

ABU DHABI PUBLIC  
HEALTH CENTRE

مركز أبوظبي  
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# Scientific Research Monitoring on COVID-19

18 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.
- Human coronavirus remains on inanimate surfaces such as metal or glass for up to 9 days, but can be efficiently inactivated by disinfection, suggesting that effects on SARS-CoV2 could be similar.
- 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 features and transmission:** Study indicates that aerosol and fomite transmission of SARS-CoV-2 is plausible, since the virus can remain viable and infectious in aerosols for hours and on surfaces up to days
- **Public health response:** an article discusses the negative impact of sanctions in delivering essential lifesaving medication and equipment to Iran.
- **Clinical feature and transmission:** a review article to compare children and adult infected with COVID19 showed that adults are more to have symptoms , CT finding and lab abnormalities.

*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

[Total Protein as a Biomarker for Predicting Coronavirus Disease-2019 pneumonia](#)

[Early Discern COVID-19 from the Suspected Patients via Fever Clinics: A Multicenter](#)

[Cohort Study from Shanghai](#)

[Combination of western medicine and Chinese traditional patent medicine in treating a family case of COVID-19 in Wuhan.](#)



## 17th March 2020

- 8 new countries/territories/areas in (African Region [3], Eastern Mediterranean Region [1], Region of the Americas [3], and Western Pacific Region [1]) have reported cases of COVID-19 in the past 24 hours.
- As the on-going COVID-19 pandemic continues to develop, WHO is committed to working together with the travel, transport and tourism sectors on emergency preparedness and response. WHO has produced and continues to develop comprehensive COVID-19 technical guidance on maritime and aviation traffic and ground crossings. These include:
  - Operational considerations for managing COVID-19 cases and outbreaks on board ships (Interim guidance);
  - Management of ill travelers at Points of Entry – international airports, seaports and ground crossings – in the context of COVID-19 outbreak;
  - Public health preparedness and response for aviation sector;
  - Operational considerations for managing COVID-19 cases/outbreak on board ships; and the
  - Handbook for the management of public health events on board ships.

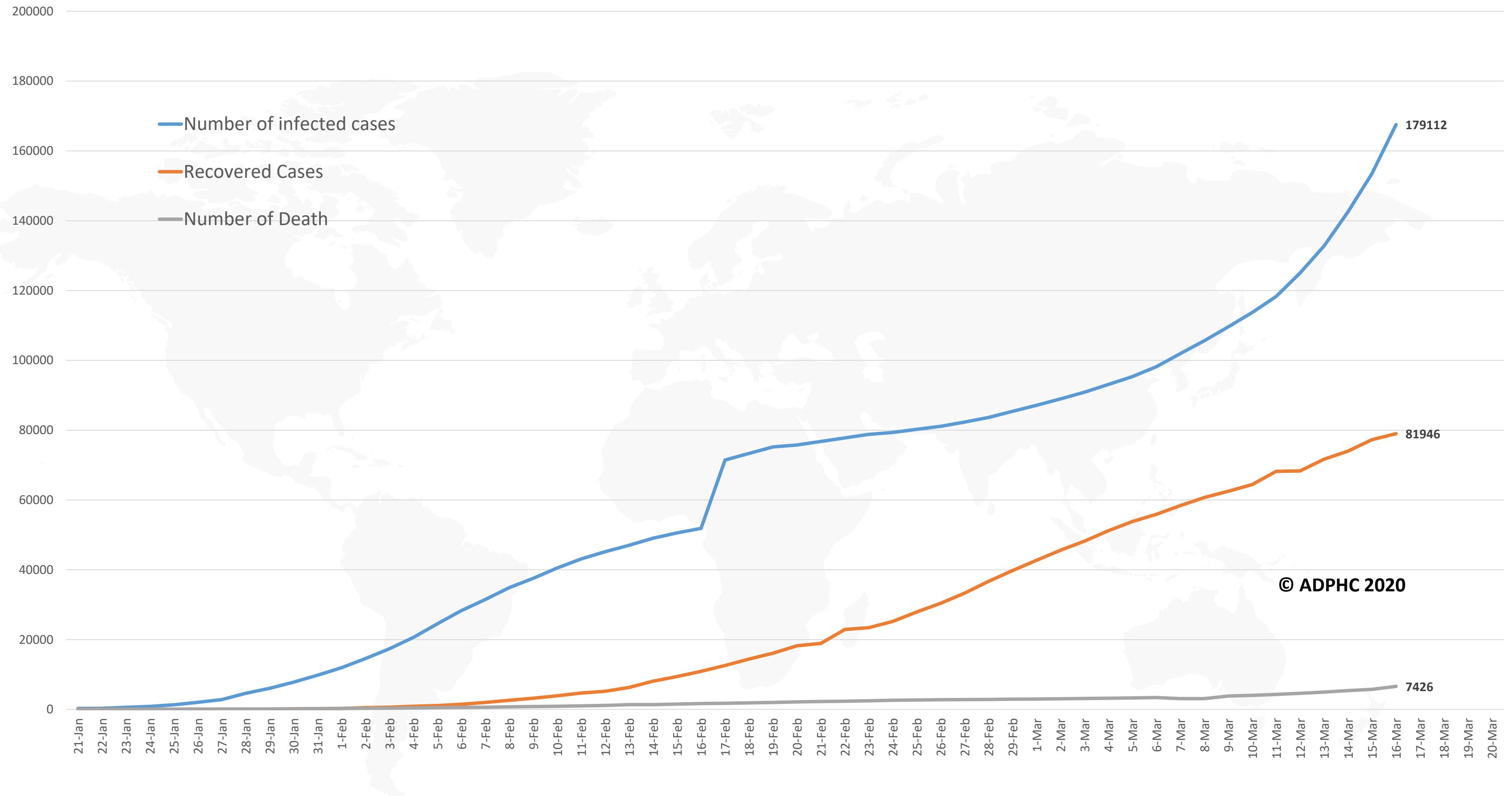
Additionally, guidance on operational considerations for managing COVID-19 cases and outbreak **in aviation, scaling up preparedness for COVID-19 at ground crossings**, and managing COVID-19 cases and outbreaks in **hotels and other travel and tourism accommodations** are under development and will be available soon.

- Open WHO" is an interactive, web-based, knowledge-transfer platform offering free online courses to improve the response to health emergencies.

# Epidemiology



**Figure 1: Total number of infected, recovered, and death cases (January 21<sup>st</sup> to March 17<sup>th</sup>, 2020)**



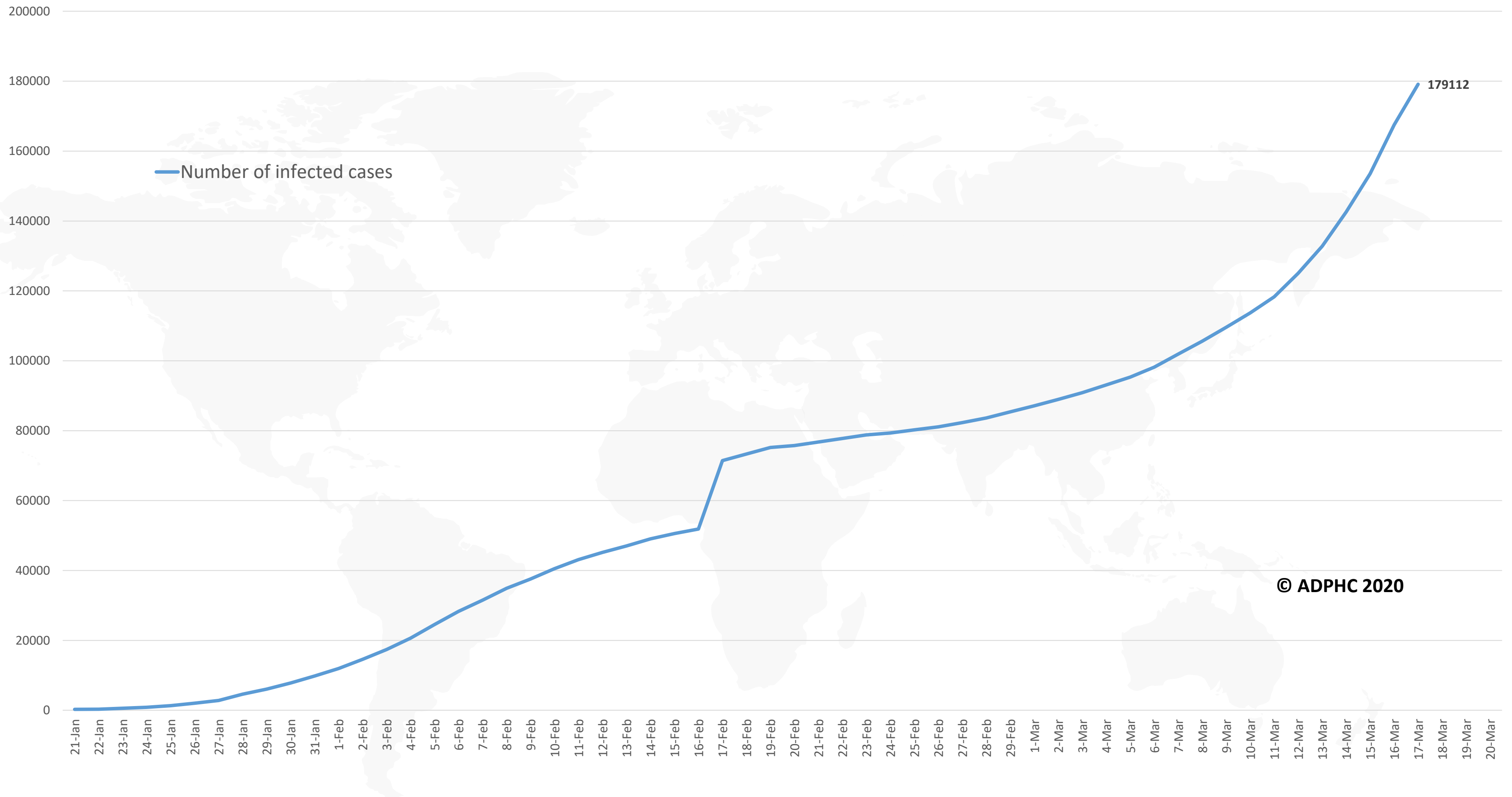
Line graph published by Abu Dhabi Public Health Center 2020.

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

# Epidemiology



Figure 2: Number of infected COVID-19 cases worldwide (January 21 to March 17, 2020).

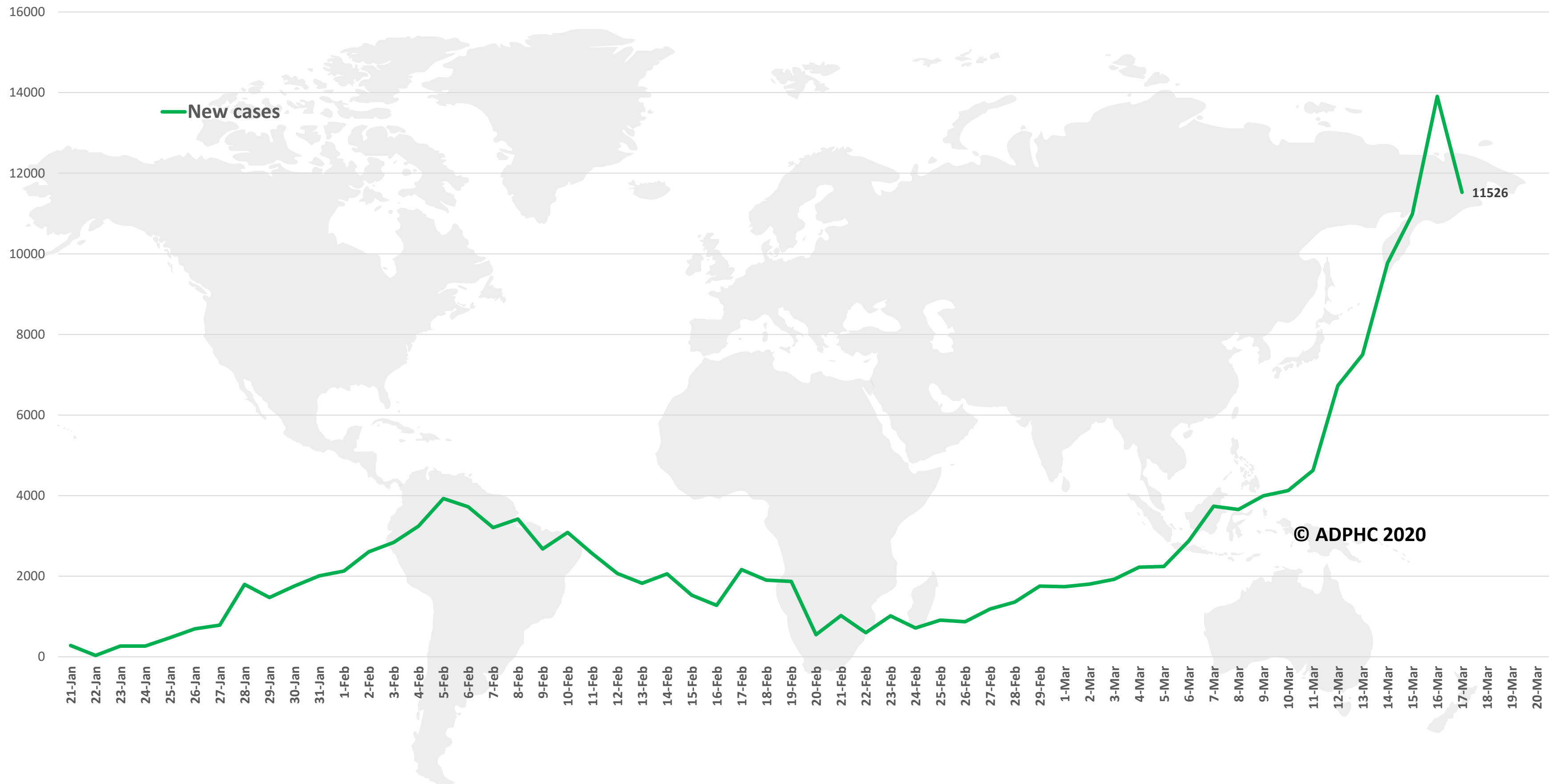


Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)



**Figure 3: Daily new infected COVID-19 cases worldwide (January 21 to March 17, 2020).**



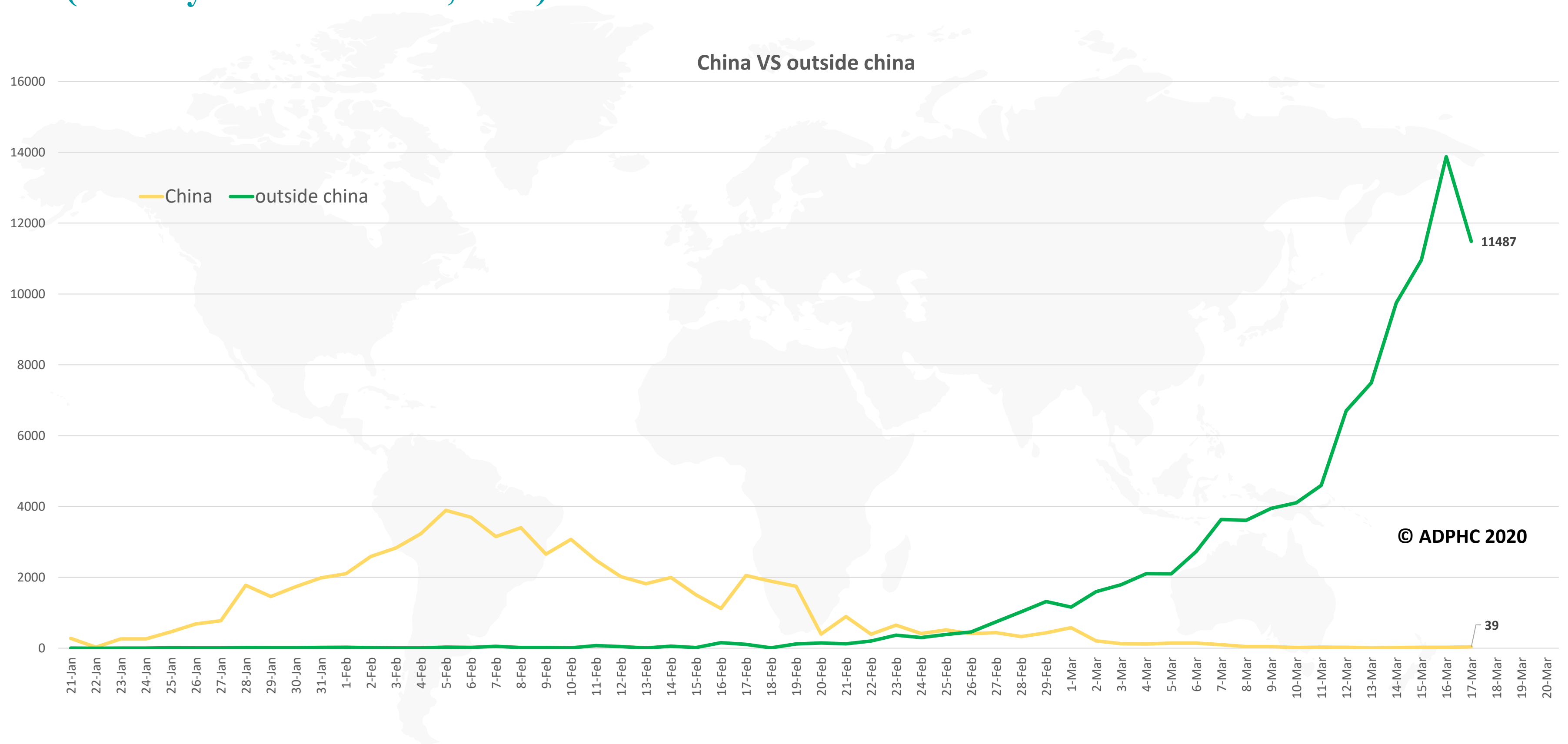
Line graph published by Abu Dhabi Public Health Center 2020.

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 17, 2020).**



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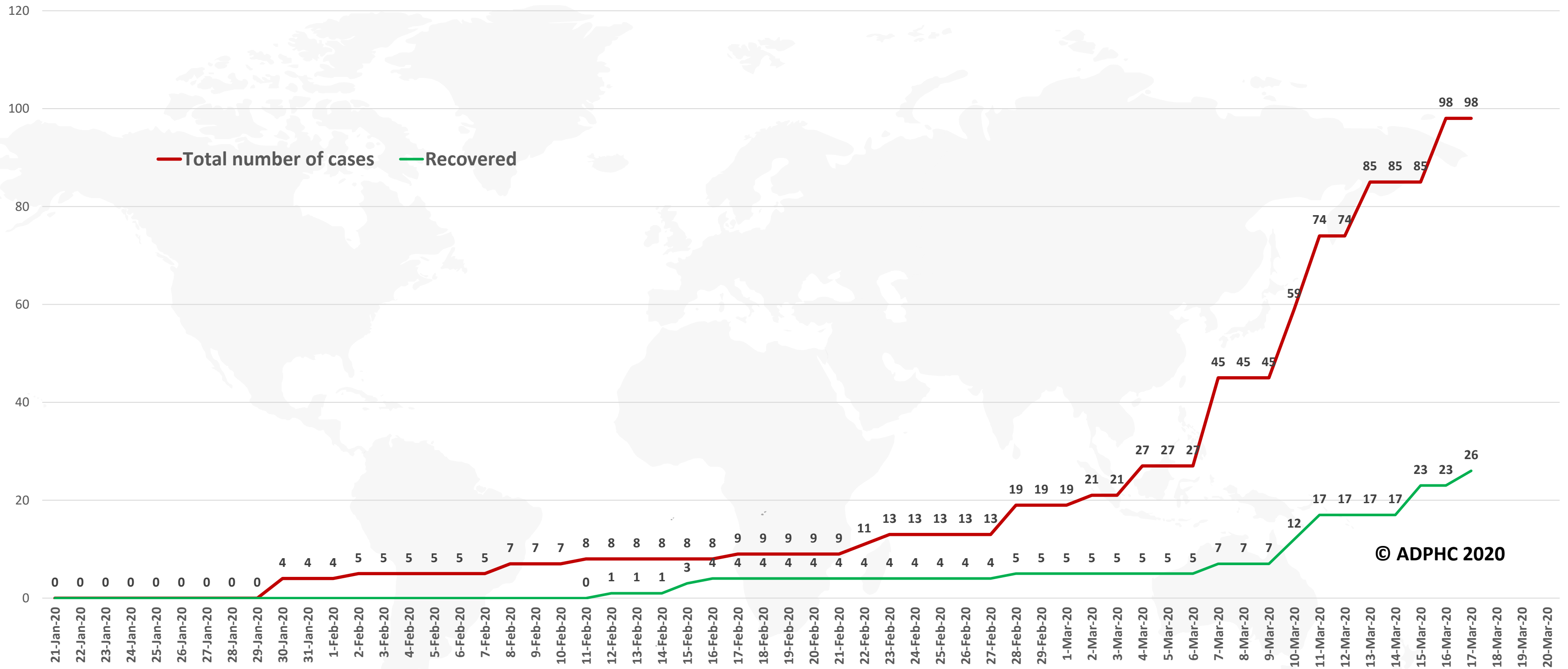
Line graph published by Abu Dhabi Public Health Center 2020.

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

# Epidemiology



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



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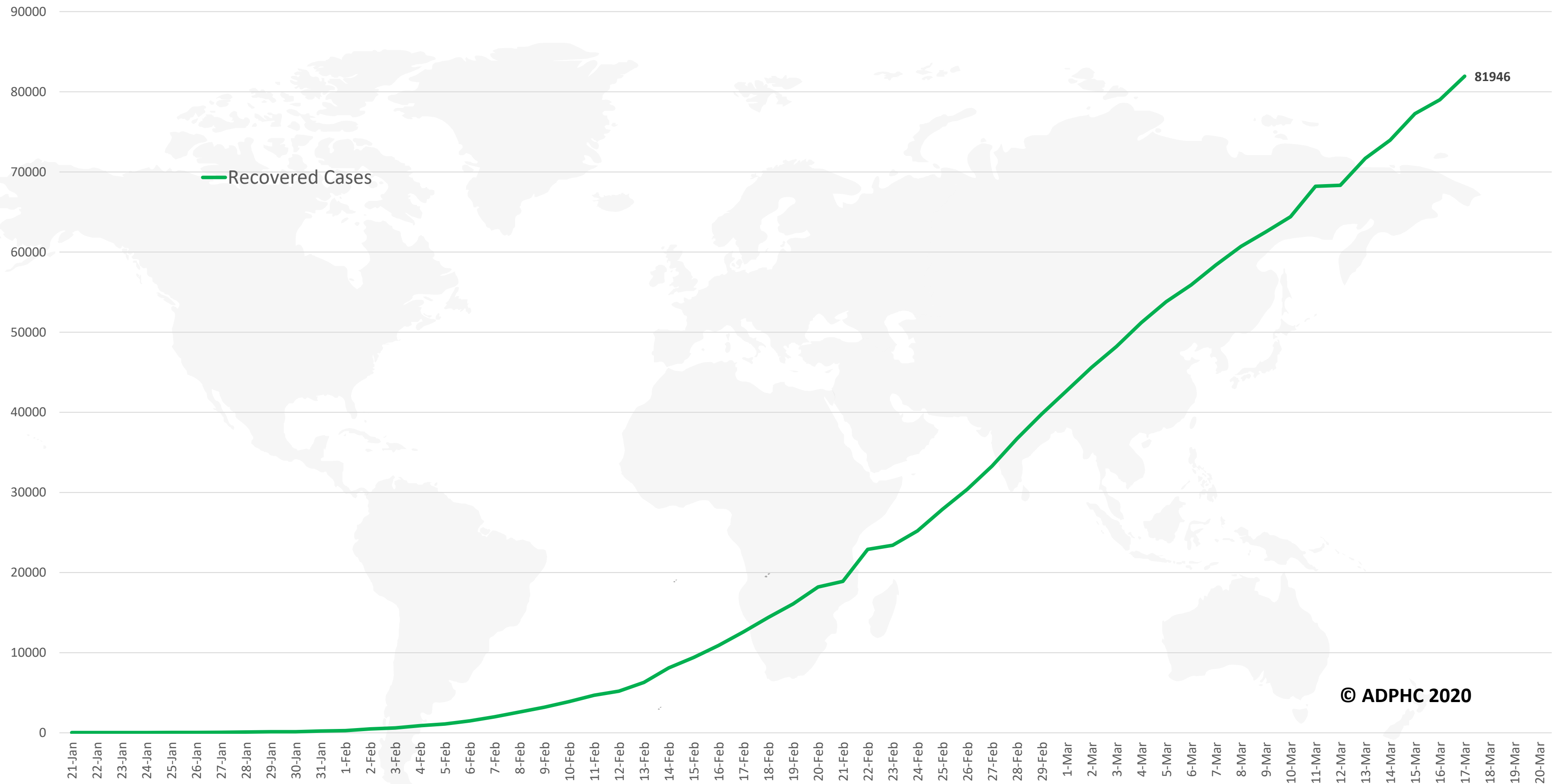
Line graph published by Abu Dhabi Public Health Center 2020.

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

# Epidemiology



**Figure 6: Number of recovered COVID-19 cases worldwide (January 21 to March 17, 2020).**



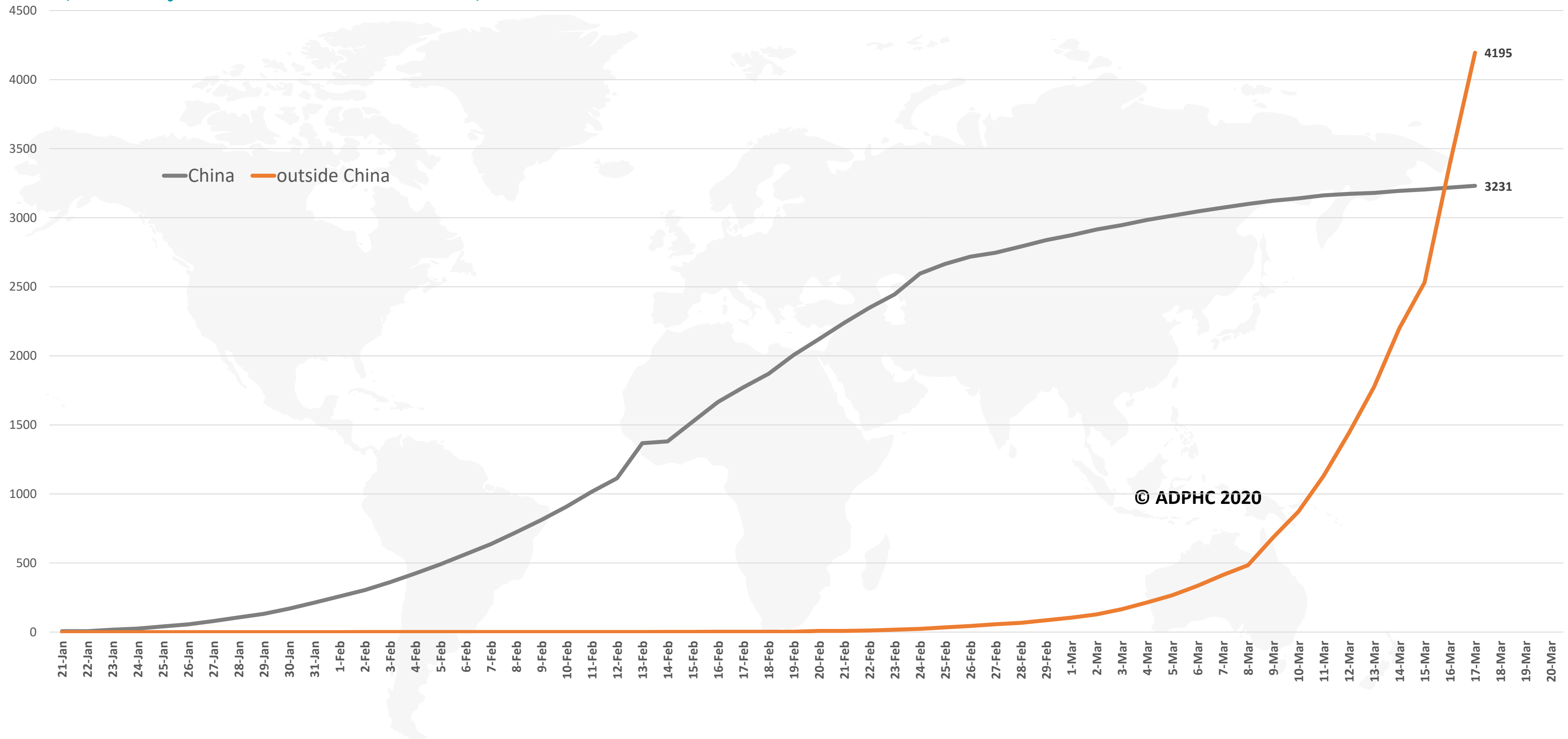
Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [John Hopkins University](#)

# Epidemiology



**Figure 7: Daily number of death due to COVID-19 reported by China and the rest of the world (January 21 to March 17, 2020).**



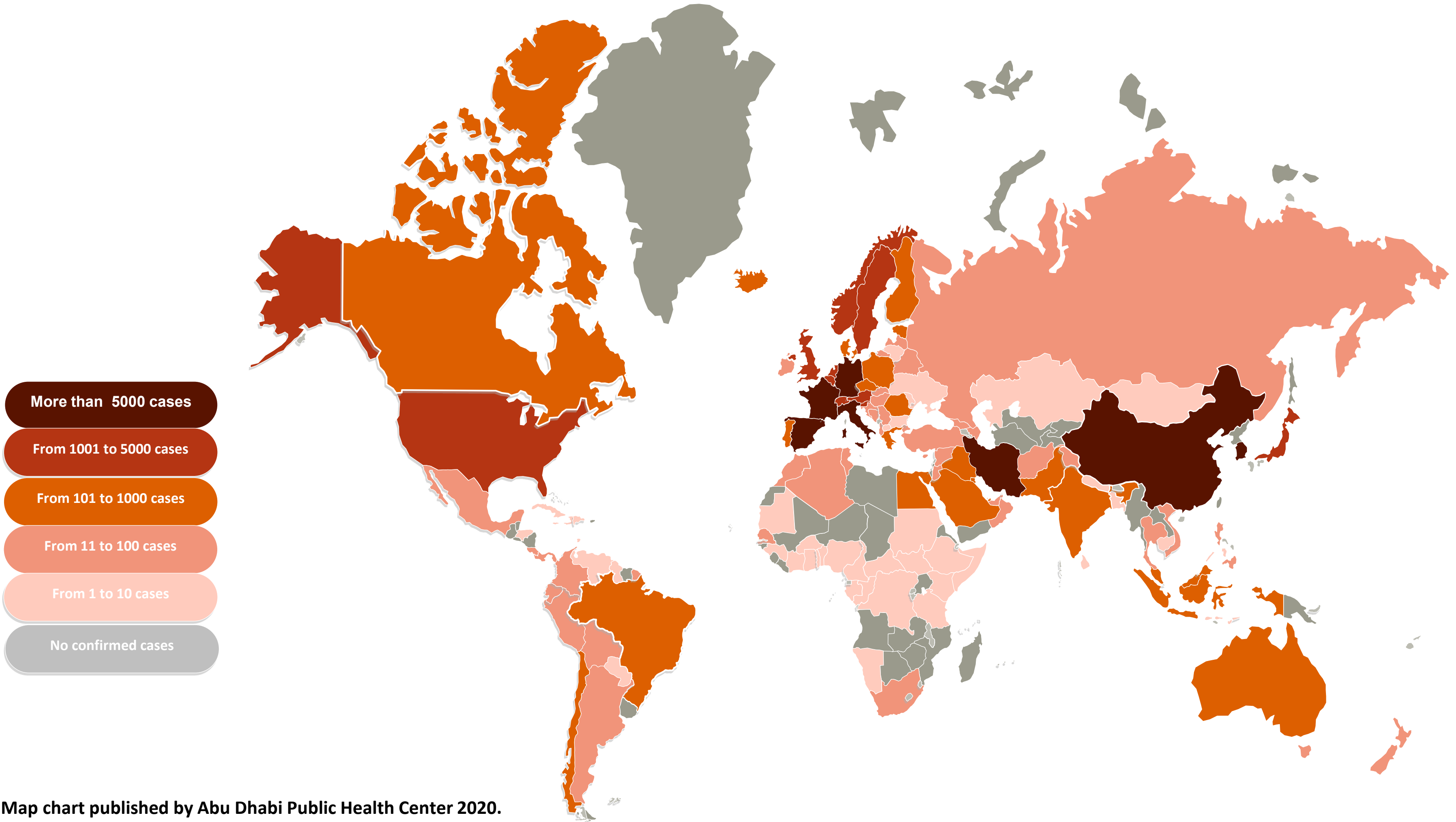
Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)

# Epidemiology



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

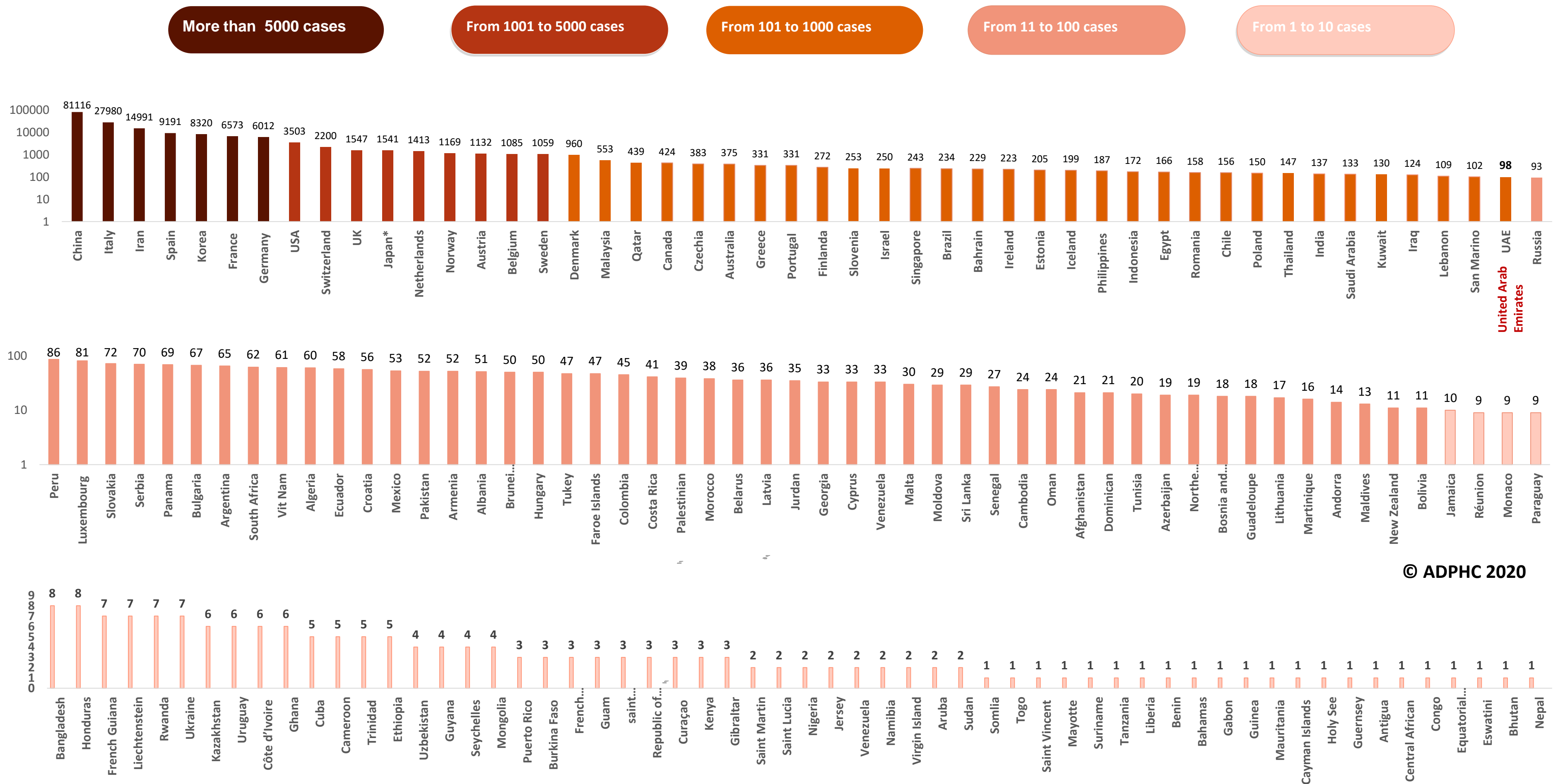


Map chart published by Abu Dhabi Public Health Center 2020.

# Epidemiology



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



Map chart published by Abu Dhabi Public Health Center 2020.

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



# Clinical feature and transmission

## Article 1: Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1

Published: 17 March 2020

Link: [Click Here](#)

### Summary:

- A study compared the viability for SARS-COV1 and SARS-COV2 in different surfaces.

### Findings:

- Viruses were applied to **copper, cardboard, stainless steel, and plastic** maintained at 21 to 23°C and 40% relative humidity over 7 days
- **SARS-CoV-2** remained viable in **aerosols for 3 hours. In plastic 72 hours. In copper NOT viable after 4hours ,in cardboard not viable in 24hours.**
- We found that the stability of **SARS-CoV-2** was **similar** to that of **SARS-CoV-1** under the experimental circumstances tested. This indicates **that differences** in the **epidemiologic characteristics** of these viruses **probably arise** from other factors, including **high viral loads in the upper respiratory tract** and the potential for persons **infected with SARS-CoV-2 to shed and transmit the virus while asymptomatic**
- These findings echo those with SARS-CoV-1, in which these forms of transmission were associated with **nosocomial spread and superspreading events, and they provide information for pandemic mitigation efforts.**



# Clinical feature and transmission

## Article 2: COVID-19 battle during the toughest sanctions against Iran

Published: 17 March 2020

Link: [Click Here](#)

### Summary:

- Iranian authors from medical and academic institutions published in the Lancet Journal a correspondence main points as below:
  - The **economic loss** caused by the spread of COVID-19 in Iran coincides with the ever-highest politically induced sanctions against the country.
  - **Despite WHO** and other international humanitarian organizations **dispatching supplies** and medical necessities. The speed of the outbreak and the detrimental effects of **sanctions** have resulted in **reduced access to life-saving medicines** and equipment, adding to the health sector's pre-existing requirements for other difficult health conditions.
  - It is **shameful** that besides the lives lost to this deadly virus, extreme sanctions limit access to necessary materials and therefore kill even more Iranian people
  - It is essential for the UN Security Council and the USA to ease, albeit temporarily, the barriers to providing lifesaving medical supplies to Iran.
  - **Viruses do not discriminate, nor should humankind.**





# Clinical feature and transmission

## Article 3: COVID-19: Children Comparison with Adults Based on the Latest Data

Published: 13 March 2020

Link: [Click Here](#)

### Summary:

- This article explains a meta-analysis on differences in COVID-19 presentation between children and adults.
- A total of 314 patients (39 children and 275 adults) with (*RT-PCR*) test +ve were included in the study that involved 4 papers for children and 5 papers for adult groups.
- The rates of exposure to infected patients were significantly higher for children than adult (79.5% vs. 6.5%). In contrast, adult reported higher rates fever (72.0% vs. 51.3%); increased white blood count (26% vs. 0%);
- **CT findings:** Ground glass opacity on CT image adult vs children (74.8% vs. 64.1%) and consolidation on CT image (26.4% vs. 10.3%) in the initial stage; and in the follow up stage bilateral pneumonia (87.8% vs. 41.7%).
- These data findings will be helpful in order to establish a management plan and selecting an individual therapy to prevent and protect children with COVID-19.

*This paper should not be used for clinical decision making or reporting of research to a lay audience without indicating that this is preliminary research that has not been peer-reviewed*