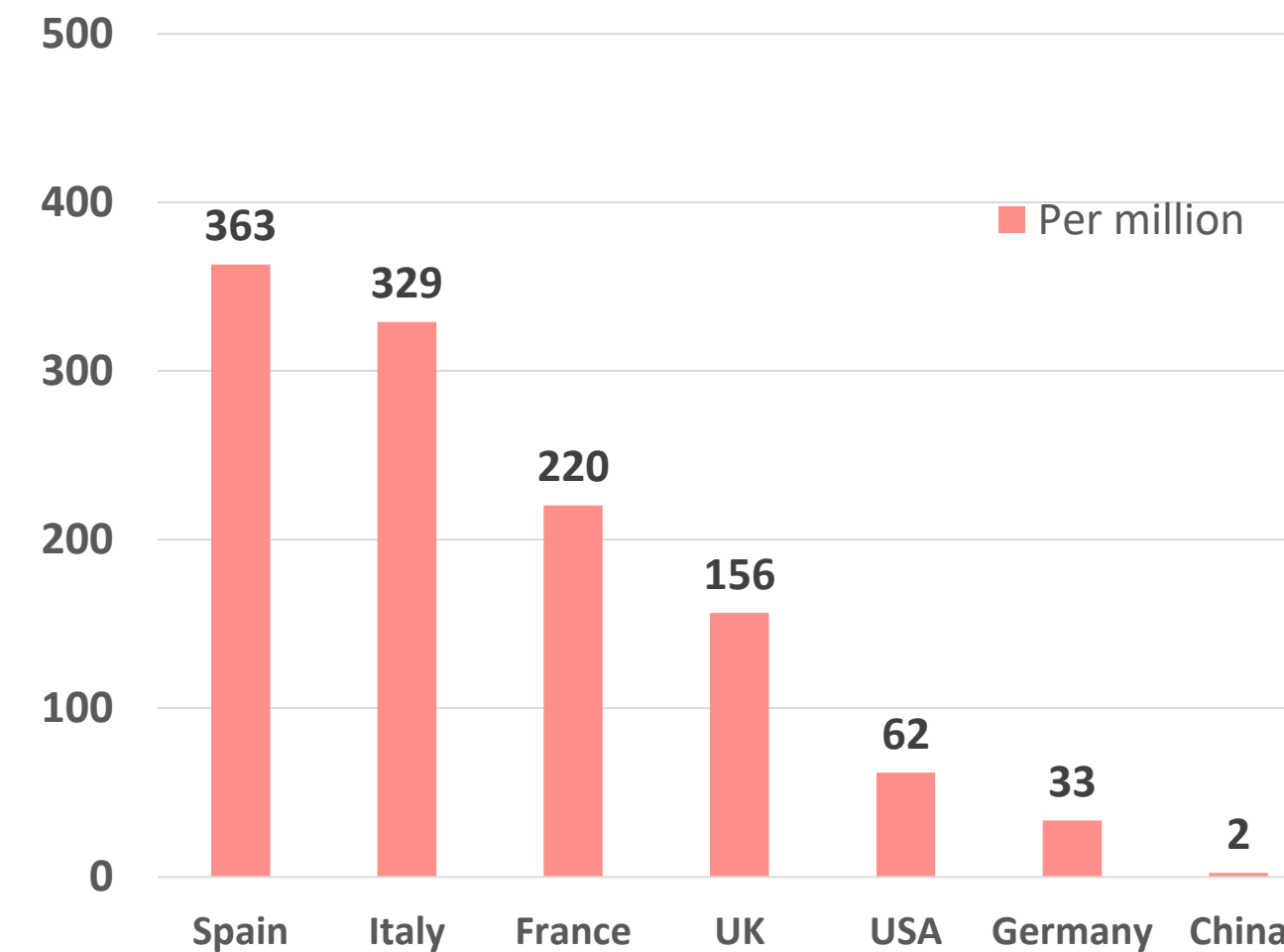
Figure 3 : Top 7 countries in the total number of cases due to COVID-19 (January 21 to April 13th, 2020).



TOTAL DEATHS



DEATHS PER MILLION

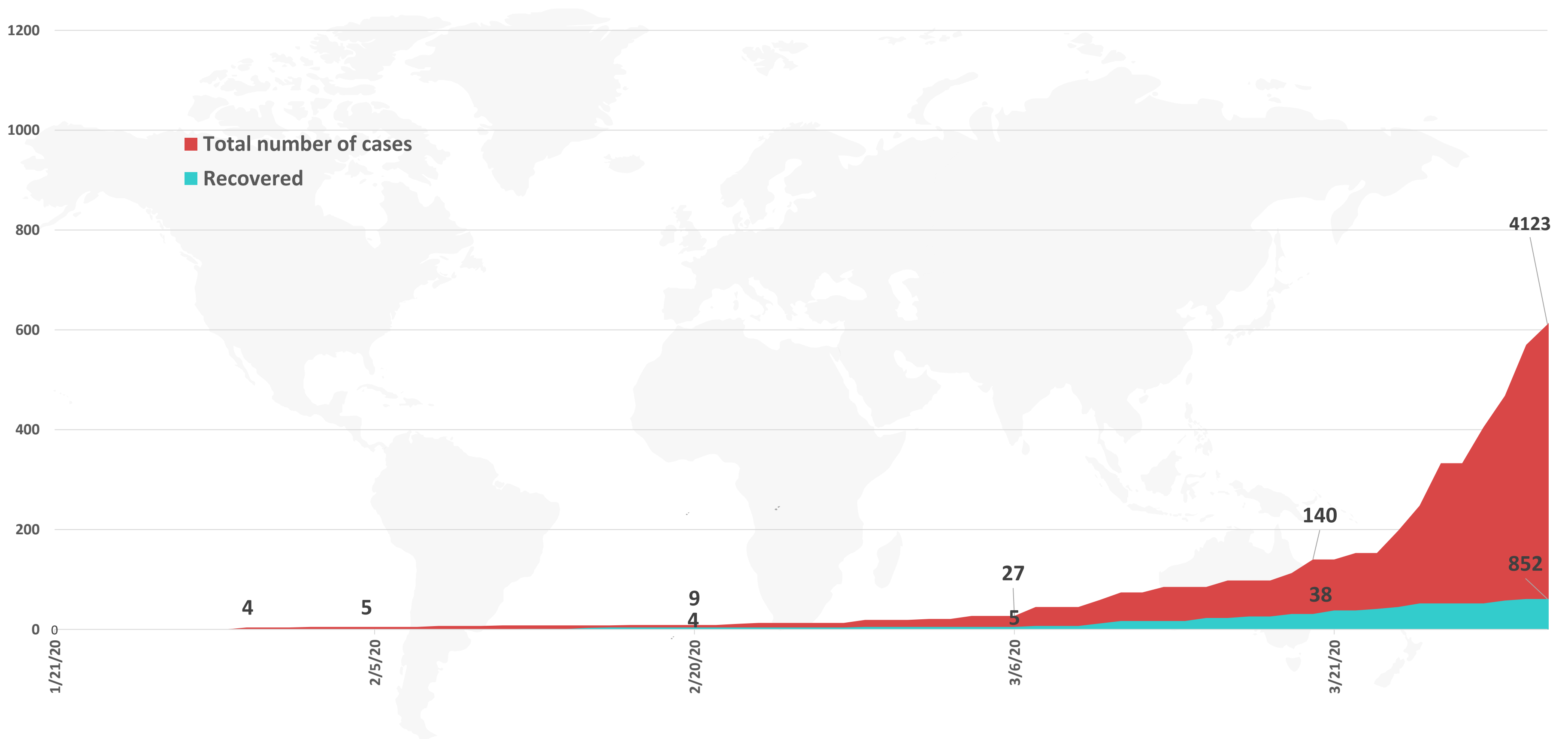


Line graph published by Abu Dhabi Public Health Center 2020.

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



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



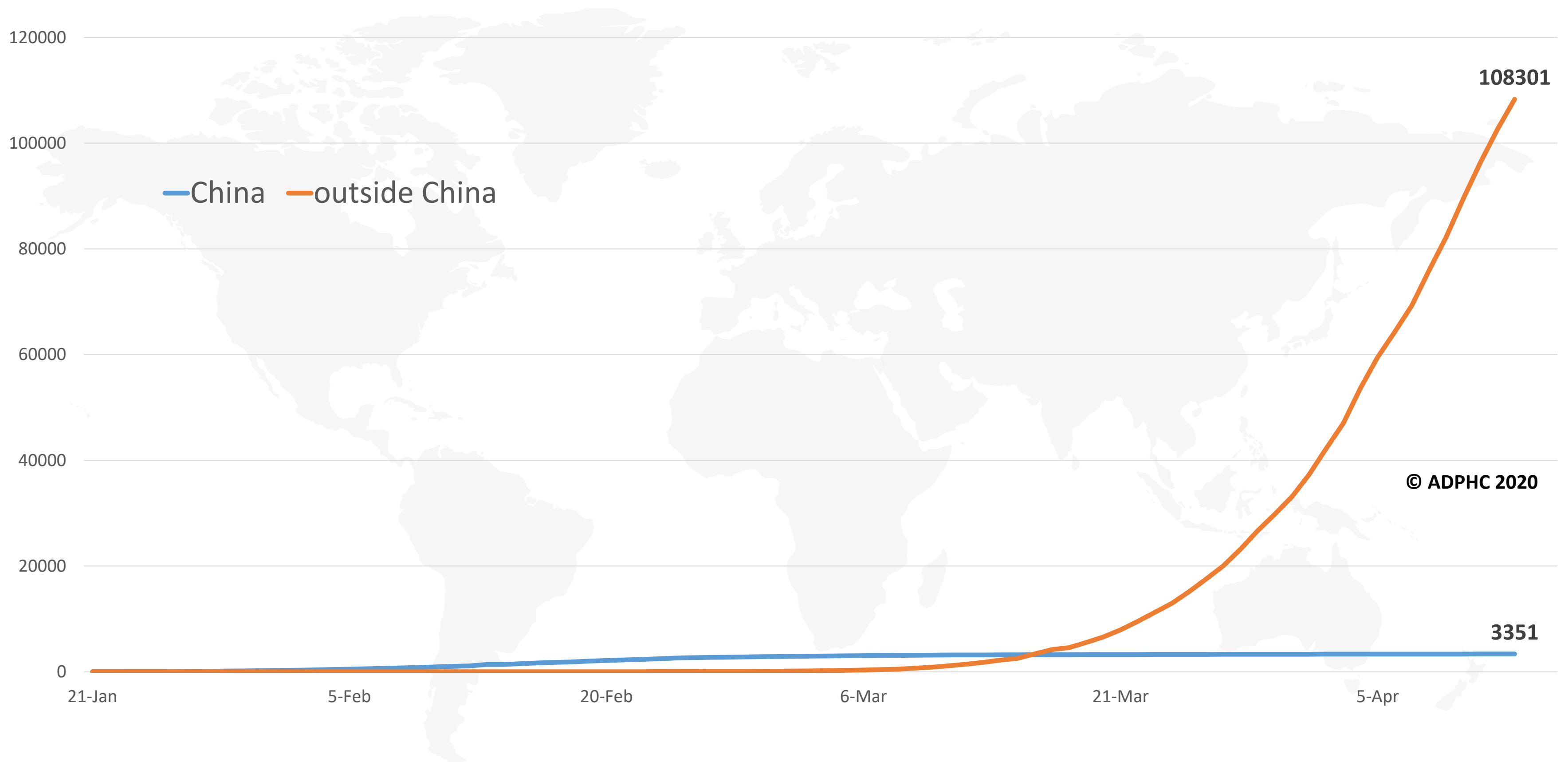
Line graph published by Abu Dhabi Public Health Center 2020.

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 21 to April 13th, 2020).



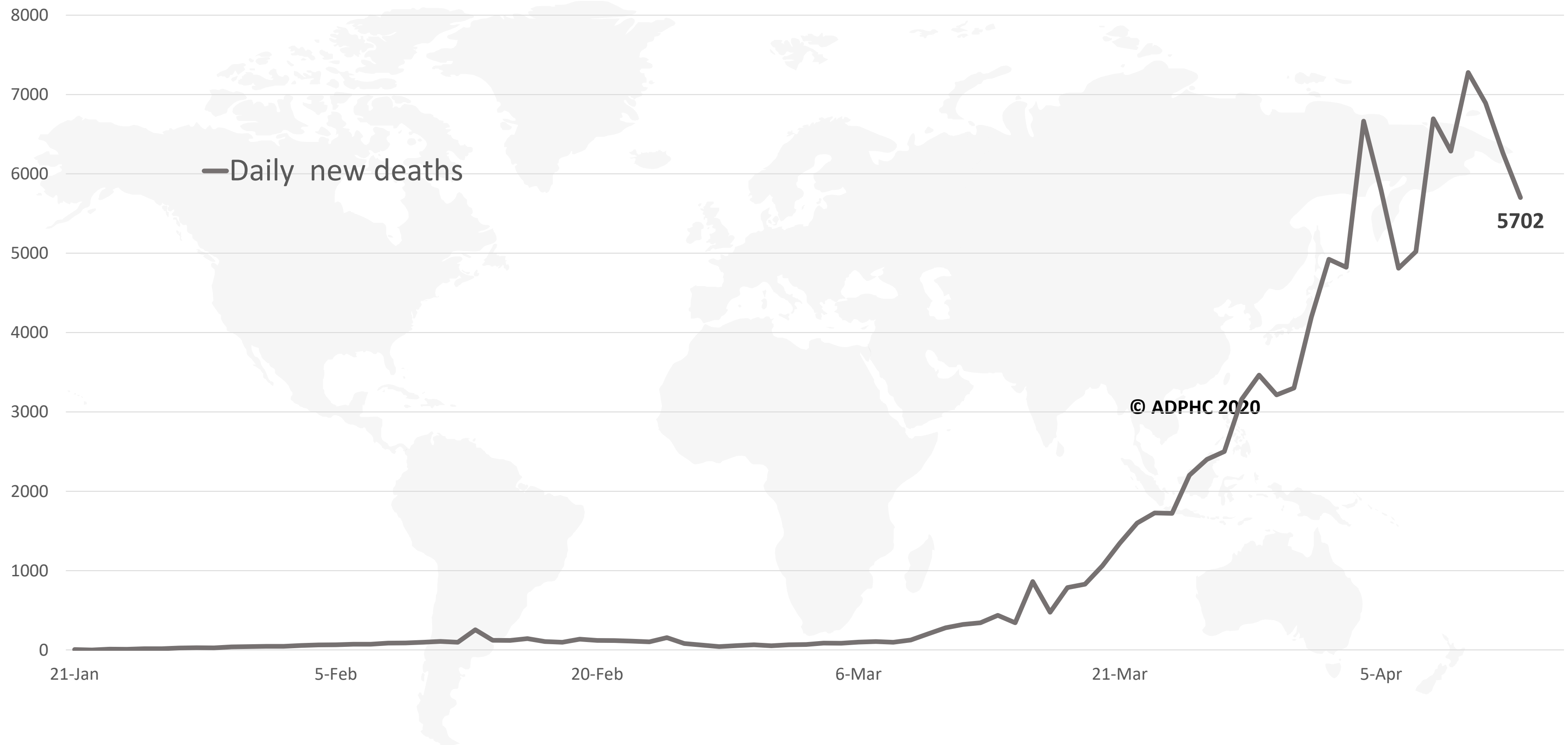
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Line graph published by Abu Dhabi Public Health Center 2020.

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



Figure 6: Global daily new deaths due to COVID-19 (January 21 to April 13th, 2020).



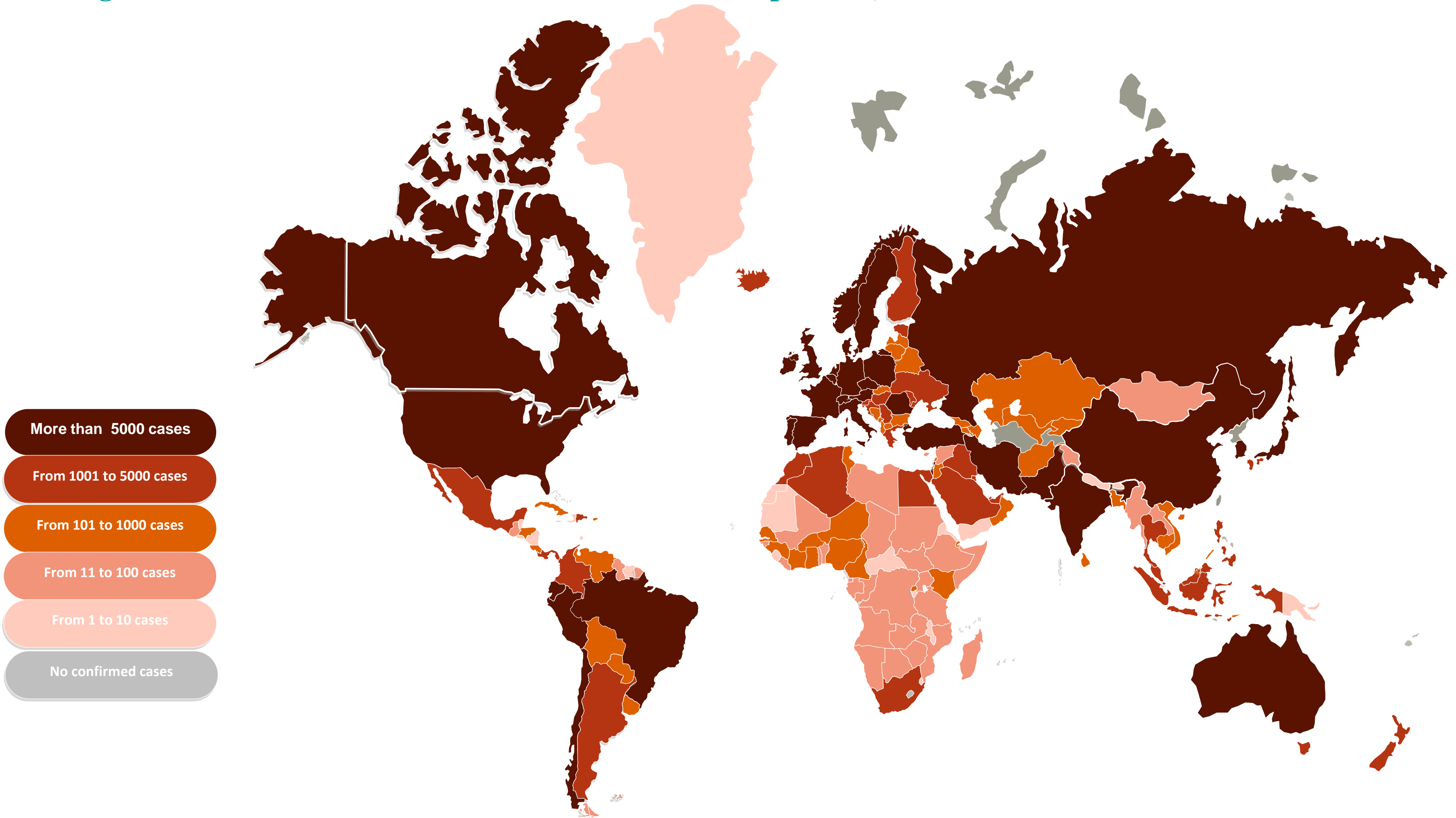
Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)

Epidemiology



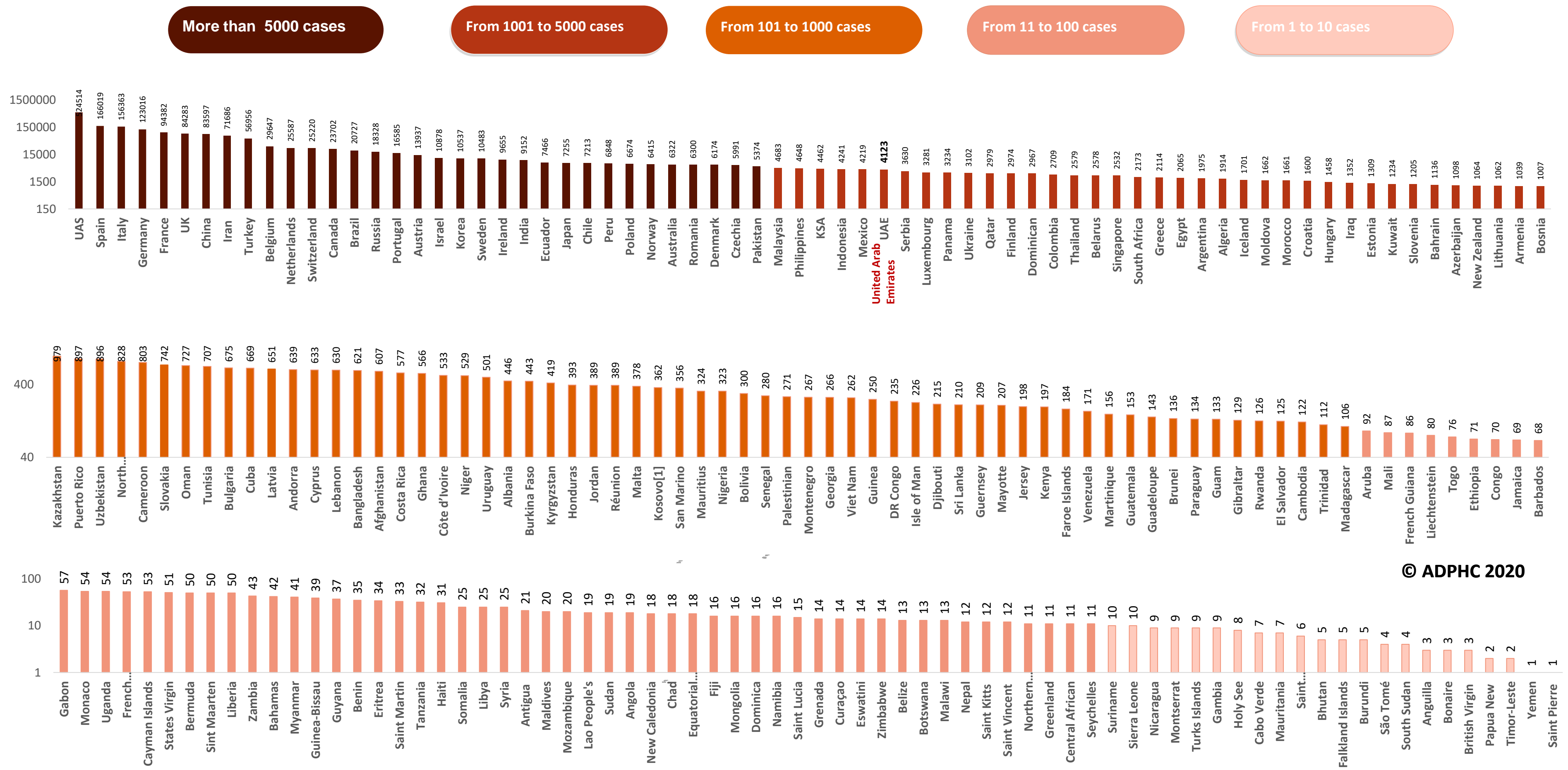
Figure 7a : Global distribution of COVID-19 cases (April 13th, 2020).



Map chart published by Abu Dhabi Public Health Center 2020.



Figure 7B: Bar chart illustrate the global distribution of COVID19 cases April 13th, 2020



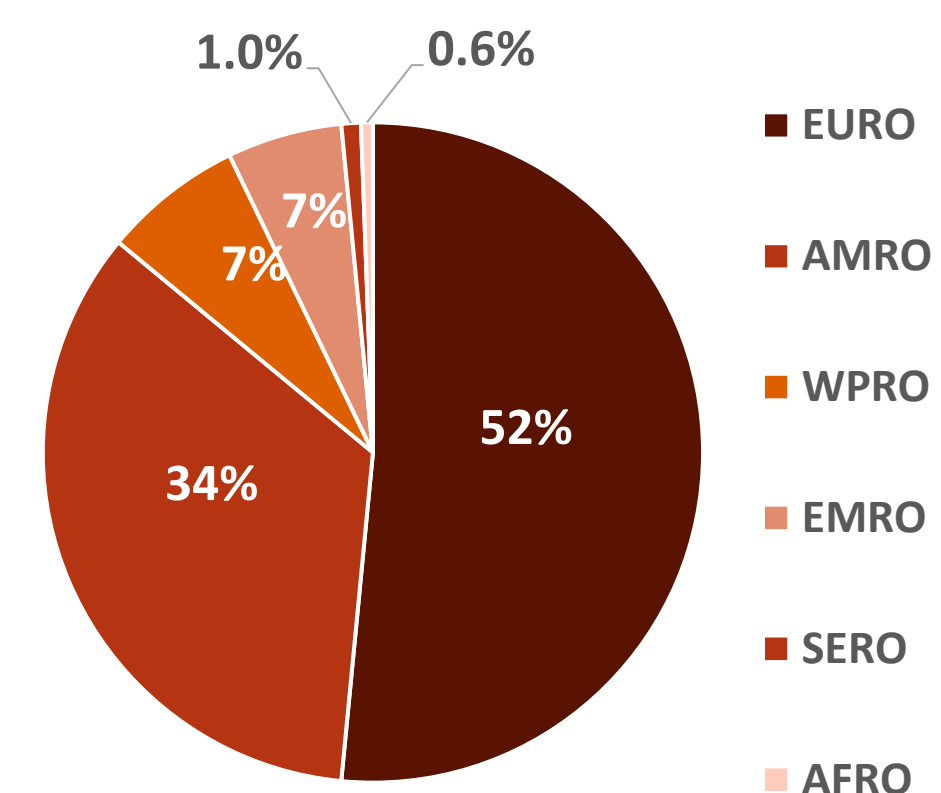
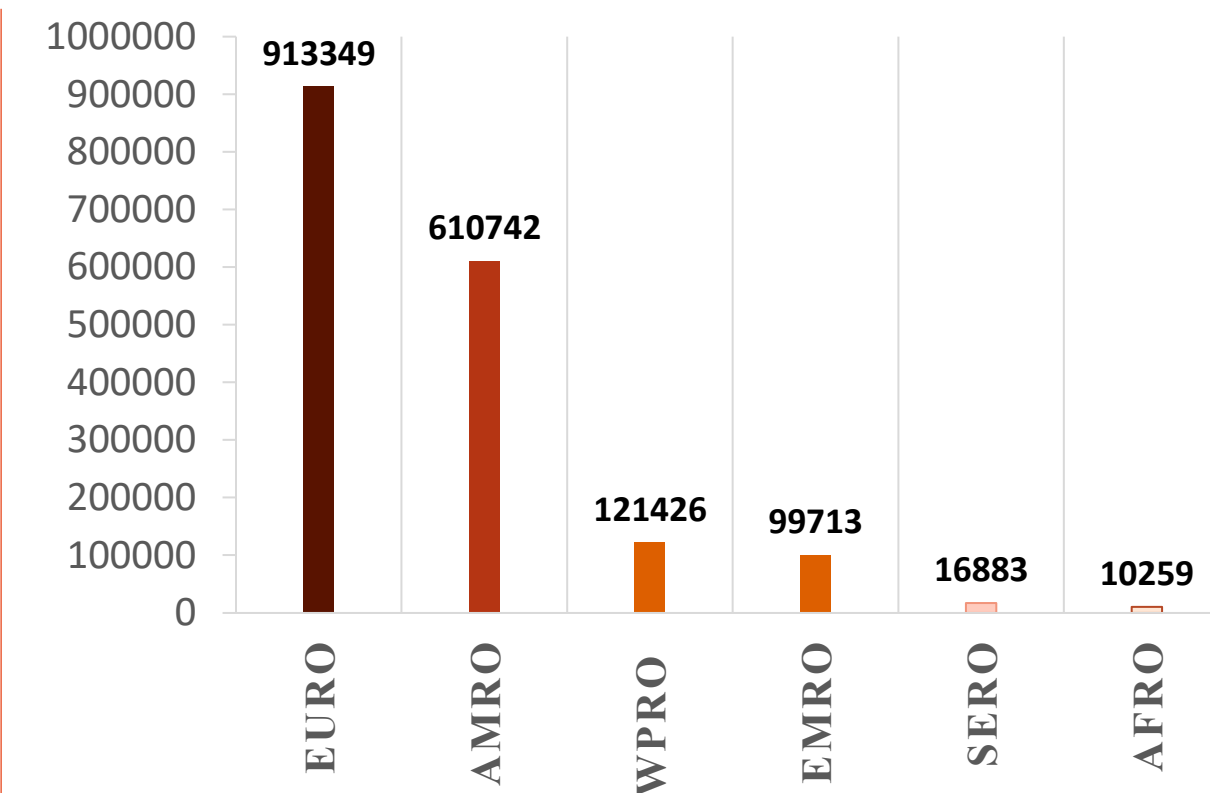
Map chart published by Abu Dhabi Public Health Center 2020.

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

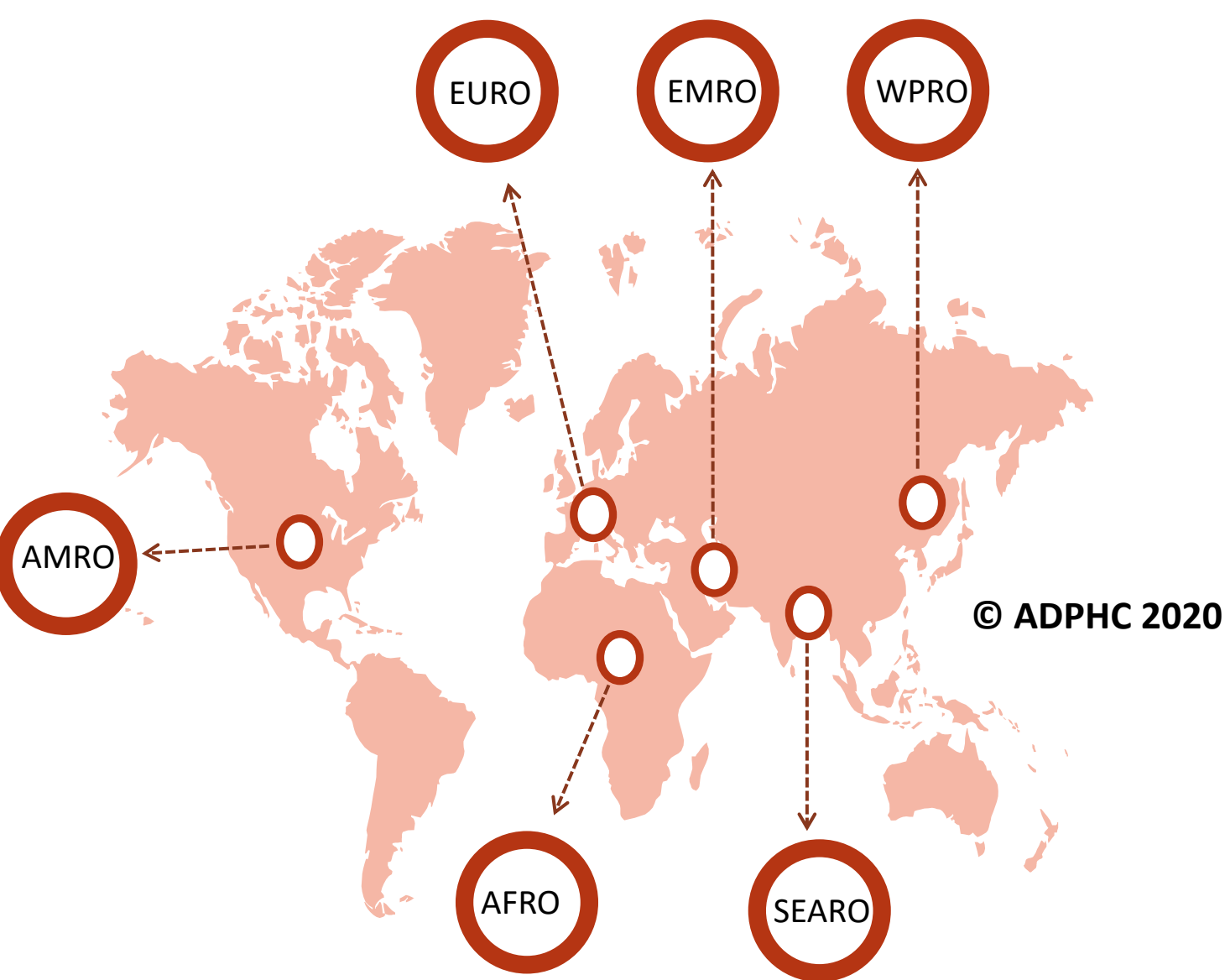
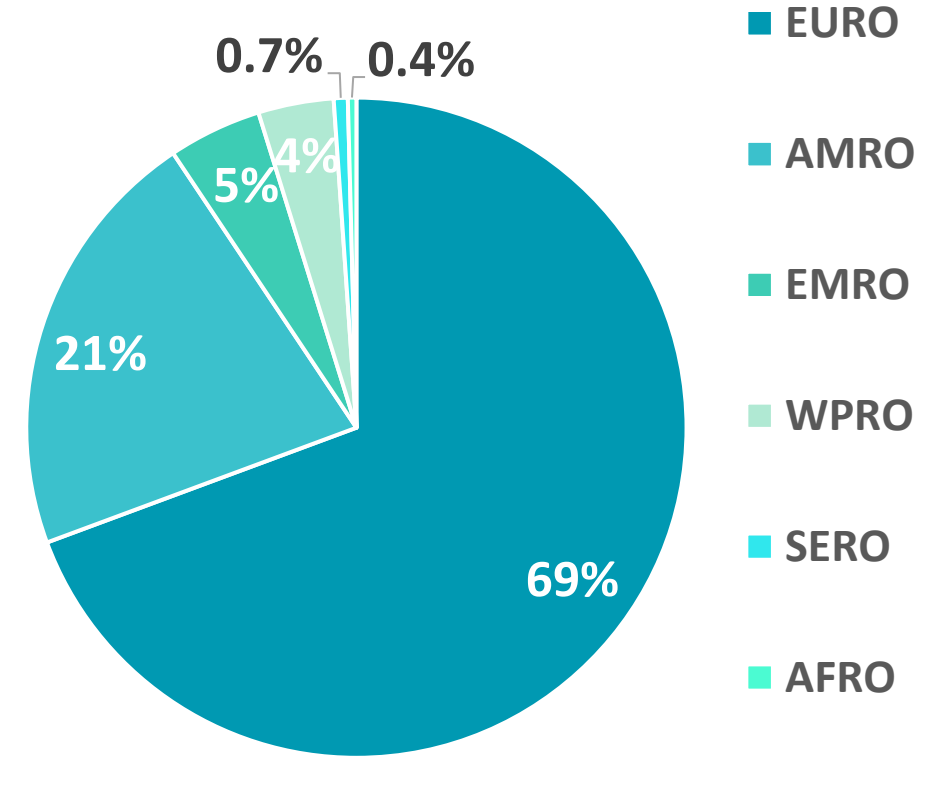
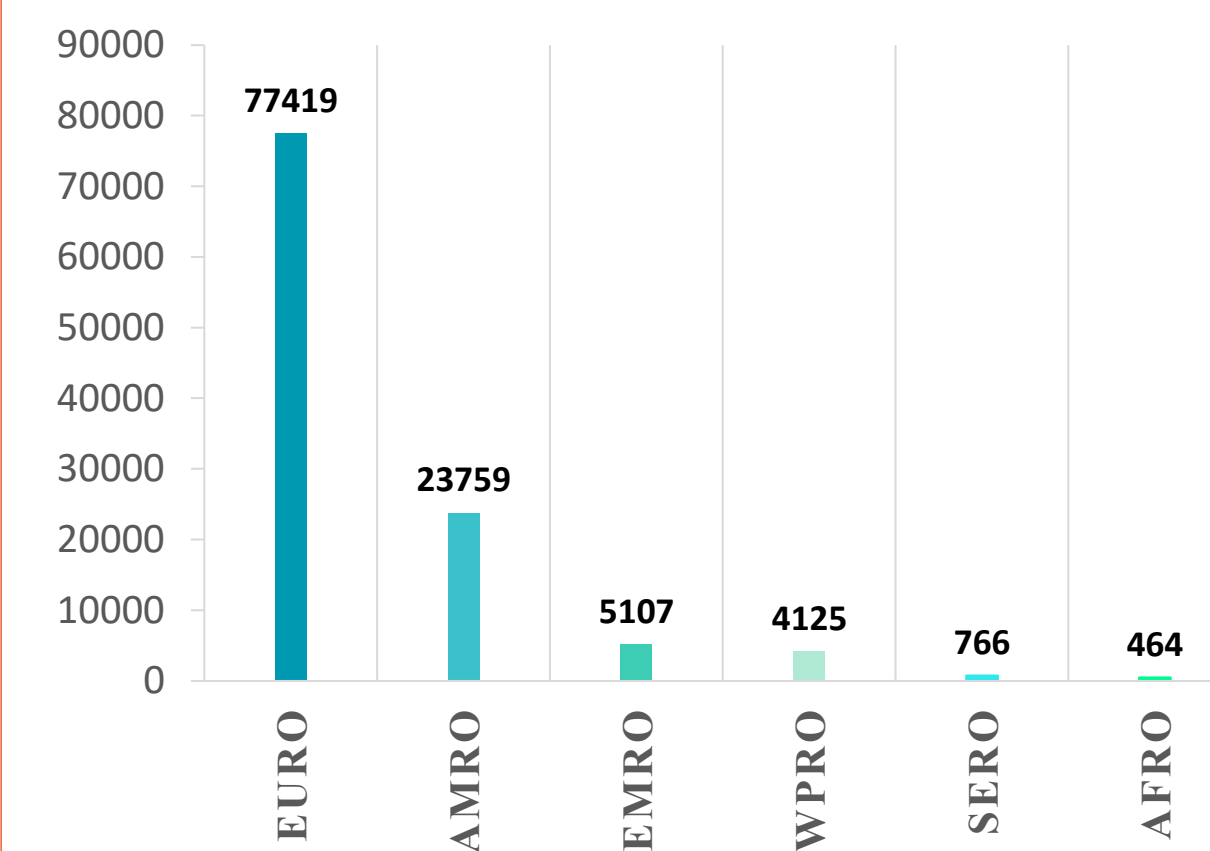


Figure 8: illustrate the Global distribution of COVID19 cases per region (April 13th, 2020)

INFECTED



DEATH



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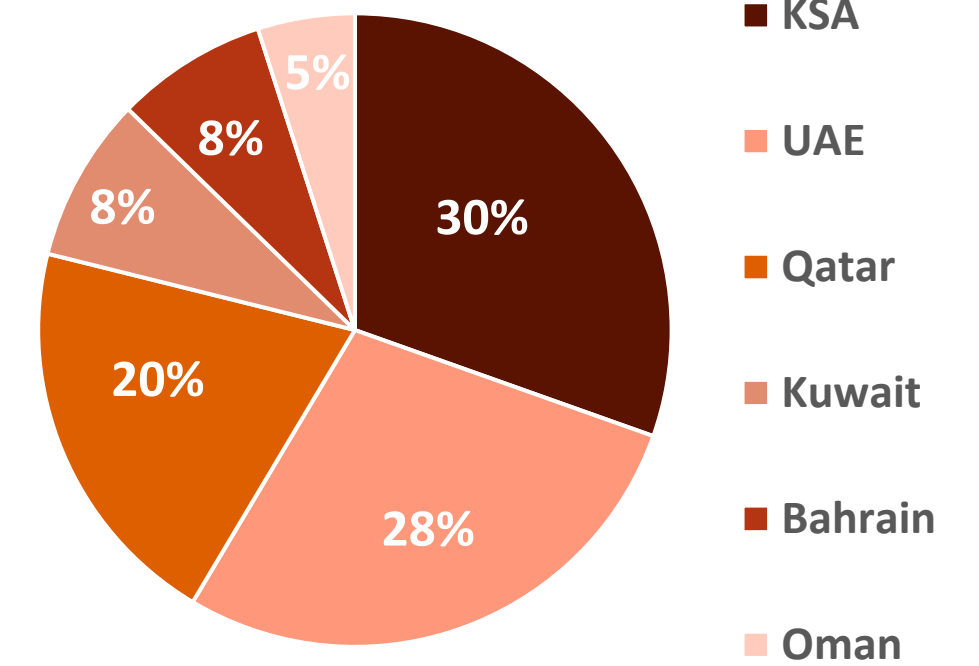
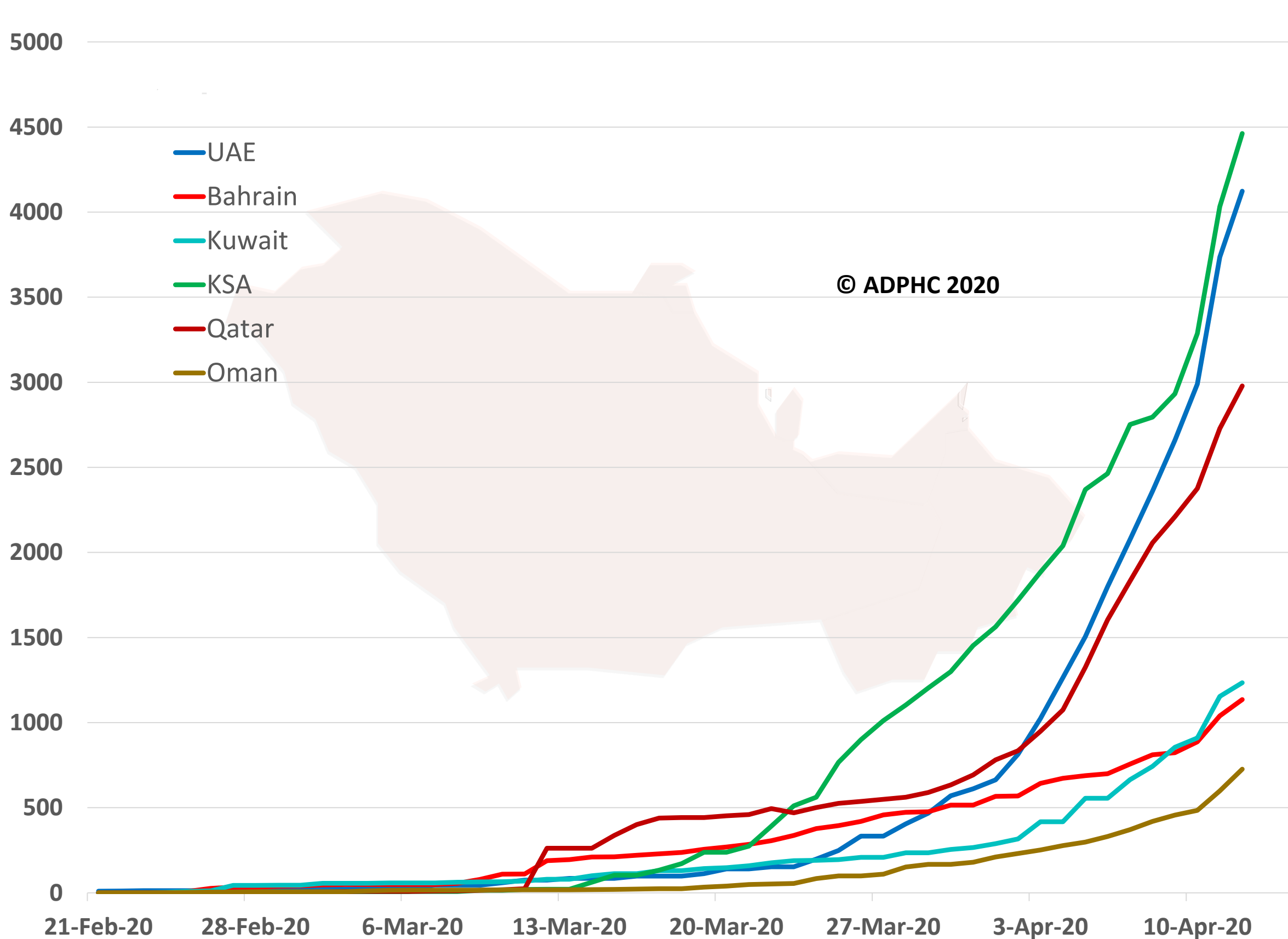
Map chart published by Abu Dhabi Public Health Center 2020.
Data resources: [WHO](https://www.who.int)

Epidemiology

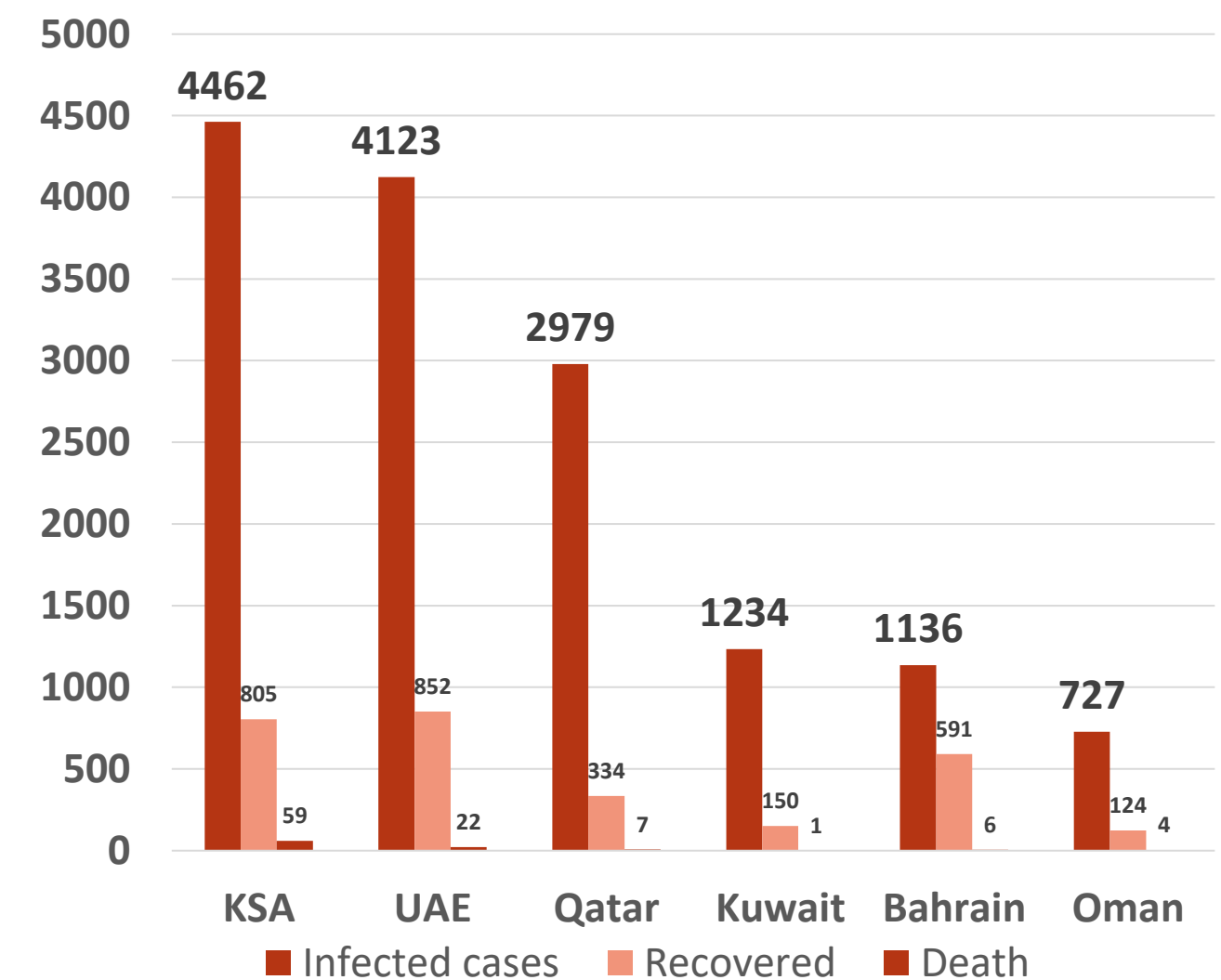


Figure 9: Comparative analysis of the distribution of COVID19 cases in GCC countries (April 13th, 2020)

TOTAL NUMBER OF INFECTED CASES



Total number of infected, recovered and Deaths



Map chart published by Abu Dhabi Public Health Center 2020.

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

Clinical Features:



Article 1 : Coagulopathy and Antiphospholipid Antibodies in Patients with Covid-19

Published: April 8, 2020 by [NEMJ](#)

Summary:

- This a case report of a 69-year-old patient who was diagnosed with COVID-19 on January 25, 2020 had a history of hypertension, diabetes, and stroke. In admission patient presented with evidence of ischemia (decrease blood supply) in the both legs as well as in digits two and three of the left hand. CT scan of the brain showed bilateral cerebral infarcts in multiple vascular territories.
- Laboratory results included increase in the marker of clot formation. Serologic test showed presence of anticardiolipin IgA antibodies (a marker of one of coagulopathy diseases) as well as anti-β2-glycoprotein I IgA and IgG antibodies. Similar serological findings were **found in other two patients infected COVID19 admitted to the ICU.**
- Antiphospholipid antibodies abnormally target phospholipid proteins, and the presence of these antibodies is central to the diagnosis of the antiphospholipid syndrome. However, these antibodies can also arise transiently in patients with critical illness and various infections. It is difficult to differentiate if the antibodies are the cause of the thrombotic events or maybe other inflammatory syndrome which usually occur in critically ill patients such as heparin-induced thrombocytopenia or others.
- *For similar information of the role of clots in the pathogenesis of the COVID19 please read a previous summery under title: Pulmonary and Cardiac Pathology in Covid-19: The First Autopsy Series from New Orleans published in ADPHC report in April 13, 2020*

Public Health Response:



Article 2 : Covid-19: What is the evidence for cloth masks?

Published: 07 April 2020 by [BMJ](#)

Summary:

As the **US Centers for Disease Control and Prevention** has advised **all Americans to wear cloth masks** in public to prevent the spread of covid-19

- People Should Wear Cloth Face Coverings In Public Places Where Social Distancing Measures Are “Difficult To Maintain
- The Masks Can Be “Fashioned From Household Items Or Made At Home From Common Materials At Low Cost
- **Surgical Masks And N-95 Respirators Should Not Be Used By The Public, To Be Reserved For Healthcare Workers And Other Medical First Responders**
- Using **woven cotton fabric**, such as quilting fabric, cotton sheets, or **T shirt fabric**. It provided instructions on how to make masks with or without sewing.

WHO Guidance on 6 April:

- **Medical Masks Should Be Reserved for Health Workers**
- No Evidence That Wearing a Mask (Whether Medical Or Other Types) By **Healthy Persons In The Wider Community Setting**, Including Universal Community Masking, Can Prevent from Infection With Respiratory Viruses, Including Covid-19.”
- Wearing Masks In The Community Can Give People a **False Sense Of Security** and Lead to Neglect other Measures; Hand Hygiene and Physical Distancing.

Advises Healthcare Workers Who Choose to Wear Cloth Masks to :

- Have at Least Two and Cycle Them
- Each One Can be Washed and Dried after Daily Use
- Sanitizer Spray or UV Disinfection Boxes Can Be Used to Clean them During Breaks in a Single Day

Countries mandate the use of masks :

- Israel, Austria, the Czech Republic, Hong Kong, and Mongolia are among the countries that have implemented or recommended mask wearing in the community.

Evidence:

Very little good quality research exists on the use of cloth mask

- A Number Of Laboratory Studies Looking at **The Effectiveness Of Different Types of Cloth Materials, Single Versus Multiple Layers and about The Role That Filters Can Play. However, None Have Been Tested In A Clinical Trial For Efficacy.**
- The evidence is **not sufficiently** strong to support widespread use of facemasks as a protective measure against covid-19. However, there is **enough evidence to support the use of facemasks for short periods of time by particularly vulnerable individuals when in transient higher risk situations**

Treatment:



TRIAL LOCATIONS ON CONVALESCENT PLASMA

Clinical trials and publication on convalescent Plasma Therapy for Treatment in COVID-19 Patients

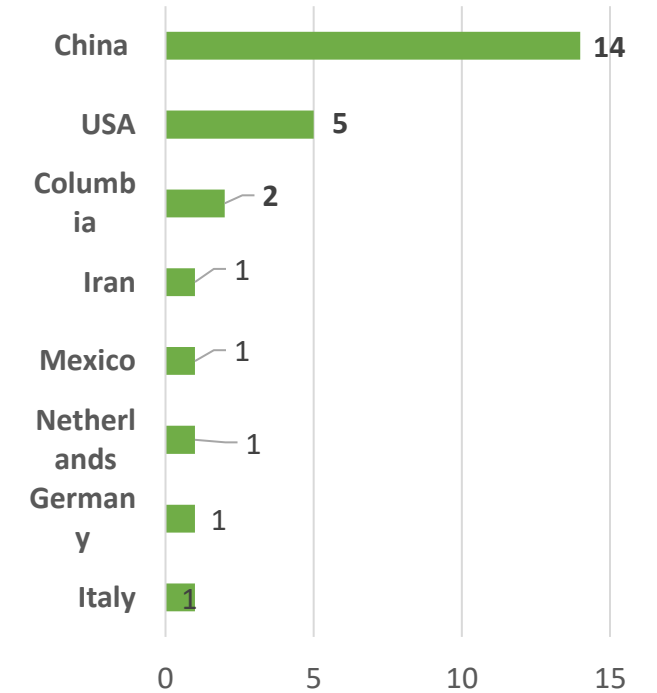
WHO among candidate therapies for COVID-19.

FDA approved as investigational product in April 8, 2020

26
Clinical trials

3
Publications

Number of Ongoing Clinical Trials



Results of published research

PUBLISHED TOTAL OF 3

	Publication 1	Publication 2	Publication 3
Patient Severity	Critical	Sever	Critical
Enrolment Number	4	10	5
Study Type	Compassionate use/ non-controlled	Compassionate use / historical control	Compassionate non-controlled
Received Antiviral Treatment	YES	YES	YES
Results	<ul style="list-style-type: none"> 4 patients with a negative a RT-PCR between 3 - 22 days. 3 patients were discharged within one month of transfusion. Fourth patients transferred to unfenced ICU for further treatment of underlying diseases and multiple organ failure. 	<ul style="list-style-type: none"> Significant improvement in all 10 patients in 3 days. Undetectable viral load in 7 patients. Increased neutralising antibodies in 5 patients. 	<ul style="list-style-type: none"> Negative viral load in all 5 patients within 12 days. 3 patients made full recovery with discharge within 51-55 days. 3 patients were weaned from mechanical ventilation within 2 weeks of treatment.

Links to published research:
[Publication 1](#) : March 31, 2020
[Publication 2](#) : March 3, 2020
[Publication 3](#) : March 27, 2020 (previously summarized in ADPHC report

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This work is done in collaboration with the UAE University Research office