

ABU DHABI PUBLIC
HEALTH CENTRE

مركز أبوظبي
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Scientific Research Monitoring on COVID-19

20 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.)

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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

- **Treatment:** a Spanish researcher announced the conduction of a study on chloroquine as a potential chemoprophylaxis for COVID19 as secondary prevention.
- **Clinical feature and transmission:** a study on 171 infected children with COVID19, found infected appear to have a milder clinical course. Asymptomatic infections were not uncommon.
- **Clinical feature and transmission:** a study suggest possibility of extended duration of viral shedding in faeces, for nearly 5 weeks after the patients' respiratory samples tested negative 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

[Covid-19 and community mitigation strategies in a pandemic](#)

[Mass gathering events and reducing further global spread of COVID-19: a political and public health dilemma](#)

[Assessment of Public Attention, Risk Perception, Emotional and Behavioural Responses to the COVID-19](#)

[Outbreak: Social Media Surveillance in China](#)

[Clinical Findings of 100 Mild Cases of COVID-19 in Wuhan: A Descriptive Study](#)

[Non-Severe vs Severe Symptomatic COVID-19: 104 Cases from the Outbreak on the Cruise Ship 'Diamond Princess' in Japan](#)

[Epidemiological and Transmission Patterns of Pregnant Women with 2019 Coronavirus Disease in China](#)

[Mental Health Status of Doctors and Nurses During COVID-19 Epidemic in China](#)



WHO daily report : 20 March 2020

- Six new countries/territories/areas (African Region [2], and Region of the Americas [2], and Western Pacific Region [2]) have reported cases of COVID- 19.
- 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. To ensure clear evidence of which treatments are most effective, WHO and its partners are organizing a large international study, called the Solidarity Trial, in many countries to compare different treatments.
- WHO and Global Citizen launched #TogetherAtHome, a virtual, no-contact concert series to promote physical distancing and action for global health. Chris Martin, lead singer of Coldplay, kicked it off earlier this week with a performance from his home. More Solidarity Sessions are planned to promote health, show support for people who are staying at home to protect themselves and others from COVID-19, and encourage donations to the COVID-19 Solidarity Response Fund.



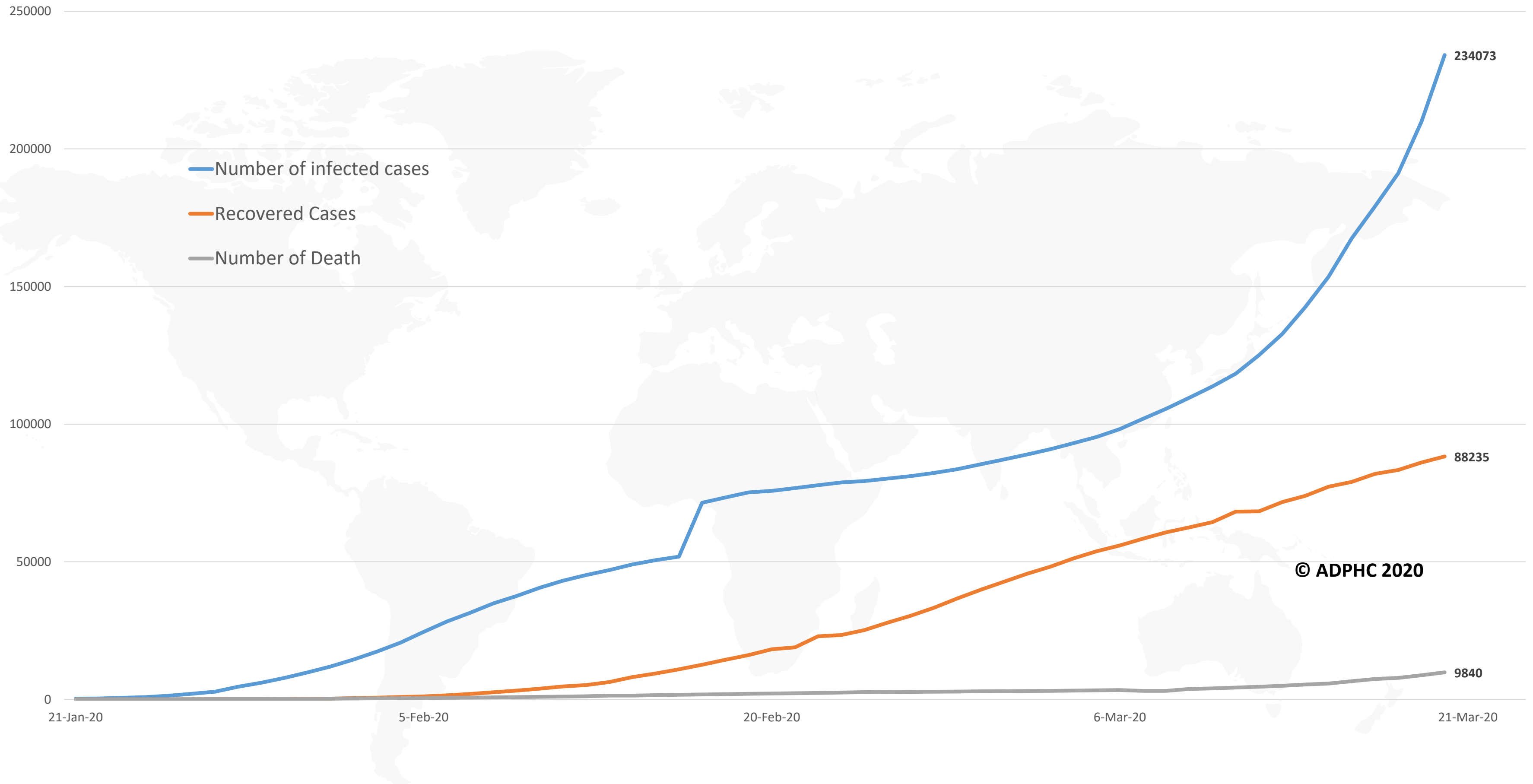
WHO DG brief: 20 March 2020

- More than 210,000 cases have now been reported to WHO, and more than 9,000 people have lost their lives
- Yesterday, **Wuhan reported no new cases for the first time since the outbreak started.**
- Warning that even **younger population** might die from this virus based on data from many countries.
- Expressed his concern again with countries with weaker system. And another concern about the collapse of the market of the PPE.
 - WHO now identified some producers in China who have agreed to provide supply.
 - Expressed his thanks to **Jack Ma and** his foundation as well as **Aliko Dangote** for their willingness to help provide **essential supplies** to countries in need.
- **Testing kits** : the WHO is working with FIND – the Foundation for Innovative New Diagnostics – to contract additional labs **to evaluate new diagnostics**. Also working with other companies to provide the swabs used to take samples and the large machines needed to process them.
- Thanks to **Kuwait** for its contribution of **40 million U.S. dollars**.
- WHO has published **guidelines** for **health ministers, health system administrators, and other decision-makers**, to help them provide life-saving treatment as health systems are challenged, without compromising the safety of health workers.
- The **WHO DG gave advise** on how to stay mentally and physically well during this outbreak.
- Also announced the collaboration with Facebook and what's up to provide WHO health alerts.
 - To access it, send the word "hi" to the following number on WhatsApp: +41 798 931 89COVID-19
- *(COVID19 is taking so much from us. But it's also giving us something special – the opportunity to come together as one humanity – to work together, to learn together, to grow together.)*

Epidemiology



Figure 1: Total number of infected, recovered, and death cases (January 21st to March 20th, 2020)



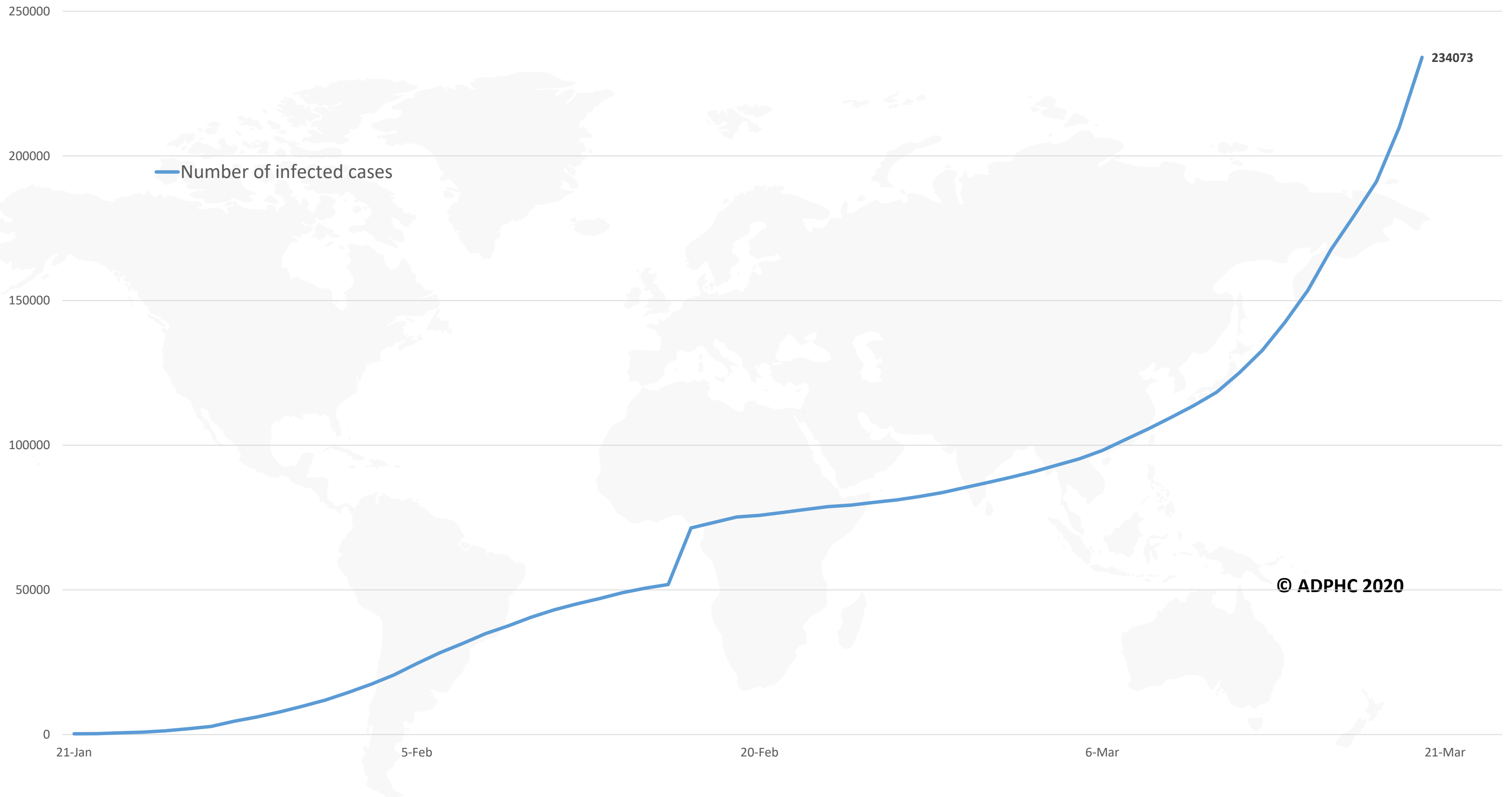
Line graph published by Abu Dhabi Public Health Center 2020.

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

Epidemiology



Figure 2: Number of infected COVID-19 cases worldwide (January 21 to March 20th, 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 20th, 2020).

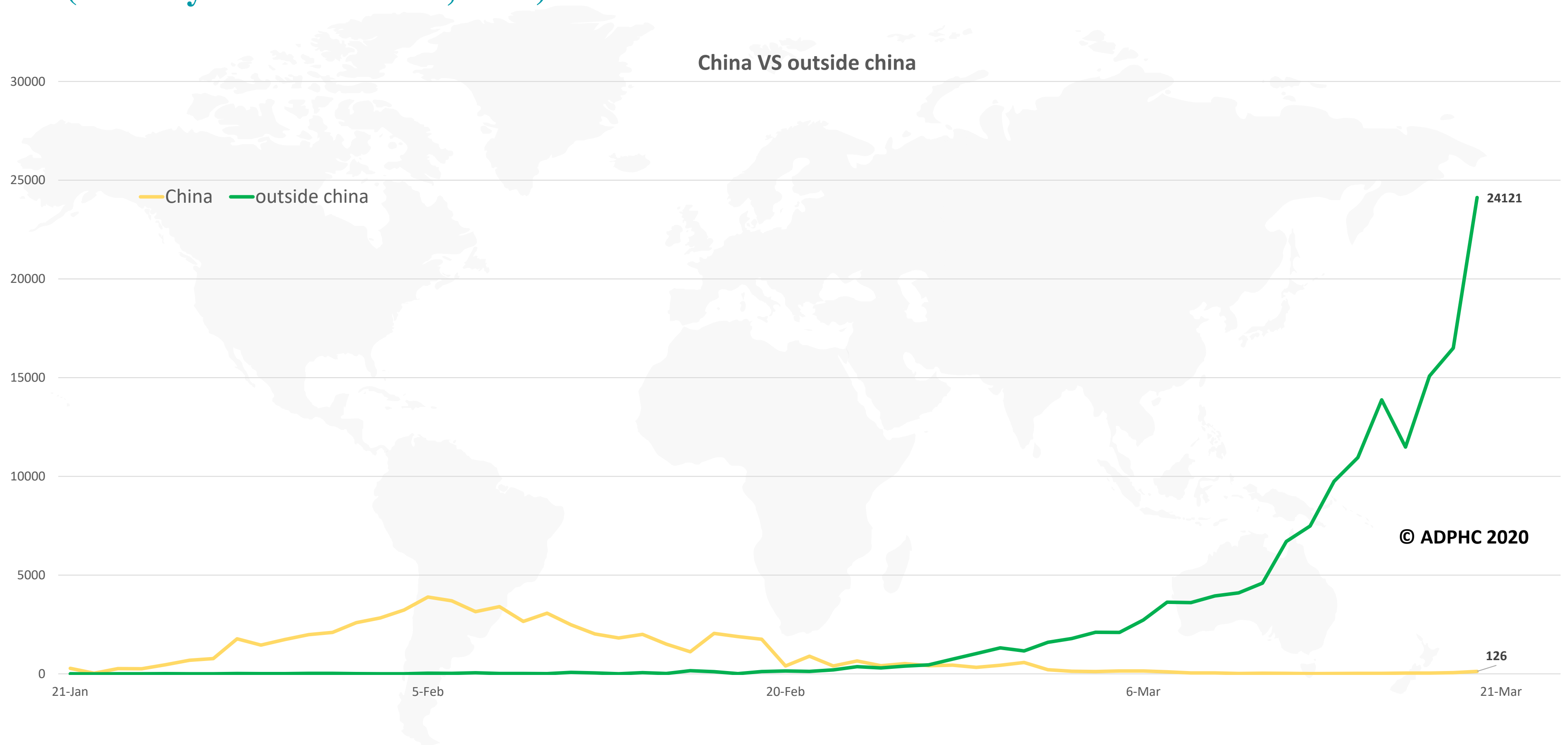


Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)



Figure 4: Daily new infected COVID-19 cases reported by China and the rest of the world (January 21 to March 20, 2020).



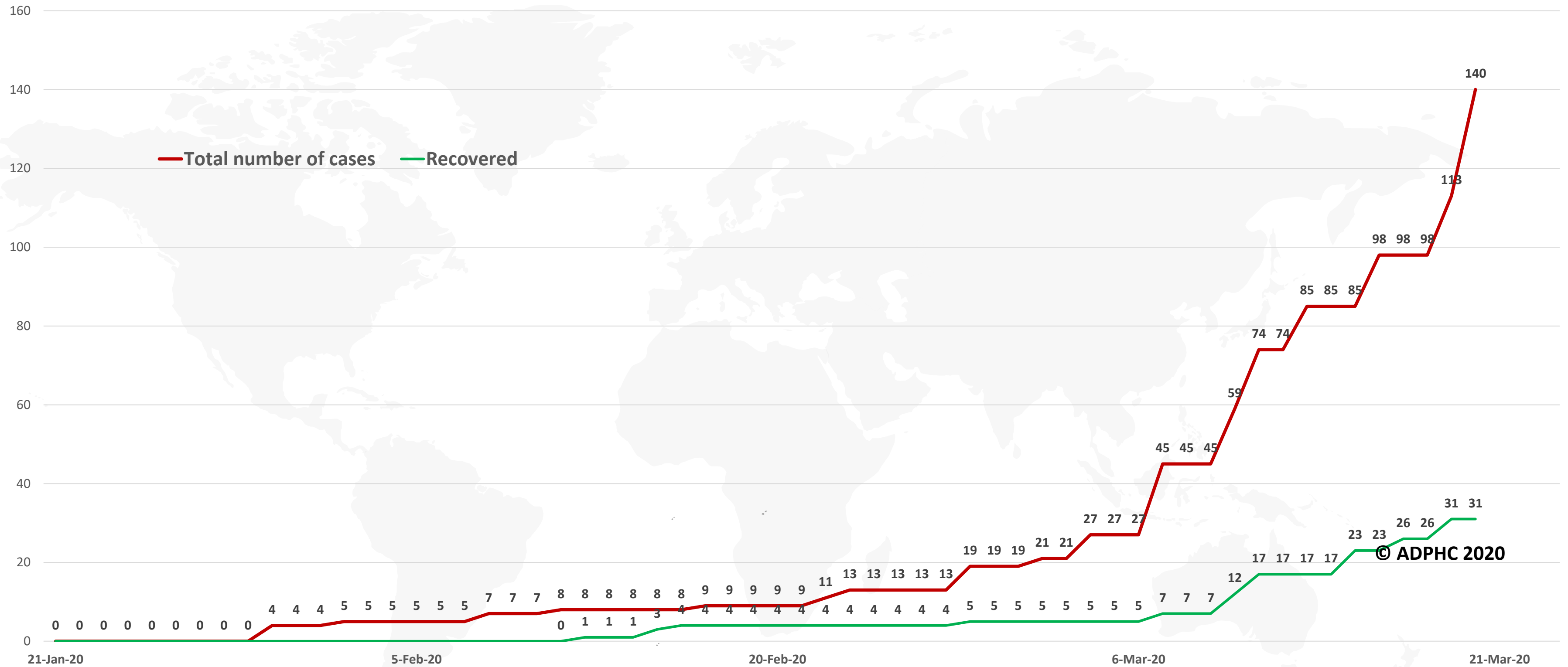
Line graph published by Abu Dhabi Public Health Center 2020.

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

Epidemiology



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



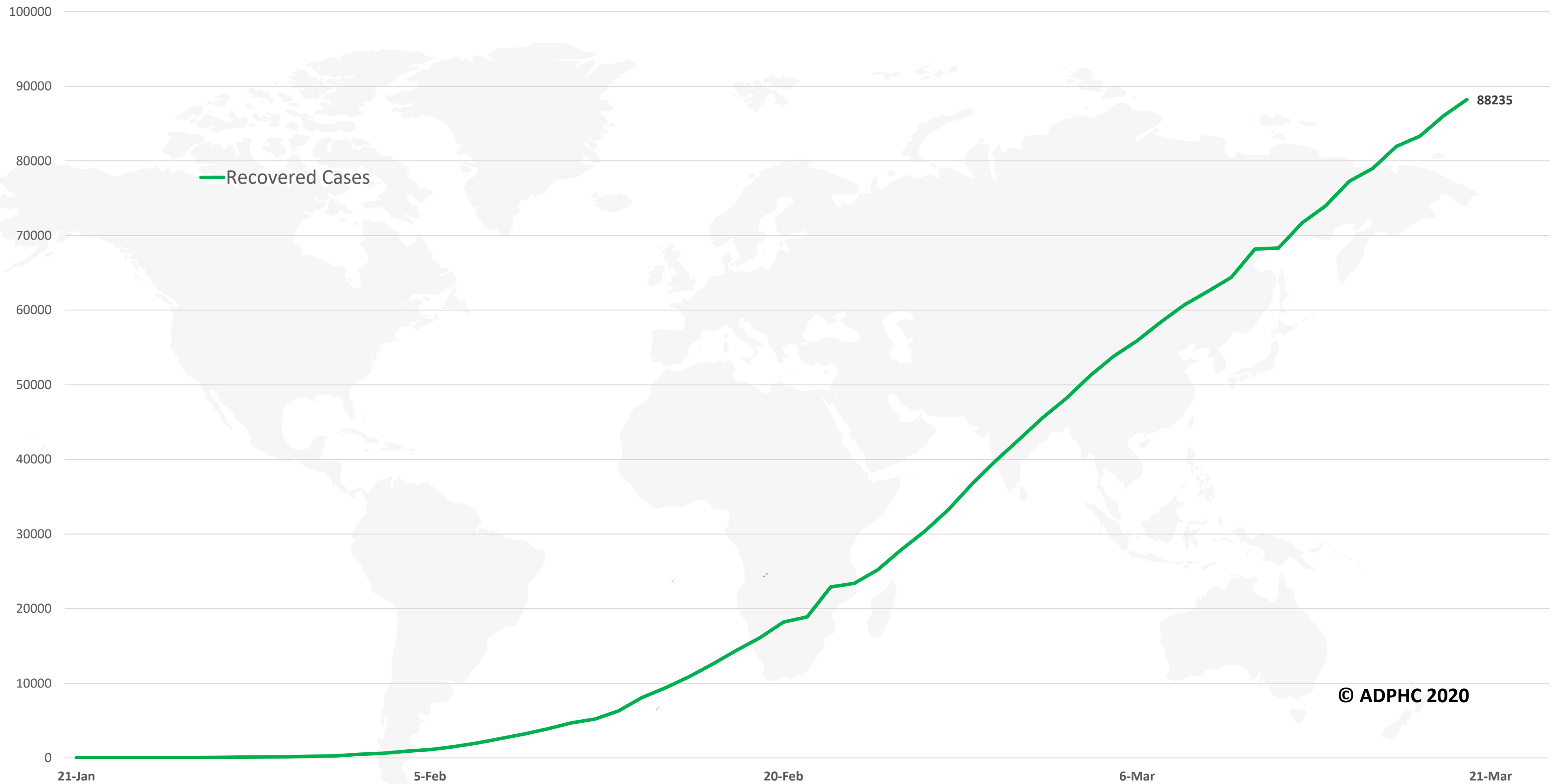
Line graph published by Abu Dhabi Public Health Center 2020.

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

Epidemiology



Figure 6: Number of recovered COVID-19 cases worldwide (January 21 to March 20th, 2020).

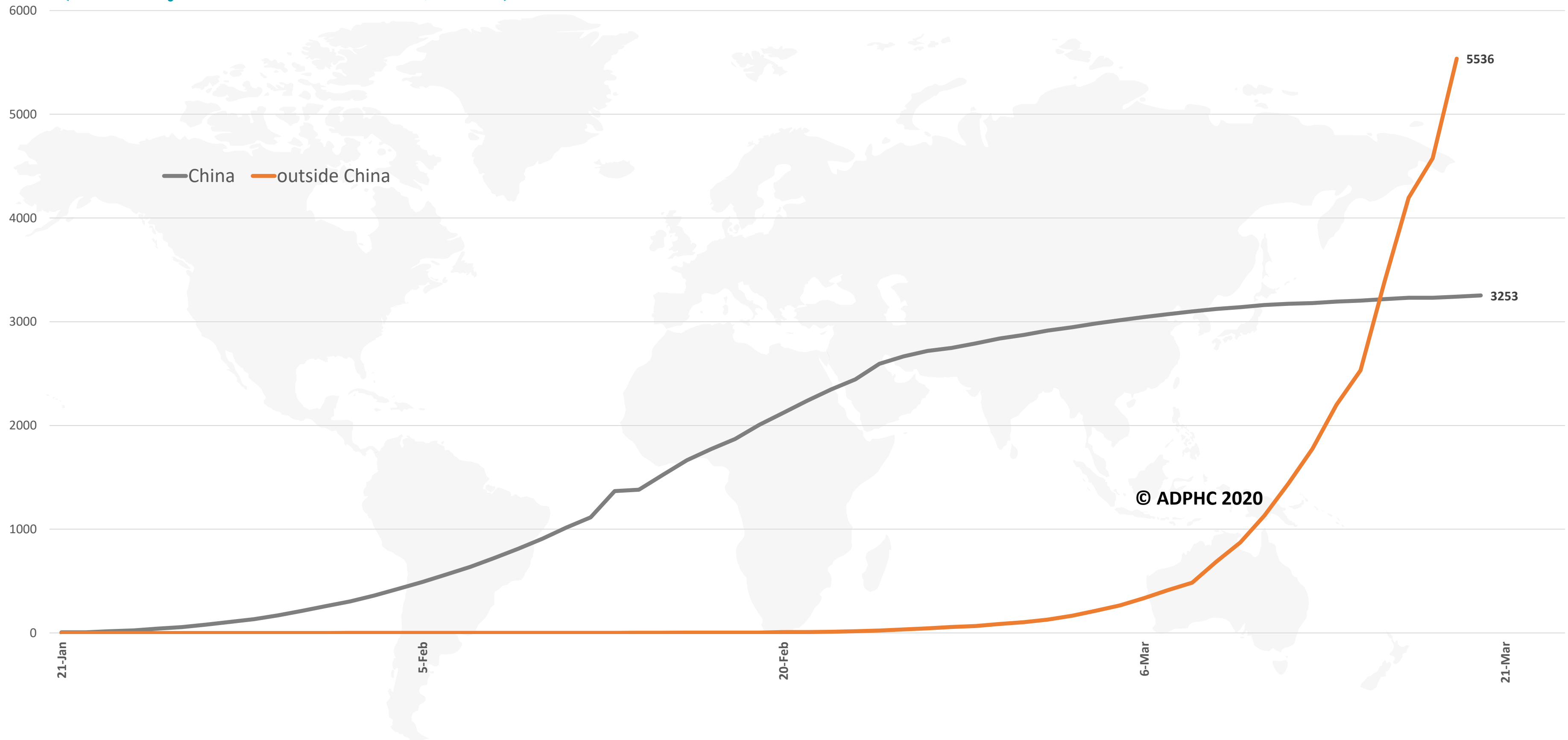


Line graph published by Abu Dhabi Public Health Center 2020.

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 20th, 2020).

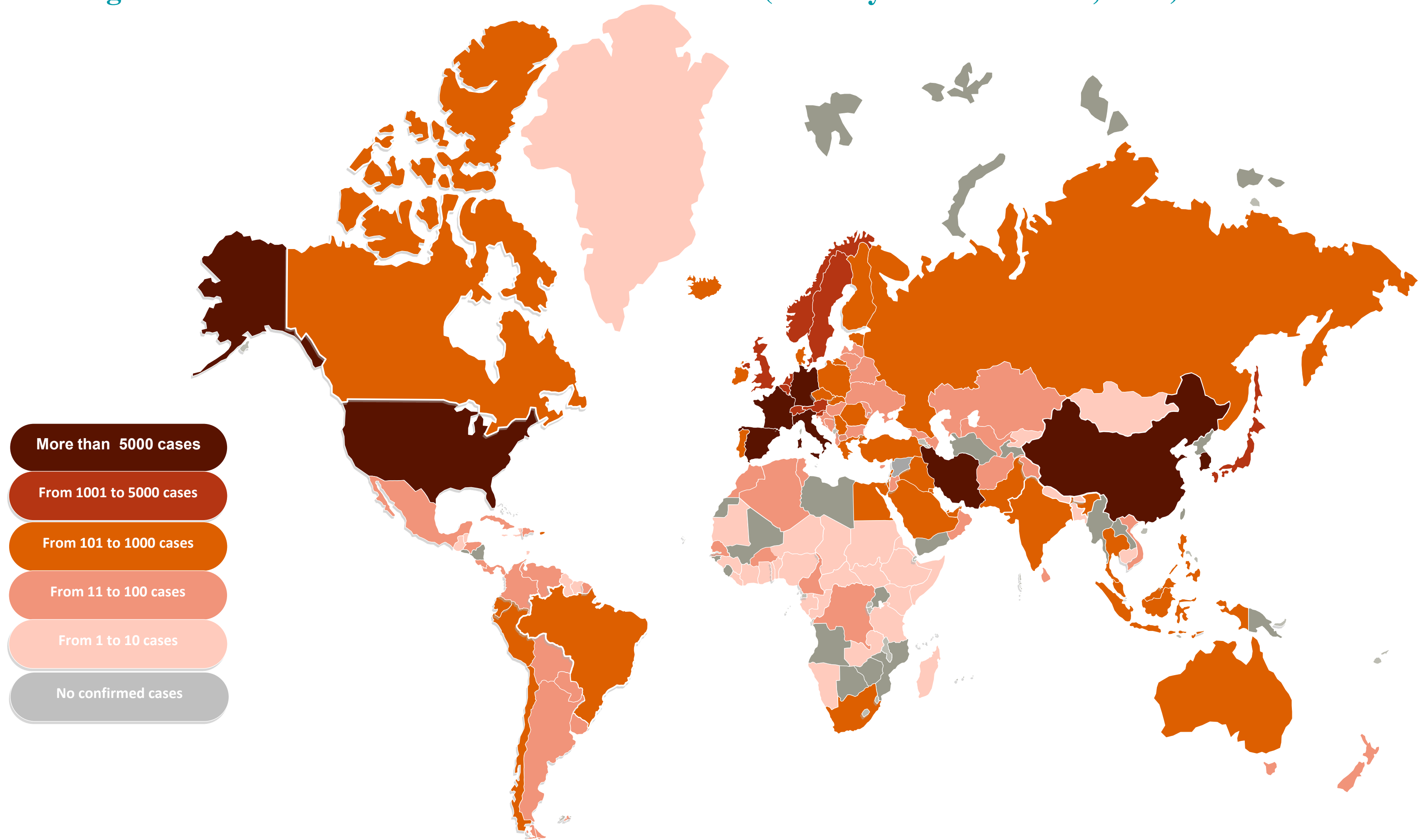


Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)



Figure 8A: Global distribution of COVID-19 cases (January 21 to March 20, 2020).

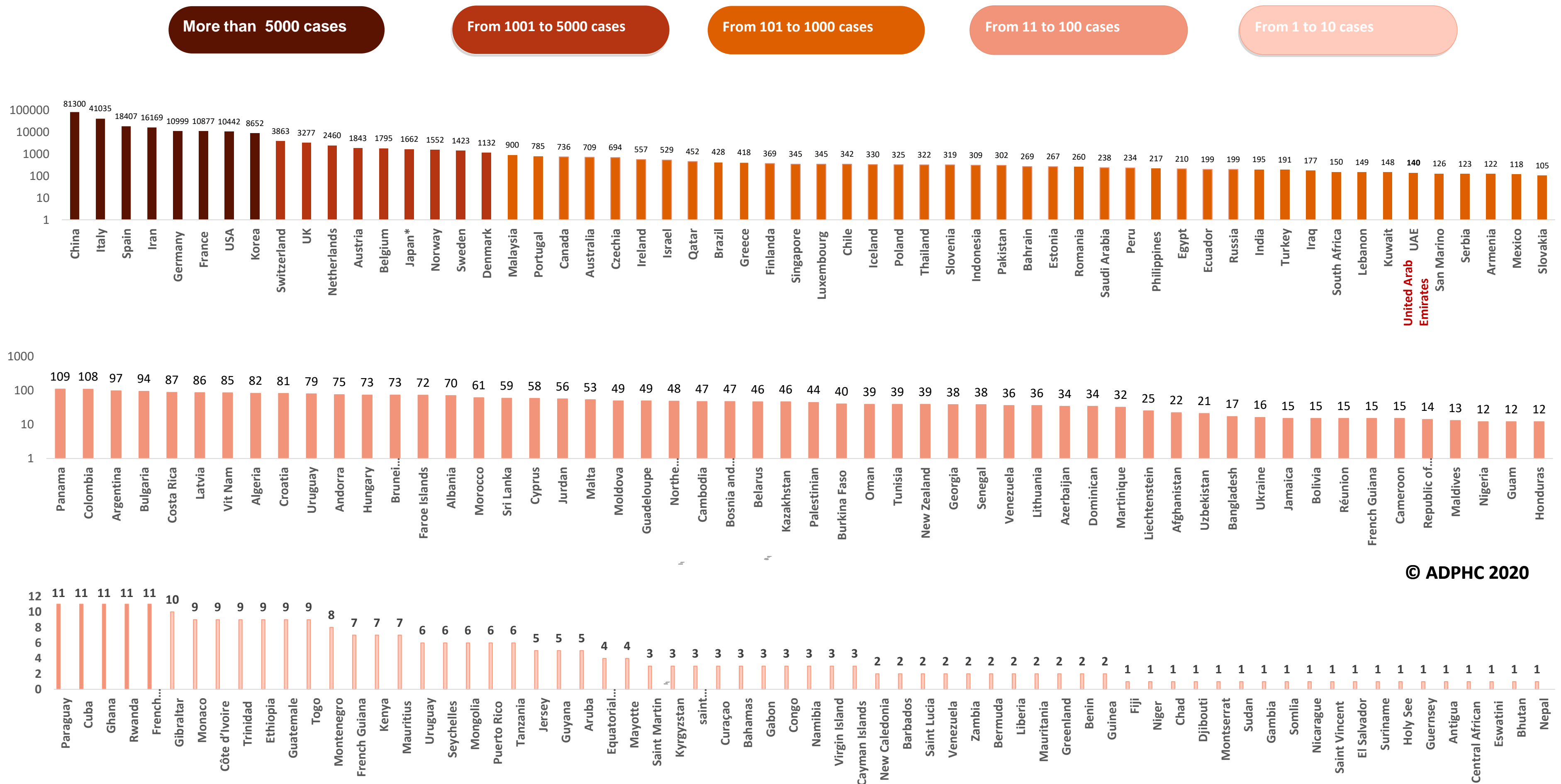


Map chart published by Abu Dhabi Public Health Center 2020.

Epidemiology



Figure 8B: Bar chart illustrate the global distribution of COVID19 cases (January 21st to March 20th, 2020)



Map chart published by Abu Dhabi Public Health Center 2020.

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



Treatment

Article 1: Use of antiviral drugs to reduce COVID-19 transmission

Published: 19 March 2020

Link: [Click Here](#)

Summary:

- The current COVID-19 emergency warrants the urgent development of potential strategies to protect people at high risk of infection—particularly close contacts and health-care workers, among others even if a more robust data on antiviral therapies is yet to come. A key reason for such an approach is the high estimates for the secondary attack rates of SARS- CoV-2 **in households (~15%) and among close contacts (~10%)**.
- Pre-exposure prophylaxis and postexposure prophylaxis (PEP) with antimicrobial drugs are effective in preventing illness like influenza and other illnesses. targeted prophylactic treatment of contacts could reduce their risk of becoming infected.
- The authors are planning for a multicentre randomised controlled trial (NCT04304053) to evaluate the efficacy of antiviral treatment in anyone found to be infected, and **the efficacy of prophylactic hydroxychloroquine in preventing secondary SARS-CoV-2 infections and disease symptoms among all contacts**.
- The study will be done over the course of the COVID-19 outbreak in the Catalonia region of Spain, with initial results expected in May, 2020.



Clinical feature and transmission

Article 2: SARS-CoV-2 Infection in Children

Published: 18 March 2020 (1/2)

Link: [Click Here](#)

Summary:

- A study conducted to determine the spectrum of disease in children, they evaluated children infected with SARS-CoV-2 and treated at the Wuhan Children's Hospital, the only center assigned by the central government for treating infected children under 16 years of age in Wuhan.
- **The study sample:** among 1391 children who were assessed and tested for COVID19; only 171 cases tested positive.
- **Study duration:** cases assessed from January 28 through February 26, 2020. The clinical outcomes were monitored up to March 8, 2020.

Table 1. Epidemiologic Characteristics, Clinical Features, and Radiologic Findings of 171 Children with SARS-CoV-2 Infection.*

Characteristic	Value
Age	
Median (range)	6.7 yr (1 day–15 yr)
Distribution — no. (%)	
<1 yr	31 (18.1)
1–5 yr	40 (23.4)
6–10 yr	58 (33.9)
11–15 yr	42 (24.6)
Sex — no. (%)	
Male	104 (60.8)
Female	67 (39.2)
Diagnosis — no. (%)	
Asymptomatic infection	27 (15.8)
Upper respiratory tract infection	33 (19.3)
Pneumonia	111 (64.9)



Clinical feature and transmission

Article 2: continued (2/2)

Link: [Click Here](#)

Summary:

Findings: demographic, Clinical features, laboratory and imaging finding as in table1.

Outcomes:

As of March 8, 2020, there was one death. 21 still admitted and 149 have been discharged from the hospital.

- Three patients required intensive care support and invasive mechanical ventilation; all had coexisting conditions (hydronephrosis, leukemia [for which the patient was receiving maintenance chemotherapy], and intussusception)
- **Conclusion:** infected children appear to have a milder clinical course. Asymptomatic infections were not uncommon.

Table 1. (Continued)	
Characteristic	Value
Exposure or contact information — no. (%)	
Family cluster	154 (90.1)
Confirmed family members	131 (76.6)
Suspected family members	23 (13.5)
Unidentified source of infection	15 (8.8)
Contact with other suspected case	2 (1.2)
Signs and symptoms	
Cough — no. (%)	83 (48.5)
Pharyngeal erythema — no. (%)	79 (46.2)
Fever — no. (%)	71 (41.5)
Median duration of fever (range) — days	3 (1–16)
Highest temperature during hospitalization — no. (%)	
<37.5°C	100 (58.5)
37.5–38.0°C	16 (9.4)
38.1–39.0°C	39 (22.8)
>39.0°C	16 (9.4)
Diarrhea — no. (%)	15 (8.8)
Fatigue — no. (%)	13 (7.6)
Rhinorrhea — no. (%)	13 (7.6)
Vomiting — no. (%)	11 (6.4)
Nasal congestion — no. (%)	9 (5.3)
Tachypnea on admission — no. (%) [†]	49 (28.7)
Tachycardia on admission — no. (%) [‡]	72 (42.1)
Oxygen saturation <92% during period of hospitalization — no. (%)	4 (2.3)
Abnormalities on computed tomography of the chest — no. (%)	
Ground-glass opacity	56 (32.7)
Local patchy shadowing	32 (18.7)
Bilateral patchy shadowing	21 (12.3)
Interstitial abnormalities	2 (1.2)

Clinical feature and transmission



Article 3: continued..

Summary:

Findings:

- Positive fecal sample is not related to presence of GI symptoms. Disease severity is not related to the duration of the presence of a positive fecal sample.
- Respiratory samples remained positive for a mean of 16·7 days (SD 6·7) . Faecal samples remained positive for a mean of 27·9 days (10·7)
- The study suggest the **possibility of extended duration of viral shedding in faeces, for nearly 5 weeks after the patients' respiratory samples tested negative for SARS-CoV-2 RNA.** Although , knowledge about the **viability of virus** is not known.
- Therefore, routine **stool sample testing** with real-time RT-PCR is **highly recommended after the clearance of viral RNA in a patient's respiratory samples.** Strict precautions to prevent transmission should be taken for patients who are in **hospital or self-quarantined if their faecal samples test positive.**
- As with any new infectious disease, **case definition evolves rapidly as knowledge of the disease accrues.** **Our data suggest that faecal sample positivity** for SARS-CoV-2 RNA normally **lags behind** that of **respiratory tract samples;** therefore, **we do not suggest the addition** of testing of **faecal samples** to the existing diagnostic procedures for COVID-19. However, the decision on when to discontinue precautions to prevent transmission in patients who have recovered from COVID-19 is crucial for management of medical resources.