

ABU DHABI PUBLIC  
HEALTH CENTRE

مركز أبوظبي  
للصحة العامة



# Scientific Research Monitoring on COVID-19

19 March 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.)

ABU DHABI PUBLIC  
HEALTH CENTRE

مركز أبوظبي  
للصحة العامة



## 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:** Study alert physicians to pay attention not only to the symptoms of respiratory dysfunction but also the symptoms of cardiac injury.
- **Treatment :** an article recommend physician to screen for hyper inflammatory syndrome and use immunosuppression to decrease mortality
- **Public health response:** screening of donors of human cells, tissues, or cellular or tissue-based products must be considered for covid19 screening.

*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

- [Evidence informing the UK's COVID-19 public health response must be transparent](#)
- [SARS-CoV-2 Infection among Travelers Returning from Wuhan, China](#)



18<sup>th</sup> March 2020

- One new country/territory/area (European Region [1]) has reported cases of COVID-19.
- WHO COVID-19 Situation Reports present **official counts of confirmed COVID- 19** cases, thus differences between WHO reports and other sources of COVID- 19 data using different inclusion criteria and different data cutoff times are to be expected.
- WHO DG briefing complement Korea republic strategy. Vaccination update and new announcement of the WHO trial for therapeutic intervention of COVID19 named (the SOLIDARITY trial). *see next page for the summery of the briefing*



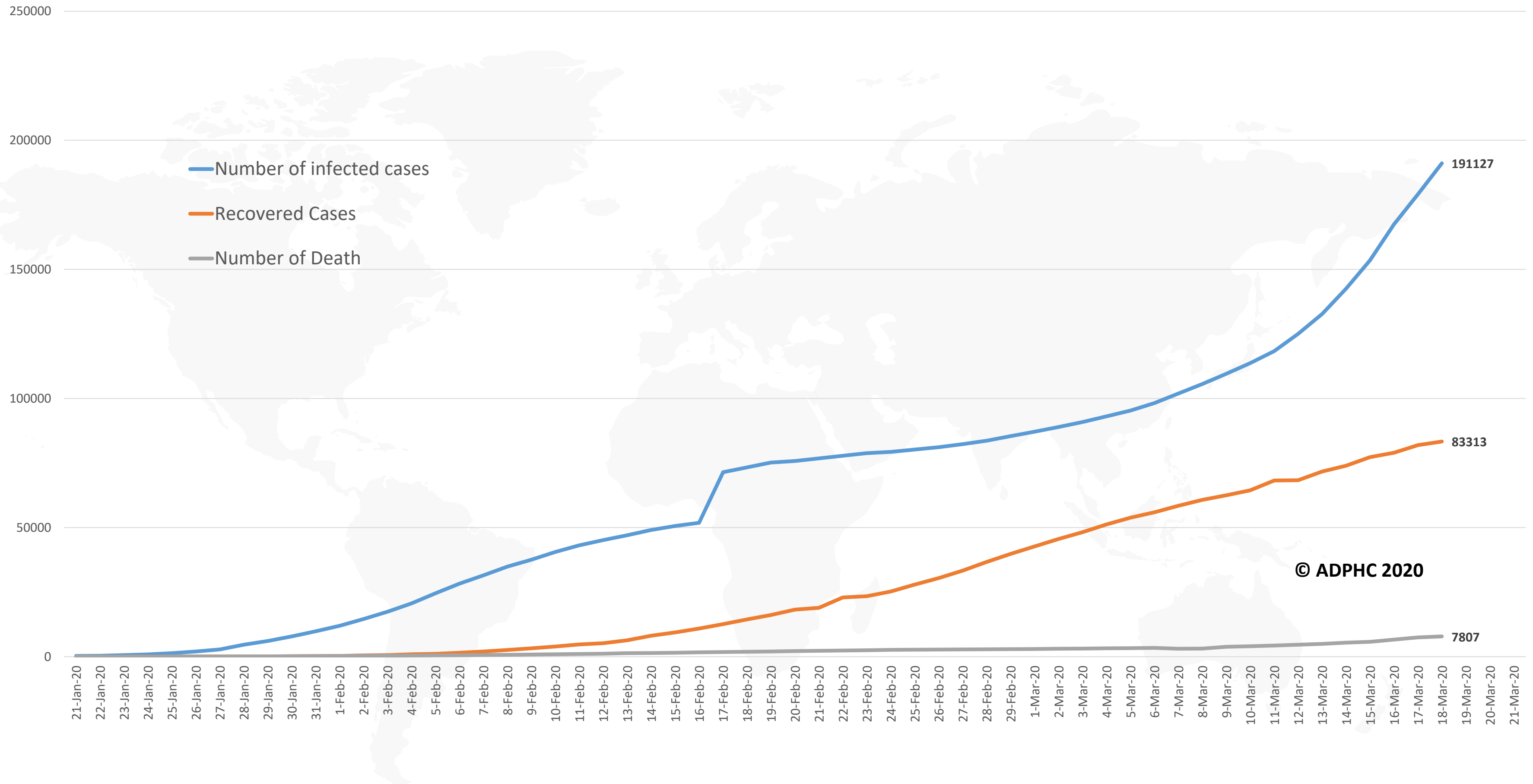
## 18<sup>th</sup> March 2020, WHO DG brief :

- **Physical distancing measures** – like cancelling sporting events, concerts and other large gatherings – can help to slow transmission of the virus. **They can reduce the burden on the health system.**
- WHO continues to recommend that **isolating, testing and treating every suspected case, and tracing every contact**, must be the backbone of the response in every country. This is the best hope of preventing widespread community transmission.
- **Complement on the Republic of Korea experience** (reduced from 800 per day to 90 per day): It educated, empowered and engaged communities; It developed **an innovative testing strategy and expanded** lab capacity; It rationed the use of masks ;It did exhaustive contact tracing and testing in selected areas; **And it isolated suspected cases in designated facilities rather than hospitals or at home.**
- Mentioned certain recommendation for the care of mild cases depending on the capacity of the health care system. Preferred to be in health facility , if not possible then community facility if not possible then at home.
- **This approach is saving lives and buying time for the development of vaccines and treatments.**
- **Comment on Vaccine** : As you know, the first vaccine trial has begun, just 60 days after the genetic sequence of the virus was shared by China. This is an incredible achievement.
- **On therapy** : The WHO Announced the SOLIDARITY trial.
  - The trial provides simplified procedures to enable even hospitals that have been overloaded to participate. Countries involved are : (Argentina, **Bahrain**, Canada, France, Iran, Norway, South Africa, Spain, Switzerland and Thailand )- and many more may join.
- The COVID-19 Solidarity Response Fund has now raised more than US\$43 million (FIFA contributed with 10 million )

# Epidemiology



**Figure 1: Total number of infected, recovered, and death cases (January 21<sup>st</sup> to March 18<sup>th</sup>, 2020)**



© ADPHC 2020

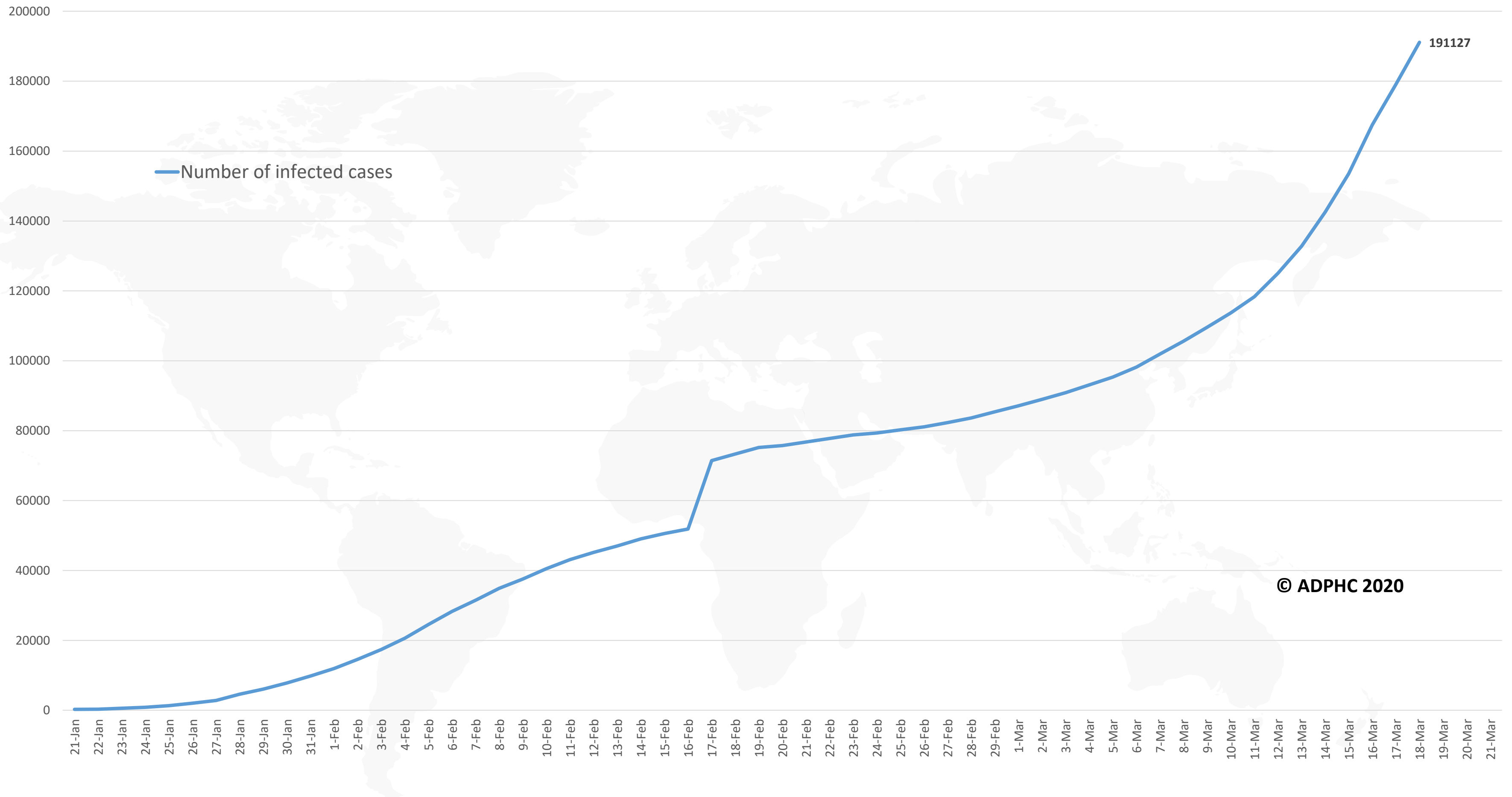
Line graph published by Abu Dhabi Public Health Center 2020.

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

# Epidemiology



Figure 2: Number of infected COVID-19 cases worldwide (January 21 to March 18, 2020).



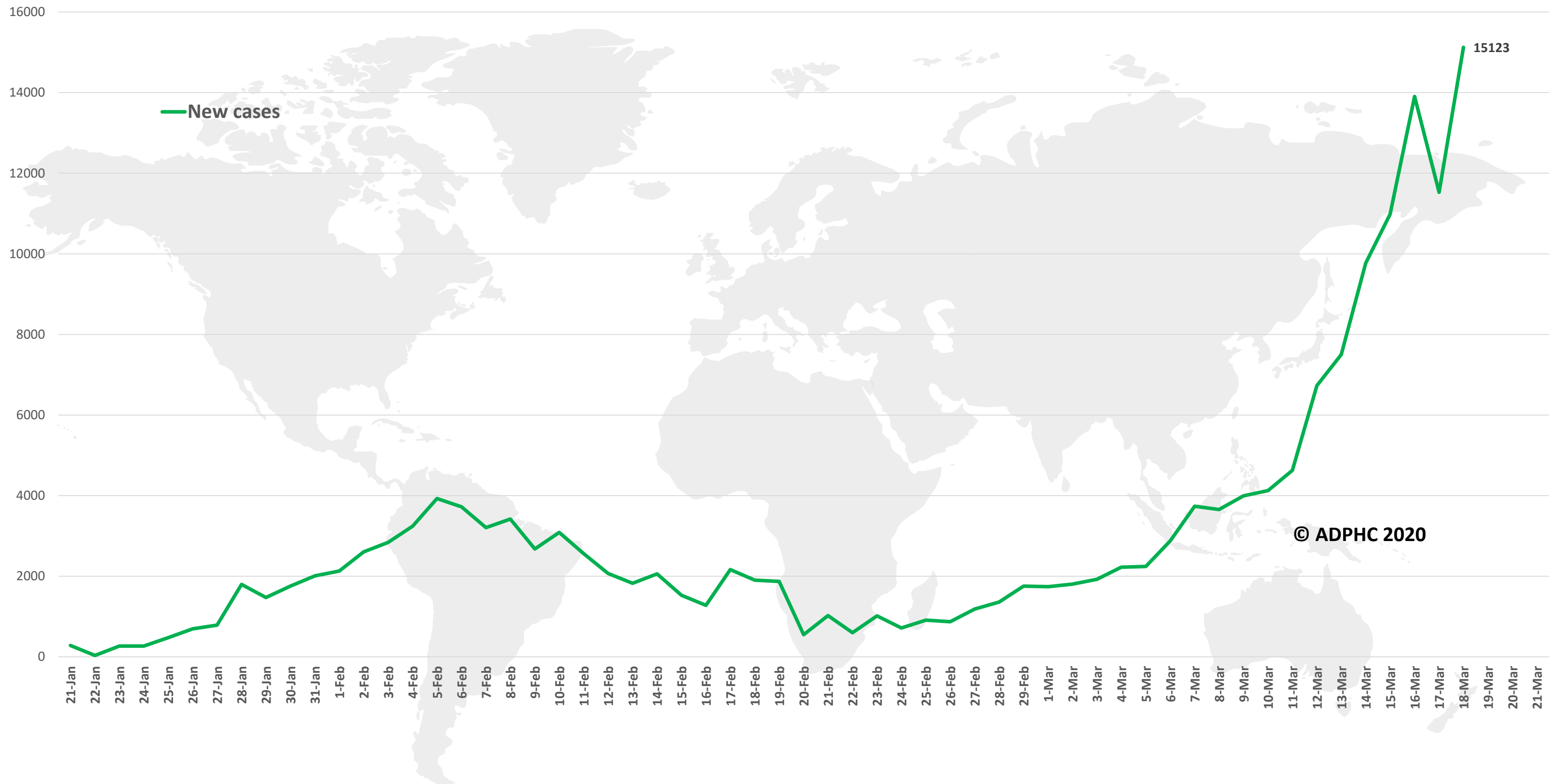
Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)





**Figure 3: Daily new infected COVID-19 cases worldwide (January 21 to March 18, 2020).**

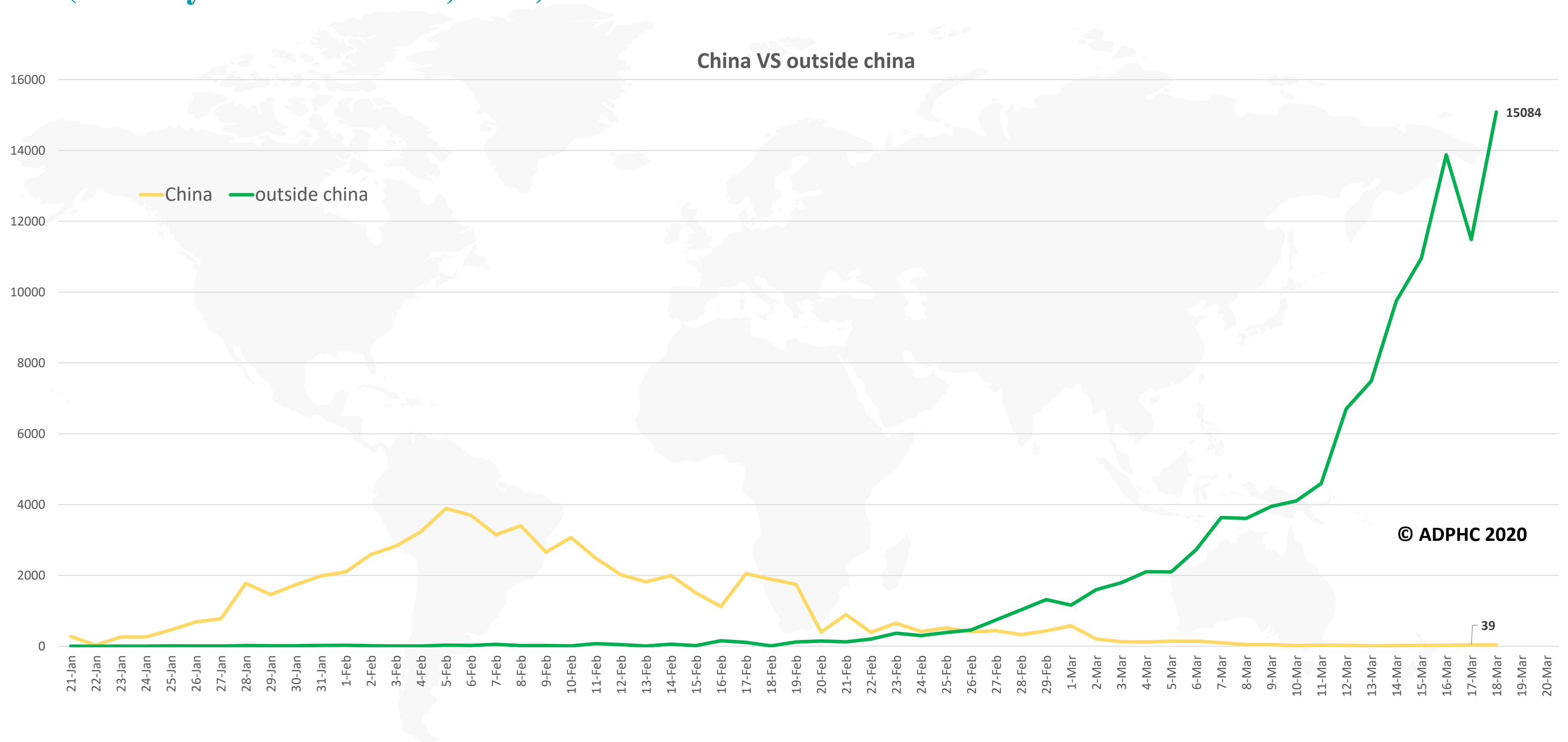


Line graph published by Abu Dhabi Public Health Center 2020.

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



**Figure 4: Daily new infected COVID-19 cases reported by China and the rest of the world (January 21 to March 18, 2020).**



© ADPHC 2020

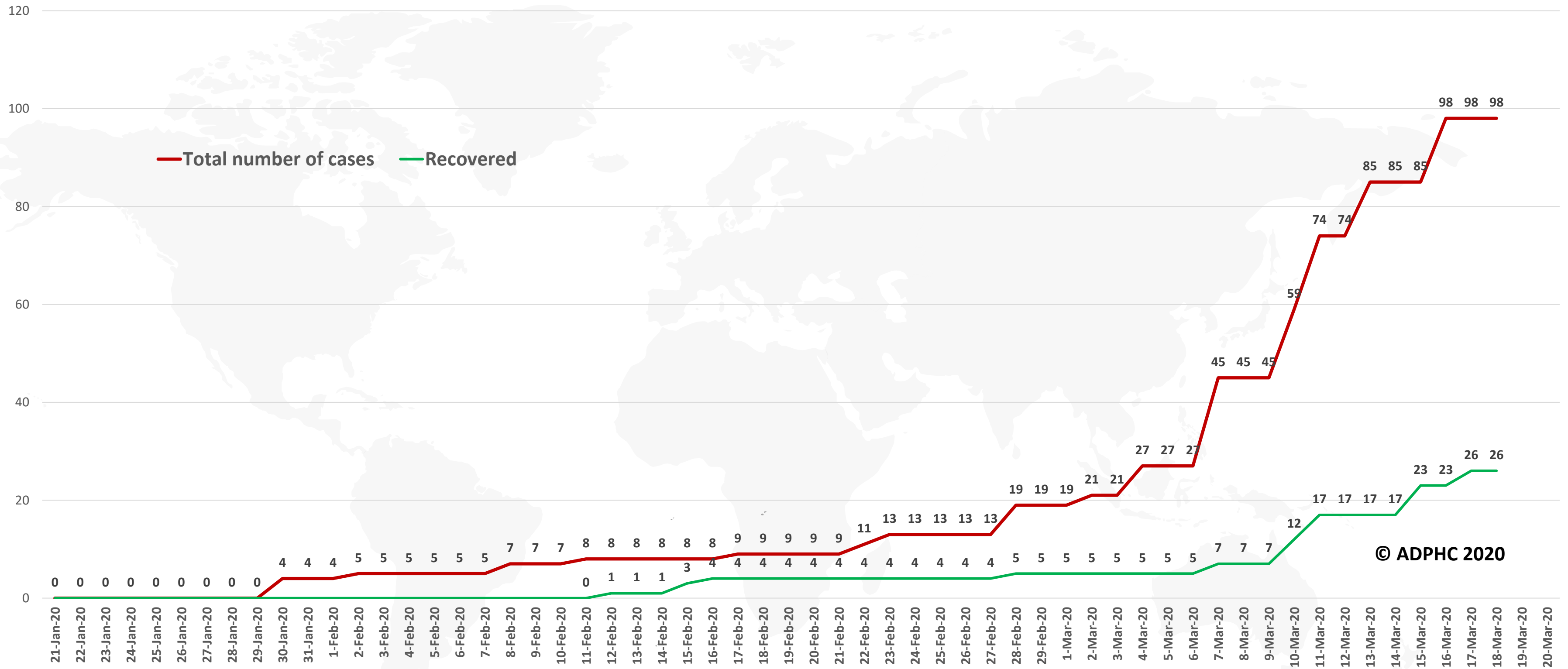
Line graph published by Abu Dhabi Public Health Center 2020.

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

# Epidemiology



**Figure 5: Total number of COVID-19 infected and recovered cases in UAE over time**



© ADPHC 2020

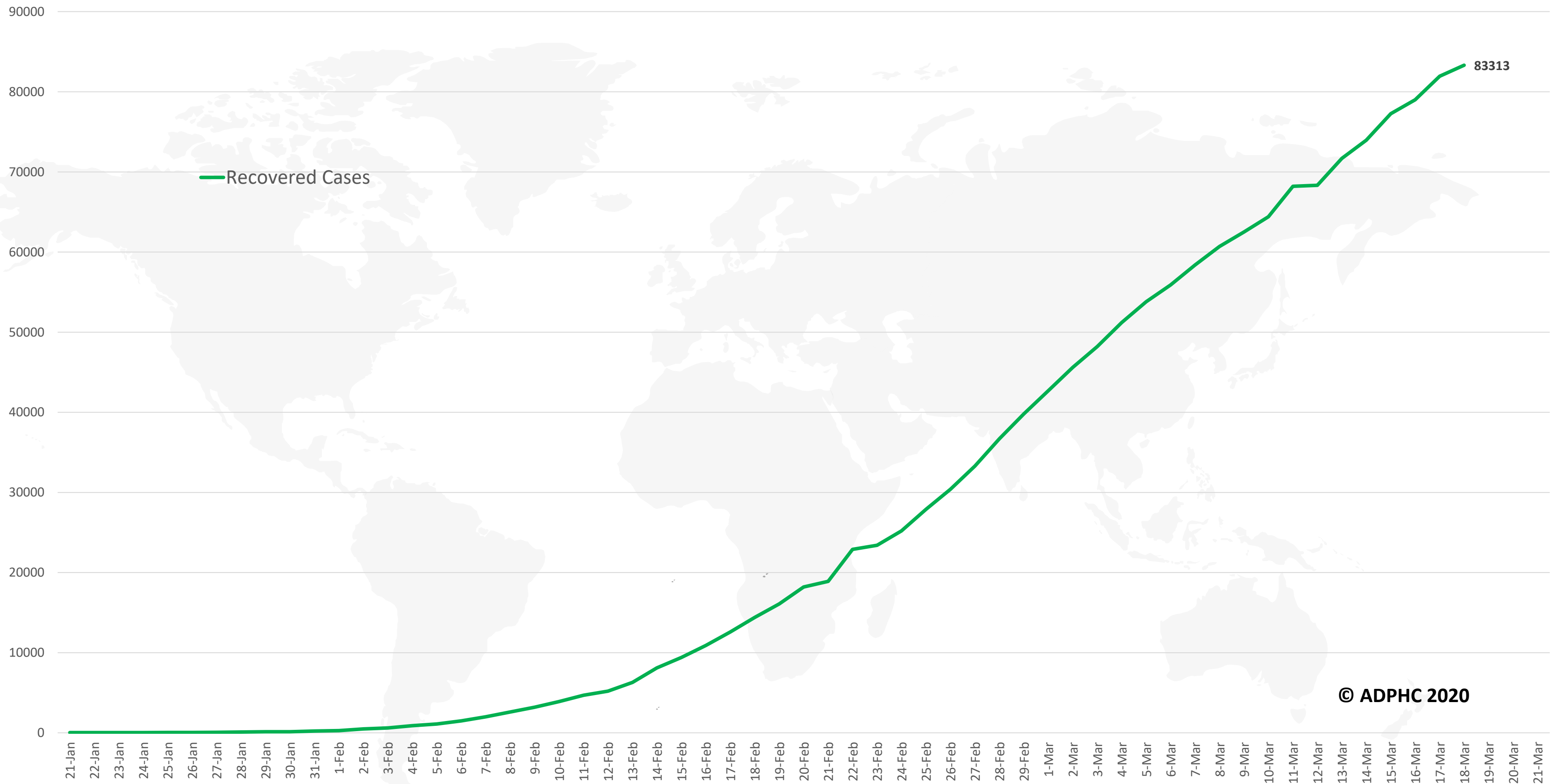
Line graph published by Abu Dhabi Public Health Center 2020.

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

# Epidemiology



Figure 6: Number of recovered COVID-19 cases worldwide (January 21 to March 18, 2020).

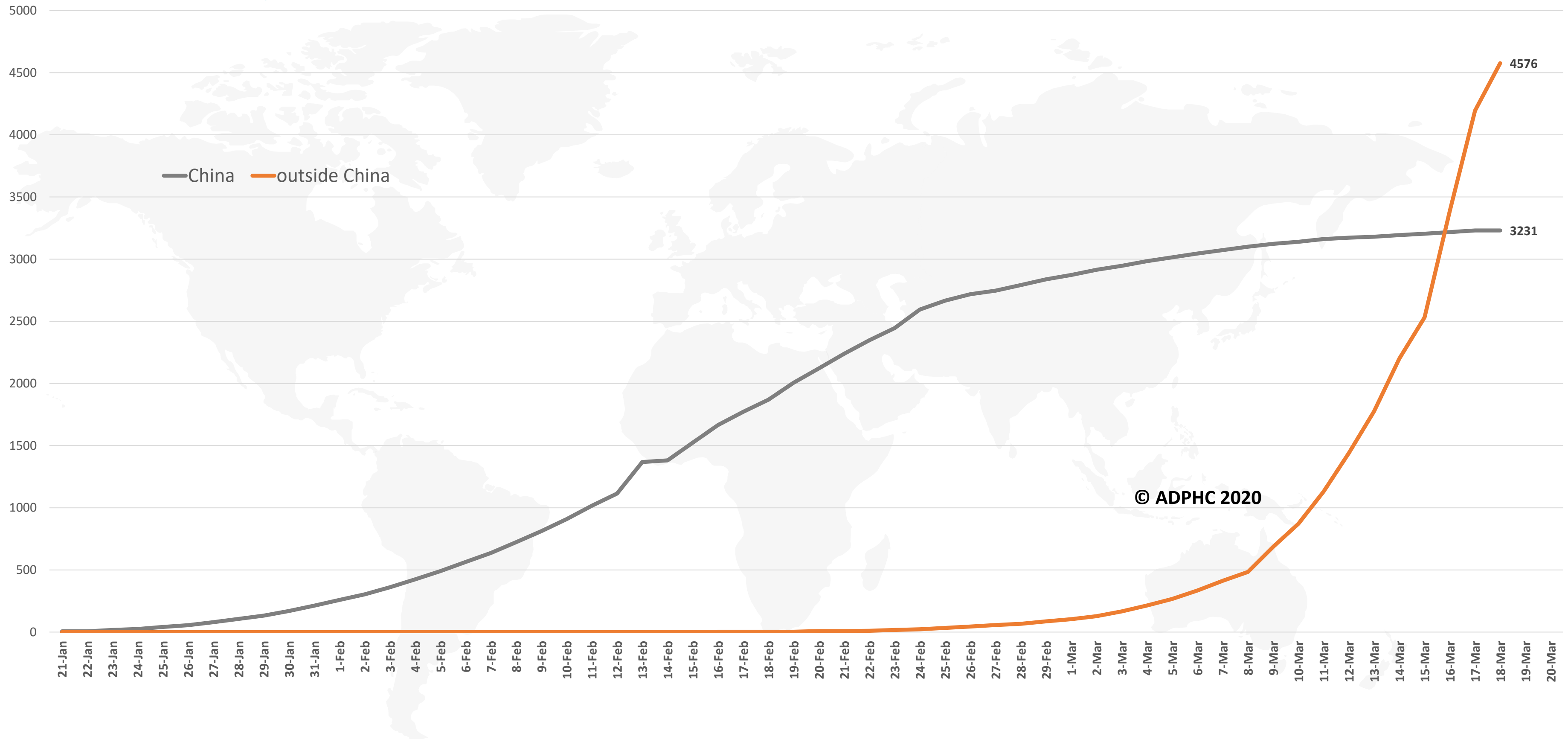


Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [John Hopkins University](#)



**Figure 7: Daily number of death due to COVID-19 reported by China and the rest of the world (January 21 to March 18, 2020).**



© ADPHC 2020

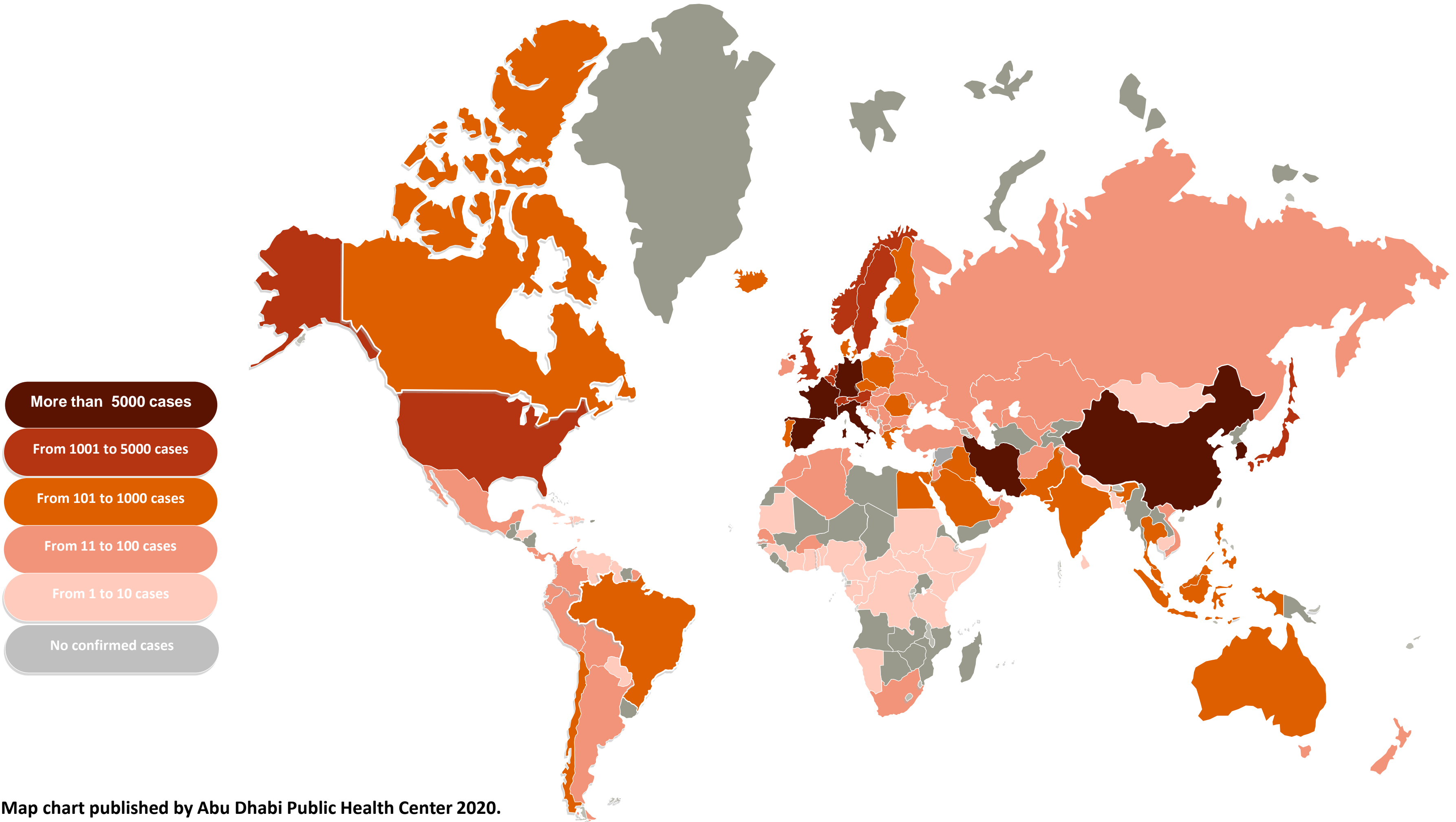
Line graph published by Abu Dhabi Public Health Center 2020.

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

# Epidemiology



Figure 8A: Global distribution of COVID-19 cases (January 21 to March 17, 2020).

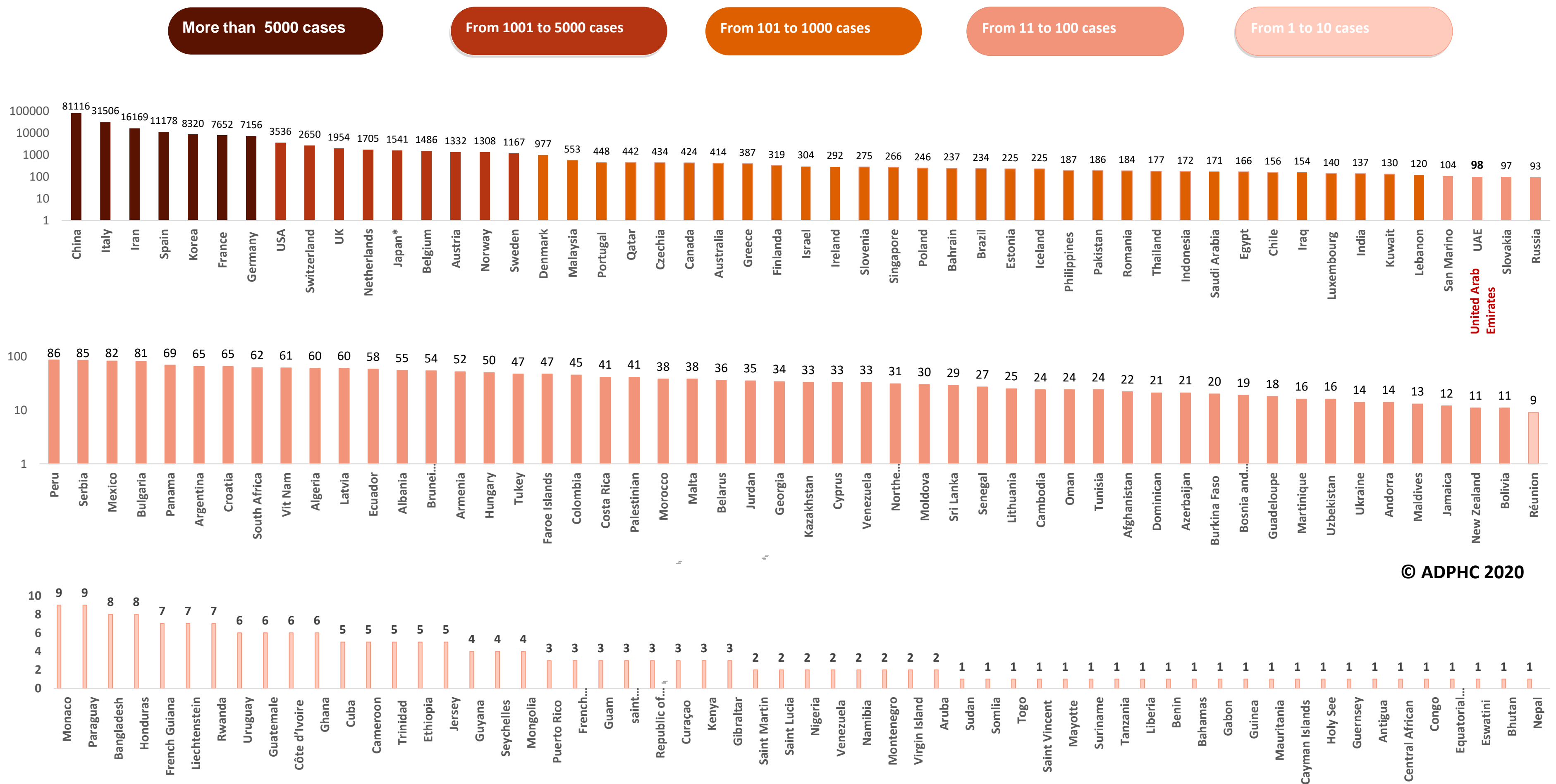


Map chart published by Abu Dhabi Public Health Center 2020.

# Epidemiology



Figure 8B: Bar chart illustrate the global distribution of COVID19 cases (January 21<sup>st</sup> to March 17<sup>th</sup>, 2020)



© ADPHC 2020

Map chart published by Abu Dhabi Public Health Center 2020.

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



# Clinical feature and transmission

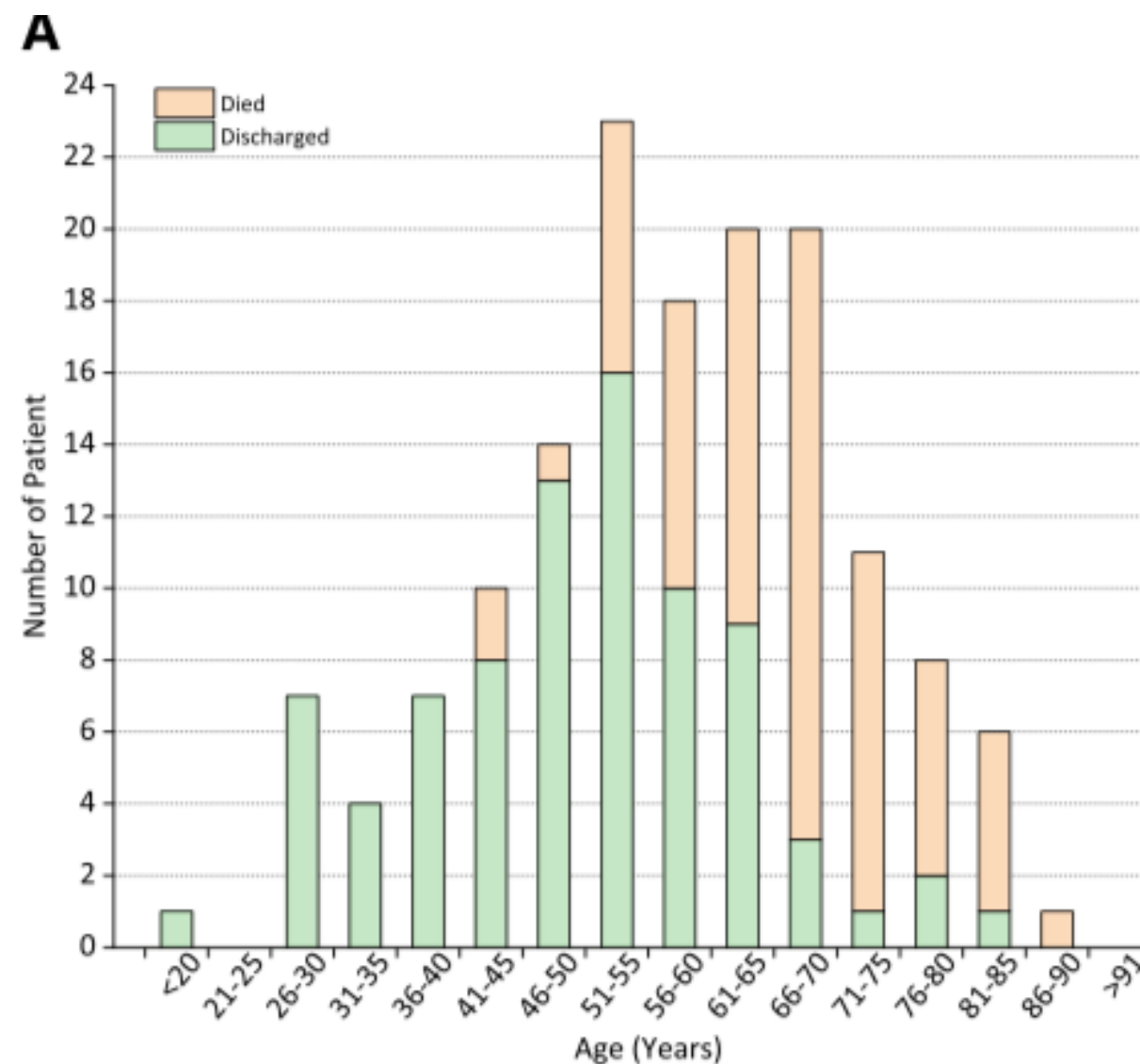
**Article 1:** Clinical predictors of mortality due to COVID-19 based on an analysis of data of 150 patients from Wuhan, China

**Published:** 3 March 2020

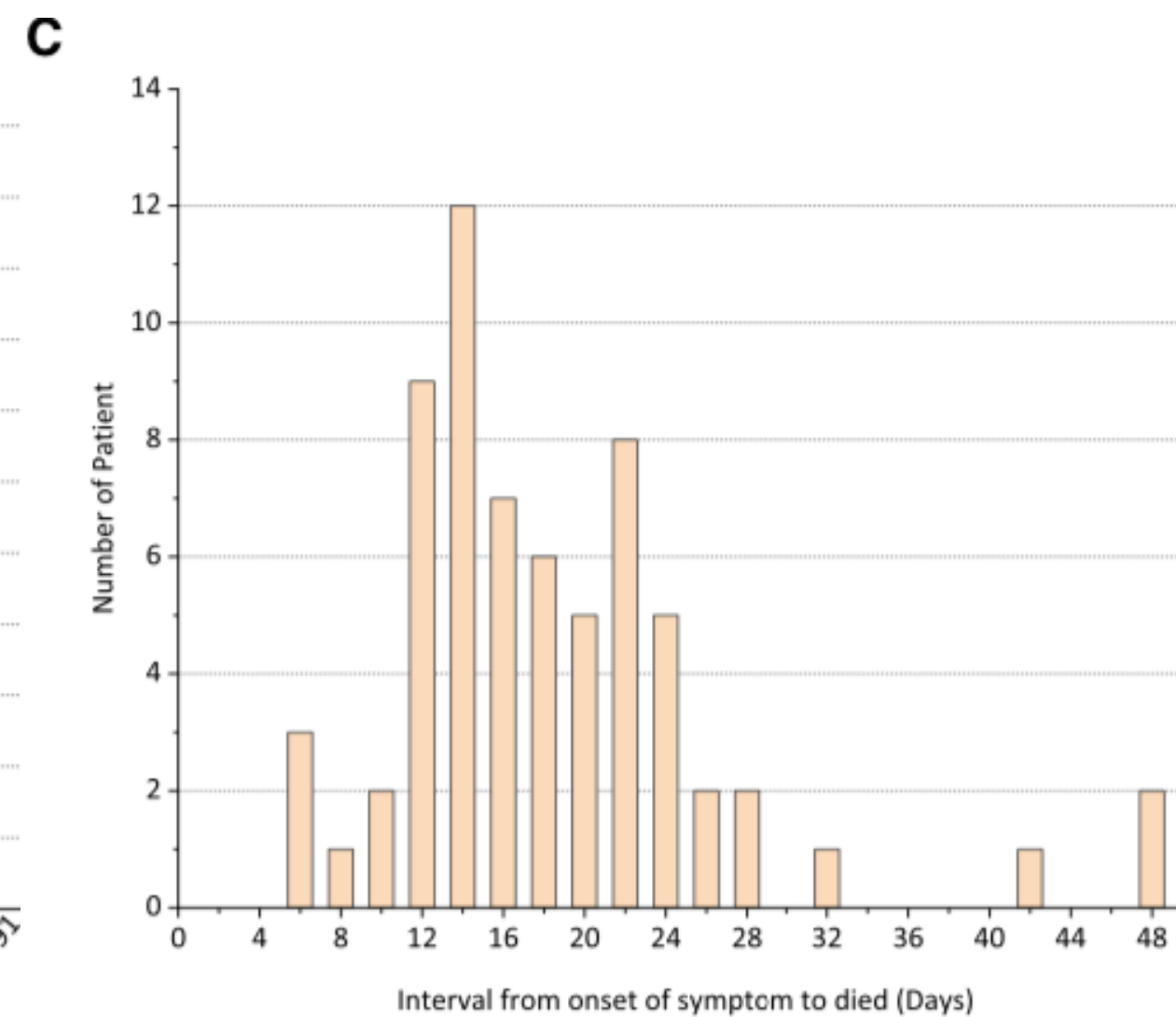
**Link:** [Click Here](#)

**Summary:**

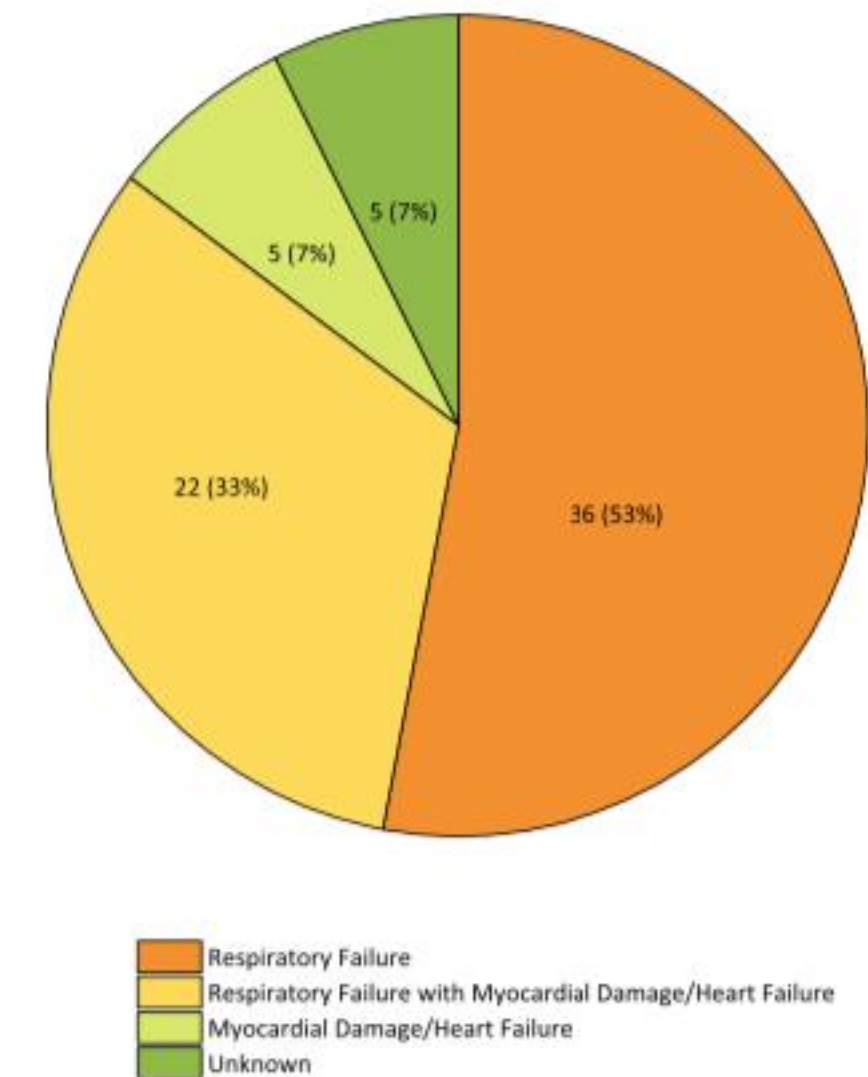
retrospective multicenter study of 68 death cases and 82 discharged cases showed the finding on the graphs:



A: : Patients who died were older



**B:** The distribution of survival time from disease onset to death showed two peaks, with the first one at approximately 14 days and the second one at approximately 22 days .



**C:** Some patients died of fulminant myocarditis. In this study, it was first reported that the infection of SARS-CoV-2 may cause fulminant myocarditis.



# Treatment



## Article 2: COVID-19: consider cytokine storm syndromes and immunosuppression

Published: 16 March 2020

Link: [Click Here](#)

### Summary:

- Some of COVID-19 sever patients might develop a cytokine storm syndrome (a condition that causes an increase in inflammatory markers in the body) . Which is fatal!
- A recent study in Wuhan, China of 150 confirmed covid-19 cases with elevated ferritin ( suggested that the cause of death of the patients is hyperinflammation caused by a viral activity).
- Immunosuppression such as **corticosteroids is not recommended in treating COVID-19**, however in **hyperinflammation it might be useful**.
- Authors suggest all patients with severe COVID-19 should be screened for hyperinflammation using laboratory trends (eg, **increasing ferritin**, decreasing platelet counts, or erythrocyte sedimentation rate) and the H Score ( one of the score used to detect the hyperinflammatory syndrome) to identify the subgroup of patients for whom immunosuppression could improve mortality. Therapeutic options include **steroids**, **intravenous immunoglobulin**, **selective cytokine blockade** (eg, anakinra or tocilizumab) and JAK inhibition.



# Public health response

**Article 3:** Screening of faecal microbiota transplant donors during the COVID-19 outbreak: suggestions for urgent updates from an international expert panel

**Published:** March 16, 2020

**Link:** [Click Here](#)

## Summary:

Recommendations / suggestions regarding screening of donors of human cells, tissues, or cellular or tissue-based products have been released. Potential for transmission of COVID-19 through transplant is not known yet. Several institutions have recommended interim precautions to screen new donors

Institutions	Suggestion/Recommendation
<ul style="list-style-type: none"> <li>➤ US Food and Drug Administration (FDA)</li> <li>➤ Global Alliance of Eye Bank Associations</li> <li>➤ Joint United Kingdom Blood Transfusion Services Professional Advisory Committee</li> </ul>	<p><b>Exclude</b> donor with history of travel to areas of outbreak, cohabitation with infected individuals, or diagnosis or suspicion of COVID-19 <b>within the 28</b> days before recovery of donor tissue.</p>
<ul style="list-style-type: none"> <li>➤ European Society for Blood and Marrow Transplantation</li> </ul>	<p><b>Exclude</b> potential donors who have been diagnosed with COVID-19, and <b>waiting at least 21 days</b> before donation in those with a history of high-risk travel or contact.</p>
<ul style="list-style-type: none"> <li>➤ National transplant center (Italy)</li> </ul>	<p>Testing all potential tissue and <b>stem-cell living</b> donors, as well as <b>dead donors, through real-time RT-PCR assays</b> of nasopharyngeal swab samples (or broncho-alveolar lavage in deceased individuals)</p>
<ul style="list-style-type: none"> <li>➤ Author recommendation on fecal transplantation for the C. difficile infection</li> </ul>	<p>Physicians should screen for two items (before each donation) such as presence of typical COVID-19 symptoms within past 30 days and the donor's travel history to regions known to be affected by COVID-19 or close contact within the past 30 days. if positive, reject or test RT-PCR.</p>