

ABU DHABI PUBLIC
HEALTH CENTRE

مركز أبوظبي
للصحة العامة



Scientific Research Monitoring on COVID-19

11 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.

Report Highlights



WHO issued a response budget for three month starting from February 2020.

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)



All articles presented in this report represents the authors' views and not necessarily represents Abu Dhabi Public Health Center views or directions.

Scientific Research

- **Diagnostic testing:** challenges in RT-PCR testing, review from US experience.
- **Public health response:** fever clinic as a strategy in Wuhan city to triage patient during the outbreak,.

*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

- [Air, Surface Environmental, and Personal Protective Equipment Contamination by Severe Acute Respiratory Syndrome Coronavirus 2 \(SARS-CoV-2\) From a Symptomatic Patient](#)
- [The Incubation Period of Coronavirus Disease 2019 \(COVID-19\) From Publicly Reported Confirmed Cases: Estimation and Application](#)
- [Comorbidities and multi-organ injuries in the treatment of COVID-19](#)
- [Clinical implications of aminotransferase elevation in hospitalised infants aged 8-90 days with respiratory virus detection](#)
- [The Novel Coronavirus 2019 Epidemic and Kidneys](#)



10th March 2020

- COVID-19: IFRC, UNICEF and WHO issue **guidance to protect children and support safe school operations**
 - Guidance includes practical actions and checklists for administrators, teachers, parents and children.
- **5 new countries/territories/areas** (Brunei Darussalam, Mongolia, Cyprus, Guernsey and Panama) have reported cases of COVID-19 in the past 24 hours.
- **As of 9 March 2020, a total of 45 States Parties informed WHO** of additional health measures they implemented in relation to COVID-19 and provided the public health rationale for these measures. WHO reiterates that measures **that restrict the movement** of people during this outbreak **should be proportionate to the public health risk, short in duration and reviewed regularly** as more information about the virus, the disease epidemiology and clinical characteristics becomes available.



10th March 2020

- As of 9 March 2020, a total of 45 States Parties informed WHO of additional health measures they implemented in relation to COVID-19
- Many States Parties are implementing additional health measures against countries other than China.

Figure 1. Number of additional health measures by type

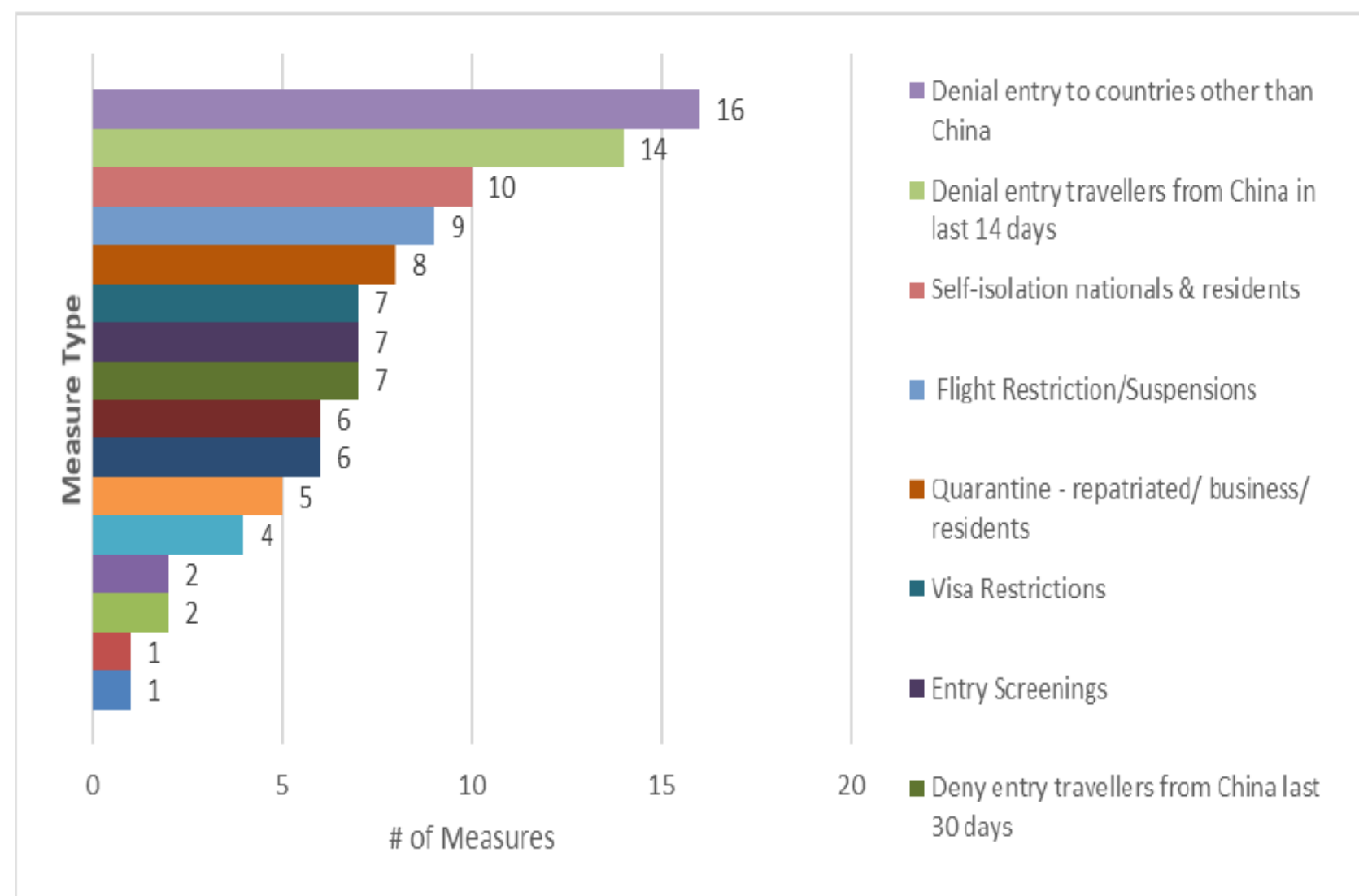
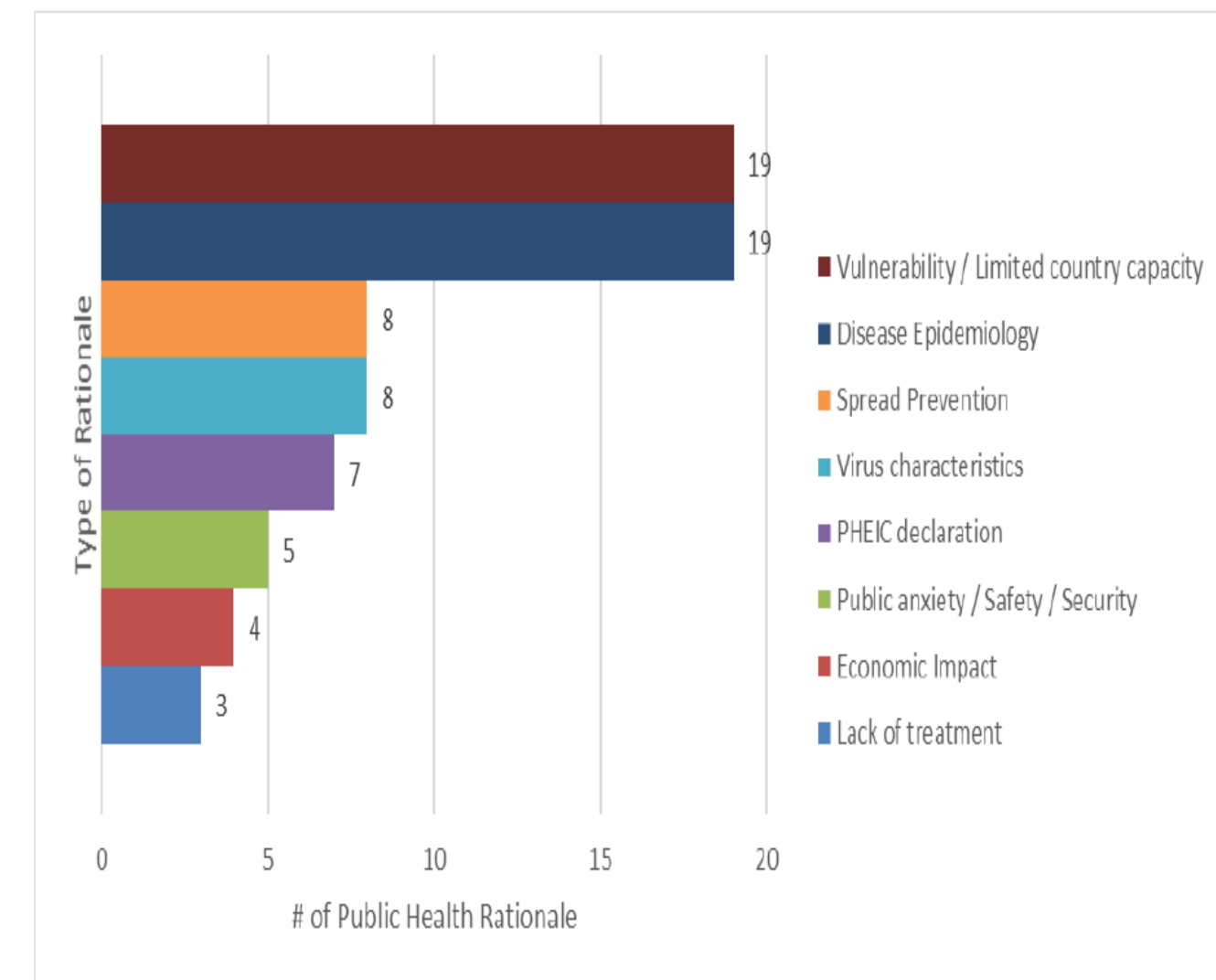


Figure 2. Number and types of public health rationale for implementing additional health measures



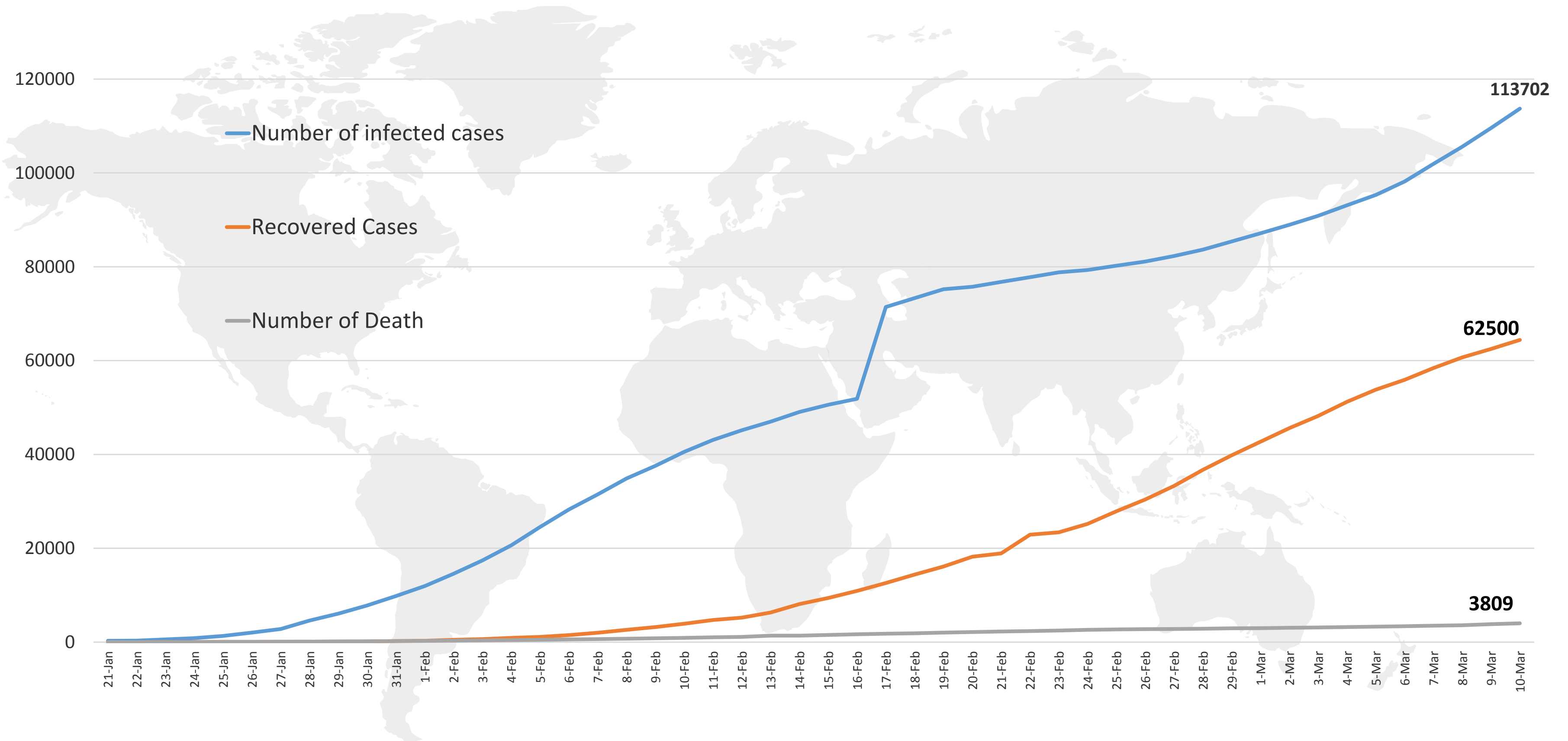


WHO Director- General in his regular media briefing on 9 March

- Stated that the threat of a pandemic has **become very real**; however, this would be the first pandemic in history that could be controlled.
- Of the 80,000 reported cases in China, more than **70% have recovered** and been discharged.
- Of all the cases reported globally so far, **93% are from just four countries**
- It is not about containment **or** mitigation – which is a false dichotomy. It's about both.
- WHO has consolidated our guidance for countries in 4 categories: **those with no cases**; those with **sporadic cases**; those **with clusters**; and those with **community transmission**:
- For the **first three categories**, countries must focus on **finding, testing, treating and isolating** individual cases, and **following their contacts**.
- In areas with **community spread**, **testing every suspected case and tracing their contacts becomes more challenging**. Action must be taken to **prevent transmission at the community level** to reduce the epidemic to manageable clusters.
 - Depending on their context, countries with community transmission could consider **closing schools, cancelling mass gatherings** and other measures to reduce exposure.
- China, Italy, Japan, the Republic of Korea, the United States of America and many **others have activated emergency measures**.
- **Singapore** is a good example of an all-of-government approach – Prime Minister Lee Hsien Loong's **regular videos are helping to explain the risks and reassure people**.
- The **Republic of Korea** has **increased efforts to identify all cases and contacts**, including **drive-through temperature testing** to widen the net and catch cases that might otherwise be missed.
- Of the **four countries** with the most cases, **China is bringing its epidemic under control** and there is **now a decline** in new cases being reported from the **Republic of Korea**.



Figure 1: Total number of infected, recovered, and death cases (January 21st to March 10th, 2020)

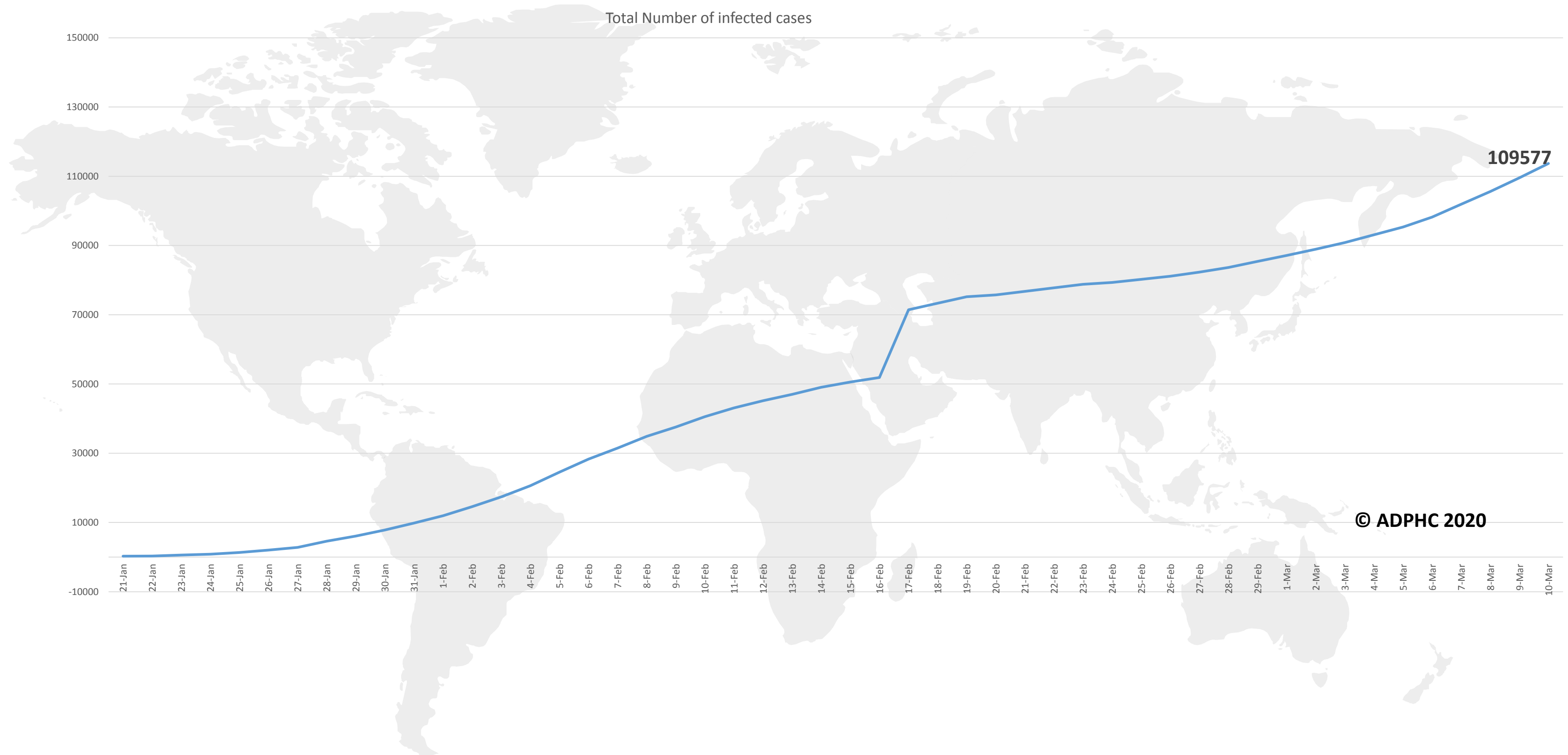


Line graph published by Abu Dhabi Public Health Center 2020.

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



Figure 2: Number of infected COVID-19 cases worldwide (January 21 to March 10, 2020).

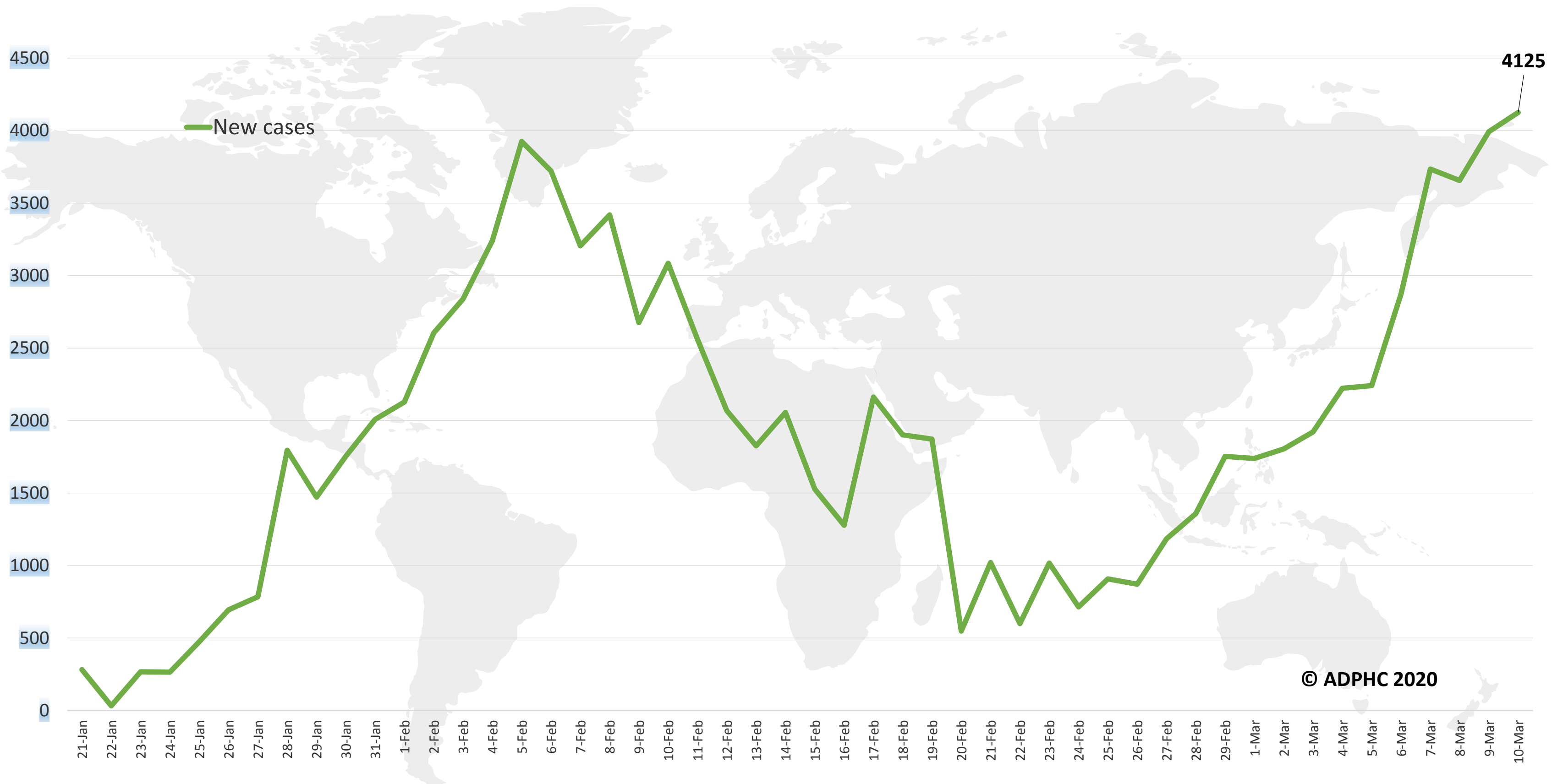


Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)



Figure 3: Daily new infected COVID-19 cases worldwide (January 21 to March 10, 2020).

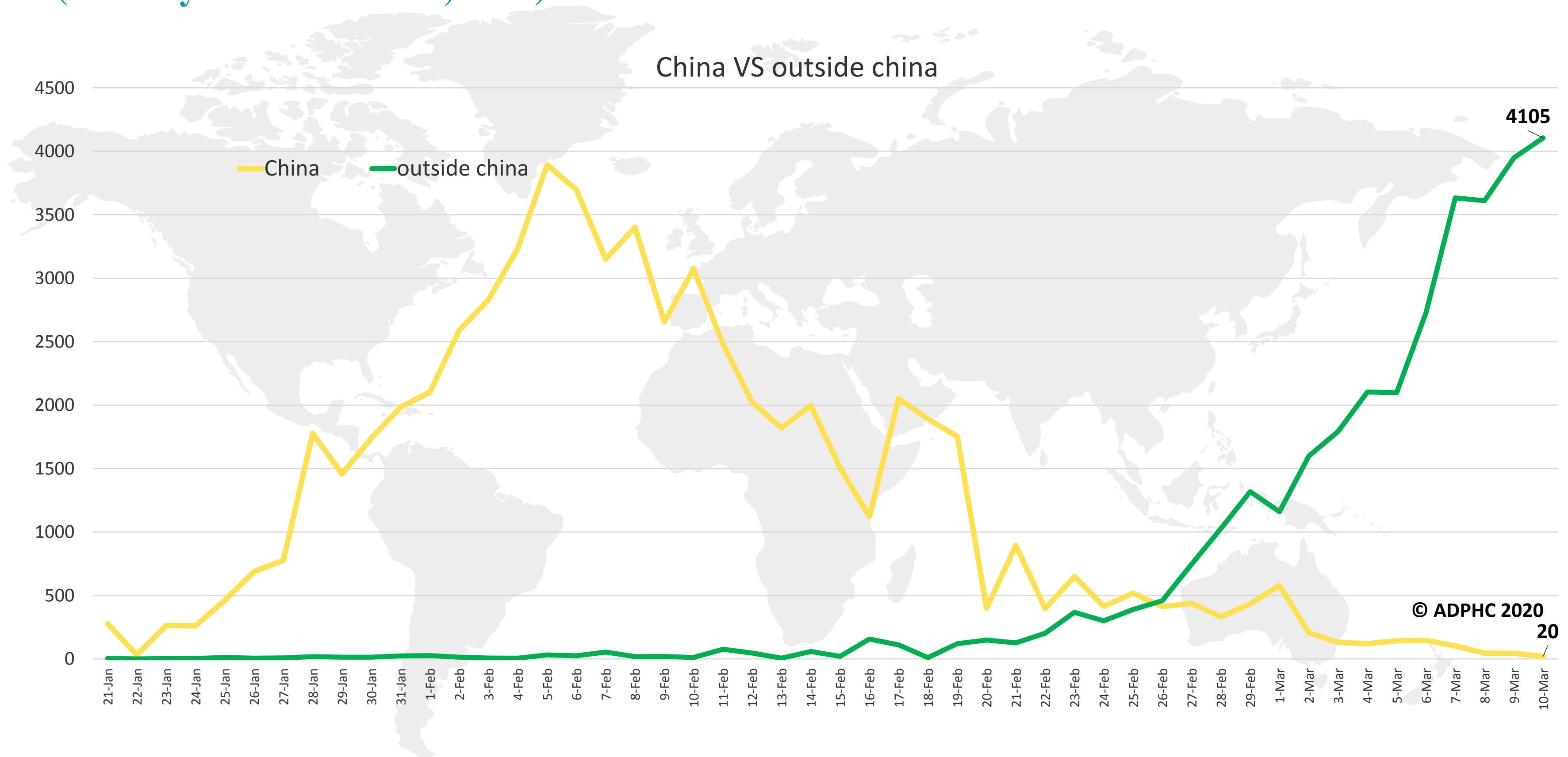


Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)



Figure 4: Daily new infected COVID-19 cases reported by China and the rest of the world (January 21 to March 10, 2020).

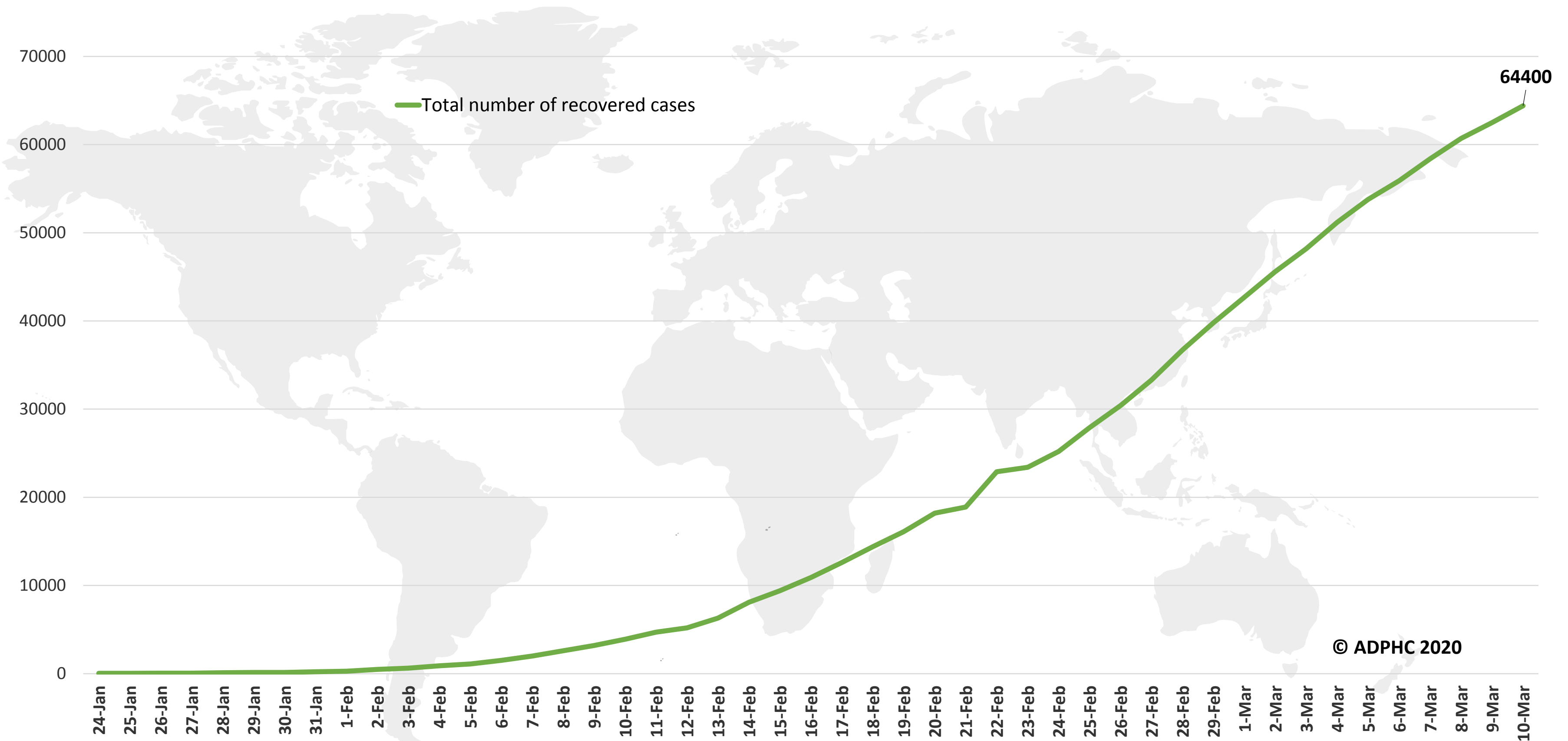


Line graph published by Abu Dhabi Public Health Center 2020.

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



Figure 5: Number of recovered COVID-19 cases worldwide (January 21 to March 10, 2020).



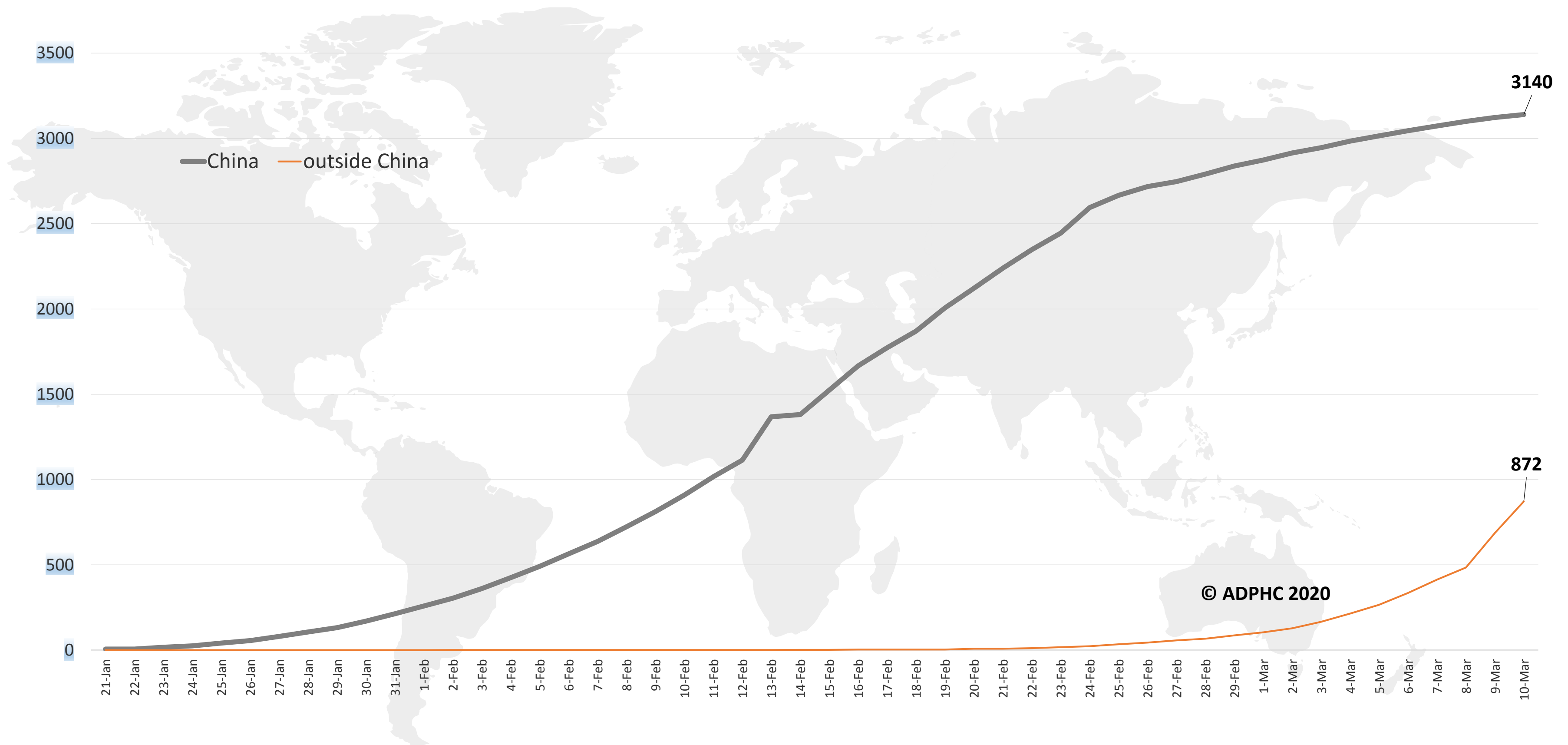
Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [John Hopkins University](#)

Epidemiology



Figure 6: Daily number of death due to COVID-19 reported by China and the rest of the world (January 21 to March 10, 2020).



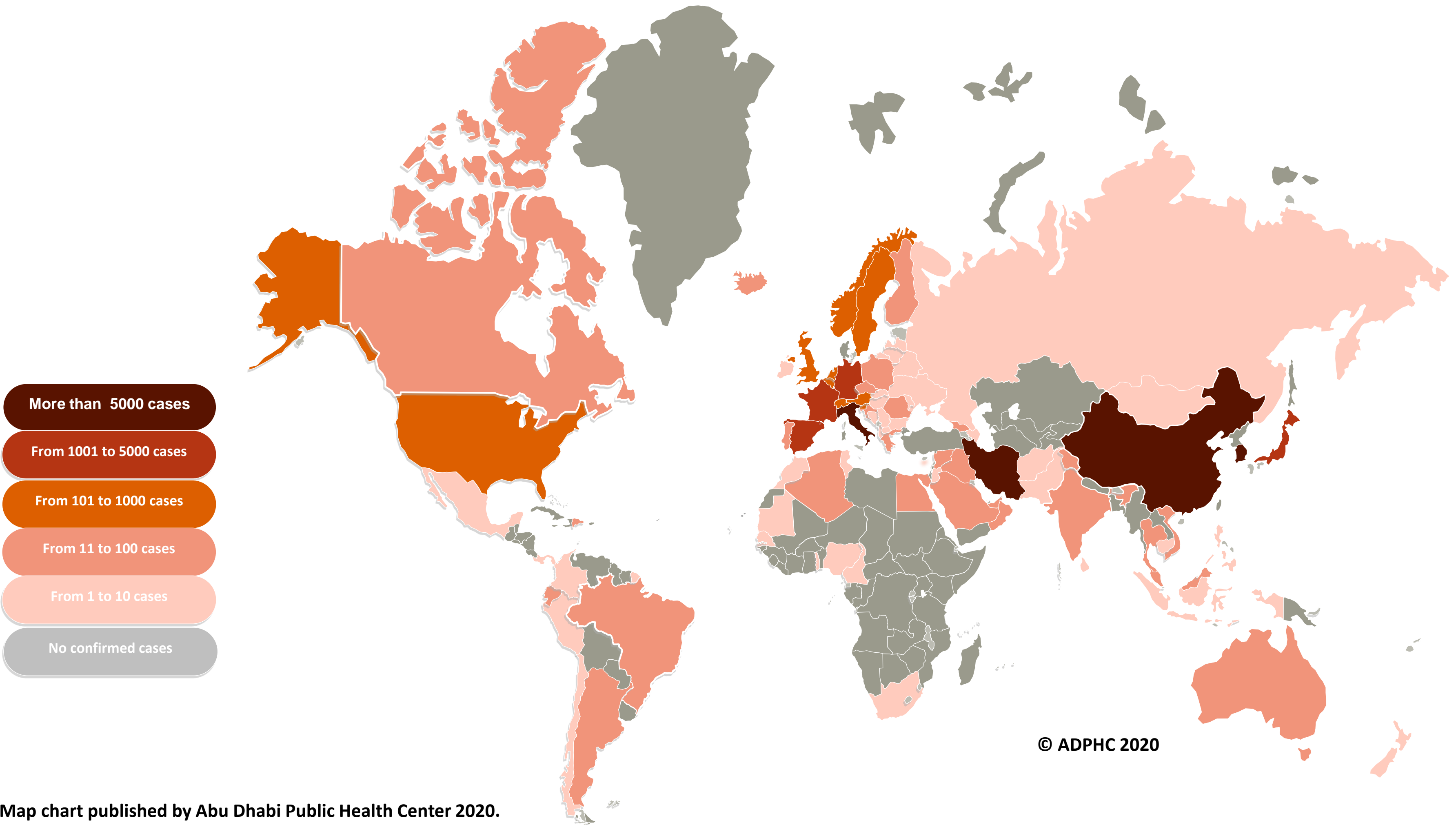
Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)

Epidemiology



Figure 7A: Global distribution of COVID-19 cases (January 21 to March 10, 2020).



Map chart published by Abu Dhabi Public Health Center 2020.

Epidemiology



Figure 7A: bar chart illustrate the global distribution of COVID19 cases (January 21st to March 10th, 2020)



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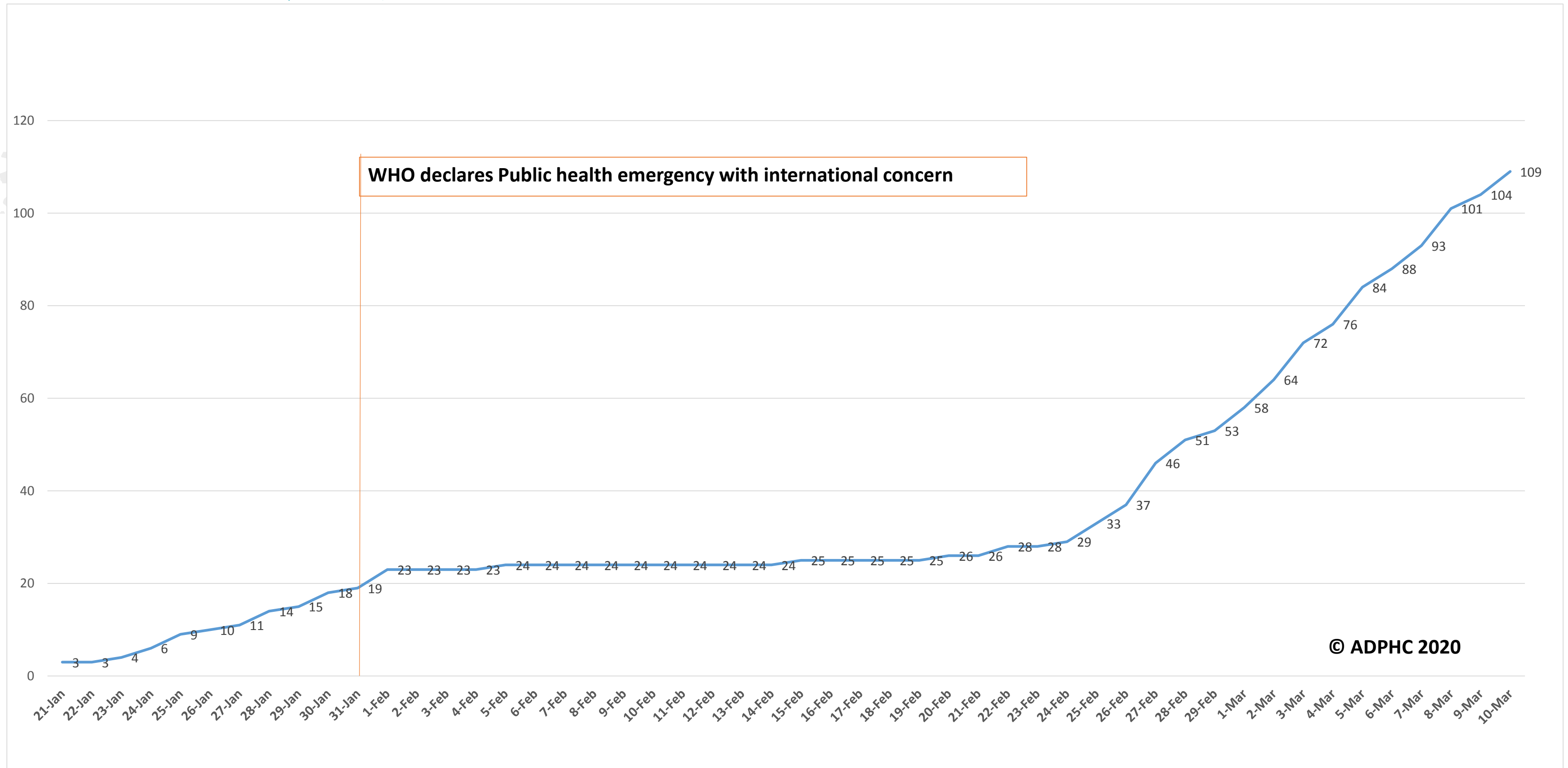
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Figure 8: Total number of countries (except China) reported COVID-19 cases over time (January 21 to March 10, 2020).



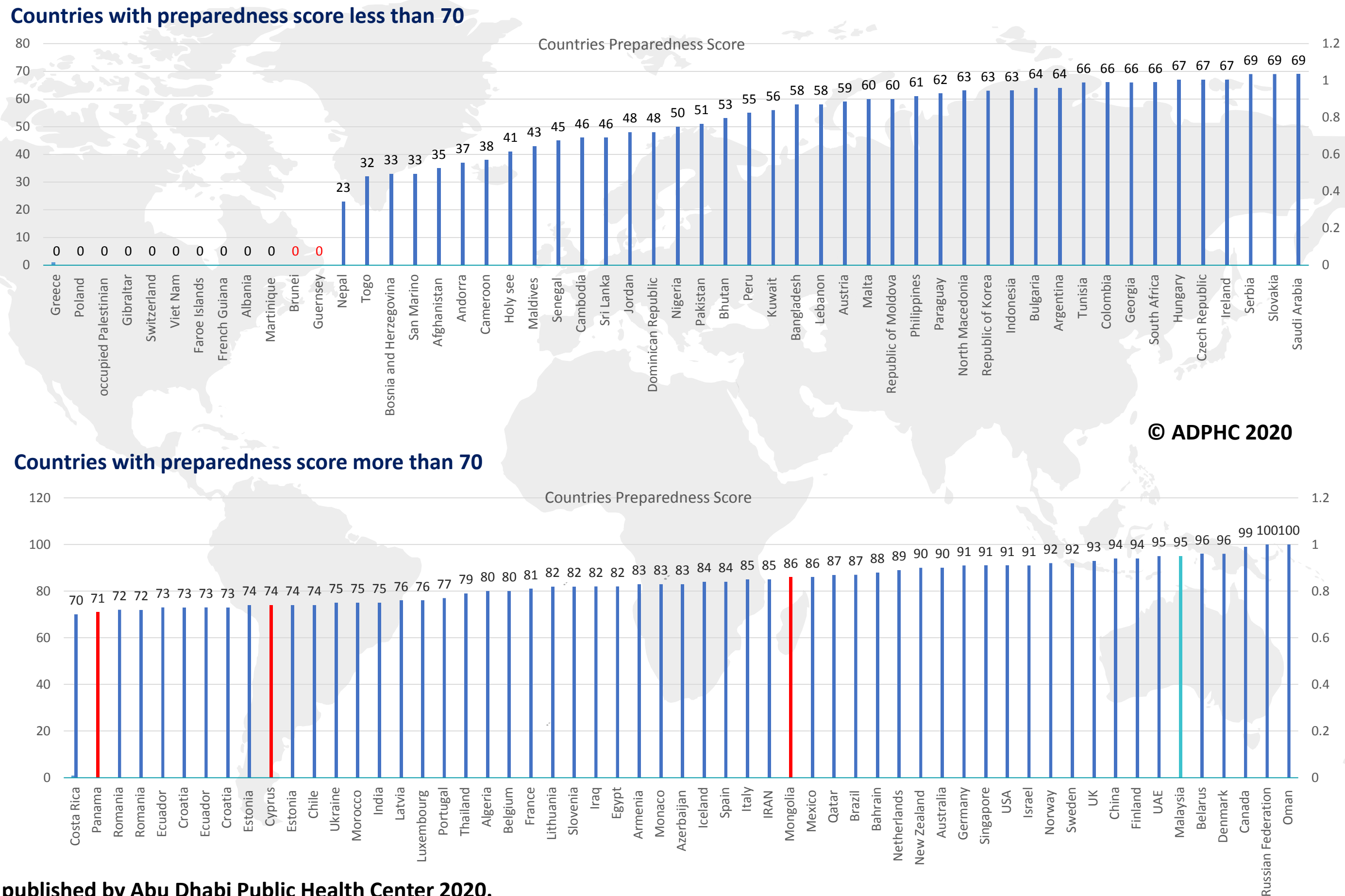
Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)



Figure 9 : Countries capacities to report COVID-19 cases

Figure 9A: Countries' preparedness score in responding to Public health risks and acute events. Published in 2018



Line graph published by Abu Dhabi Public Health Center 2020.

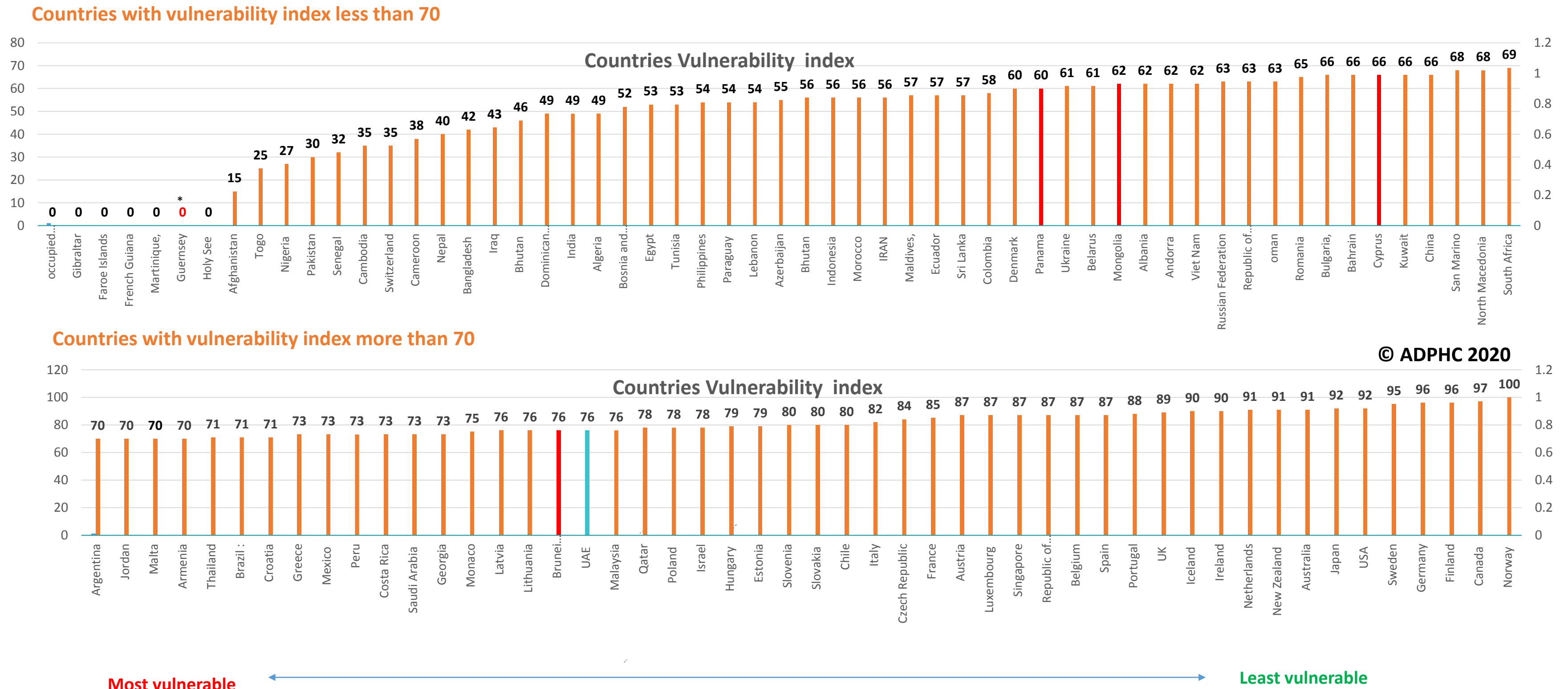
Data resources : [SPAR score](#), [IDVI score](#)

Epidemiology



Figure 9: Countries capacities to report COVID-19 cases

Figure 9B: Countries' vulnerability index to spread infectious disease. Published in 2016



* No available data on those countries.

Line graph published by Abu Dhabi Public Health Center 2020.

Data resources : [SPAR score](#) , [IDVI score](#)



Diagnosis

Article 1: Diagnostic Testing for the Novel Coronavirus

Published: 9 march 2020

Link : [Click here](#)

Summery:

The article explains the situation of expanding the test availability in the US from only using CDC kit to allow other US laboratories to developed their own test.

The article discussed main points in (who should be tested) :

- As of March 4, **CDC discontinued specific** guidance and recommends that “**clinicians should use their judgment to determine if a patient has signs and symptoms compatible with COVID-19 and whether the patient should be tested,**”
- Concern: widespread testing **and test-seeking will overwhelm** medical services needed for patients who have more severe symptoms.
- Once in a **waiting room for a test**, a patient with mild or no illness **may actually be exposed to the coronavirus from infected patients**
- A **negative result does not rule out** infection, **particularly for people with a known exposure.**
- A **positive result** in an otherwise well or mildly ill **patient does not require urgent medical attention** but does require **isolation at this time**
- Innovative approaches to testing, such as **drive-through testing**, should be considered



Public health response

Article 2 : Therapeutic and triage strategies for 2019 novel coronavirus disease in fever clinics (1/2)

Published: 4 March. 2020

Link : [Click here](#)

Summary:

Fever clinics were one of the effective strategies used to control the previous outbreak of SARS.

For COVID19 , fever clinic get activated again . They use the algorithm (figure 1) to triage patients.

Many factors contributed to developing this clinical algorithm in Wuhan during the early outbreak period and this includes the following :

- **the influx of patients to fever clinics substantially outweighed the number of physicians.**
- **Inpatient care was unsafe due to potential cross infection and supplementary resources were not ready. Applying and waiting for results of an SARSCoV2 test was time consuming just after the outbreak and did not aid clinical decision making.**
- They made tradeoffs between **infection control and standard medical principles** and adapted the protocol as more information and resources became available.
- The author hopes this experience will serve as guidance for other fever clinics and future cases.
- Note that this strategy was used only in Wuhan city **the author does not recommend this strategy for other regions where each patient could be isolated and monitored in a health setting.**

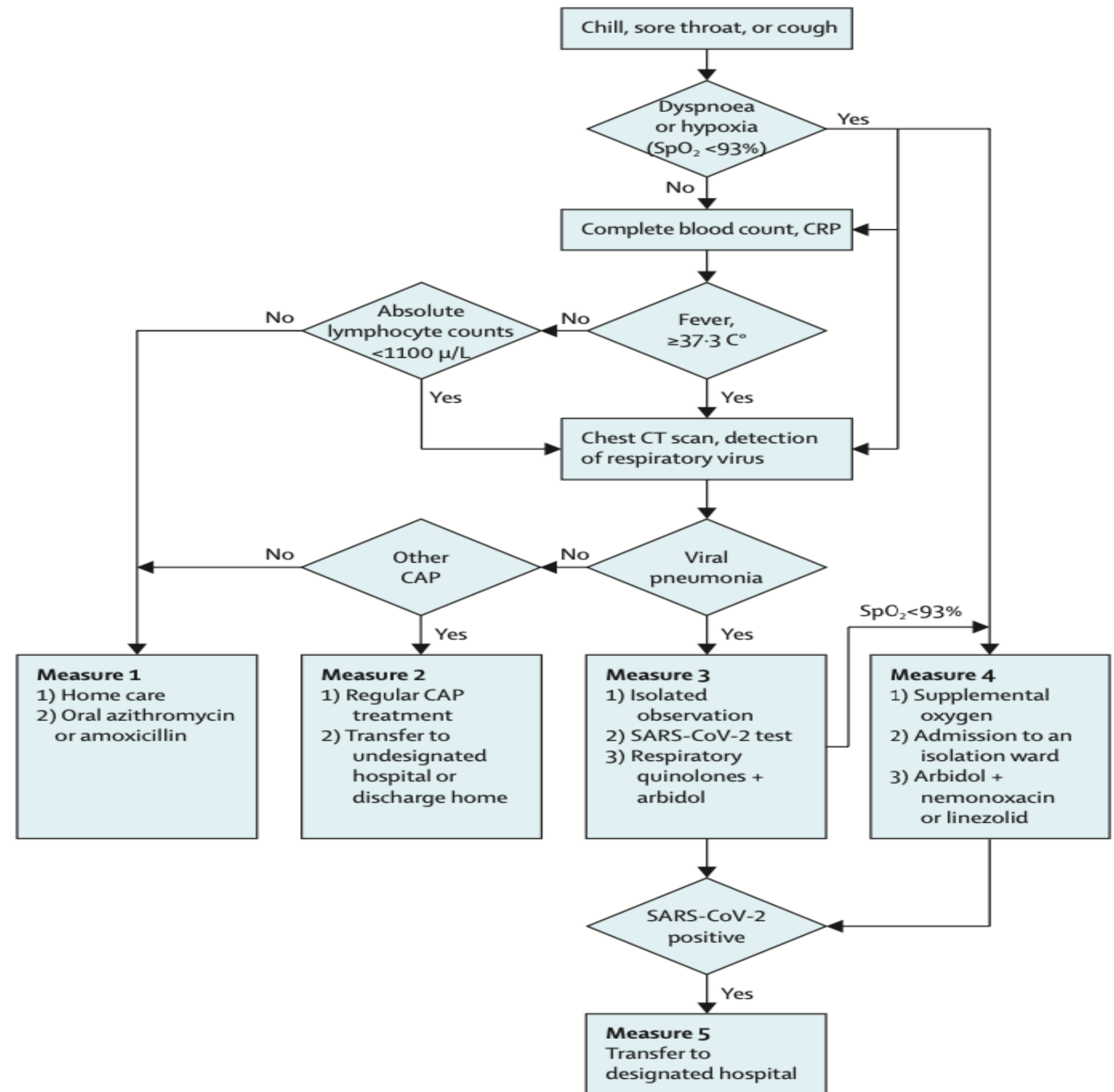


Public health response

Article 2 : Therapeutic and triage strategies for 2019 novel coronavirus disease in fever clinics (2/2)

Published: 4 March. 2020

Link : [Click here](#)



Note that this strategy was used only in Wuhan city **the author does not recommend this strategy for other regions where each patient could be isolated and monitored in a health setting**