

ABU DHABI PUBLIC
HEALTH CENTRE

مركز أبوظبي
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Scientific Research Monitoring on COVID-19

23 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

- **Clinical Feature and Transmission:** children and adolescents with chilblain-like lesion (cold lesions in the digits) who are otherwise asymptomatic **should undergo SARS-CoV-2 testing, which could help early detection of silent carriers.**
- **Clinical Feature and transmission:** *a study present a case report of an atypical presentation of cardiac complications in pediatric patient with COVID19 infection*
- **Treatment:** review on Tocilizumab



WHO daily report 23 May 2020

- WHO and United Nations High Commissioner for Refugees (UNHCR) joined forces to improve health services for refugees, displaced and stateless people. WHO and UNHCR signed a new agreement to strengthen and advance public health services for the millions of displaced people around the world. **A key aim this year will be to support ongoing efforts to protect some 70 million displaced people due to COVID-19.**
- WHO has supported the **Smithsonian Science Education Center** and InterAcademy Partnership to launch a new COVID-19 rapid-response **guide for young people aged 8–17 years, titled “COVID-19! How can I protect myself and others?”**. The guide, which is based on the 2030 Sustainable Development Goals, aims to help young people understand the science and social science of COVID-19 as well as help them take action to keep themselves, their families and communities safe.
- WHO and partners have produced guidance on laboratory biosafety related to the testing of clinical specimens and guidance on the repatriation of COVID-19 human remains by air.
- Repatriation in this context is defined as the transportation of human remains of COVID-19 infected cases from one country to another for burial purposes, at the request of the next-of-kin.
- At present there is no universally applicable standard or treaty but the Strasbourg Agreement on the Transfer of Corpses of the Council of Europe, which was agreed by some 20 states, provides a good reference point.

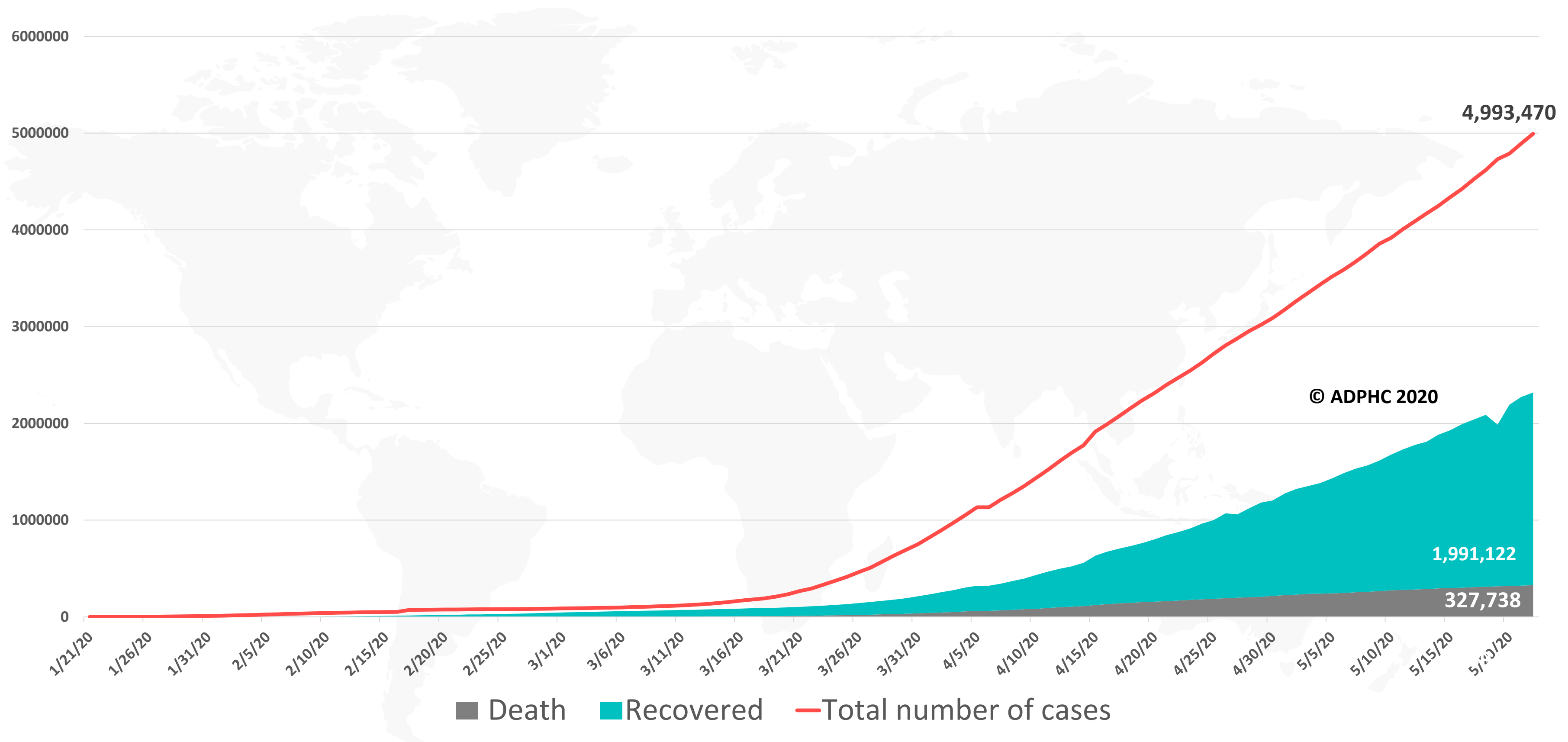
Key issues that need to be considered when managing COVID-19 related repatriation of human remains includes:

- 1) Specific guidance on PPE for mortuary workers, religious leaders or others who may have direct contact with the deceased;
- 2) Respecting the dignity of the dead and their families according to cultural and religious traditions;
- 3) Encouraging practices that balance the rights of the family with funerary practices and risks of exposure to infection on a cases-by-case basis; and
- 4) Various and sometimes competing regulations and requirements of countries of origin, transit and destination as well as aircraft operators.

Epidemiology



Figure 1: Total number of infected, recovered, and death cases (January 21st to May 22, 2020)

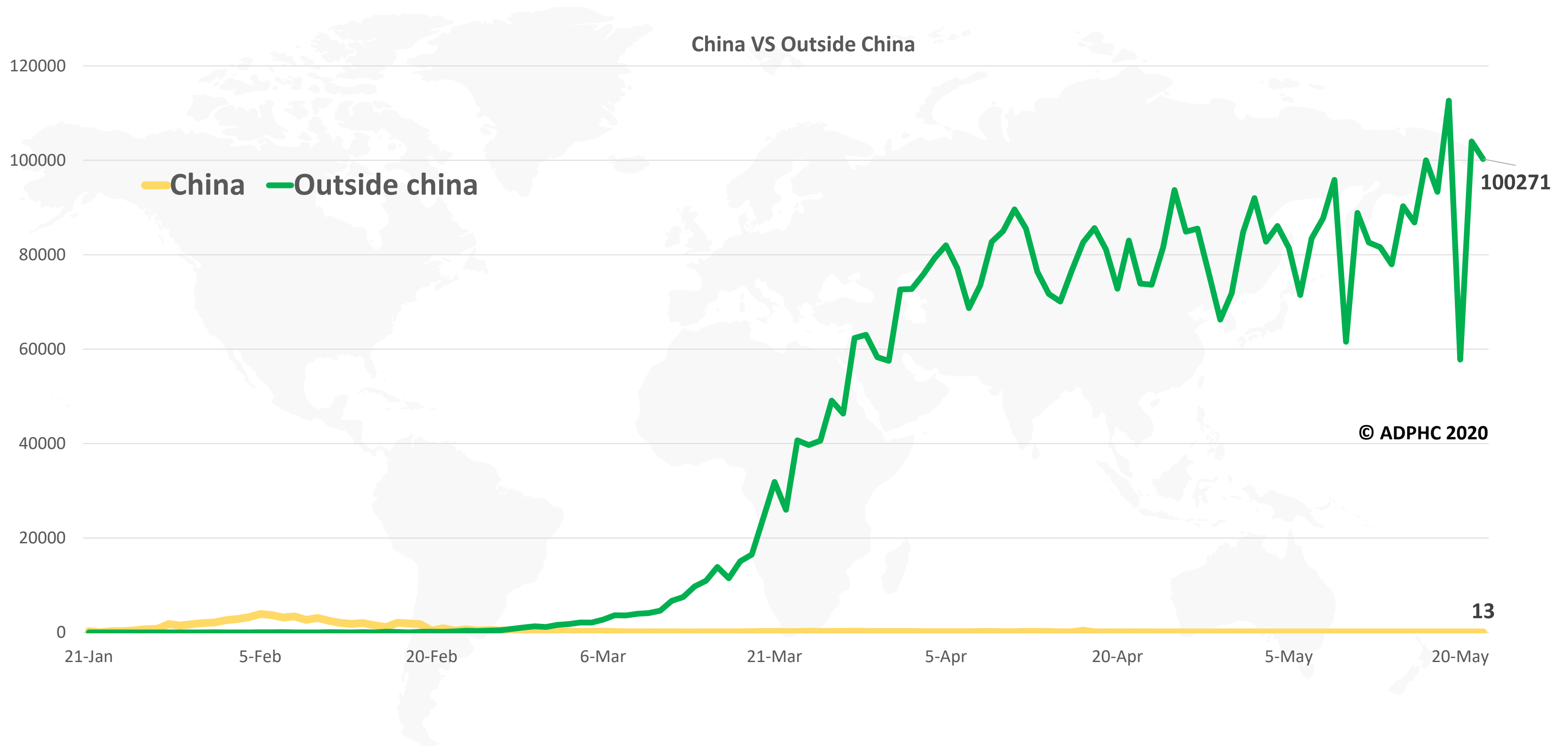


Line graph published by Abu Dhabi Public Health Center 2020.

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



Figure 2: Daily new infected COVID-19 cases reported between (January 21 to May 22, 2020).



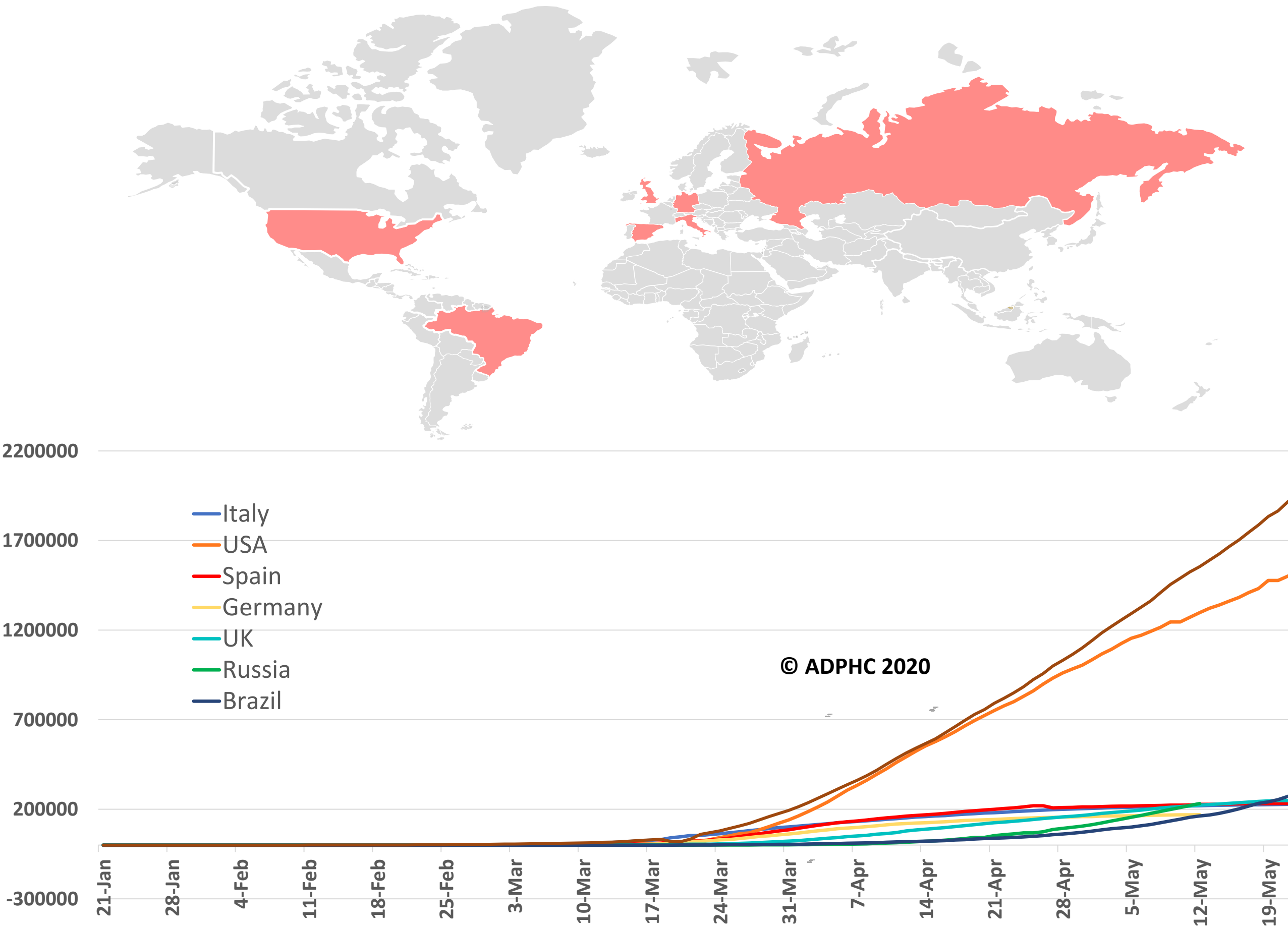
Line graph published by Abu Dhabi Public Health Center 2020.

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

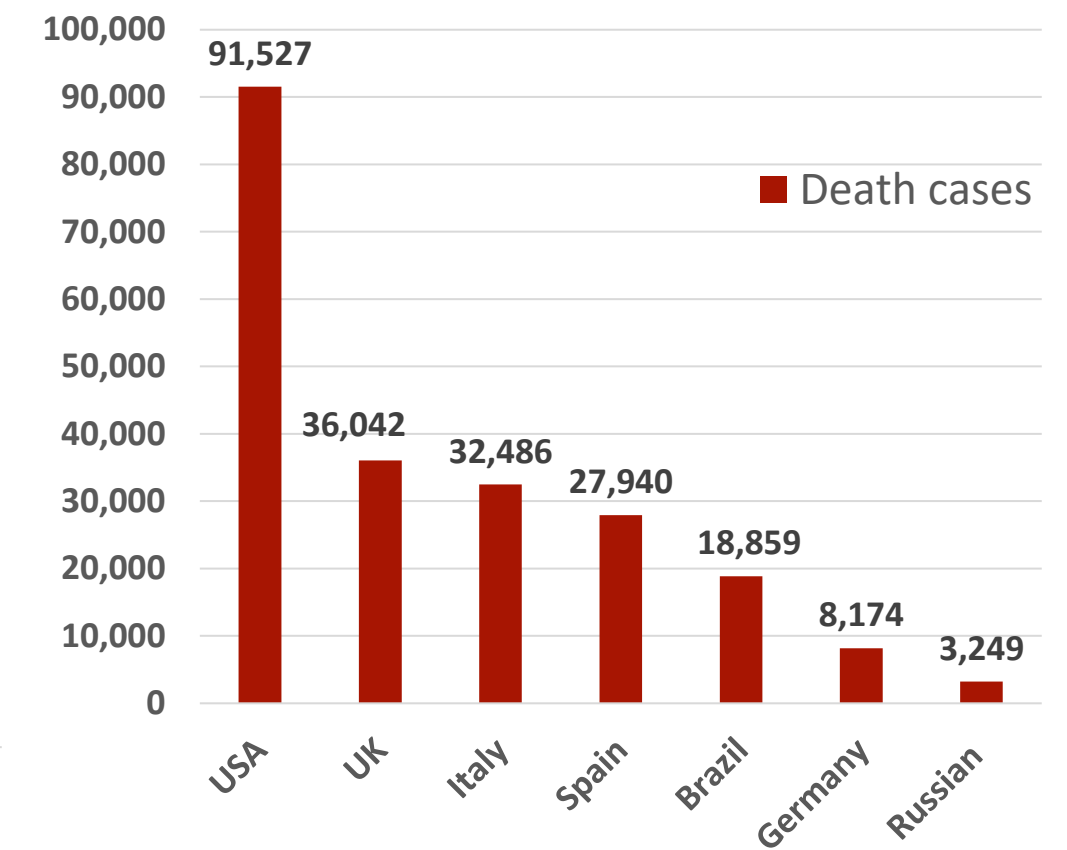
Epidemiology



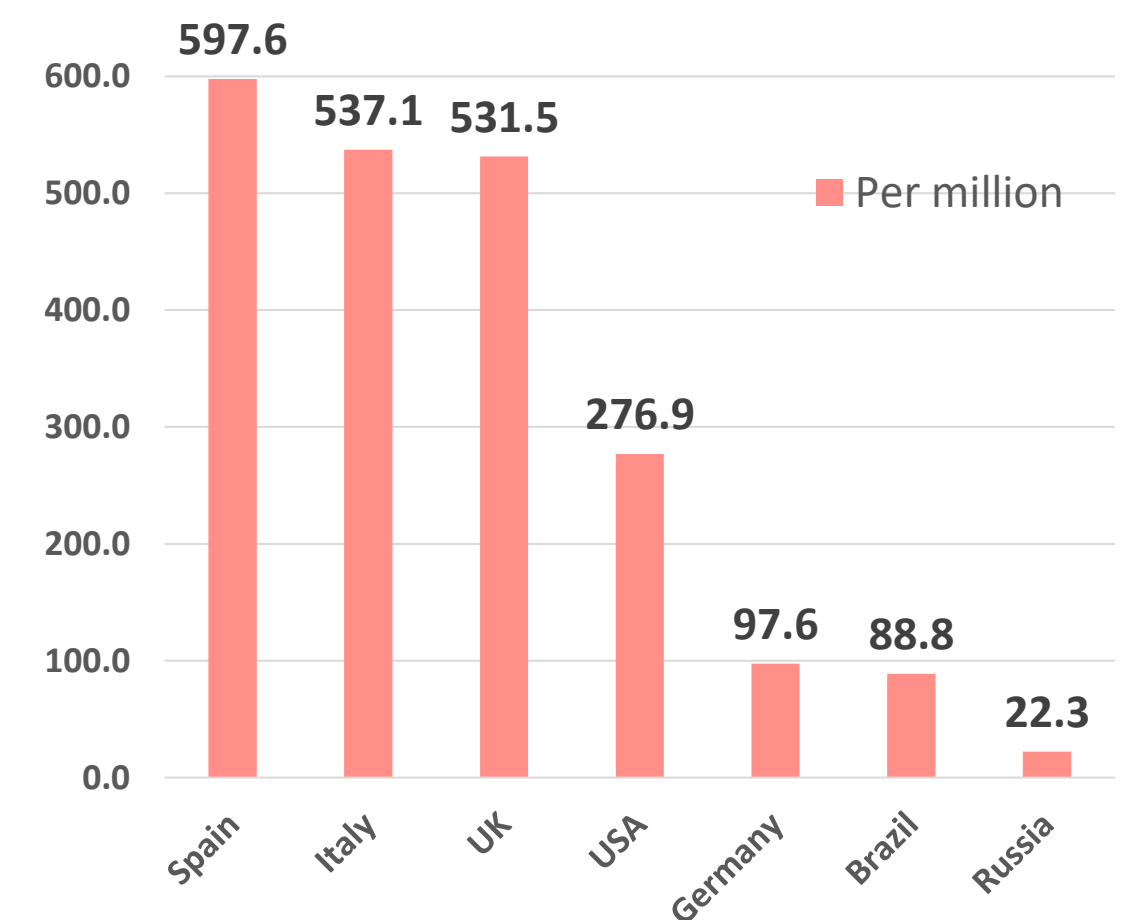
Figure 3 : Top 7 countries in the total number of cases due to COVID-19 (January 21 to May 22, 2020).



TOTAL DEATHS



DEATHS PER MILLION

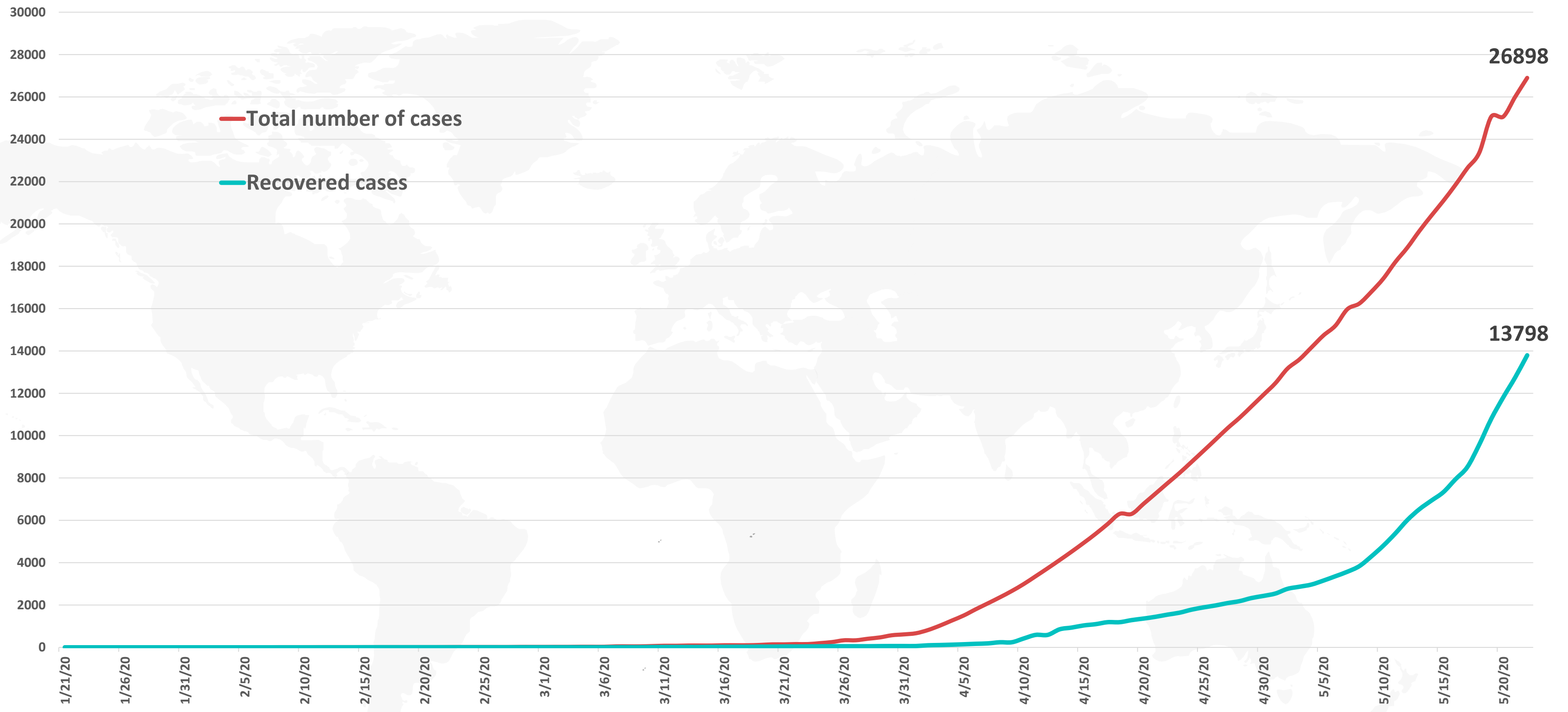


Line graph published by Abu Dhabi Public Health Center 2020.

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



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



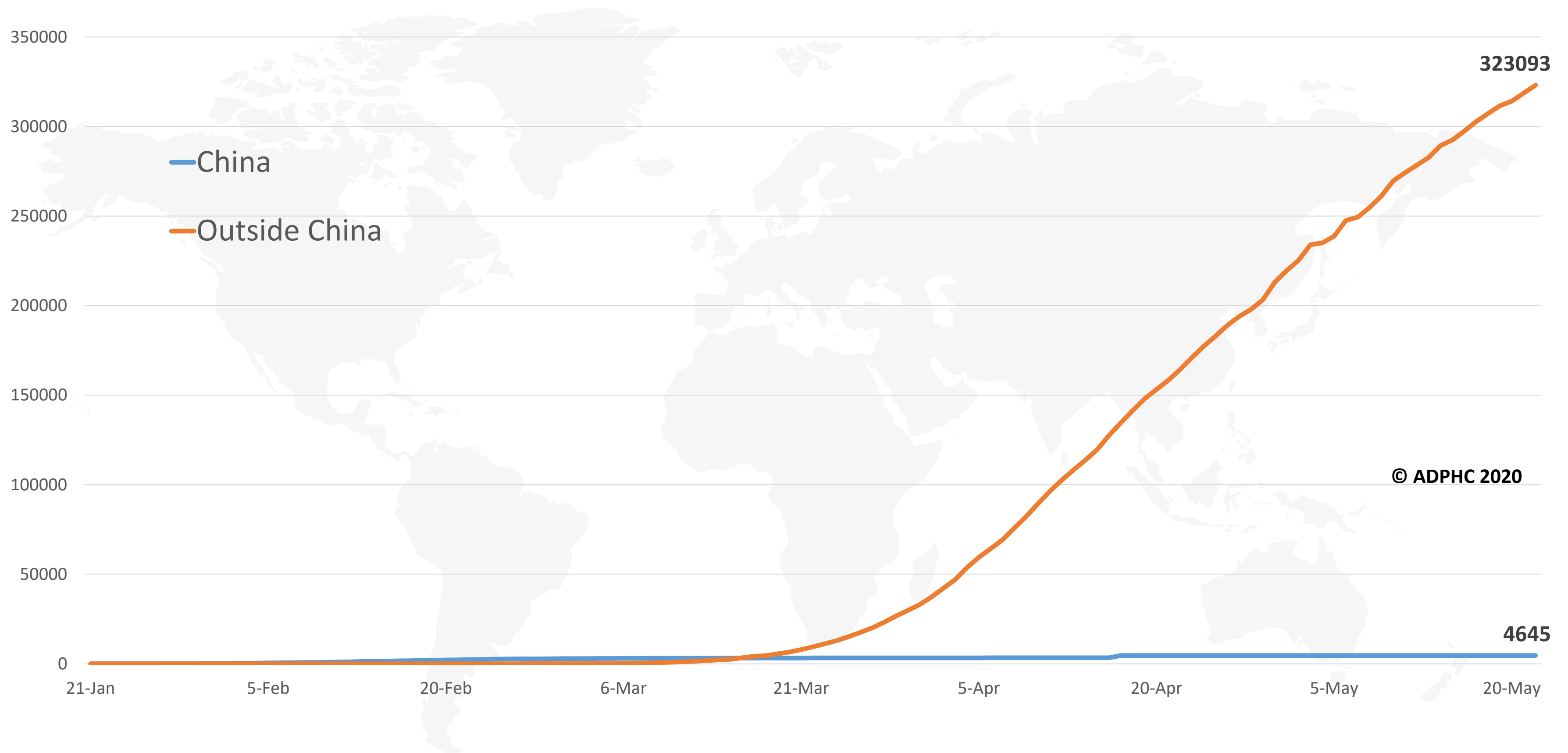
Line graph published by Abu Dhabi Public Health Center 2020.

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 22, 2020).



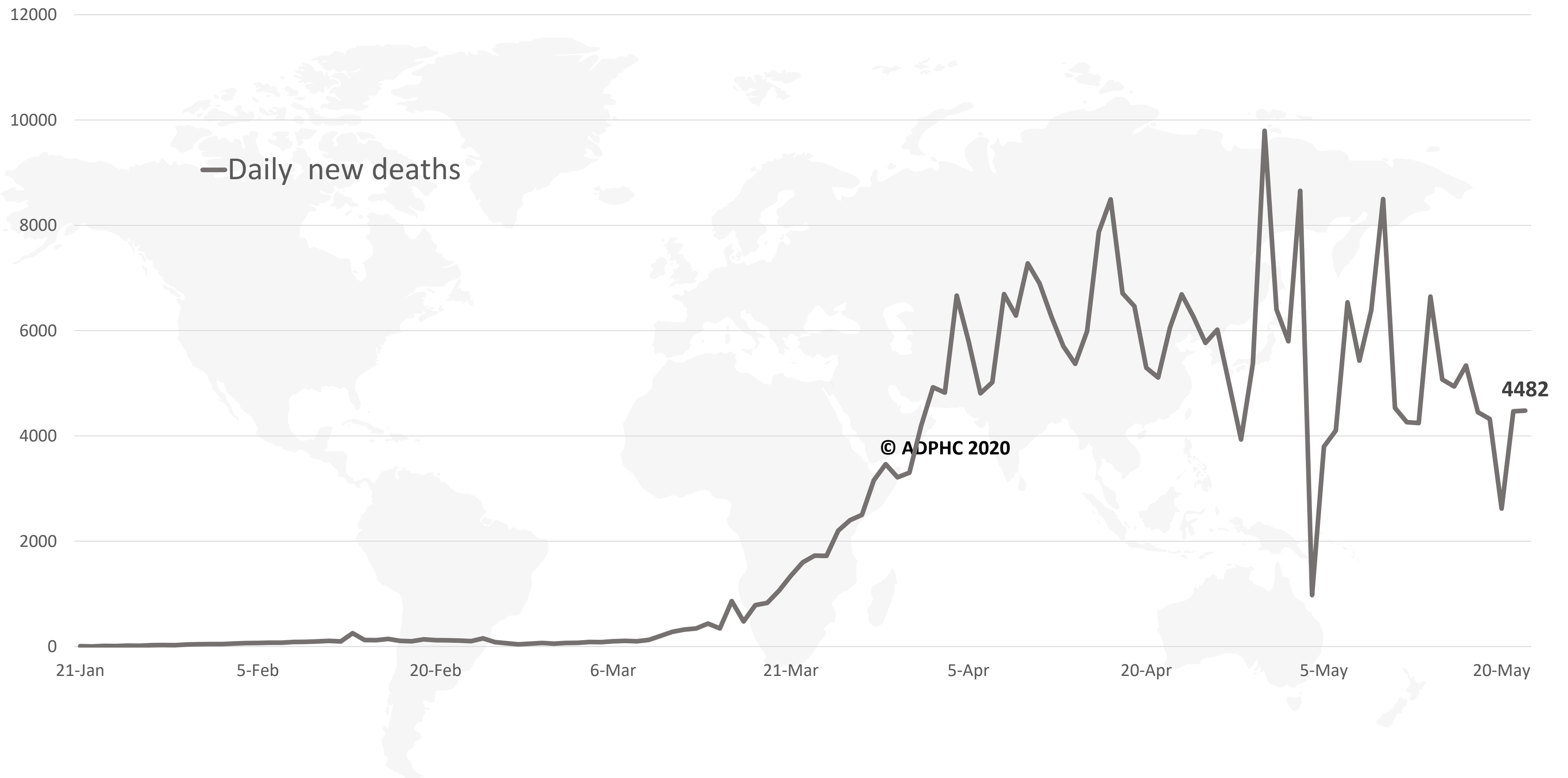
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Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)



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



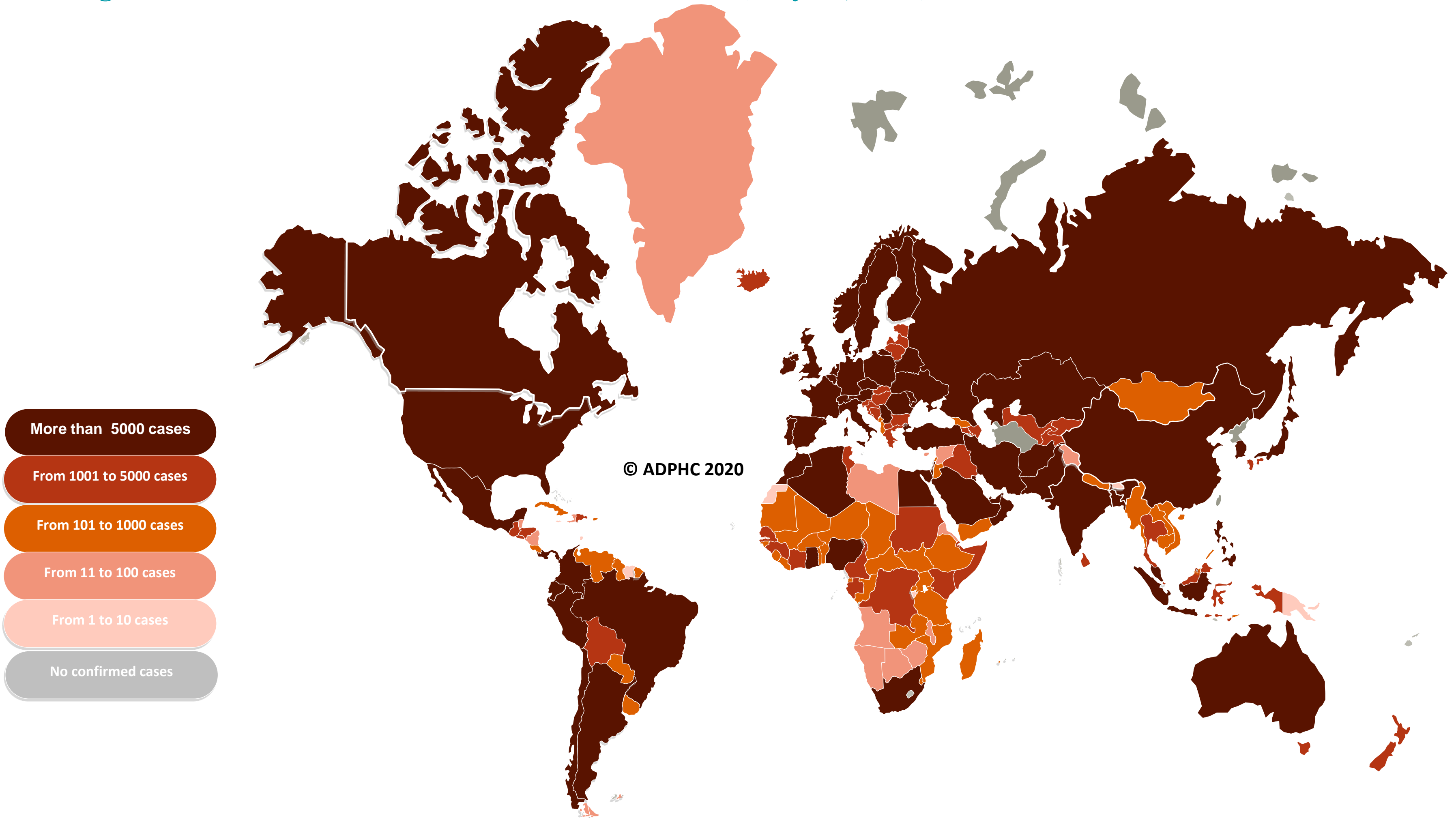
Line graph published by Abu Dhabi Public Health Center 2020.

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

Epidemiology



Figure 7a : Global distribution of COVID-19 cases (May 22, 2020).

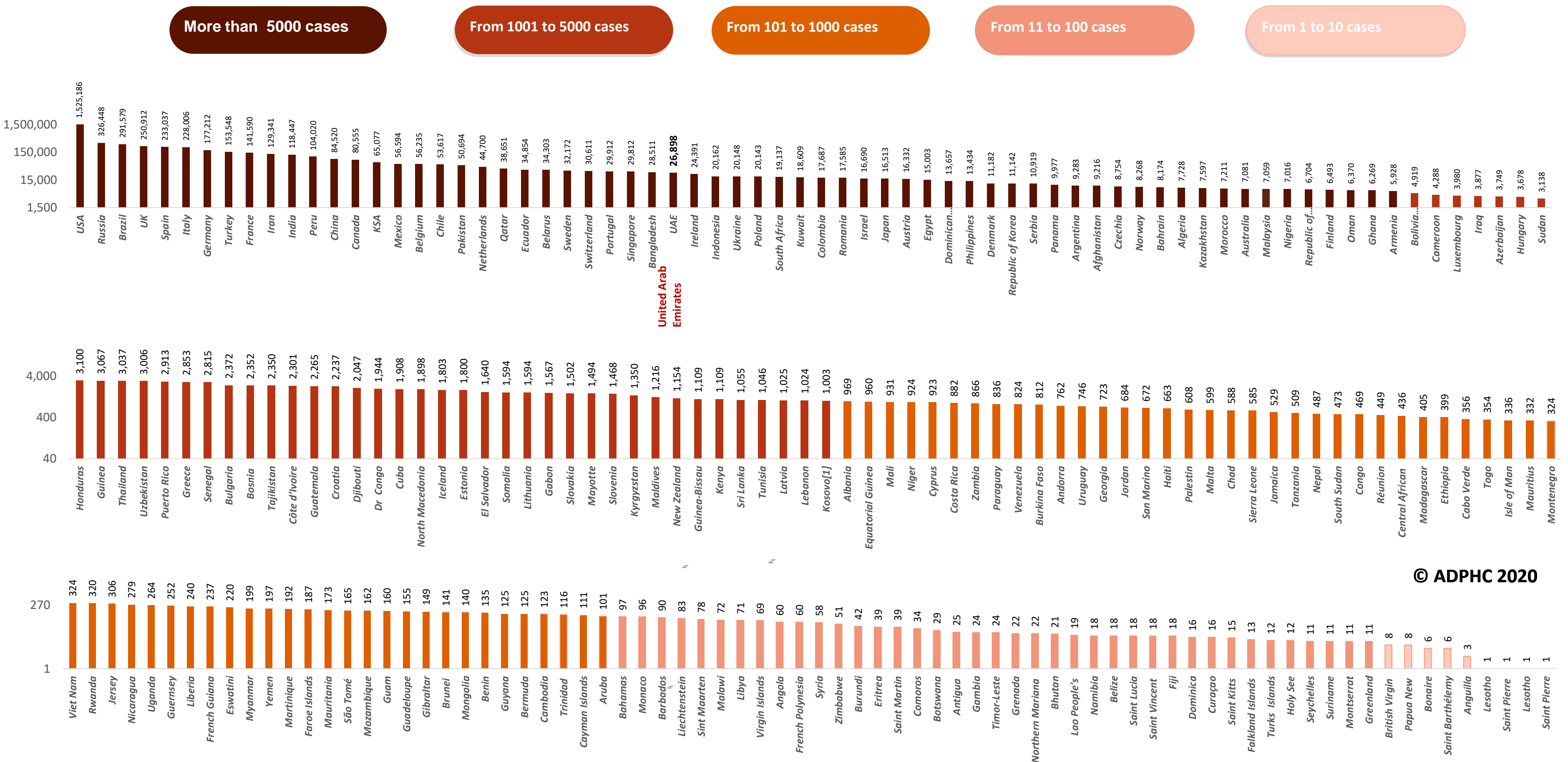


Map chart published by Abu Dhabi Public Health Center 2020.

Epidemiology



Figure 7B: Bar chart illustrate the global distribution of COVID19 cases May 22, 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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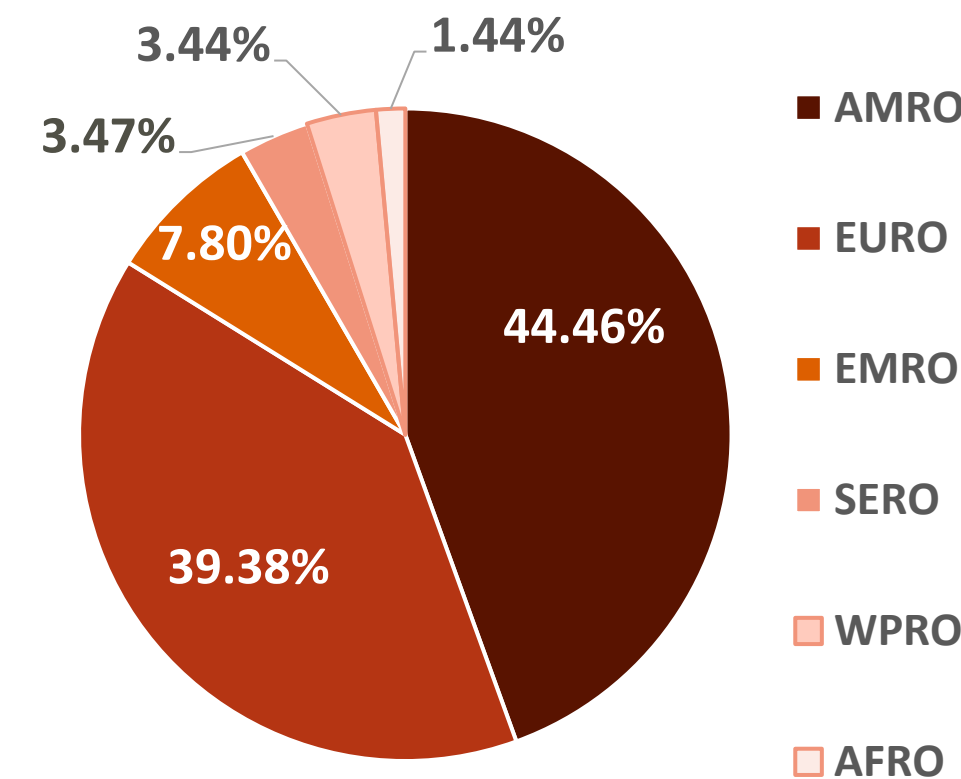
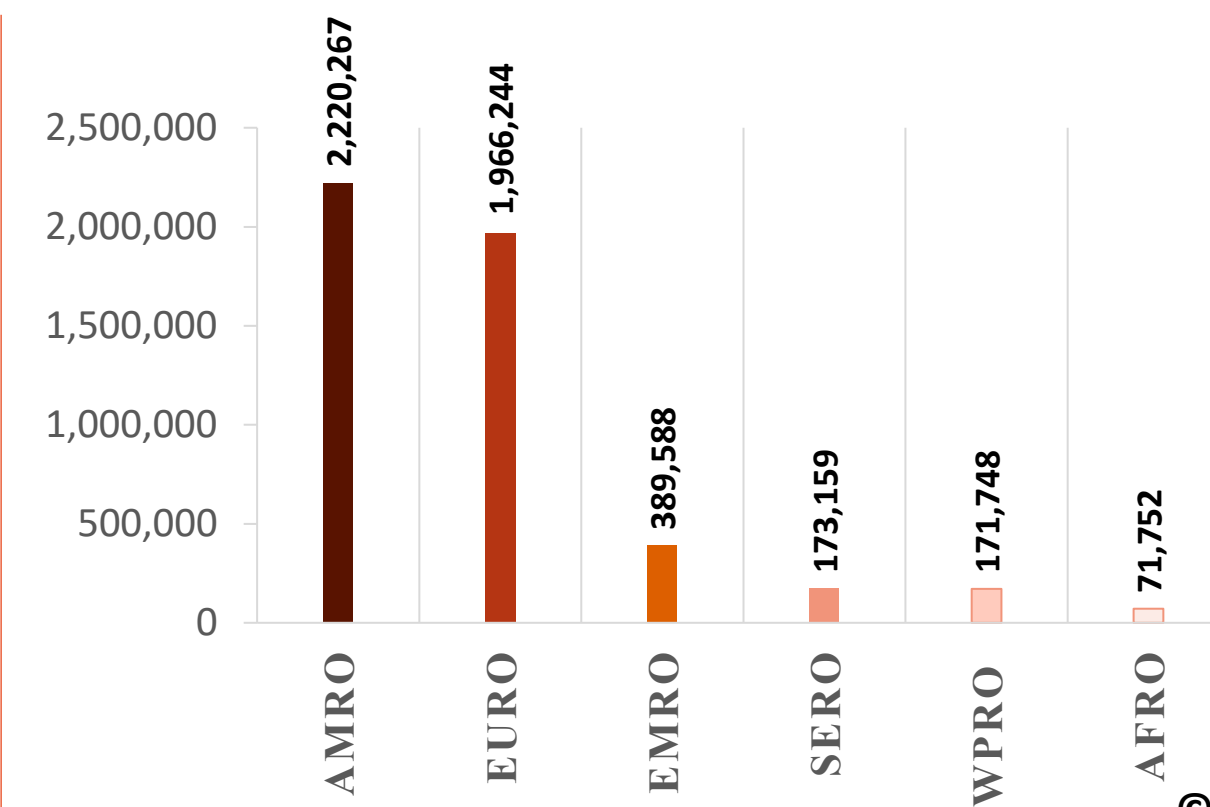
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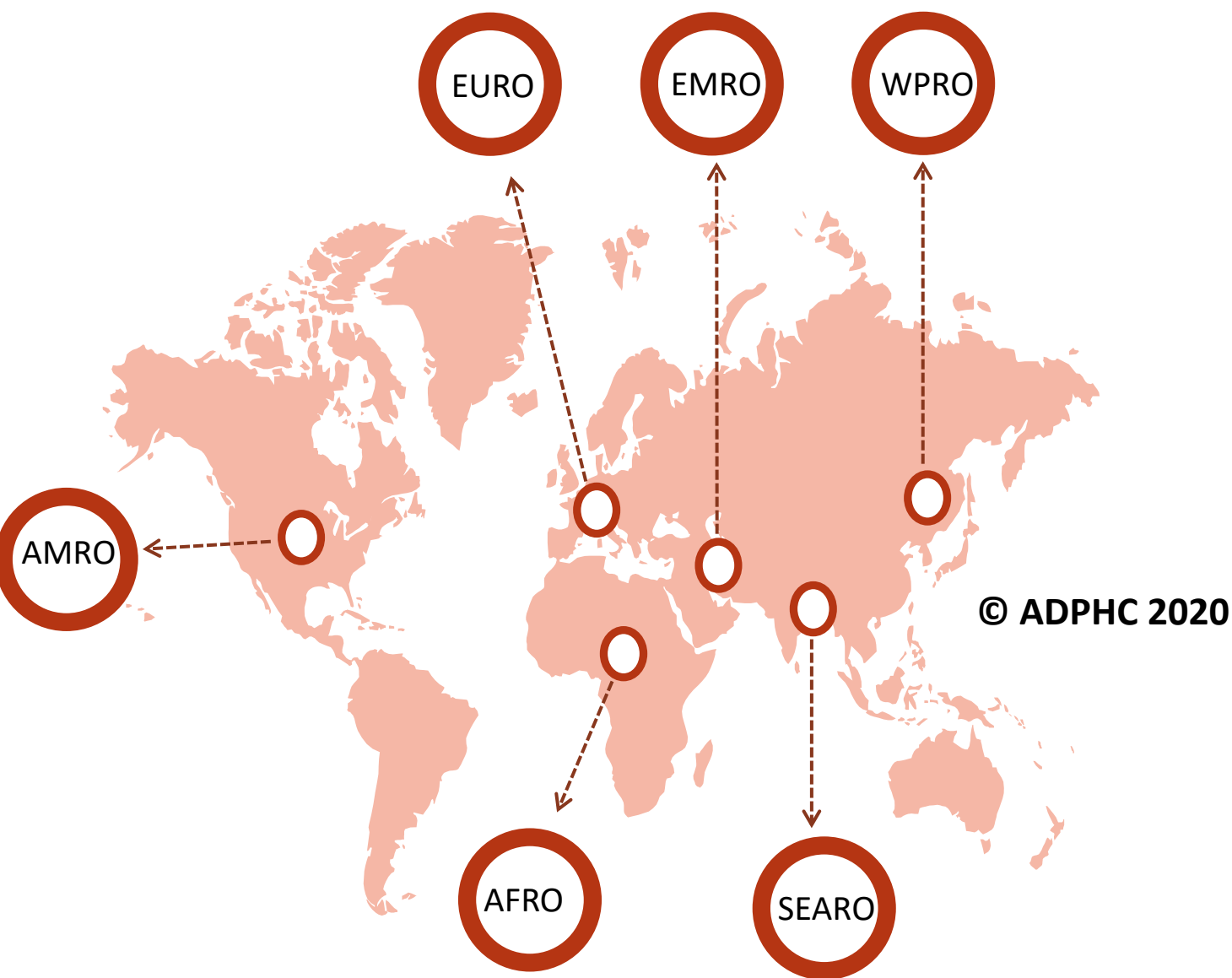
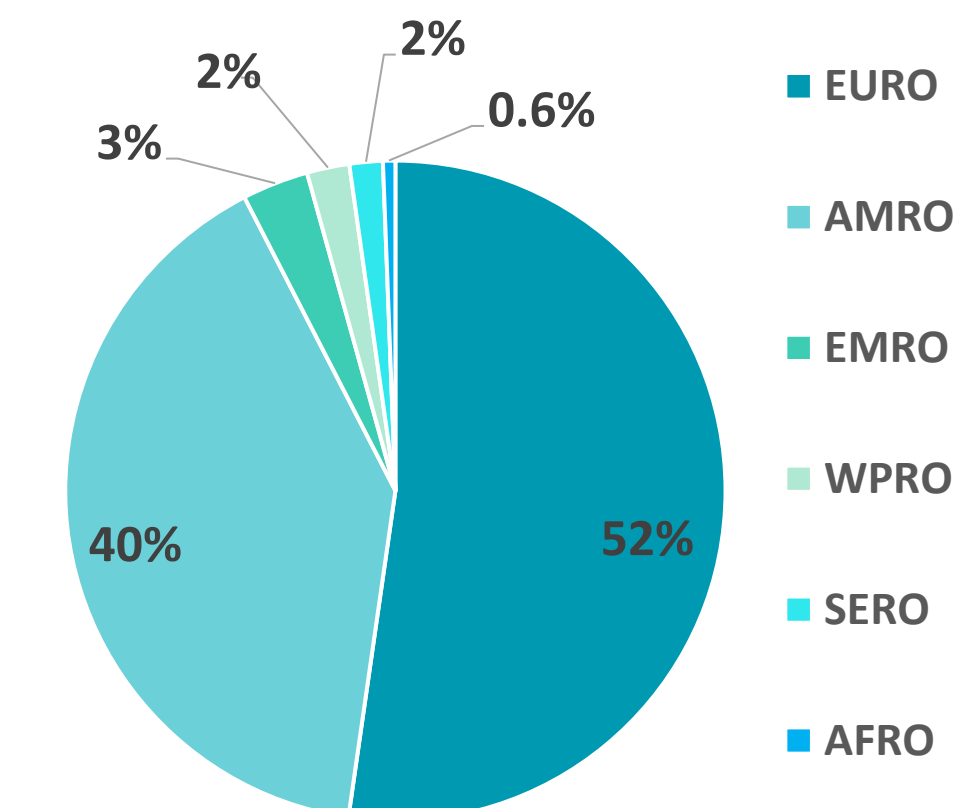
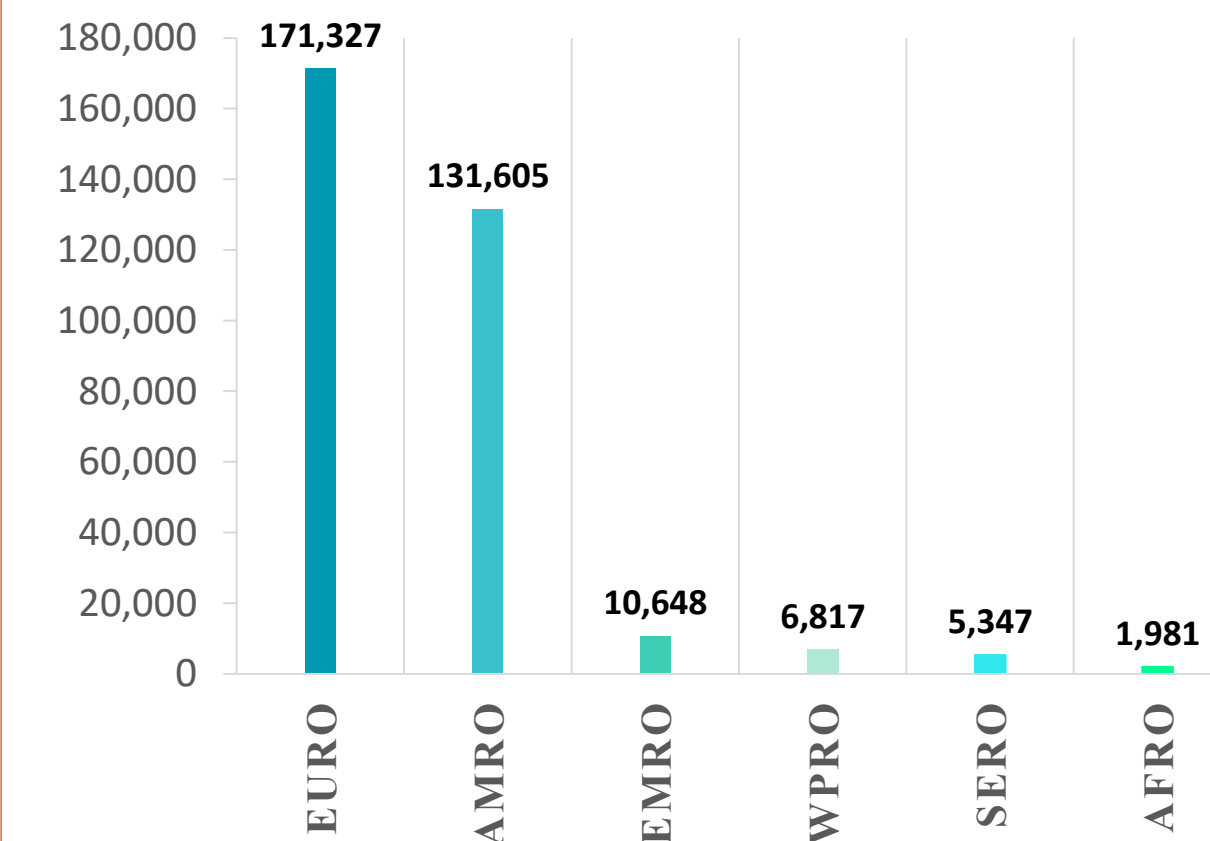
Figure 8: illustrate the Global distribution of COVID19 cases per region (May 22, 2020)

INFECTED



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DEATH



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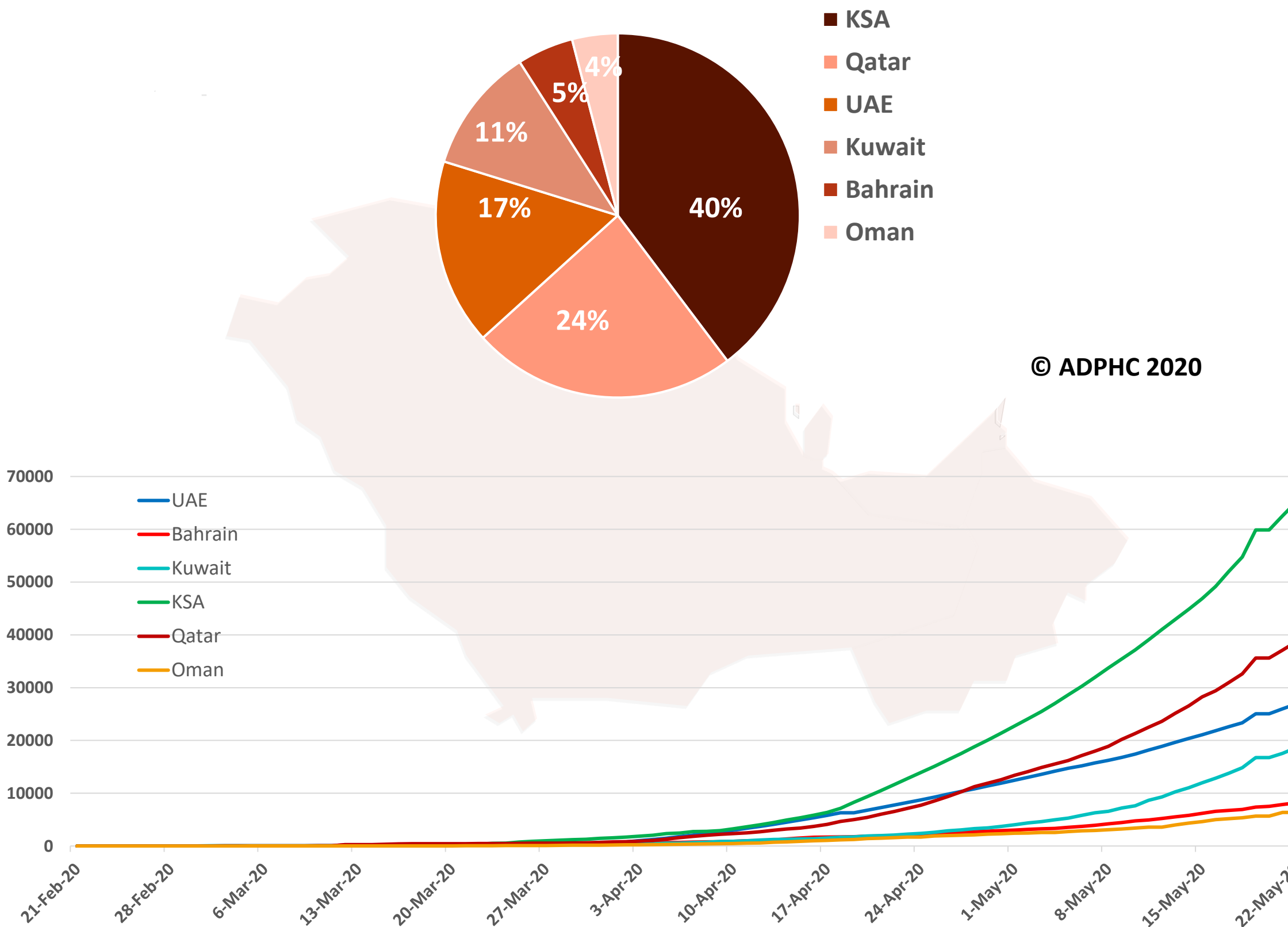
Map chart published by Abu Dhabi Public Health Center 2020.

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

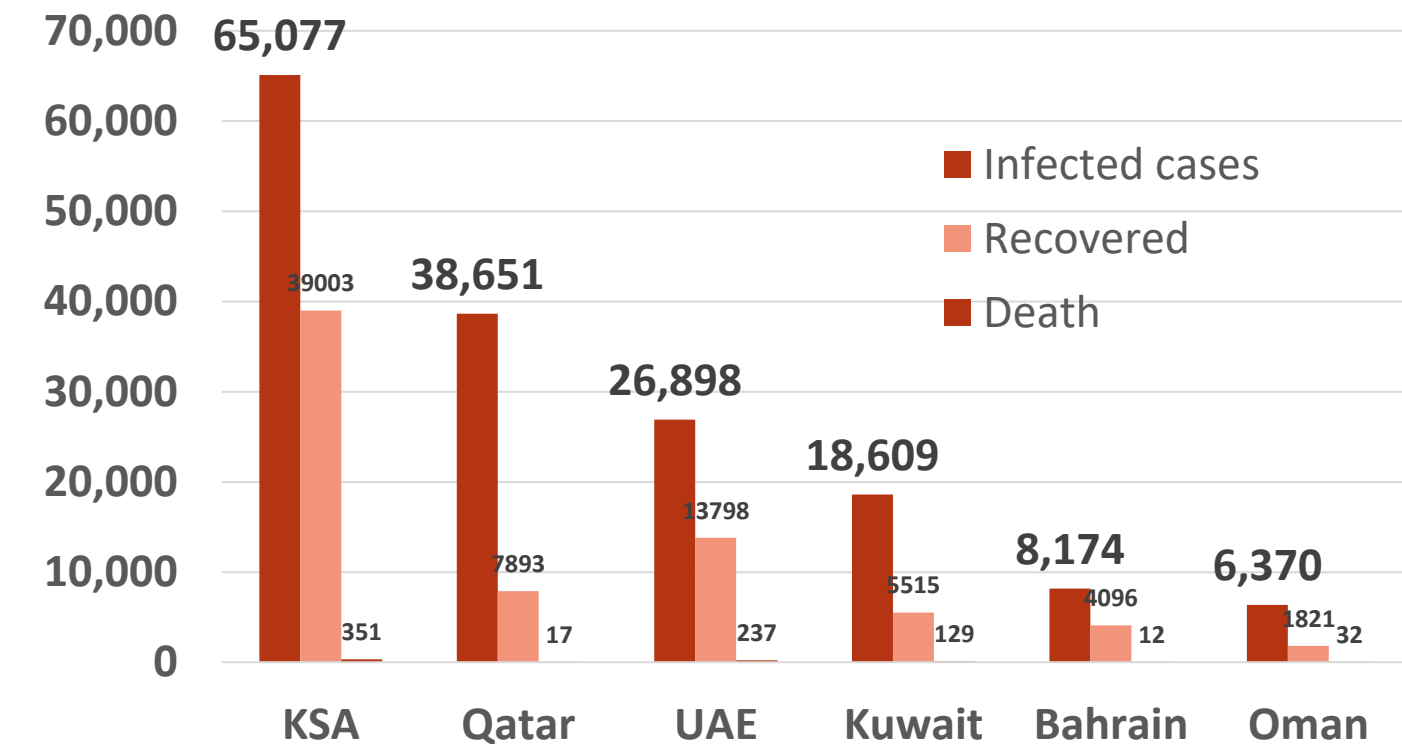


Figure 9: Comparative analysis of the distribution of COVID19 cases in GCC countries (May 22, 2020)

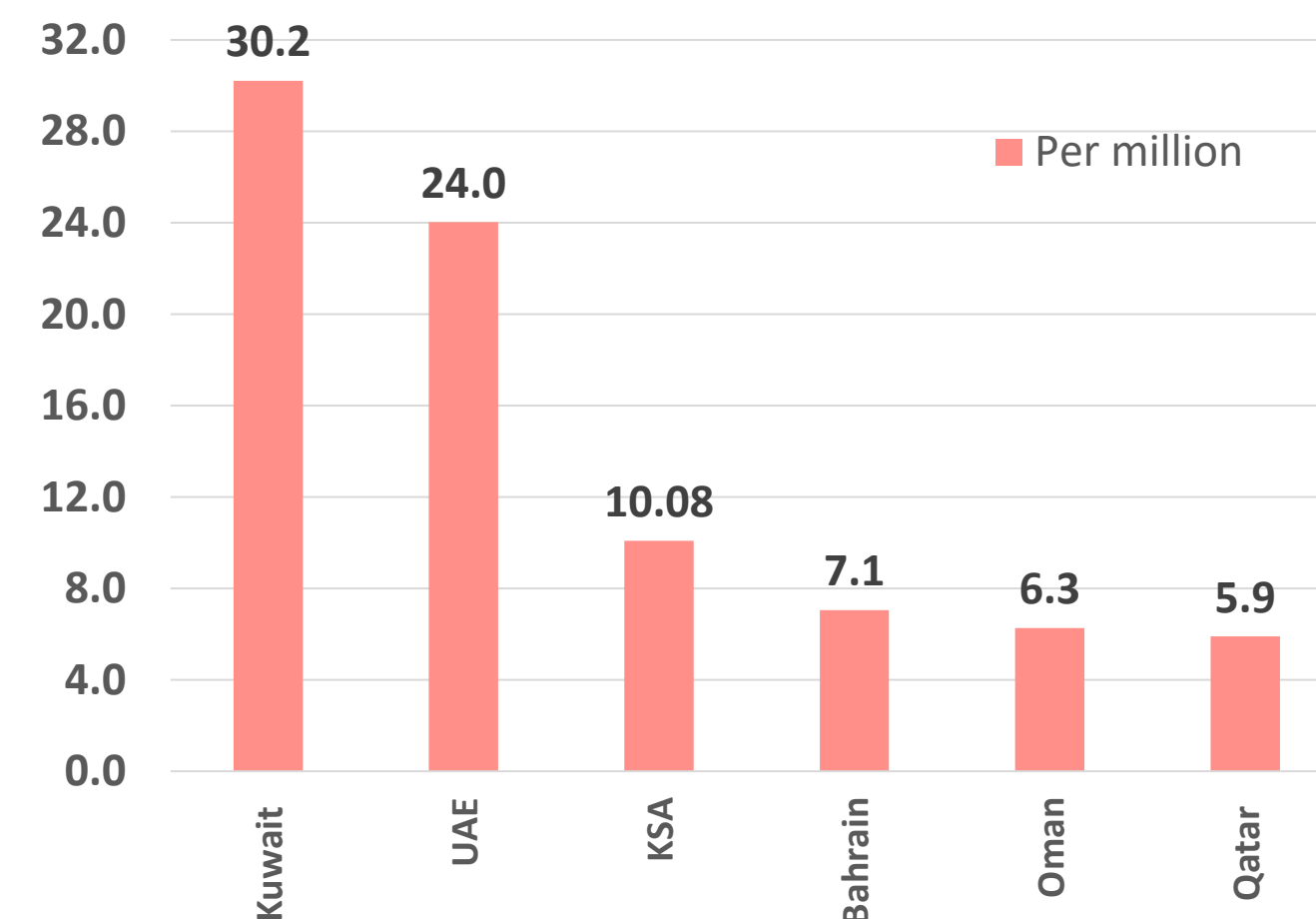
TOTAL NUMBER OF INFECTED CASES



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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Clinical Feature and transmission



Article : Silent COVID-19: what your skin can reveal

Published: : May 18, 2020 , in the [lancet](#)

Summary:

Most covid-19 infected children and adolescents are asymptomatic; hence, early clinical detection is fundamental to prevent further spreading. Skin lesions, such as erythematous rashes, urticaria, and chicken pox-like vesicles, were reported in 18 (20.4%) of 88 patients with COVID-19 in a previous study.

In this study of 3 reported cases of three young patients aged 14, 14, and 18 yrs old respectively were presenting with chilblain-like lesions (condition characterized by the development of cold-induced skin lesions) along with asymptomatic covid-19 infection.

In our cases, lesions involved the digits of the feet, **beginning as erythematous-violaceous patches** then to blisters by day 7, **with final complete return to normal without treatment.** The skin lesions were developed at the **onset of SARS-CoV-2 infection** or during hospital stay. Burning and itching were also present with some of the lesions.

Patient 1 was a asymptomatic with small red lesions on the dorsum of almost all digits of the feet. Had a positive covid-19 family member.

Patient 2 was a asymptomatic with small red lesions on the dorsum of almost all digits of the feet. **The lesions lasted 20 days.** Unknown FHx for covid-19

Patient 3 with 2 days of fever (38.5°C), had lesions involving the distal part of all digits of the feet **lasted for 10 days.** No other Symptoms. Had a positive covid-19 family member.



Other skin manifestations:

- Acute acro-ischaemic manifestations,
- erythema pernio,
- Vasculitis
- cutaneous expression of the typical thrombotic pattern of COVID-19

Conclusion: children and adolescents with chilblain-like lesions who are otherwise asymptomatic **should undergo SARS-CoV-2 testing, which could help early detection of silent carriers.**

Clinical Feature and transmission



Article 2 : Cardiac dysfunction and thrombocytopenia-associated multiple organ failure inflammation phenotype in a severe pediatric case of COVID-19

Published: May18, 2020 [Lancet](#)

Summary

- A 16-year-old male with chromosome 18q deletion and well controlled epilepsy. Presented with hemodynamic shock after 4 days of fever and one generalized seizure at home. Although he had no respiratory symptoms, Upon arrival (hospital **day 0**), he was intubated and resuscitated with IV fluids , epinephrine and hydrocortisone. initial testing for covid-19 was not detect; however, a second test on day 3 after hospital admission was positive.
- He developed complication consists of: **kidney injury, liver injury, and coagulopathy**, mild acute **respiratory** distress syndrome and significant **myocardial** injury. Cardiac findings: **non-specific ST segment abnormalities**, signs of heart failure.
- He met the criteria for the **thrombocytopenia-associated multiple organ failure (TAMOF) inflammation phenotype** and had at least **3 organ systems failure** with **thrombocytopenia**. As treatment for TAMOF, **2 sessions of plasma exchange** on hospital **days 2–3** were started then withheld because of **insufficient evidence to support the use of plasma exchange in viral sepsis** .
- Hydroxychloroquine 200 mg was initiated on **day 4** but discontinued after **one dose because of significant prolongation of the patient's corrected QT interval**.
- He received no other antiviral agents or biologics.
- Finally he has been discharged to a rehabilitation facility after a **46-day** ICU admission.

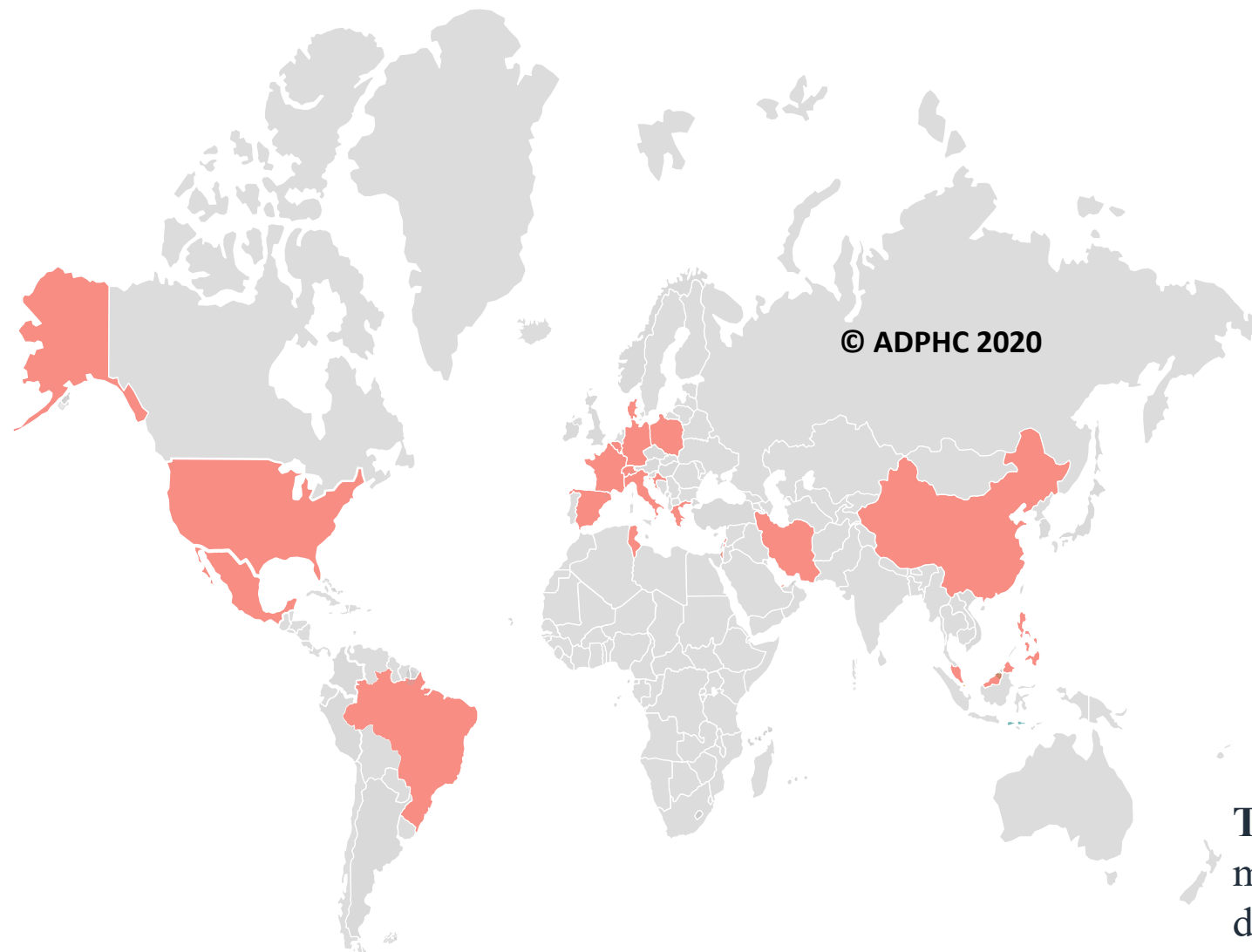
Conclusion

- The degree of cardiac injury reported here is unusual for a pediatric with a respiratory virus. This patient's genetic mutation does not appear to be associated with any baseline immune deficiencies or cardiac dysfunction that could justify the severity of illness in response to SARS-CoV-2 infection.

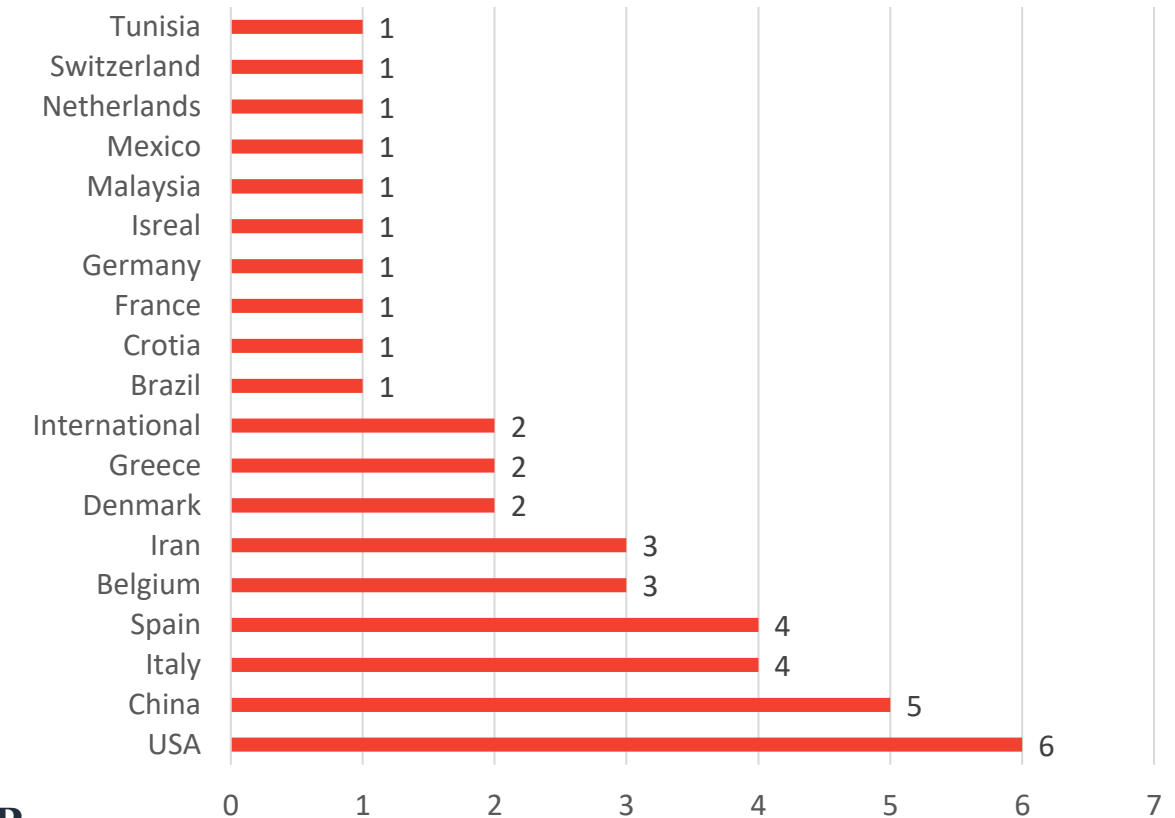
Clinical Trials and Publications on Tocilizumab Therapy for Treatment and chemoprophylaxis in COVID-19 Patients

4
Publication

41
Clinical trials



Ongoing Trial on Tocilizumab therapy for Covid19 treatment



TOCILIZUMAB

monoclonal antibody that targets the interleukin 6 (IL-6) receptor used to treat inflammatory diseases.

IL-6 is one of the most important cytokines involved in COVID-19-induced cytokine storm.

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

Publications

Here we highlight most 4 publications on Tocilizumab therapy for the treatment of SARS-COV2

Publication 1: (March 2020)	Publication 2: (March 2020)	Publication 3: (March 2020)	Publication 4: (March 2020)
<p>Study type: Retrospective study Sample: 21 pts Severity of patients : 17sever and 4 critical Received other treatments Yes Outcome: 90% discharged including two critical patients. 0 adverse events, Mean of hospital stay 13 days</p> <p>Previously summarized in 26.3.2020 ADPHC Sc. Report</p>	<p>Study type: Retrospective Study Sample: 15 pts Severity of patients : Moderate to Critical Received other treatments : Not mentioned Outcome: After one week of repeated dose of TCZ, three critically ill patients died AND Two critically ill patients experienced persistently high IL-6 and C -reactive protein (CRP) levels AND all other patients showed clinical improvement or stabilisation.</p> <p>Previously in 6.4.2020. Click here</p>	<p>Study type: retrospective Sample: 30 pts Severity of patients : critical Received other treatments : Yes Outcome: After 8 days, reduced the risk of subsequent need for Mechanical ventilation and ICU admission AND 4 out of 7 in ICU were discharged AND 6 out of 30 patients were discharged from hospital..</p>	<p>Study type: retrospective Sample: 100 pts Severity of patients : critical Received other treatments: Yes Outcome: At 10 days, respiratory condition improved or stabilised in 77 patients, 15 discharged from hospital. Respiratory condition worsened in 23 patients, of whom 20 died.</p> <p>Published in May 3, 2020. Click Here</p>