

ABU DHABI PUBLIC
HEALTH CENTRE

مركز أبوظبي
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Scientific Research Monitoring on COVID-19

26 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)



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

- **Treatment: Effective Treatment of Severe COVID-19 Patients with Tocilizumab**
- **Clinical feature and transmission:** 3 month infant infected with COVID19 had her close contact (mother and brother) negative despite close contact.
- **Public health response:** The effectiveness of quarantine and social distancing will depend on the credibility of public health authorities, political leaders, and institutions.

*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 in a patient with chronic lymphocytic leukaemia](#)

[Mental health care for international Chinese students affected by the COVID-19 outbreak](#)

[Patients with mental health disorders in the COVID-19 epidemic](#)

[Deciphering the power of isolation in controlling COVID-19 outbreaks](#)



WHO daily report

- Two new countries/territories/areas from the Western Pacific Region [1], and Eastern Mediterranean Region [1] have reported cases of COVID-19.
- OpenWHO released its introductory video on COVID-19 in Indian sign language yesterday, which is the first sign language resource on the platform.
- As the world tackles the COVID-19 pandemic, it is important to ensure that essential health services and operations continue to be available to protect the lives of people with malaria, TB and other diseases or health conditions.
- The EPI-WIN website is aimed at a wide range of audiences including individuals and communities , the health sector, countries, the travel and tourism sector, faith-based organizations and faith leaders, large event organizers, and employers and employees.
- EPI-WIN, WHO's information network for epidemics, makes easy-to- understand advice and information available on a dedicated page on the [WHO website](#) launched on 24 March . EPI-WIN is also providing employers and workers with timely information through regular calls.
- EPI-WIN conducts regular calls with the different sectors. On March 23rd, WHO and the International Occupational Medicine Society Collaboration (IOMSC) conducted a webinar on ***“Occupational Health Measures in the Preparedness and Response to COVID19 in the Workplace.”***
- **Two additional webinars** are scheduled for **Thursday, 26 March** the first with the European Federation of Public Service Unions (EPSU), representing 8 million workers, and **the second** a videoconference with the International Organization of Employers (IOE): ***“Summit on the collaboration of the private sector with health systems in emergency situations.”***
- The WHO also give advices on how to prevent transmission on workplace and how to maintain safe and healthy work place.



WHO daily report

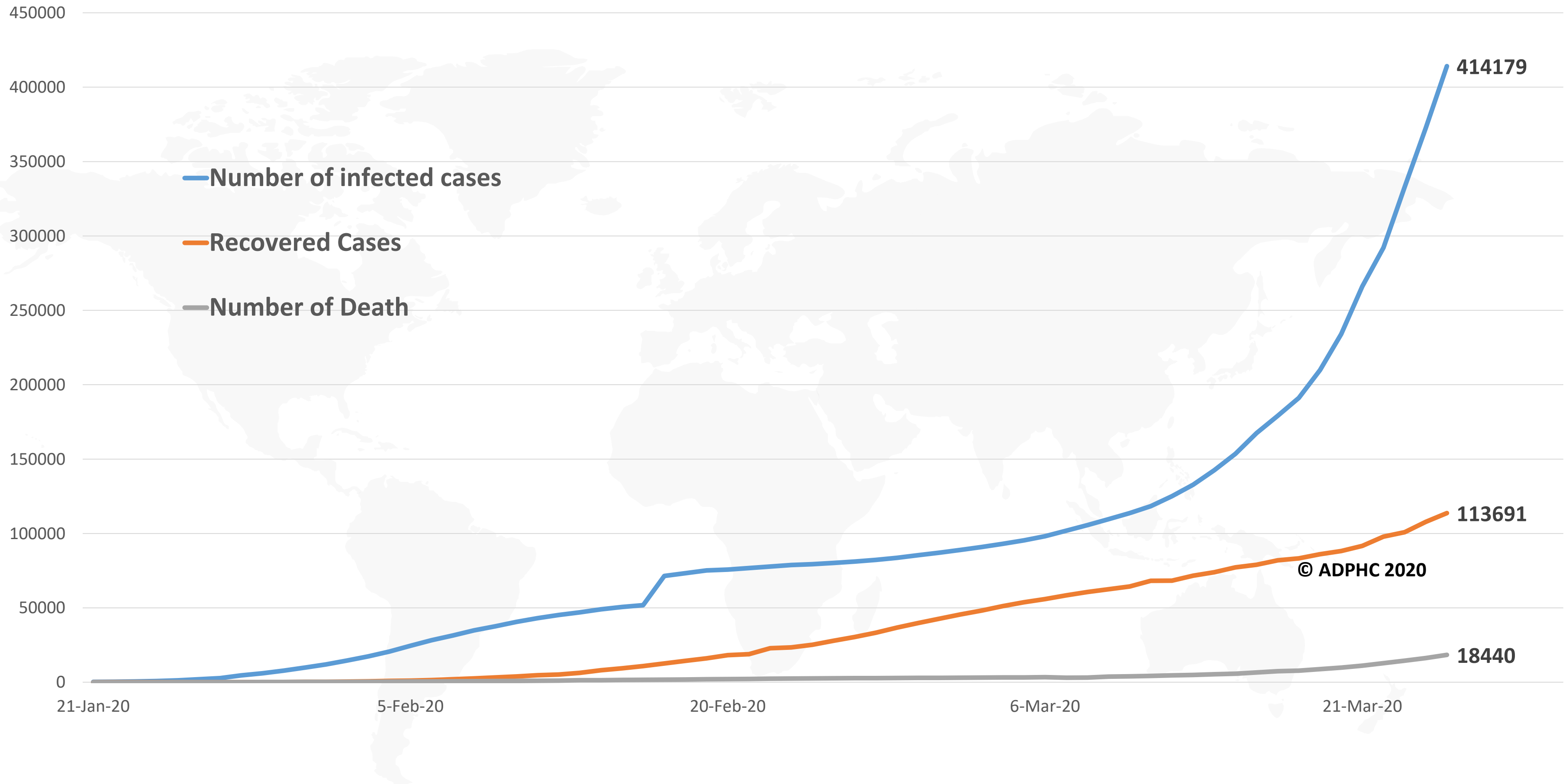
WHO Director General's remarks Launch of Appeal: Global Humanitarian Response Plan - 25 March 2020

- The WHO present the Six-point action plan for how to prepare and respond to this emergency: .
 - First, the public must be effectively prepared for the critical measures that are needed to help suppress the spread and protect vulnerable groups, like the elderly and those with underlying health conditions.
 - Second, ramp up surveillance and lab testing so that those with the virus can be identified quickly and isolated safely – helping to break the chains of transmission.
 - Third, prioritize treatment for those at highest risk of severe illness.
 - Fourth, slow, suppress and stop transmission to reduce the burden on health care facilities. This means safe hand washing; testing, isolating cases, and contact tracing, encouraging community-level physical distancing, and the suspension of mass gatherings and international travel.
 - Fifth, we're building the ship as we sail and it's critical that we continue to share learnings and innovations so that we can improve surveillance, prevention, and treatment. And ensure equitable access for the **poorest to all R&D breakthroughs**.
 - *And finally*, we need to protect the health and humanitarian supply chain so that our frontline workers are protected and able to travel freely as they give lifesaving care.

Epidemiology



Figure 1: Total number of infected, recovered, and death cases (January 21st to March 25, 2020)

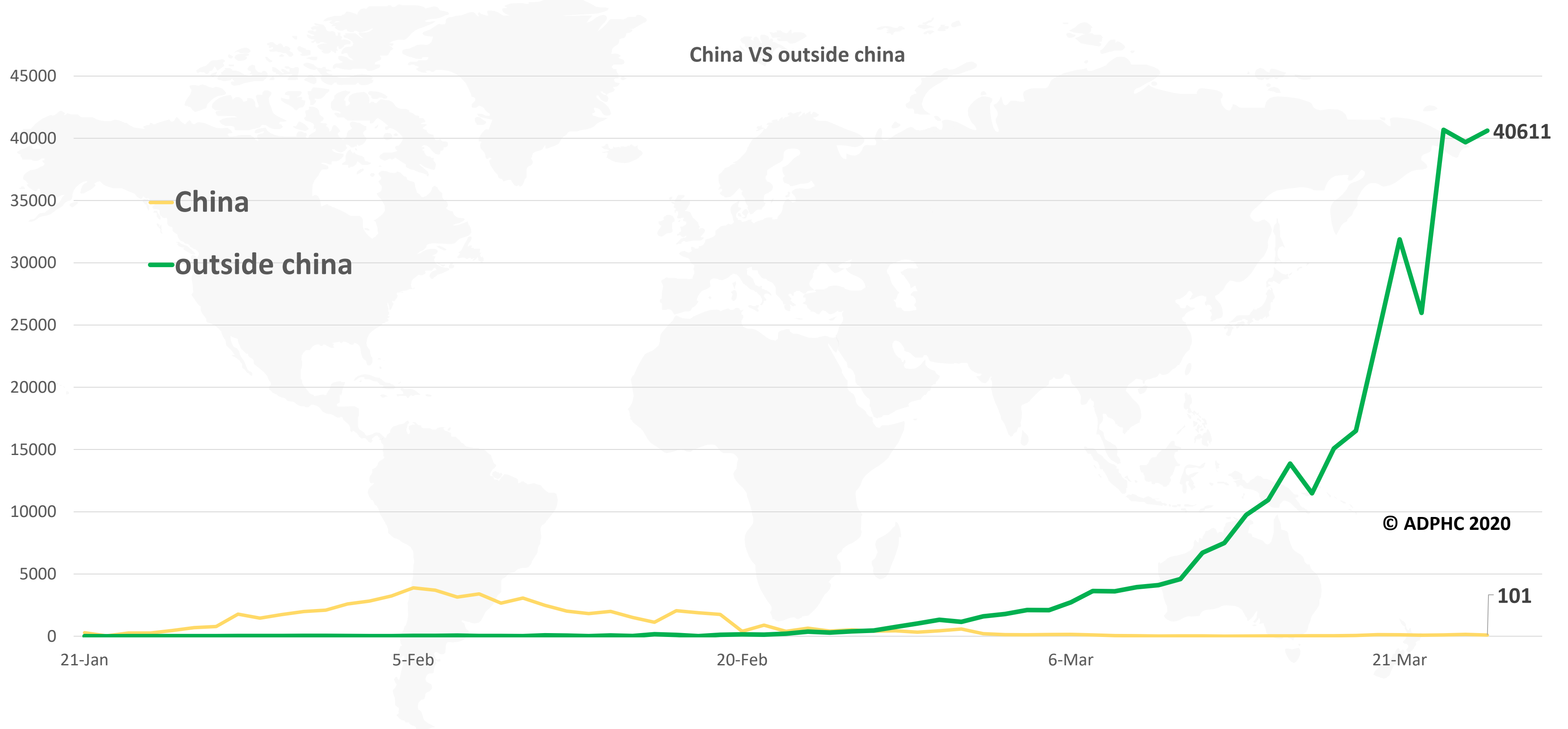


Line graph published by Abu Dhabi Public Health Center 2020.

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



Figure 2: Daily new infected COVID-19 cases reported by China and the rest of the world (January 21 to March 25, 2020).



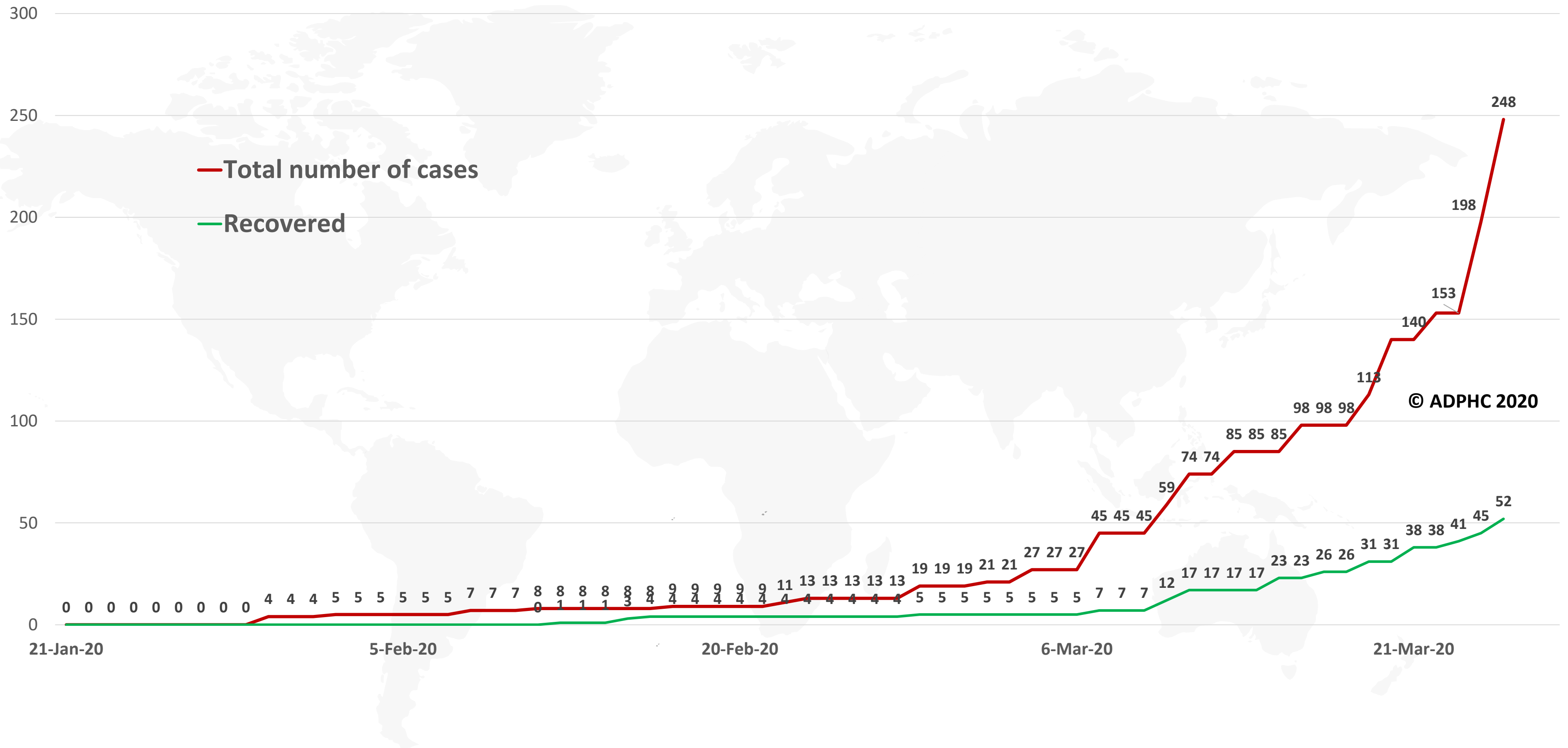
Line graph published by Abu Dhabi Public Health Center 2020.

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

Epidemiology



Figure 3: Total number of COVID-19 infected and recovered cases in UAE over time

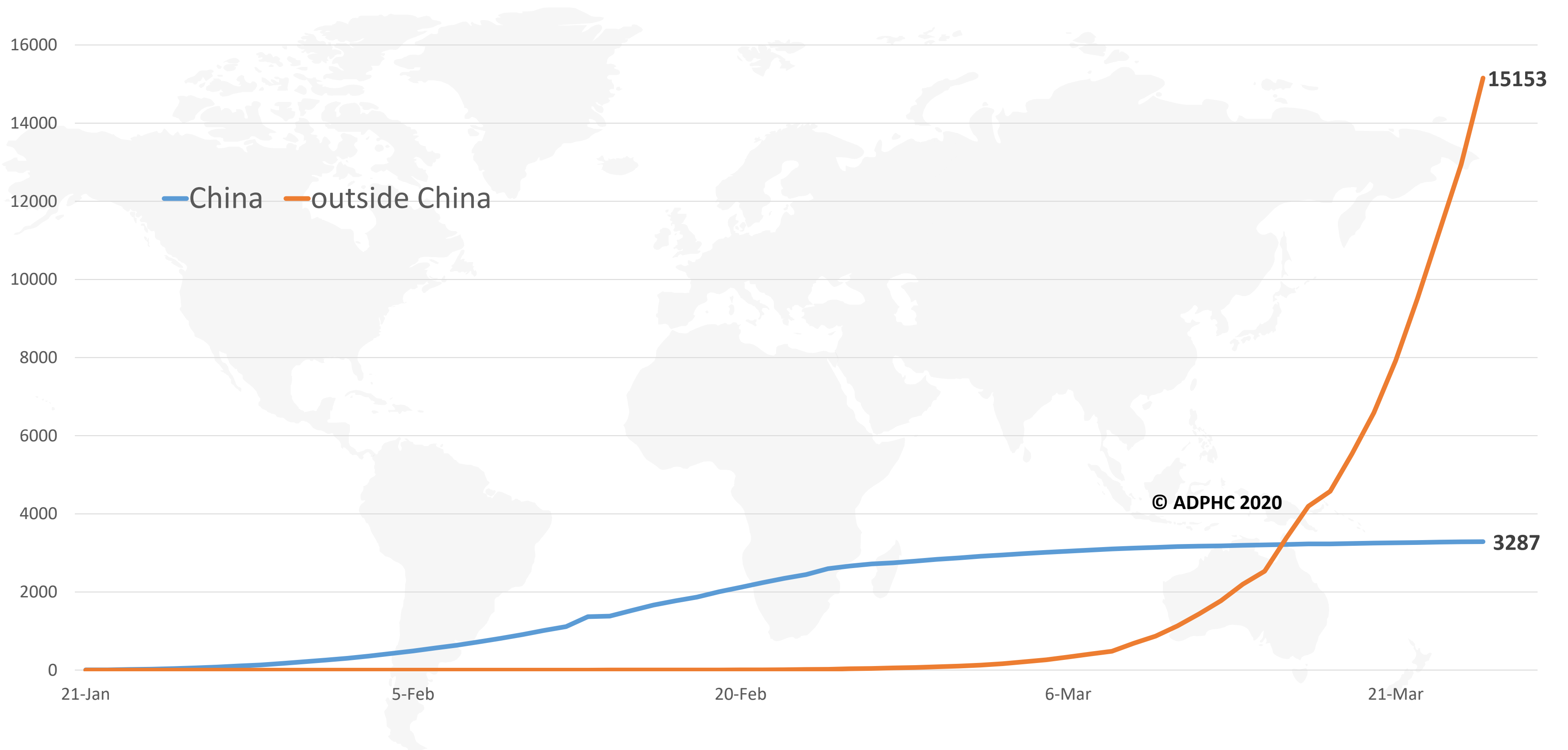


Line graph published by Abu Dhabi Public Health Center 2020.

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



Figure 4: Total number of death due to COVID-19 reported by China and the rest of the world (January 21 to March 25, 2020).



Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)

Epidemiology



Figure 5: Global daily new deaths due to COVID-19 (January 21 to March 25 , 2020).



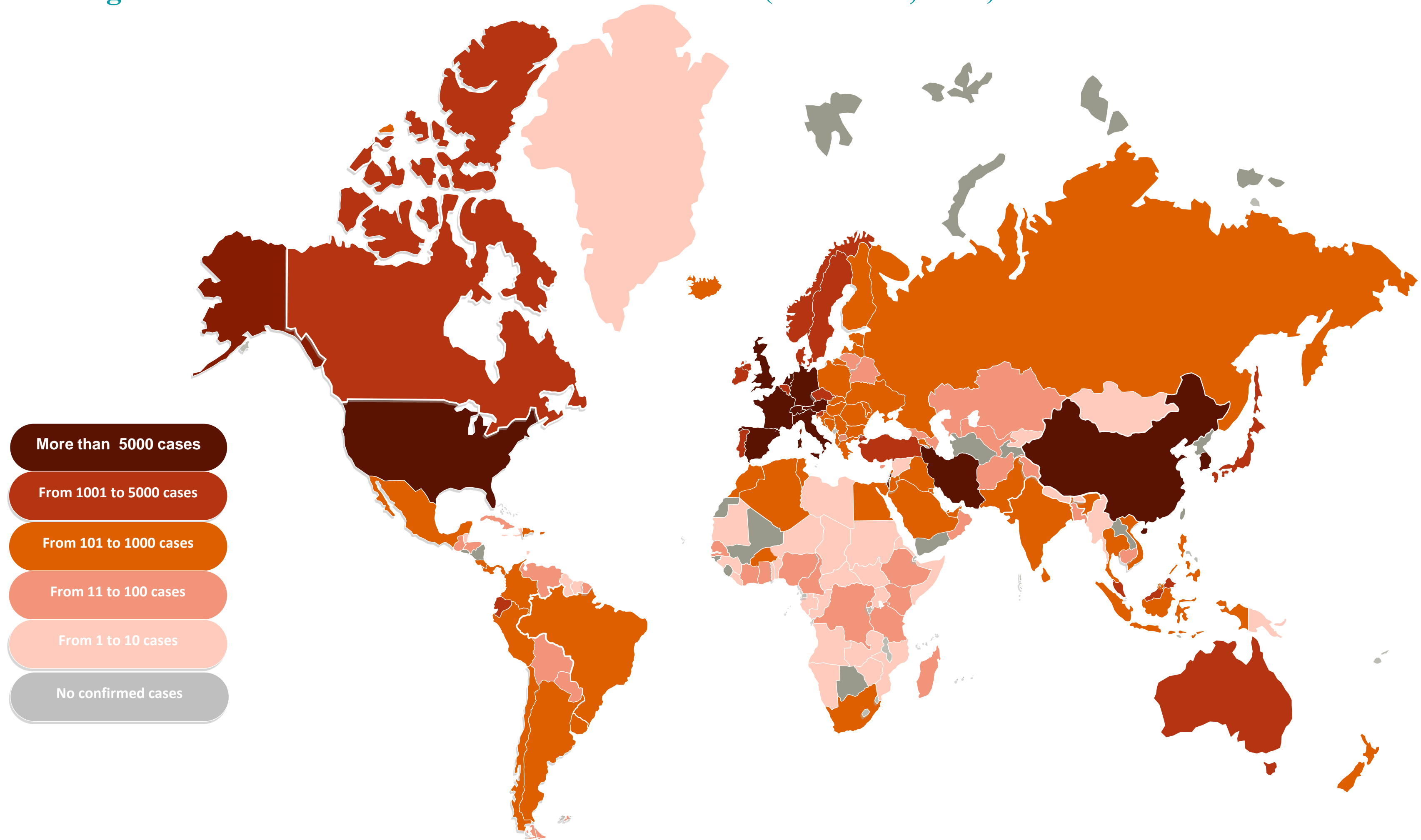
Line graph published by Abu Dhabi Public Health Center 2020.

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

Epidemiology



Figure 6A: Global distribution of COVID-19 cases (March 25, 2020).

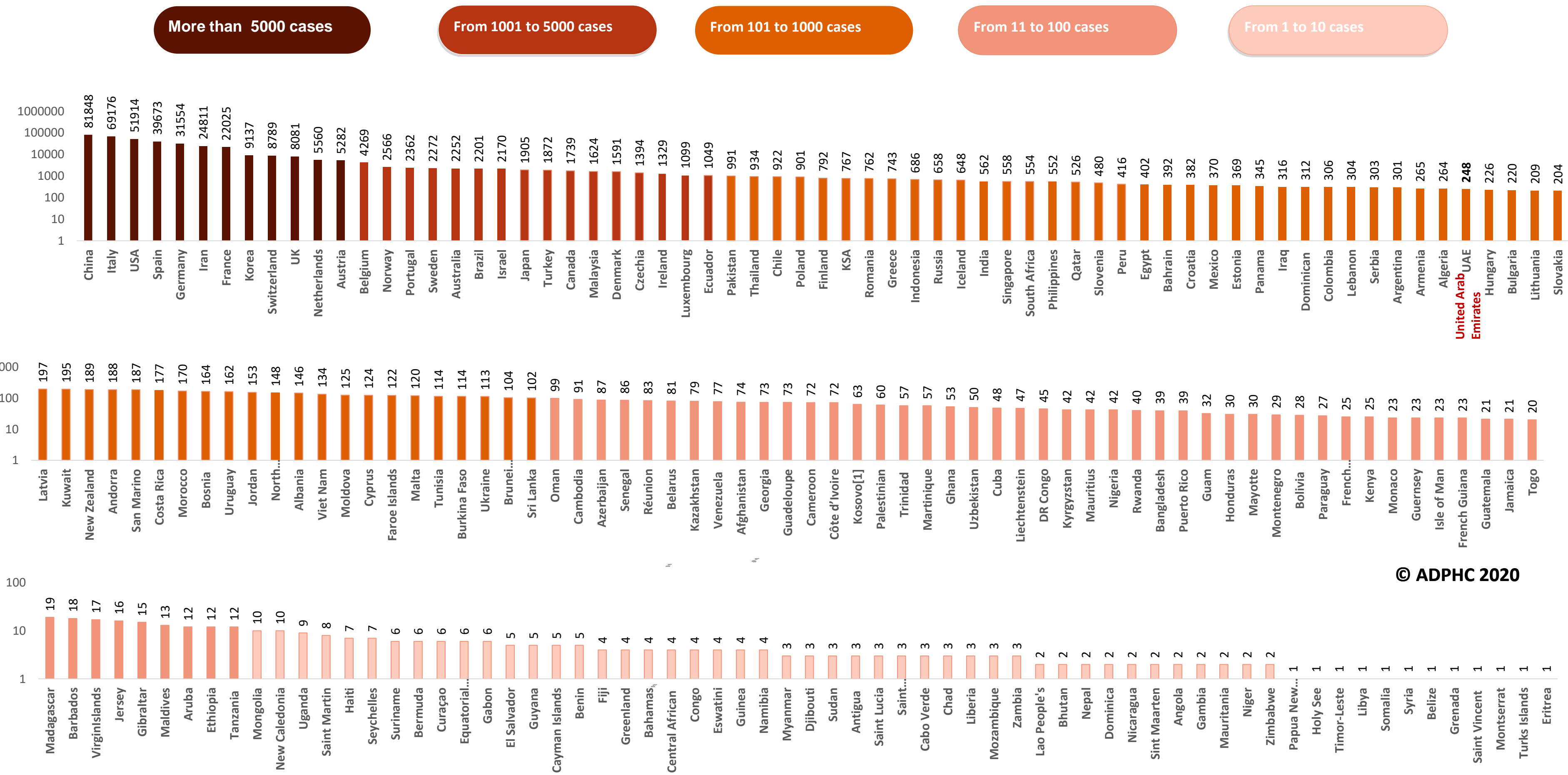


Map chart published by Abu Dhabi Public Health Center 2020.

Epidemiology



Figure 5B: Bar chart illustrate the global distribution of COVID19 cases (March 25, 2020)



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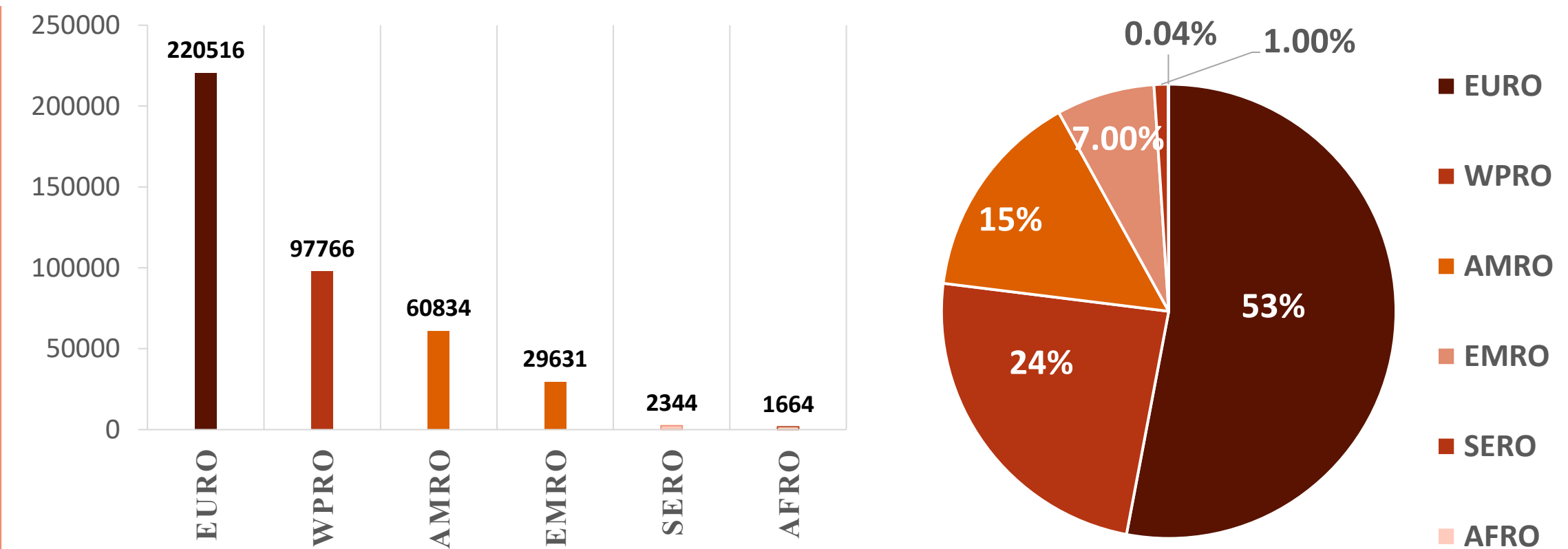
Map chart published by Abu Dhabi Public Health Center 2020.

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

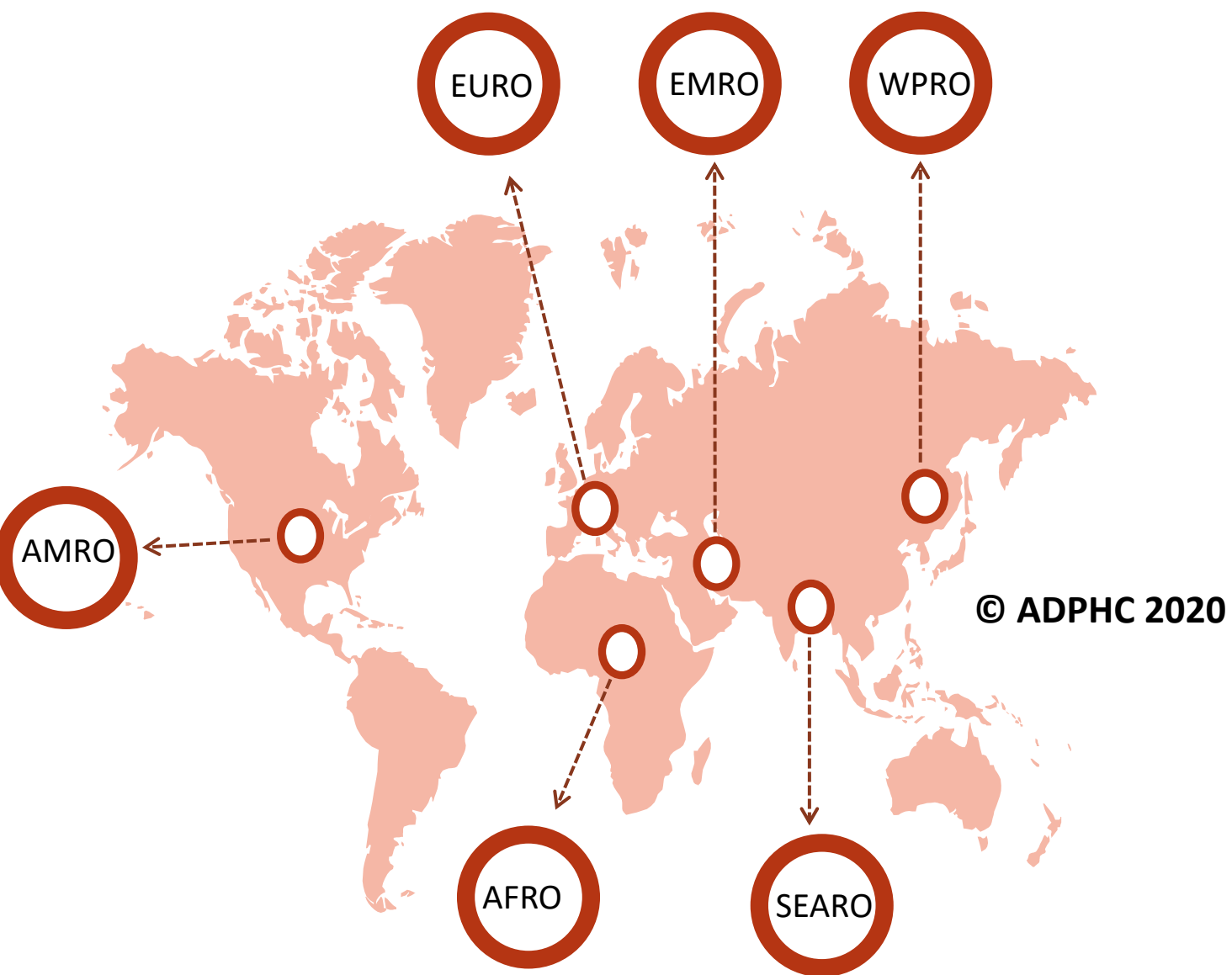
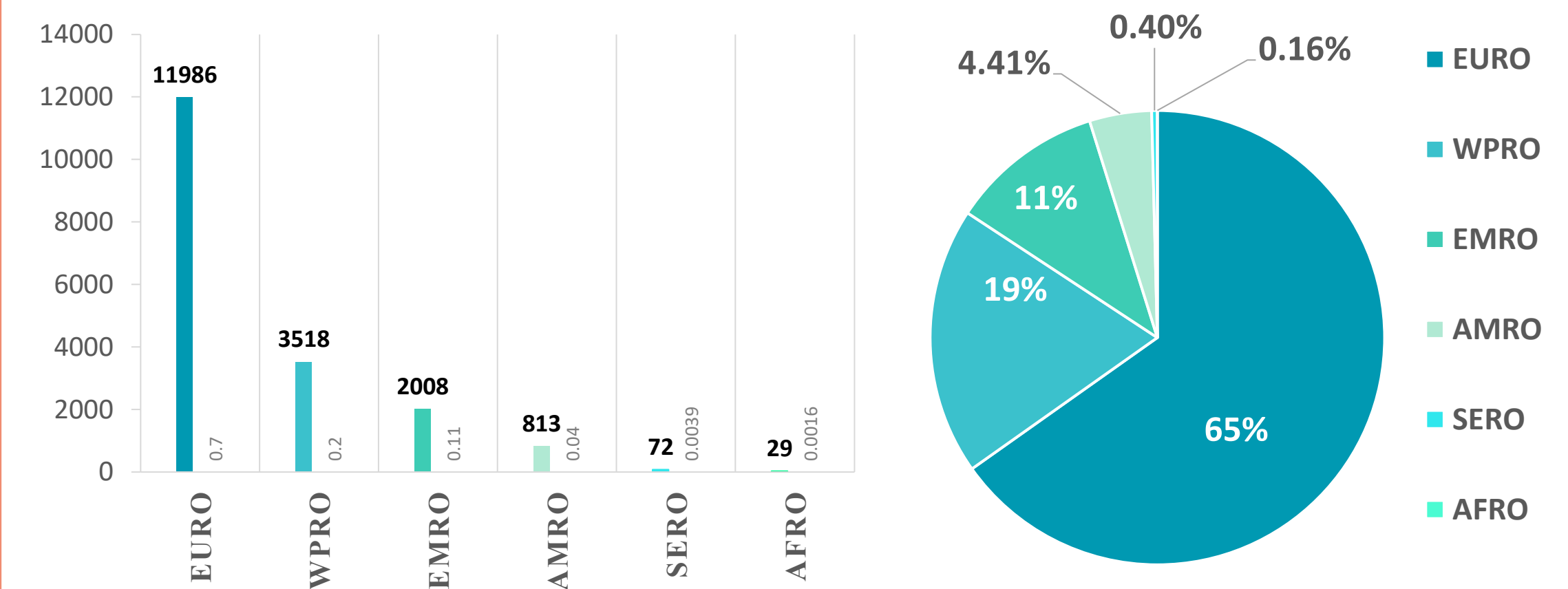


Figure 6: illustrate the Global distribution of COVID19 cases per region (March 24, 2020)

COMPERATIVE ANALYSIS OF INFECTED CASES PER REGION



COMPERATIVE ANYALSIS OF DEATH CASES PER REGION



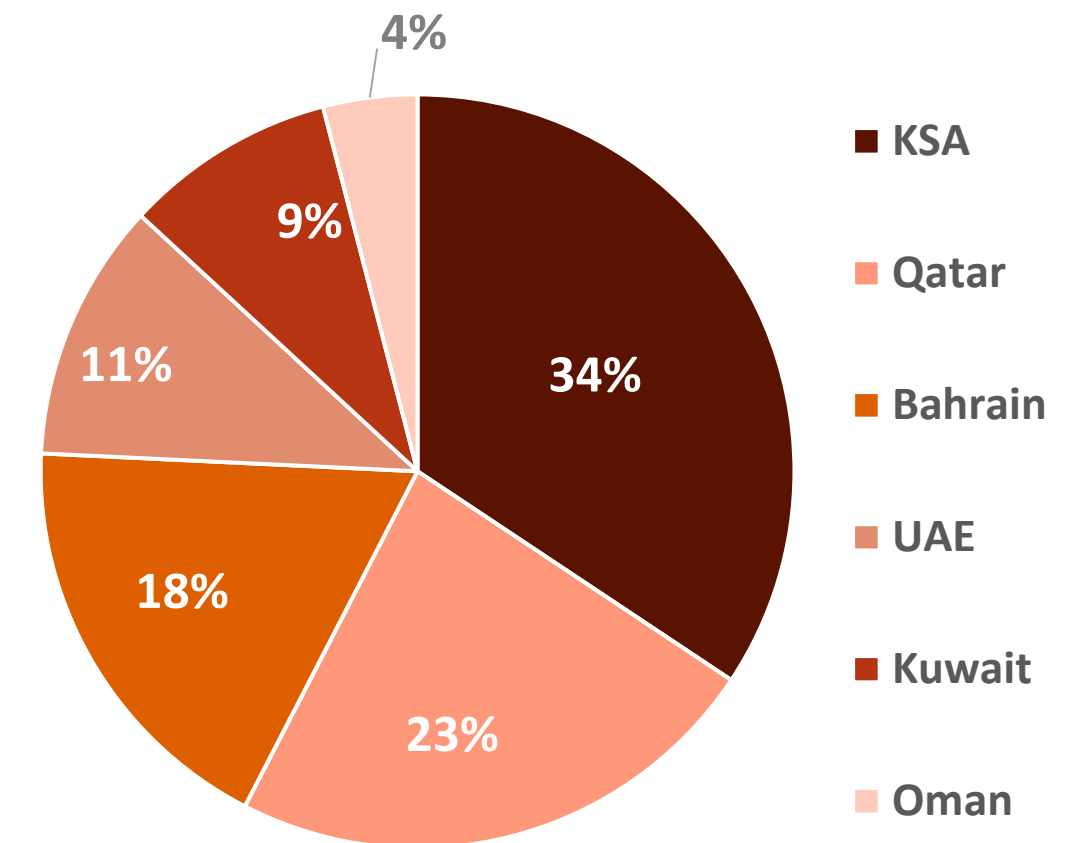
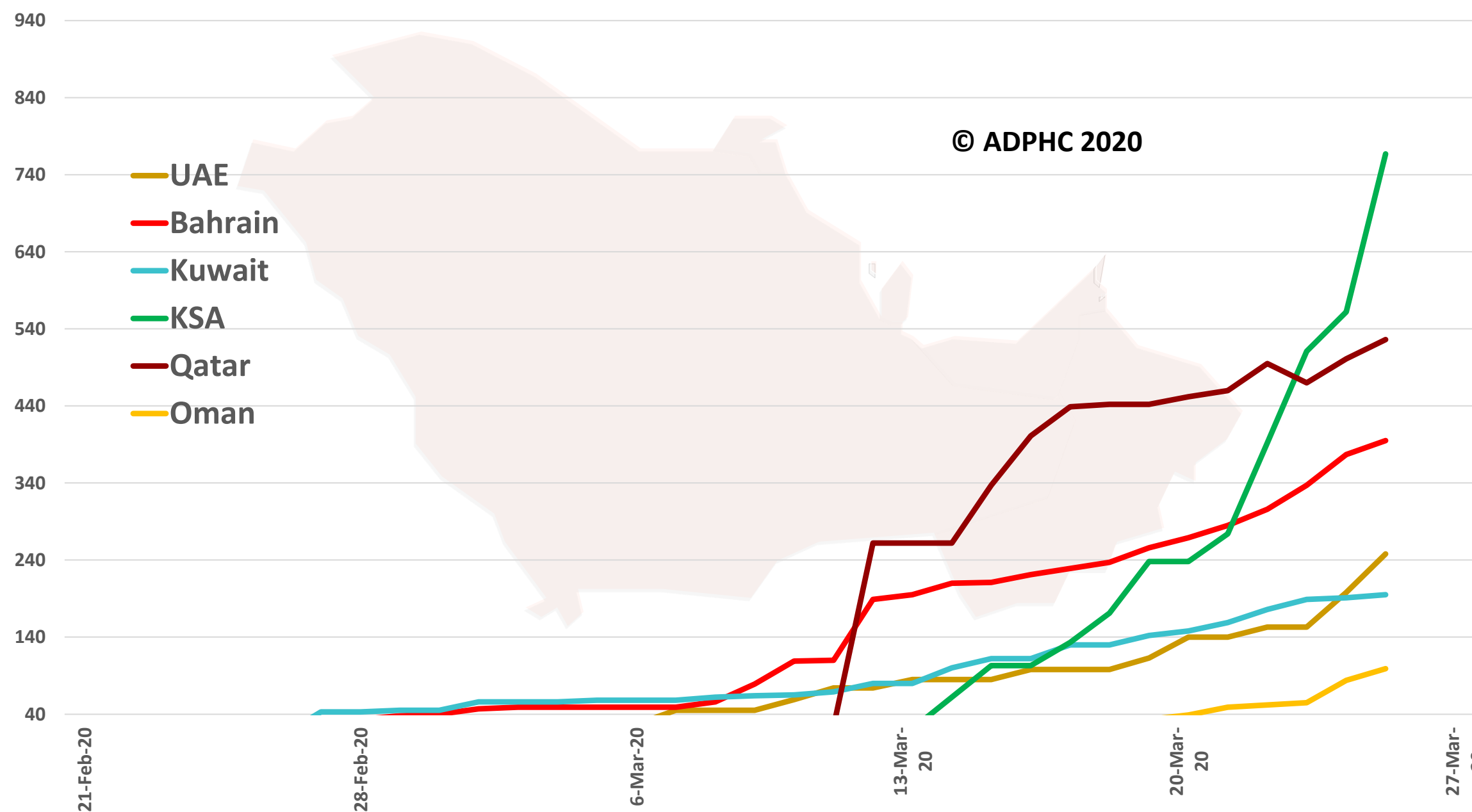
Map chart published by Abu Dhabi Public Health Center 2020.

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

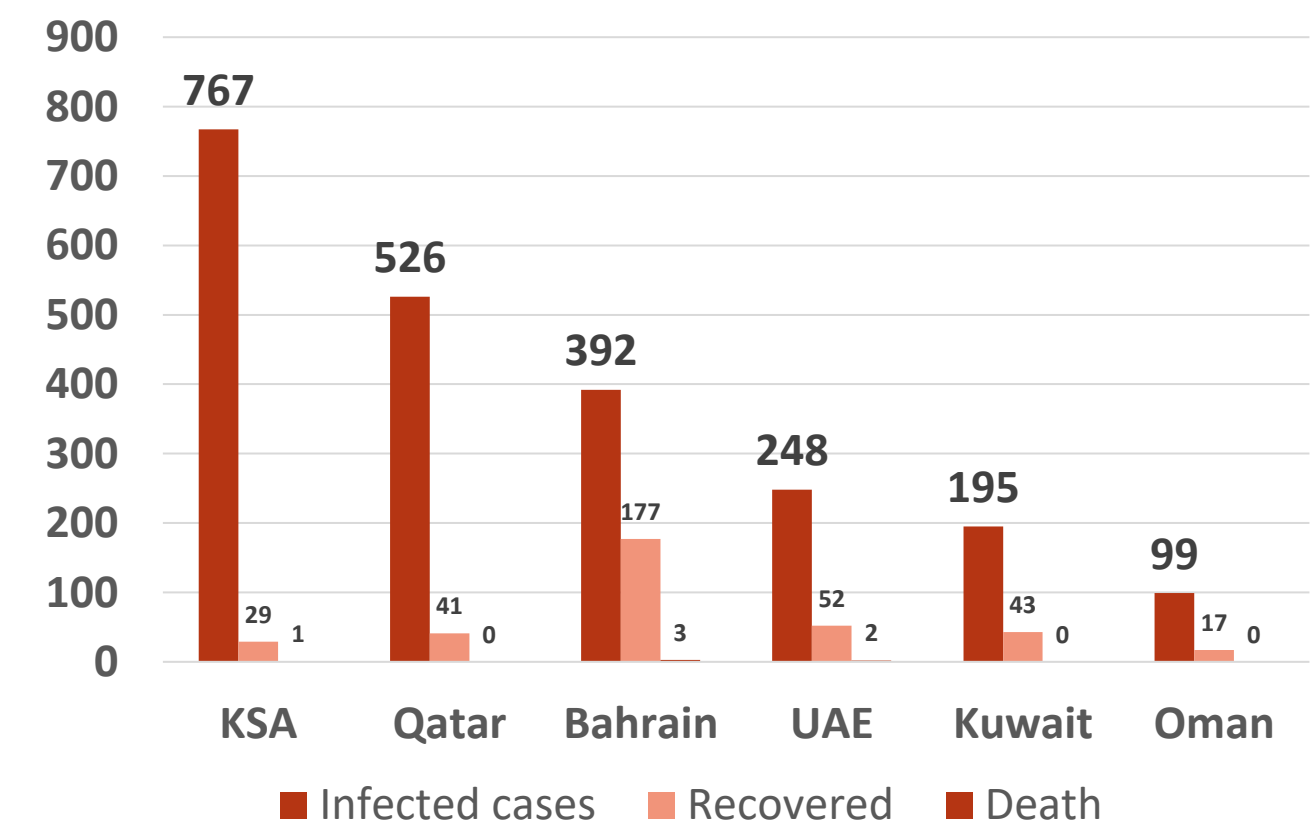


Figure 7: Comparative analysis of the distribution of COVID19 cases in GCC countries (March 25, 2020)

TOTAL NUMBER OF INFECTED CASES



Total number of infected, recovered and death



Map chart published by Abu Dhabi Public Health Center 2020.

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

Treatment



Article 1 : Effective Treatment of Severe COVID-19

Patients with Tocilizumab

Published: March 2020

link: [Click Here](#)

Summary:

A retrospective study done on 21 patient who had sever or critical COVID19. Two have invasive ventilation.

All received standard therapy including LPV/ RTN combination with methylprednisolone.

After approx. 1 week from receiving standards therapy patient was given tocilizumab.

Finding:

Fever return to normal in all patient in the first day on tocilizumab. 75% had lower oxygen intake , 2 were off ventilator within 5 days.(one critical case is expected to abandon the ventilator shortly).

Laboratory findings: inflammatory markers improved (52-85%) ; CT imaging improved by 90.2%

Outcome :

90% discharged including the two critical patients.

0 adverse events

Mean of hospital stay 13 days

Limitation of the study : no control , small sample size

State of illness	
severe	17/21 (81.0%)
critical	4/21 (19.0%)
Oxygen therapy	
High-flow oxygen	9/20 (45.0%)
Nasal cannula	7/20 (35.0%)
Invasive ventilation	2/20 (10.0%)
Noninvasive ventilation	1/20 (5.0%)
Mask oxygen	1/20 (5.0%)
Tocilizumab adverse events	0
Hospitalization days (range) – days*	13.5 ± 3.1 (10-19) †
Clinical outcome :	
Discharge from hospital	19/21 (90.5%)
Hospitalization	2/21 (9.5%)

Public Health Response:



Article 2: Scientific and ethical basis for social-distancing interventions against COVID-19

Published: March 23, 2020

Link: [Click Here](#)

Summary:

- Due to the absence of medical intervention, the only strategy against COVID-19 is to **reduce socialization with susceptible and infectious people through early ascertainment of cases or reduction of contact**. Researchers assessed potential effect of social-distancing interventions on SARS-CoV-2 spread and COVID-19 burden in Singapore and reported success in preventing community spread.
- An existing influenza epidemic simulation model was adapted to assess the consequences of social-distancing interventions on the transmission dynamics of SARS-CoV-2. The combined intervention in which quarantine, school closure, and workplace distancing were implemented was the most effective methods as compared to the baseline scenario of no intervention. This combined intervention decreased the estimated median number of infections by 99.3%. (*Please refer to ADPHC report on 25 of March 2020, for the summary of this research*)
- The scientific basis for these interventions might be strong. However, **ethical considerations are multifaceted. Political leaders must enact quarantine and social-distancing policies that do not bias against any particular groups of populations.**
- Interventions might cause risks of **reduced income or unemployment**. Special attention should be given to protect **vulnerable people** including **homeless, incarcerated, senior citizen, disabled, and undocumented migrants**. In addition, exceptions might be necessary for certain group of people such as those who are **dependent on ongoing medical treatment**.
- The **effectiveness of quarantine and social distancing** will depend on the **credibility of public health authorities, political leaders, and institutions**. It is essential that legislators and policy makers maintain the public trust through **evidence-based intervention and transparent, fact-based communication**.



Public Health response

Article 3: The first infant case of COVID-19 acquired from a secondary transmission in Vietnam

Published : March 23, 2020

link: [Click Here](#)

Summary:

This article reported the first infant case of COVID-19 acquired from a secondary transmission in Vietnam.

A 3-month-old female patient diagnosed with COVID-19 was admitted at Vietnam National Children's Hospital on February 11, 2020.

The patient received azithromycin at a dose of 10 mg/kg per day orally for 5 days. Her condition had been stable during hospitalization. Repeated real-time RT-PCR tests were conducted and were negative on February 14 and February 17. The infant was discharged from hospital on February 20.

The source of the patient's infection was investigated. **Mother despite close contact remain asymptomatic and negative for COVID19 , also her 5-year-old brother.**

More studies will be needed to have a better understanding of SARS-CoV-2 transmission among pediatric population and improve the level of diagnosis, management, and prevention.

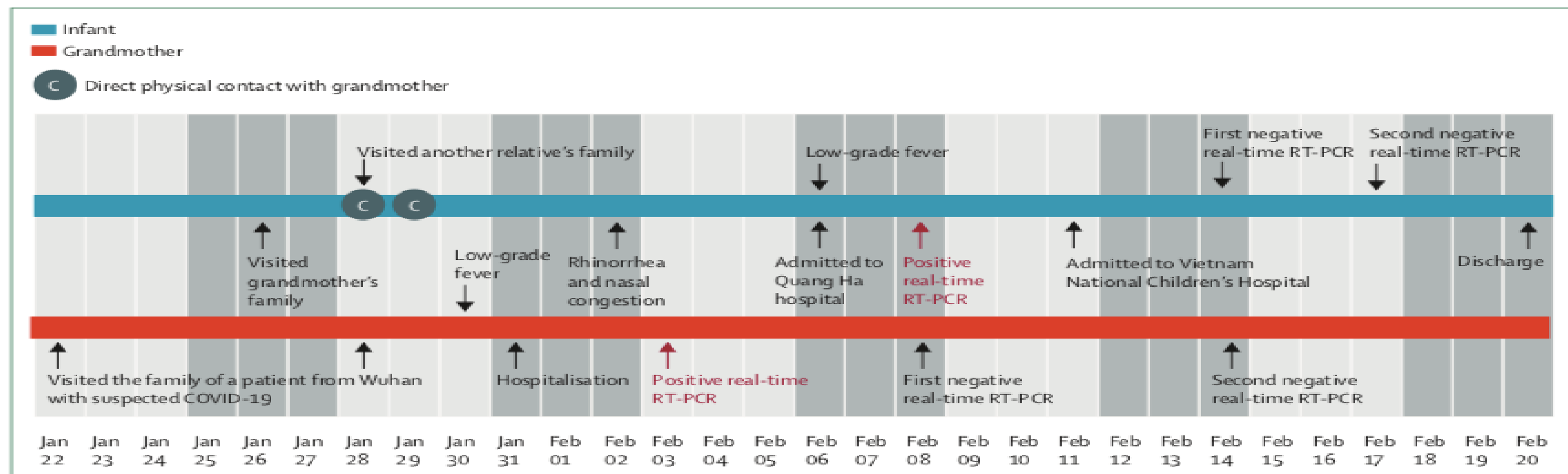


Figure 2: Timeline of exposure and symptoms of the infant with COVID-19 in Vietnam