

ABU DHABI PUBLIC
HEALTH CENTRE

مركز أبوظبي
للصحة العامة



Scientific Research Monitoring on COVID-19

10 March 2020

SUMMARY ABOUT COVID19 (1/2)



1. 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.
2. New designation for the disease and the virus: **COVID-19** and **SARS-COV2** .
3. Transmission from human to human has been confirmed. Incubation period ranges from 3–7 days and can reach up to 14 days. Transmission during the incubation period is not yet confirmed (further studies are required).
4. Suggested human-to-human transmission occurs through droplets, contact and fomites, similar to Severe Acute Respiratory Syndrome (SARS).
5. Efforts currently in developing therapies for this virus focus on previously known medications and vaccination for MERS-CoV and SARS-CoV.
6. Most studies mention multiple antiviral medications are involved but treatment outcomes are yet to be published. One study in the US reported recovery after 1 day of treatment with Remdesivir.
Trial on animals have shown multiple drug candidates to be effective. Trials in humans are ongoing.



SUMMARY ABOUT COVID19 (2/2)

7. WHO forum held 11-12 Feb 2020 to mobilize research on COVID19 vaccinations and therapies.
8. WHO issued a response budget for three month starting from February 2020.
9. 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.
10. 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.
11. Isolation is the best measure to control transmission. The epidemic is expected to peak in early March 2020.
12. Transmission of SARS occurs most often when a patient develops sever symptoms, which make it easier to contain an outbreak. But with COVID-19/ SARS-CoV2, a patient can present with mild symptoms and still have the potential to spread the disease.

Today's Highlights



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

Scientific Research

- **Summary on specific group:** collection of multiple articles on pregnancy. Summary is too early to consider pregnant women as a high risk. (more data is needed)

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

- ❑ [Escalating infection control response to the rapidly evolving epidemiology of the Coronavirus disease 2019 \(COVID-19\) due to SARS-CoV-2 in Hong Kong](#)
- ❑ [Genomic diversity of SARS-CoV-2 in Coronavirus Disease 2019 patients](#)



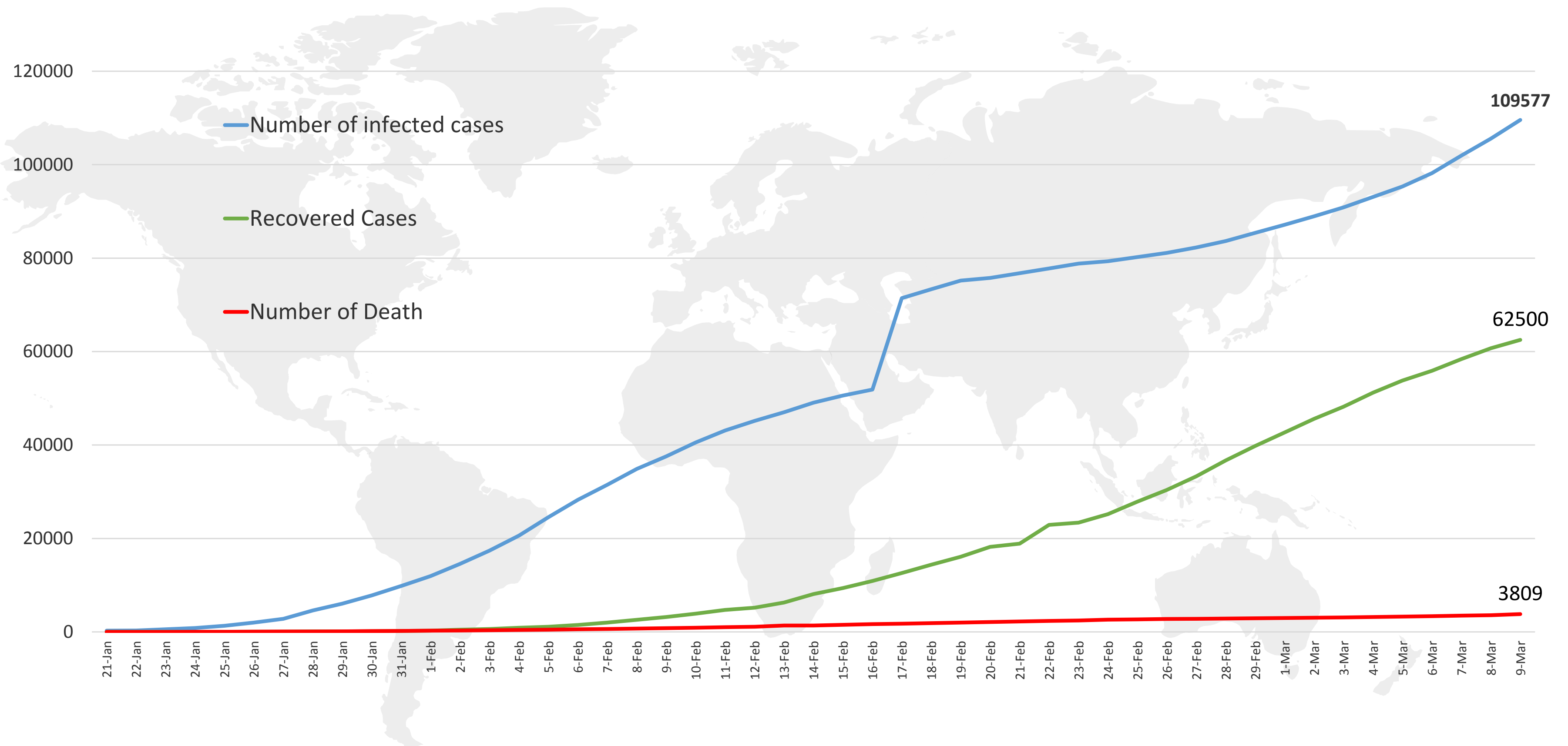
9th March 2020

- 3 new countries/territories/areas (Bangladesh, Albania and Paraguay) have reported cases of COVID-19 in the past 24 hours.
- WHO continues to support Samoa and Tokelau with preparations for COVID-19.
- WHO Operations Supply and Logistics (OSL) continues to support COVID-19 emergency operations where global demand for critical items continues to outpace global supply availability.
- OSL have shipped more than 584,000 surgical masks, 47,000 N95 masks, 620,000 gloves, 72,000 gowns and 11,000 goggles to 57 countries.
 - OSL and partners in the Pandemic Supply Chain Network (PSCN) have **agreed on mechanisms to secure global warehousing for donated COVID-19 emergency supplies**
 - OSL are also working **with ventilator and respirator equipment manufacturers** to develop **technical guidance for oxygen therapy** and related equipment in the context of COVID-19.
 - OSL have also shipped laboratory tests to more than 120 countries
 - cooperation with the **International Humanitarian City (IHC) in Dubai** and with aircraft provided by the **government of the UAE**, OSL organized a flight from Dubai to Iran on March 2, to support the first delivery of emergency PPE and lab tests.
 - working on developing **Intensive Care Unit-assessment form** in order to facilitate **independent assessment of ICUs** and **identify existing supplies** to support COVID-19 response activities

Epidemiology



Figure 1: Total number of infected, recovered, and death cases (January 21st to March 9th, 2020)

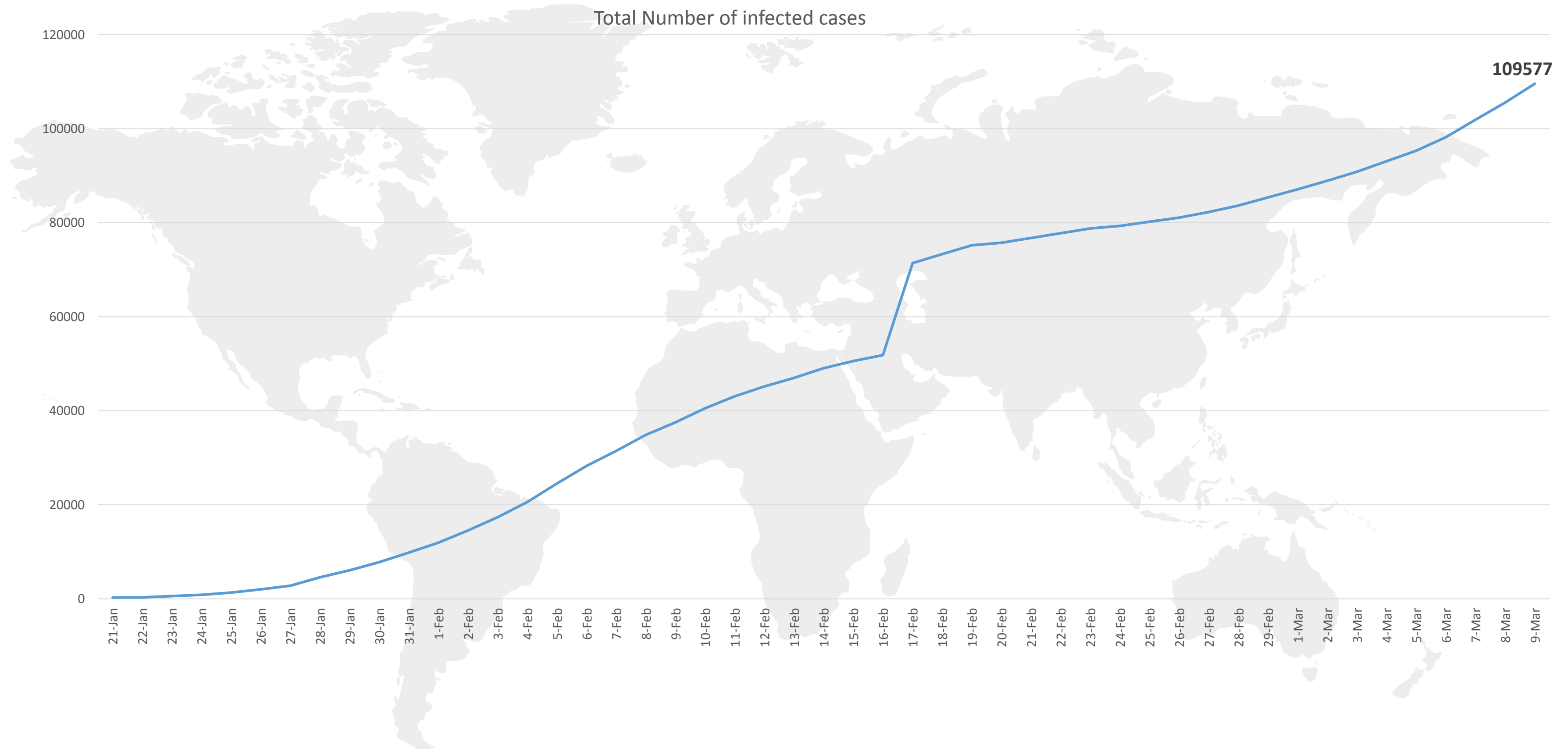


Line graph published by Abu Dhabi Public Health Center 2020.

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



Figure 2: Number of infected cases (January 21st to March 9th, 2020)

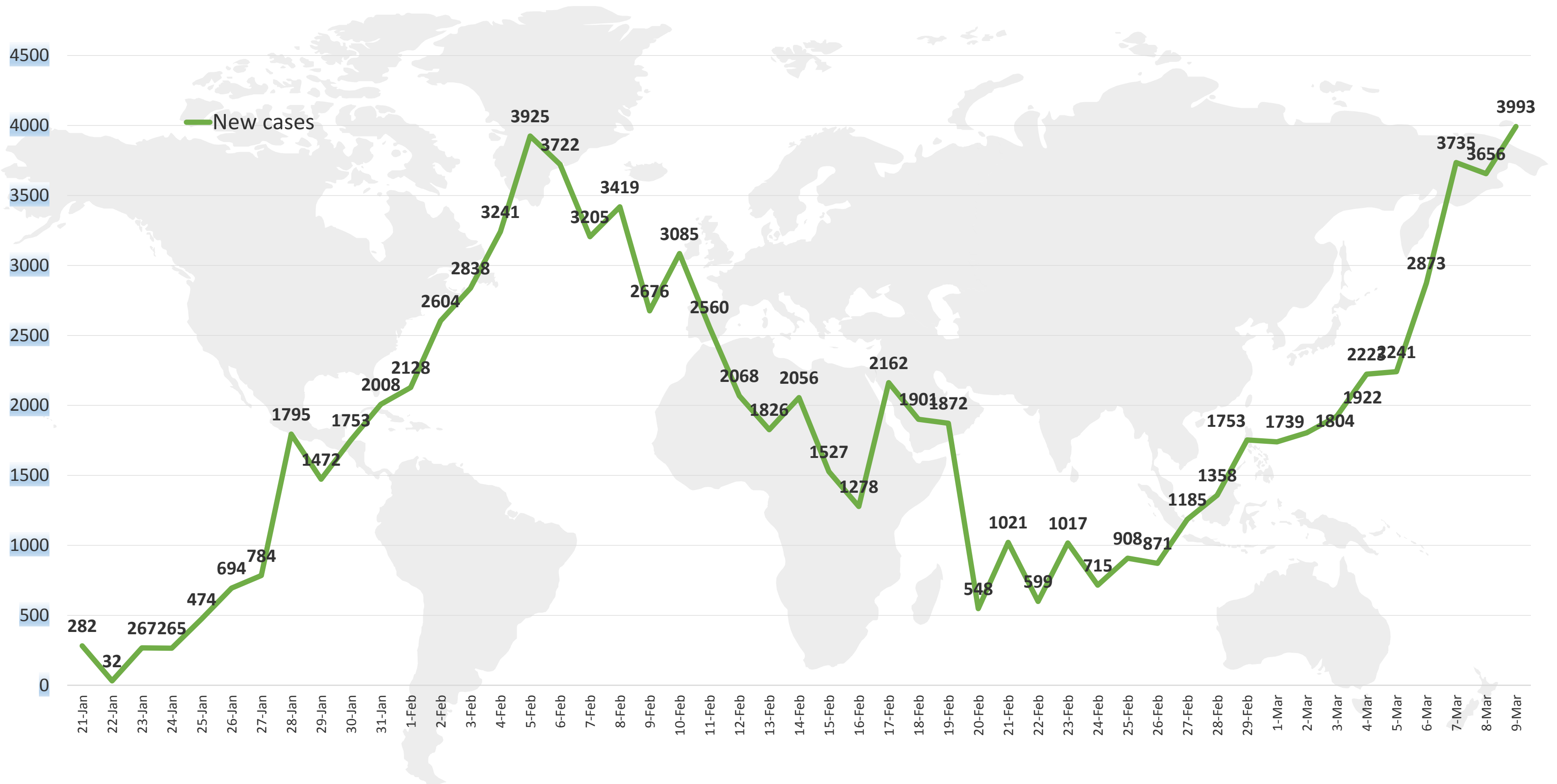


Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)



Figure 3: Number of new cases (January 21st to March 9th, 2020)

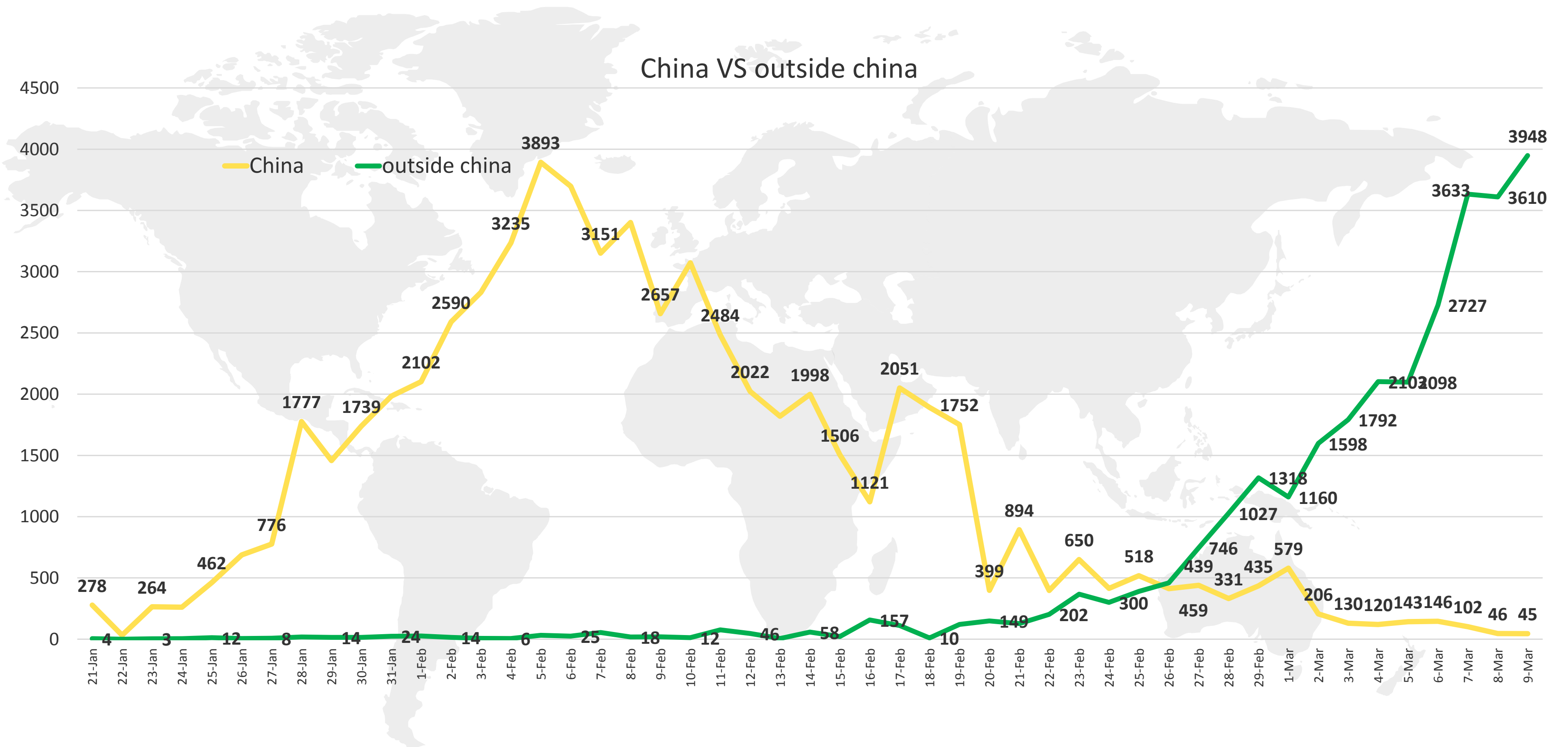


Line graph published by Abu Dhabi Public Health Center 2020.

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



Figure 4: Number of new cases in China versus outside China (January 21st to March 9th, 2020)



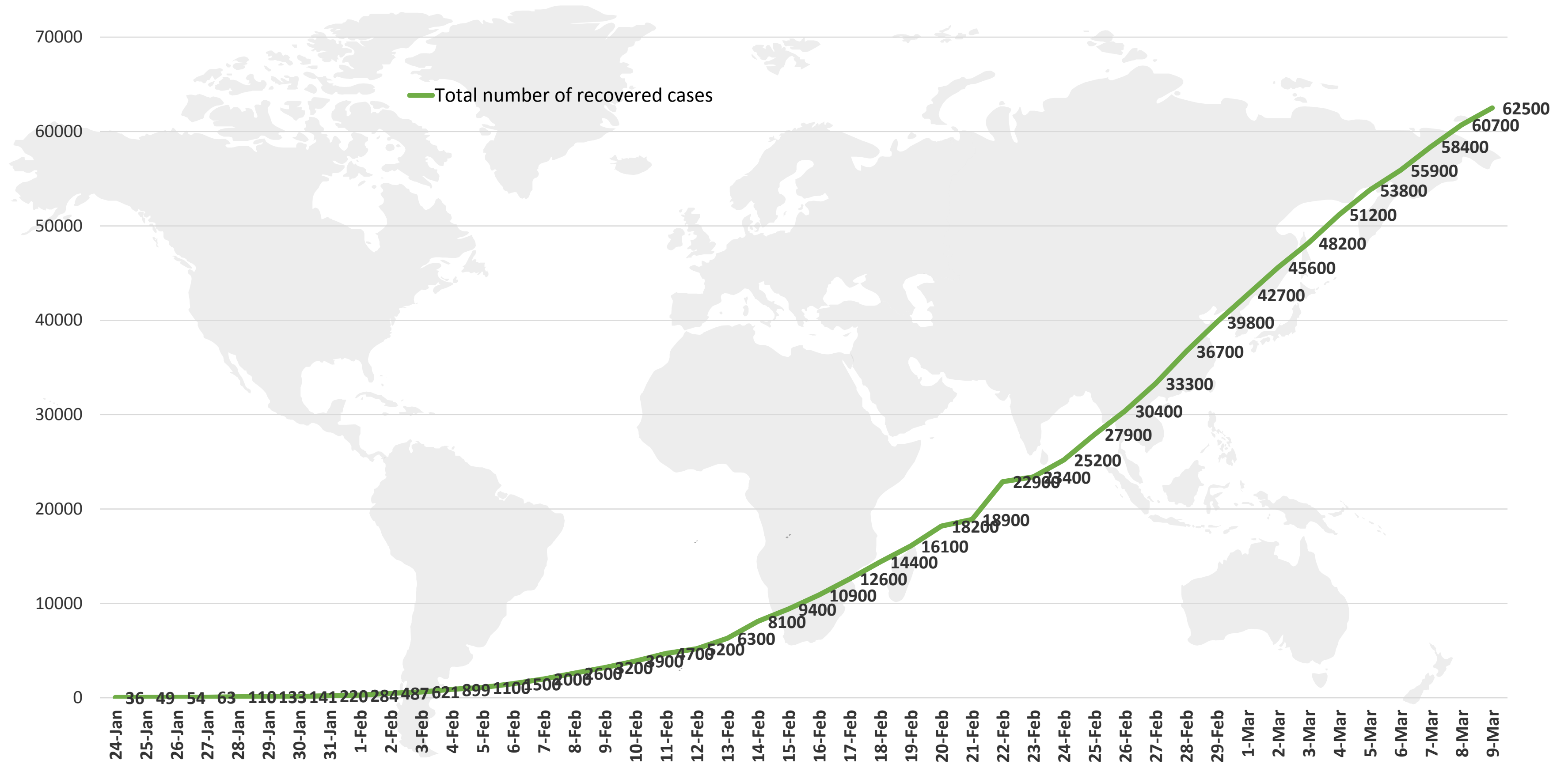
Line graph published by Abu Dhabi Public Health Center 2020.

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

Epidemiology



Figure 5: Total recovered cases of COVID-19. (January 21st to March 9th, 2020)

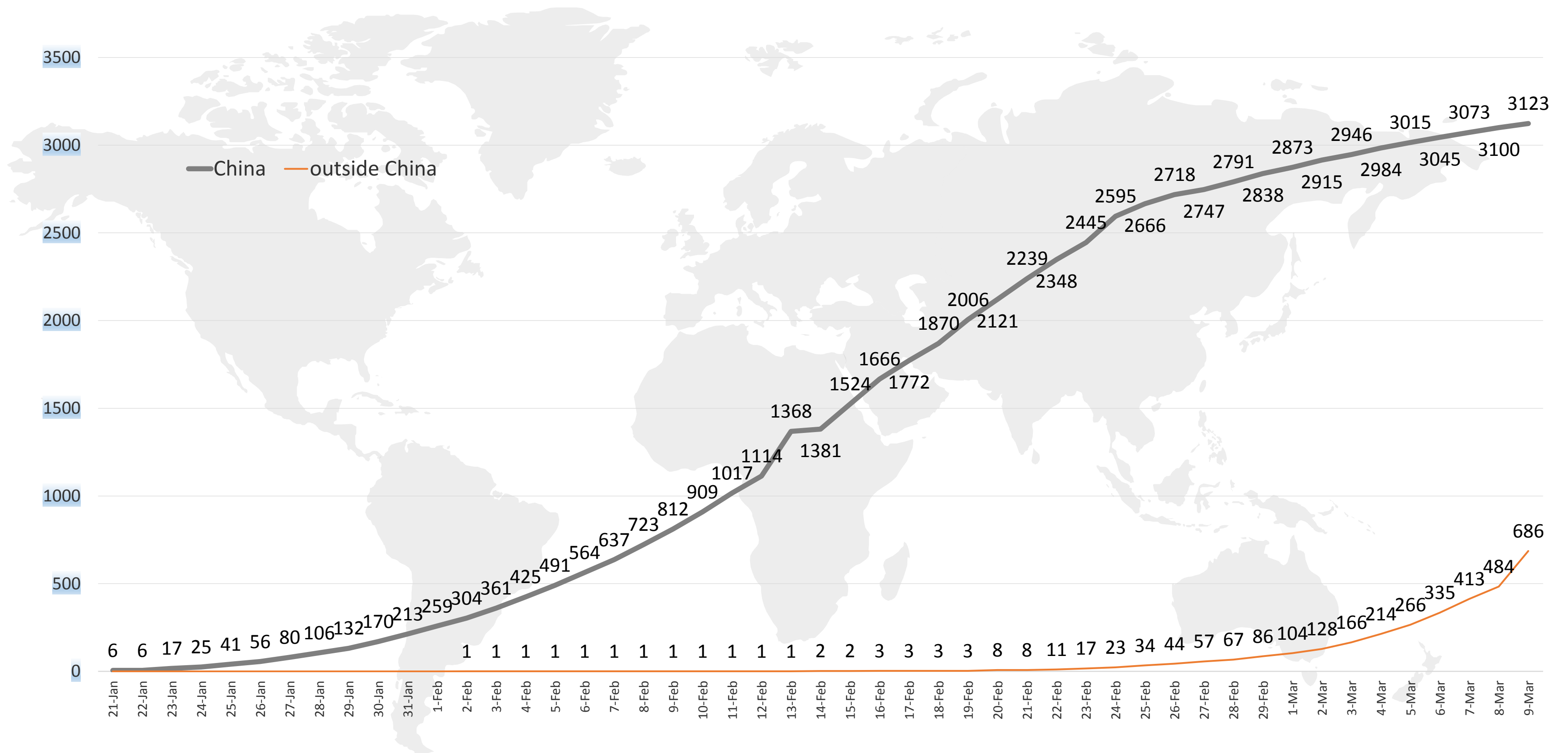


Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [John Hopkins University](https://www.jhu.edu/)



Figure 6: Number of total deaths in china versus outside china (January 21st to March 9th, 2020)

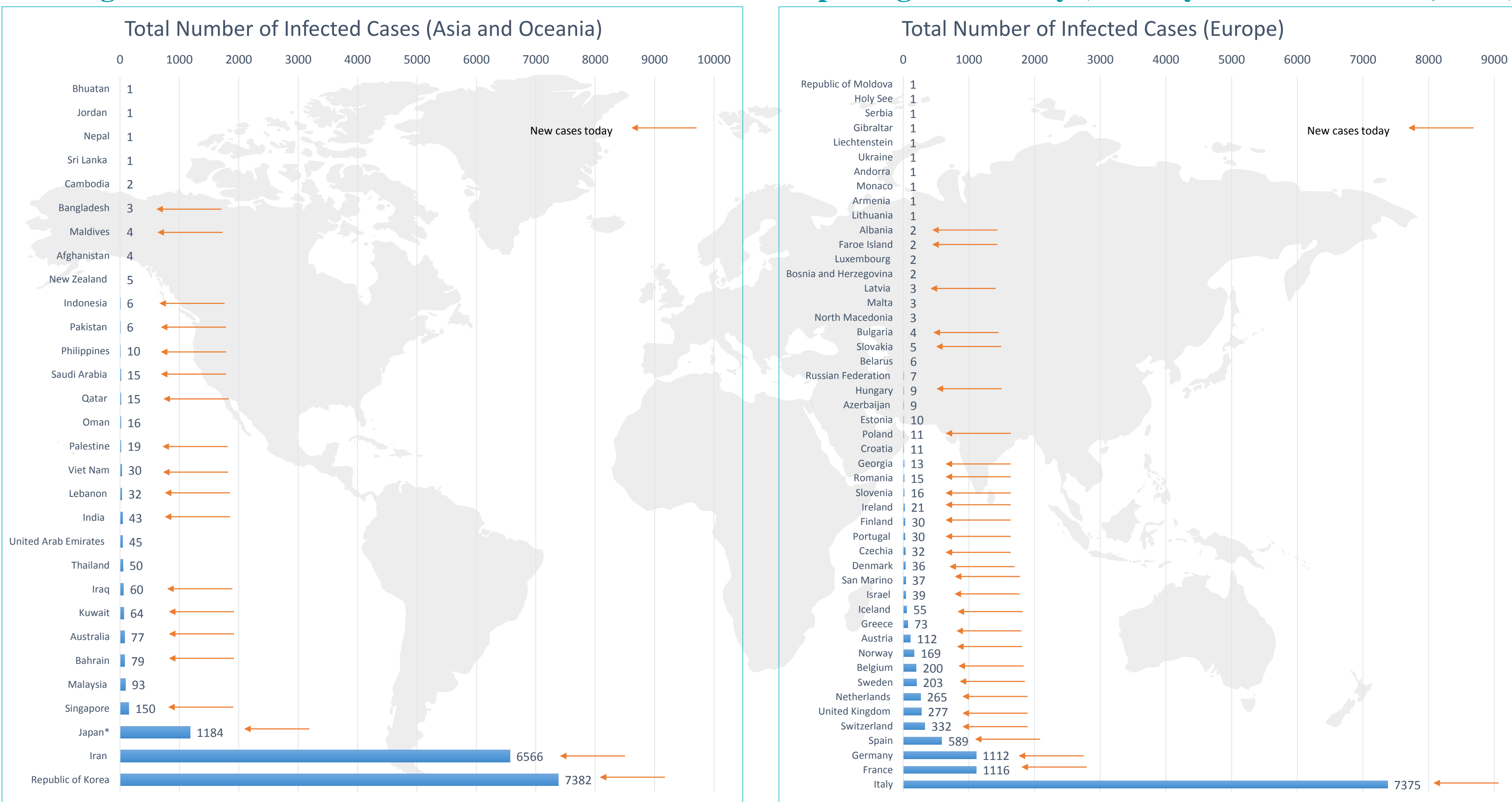


Line graph published by Abu Dhabi Public Health Center 2020.

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



Figure 7A: Total number of infected cases outside China per region/ country (January 21st to March 9th, 2020)

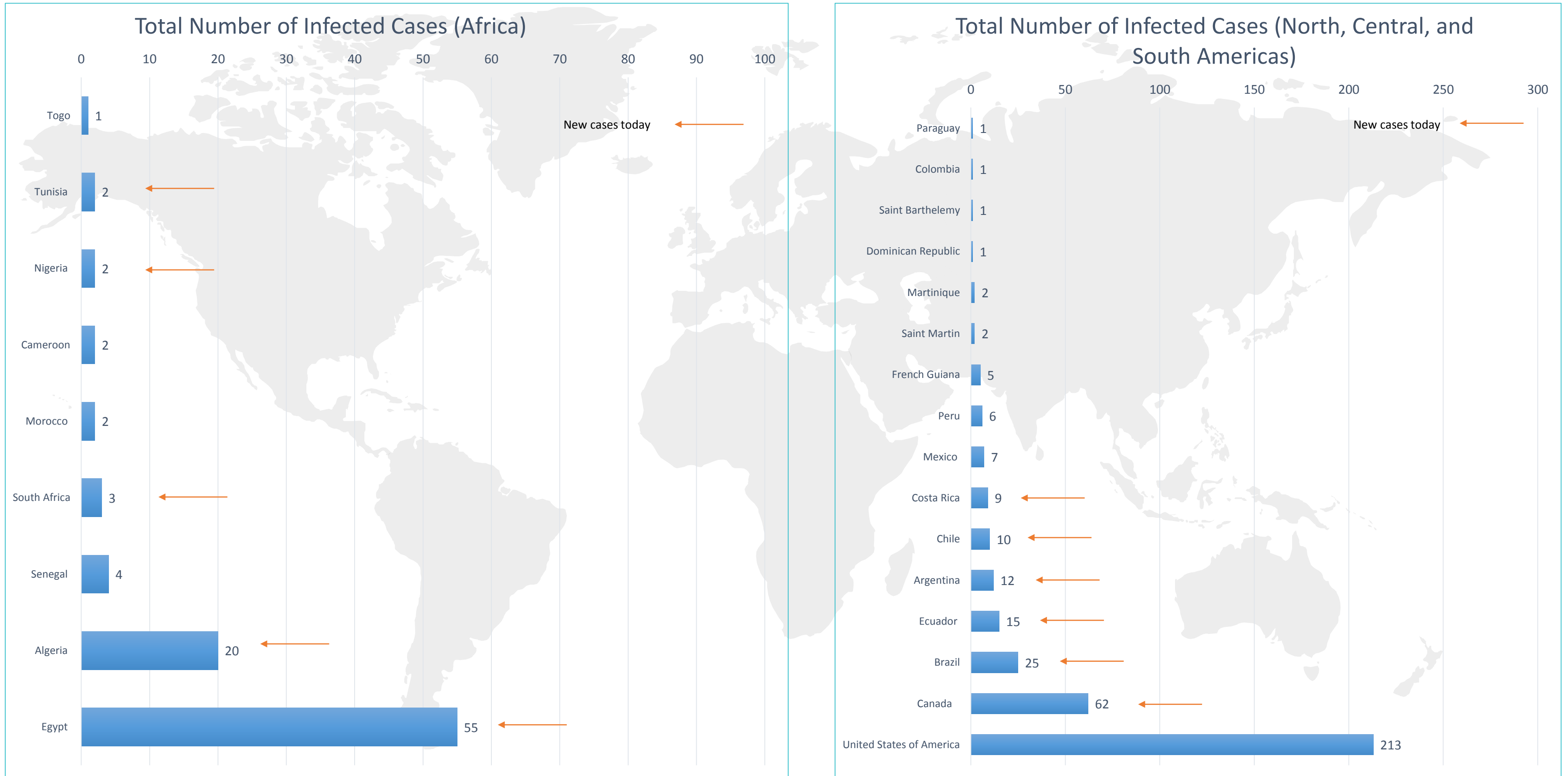


Line graph published by Abu Dhabi Public Health Center 2020.

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



Figure 7B: Total number of infected cases outside China per region/ country (January 21st to March 9th, 2020)



Line graph published by Abu Dhabi Public Health Center 2020.

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

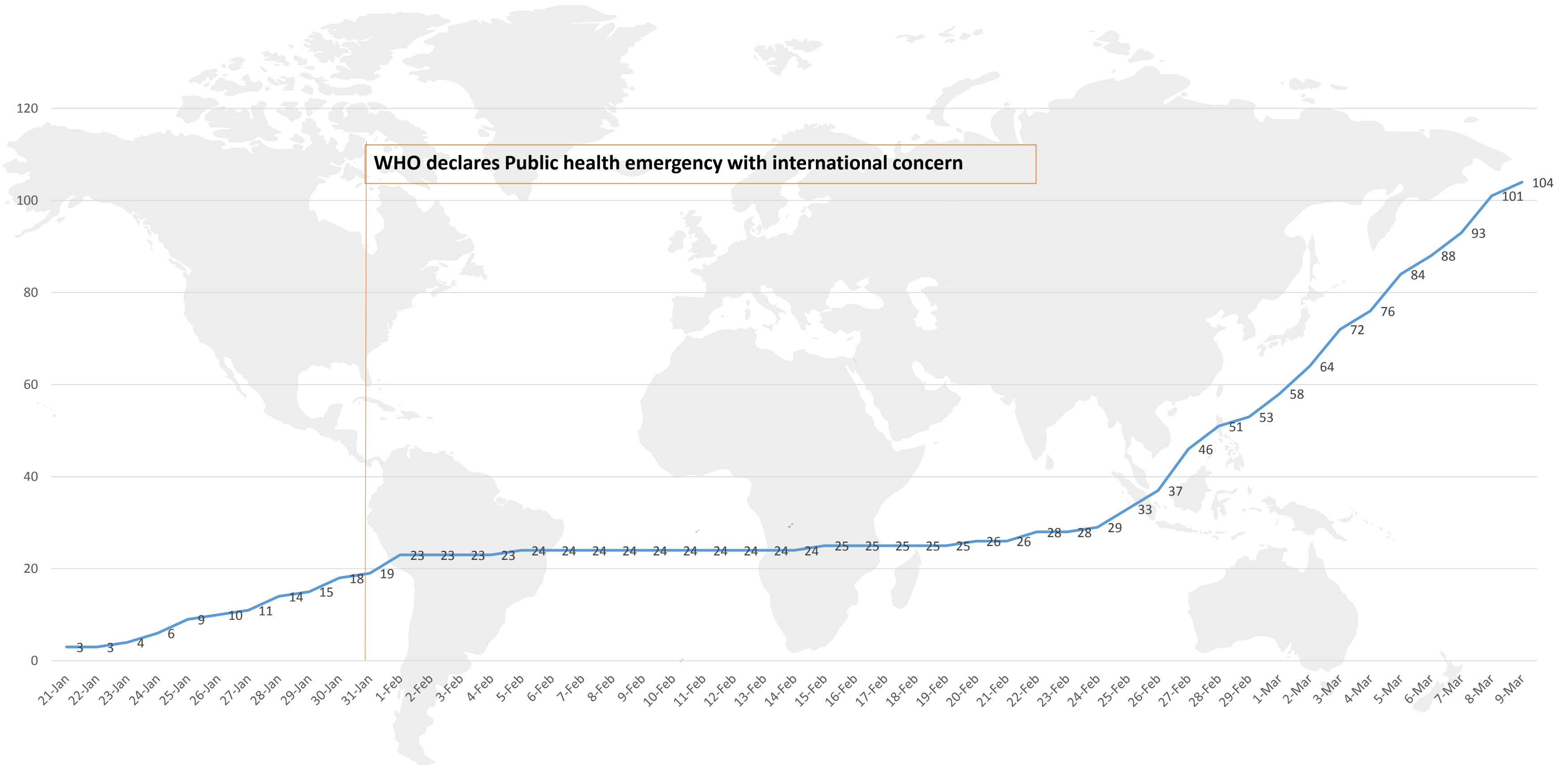
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Figure 8: Total number of countries reporting cases of COVID-19 outside China over time



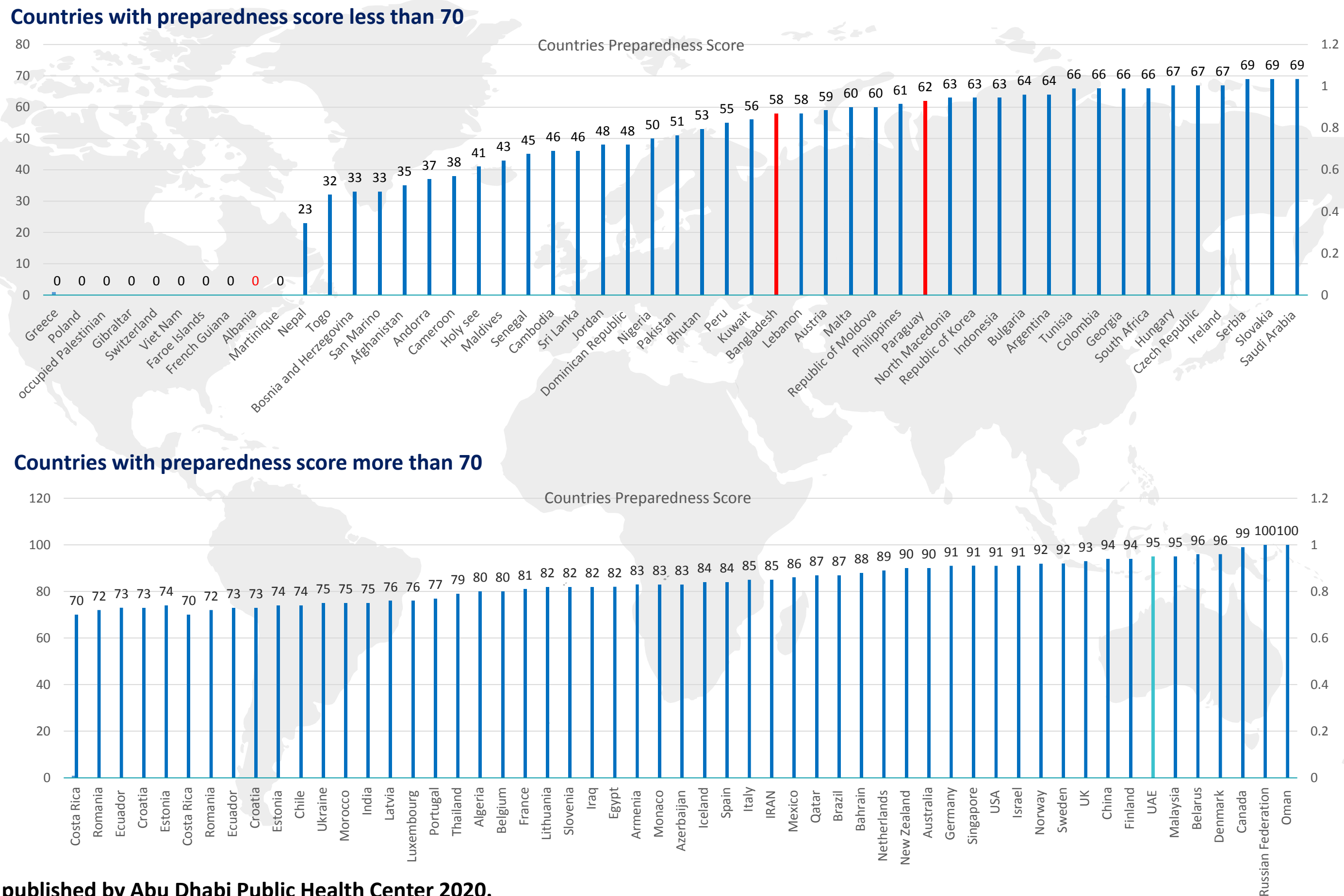
Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)



Figure 9 : Capacities of countries reporting COVID19 cases

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



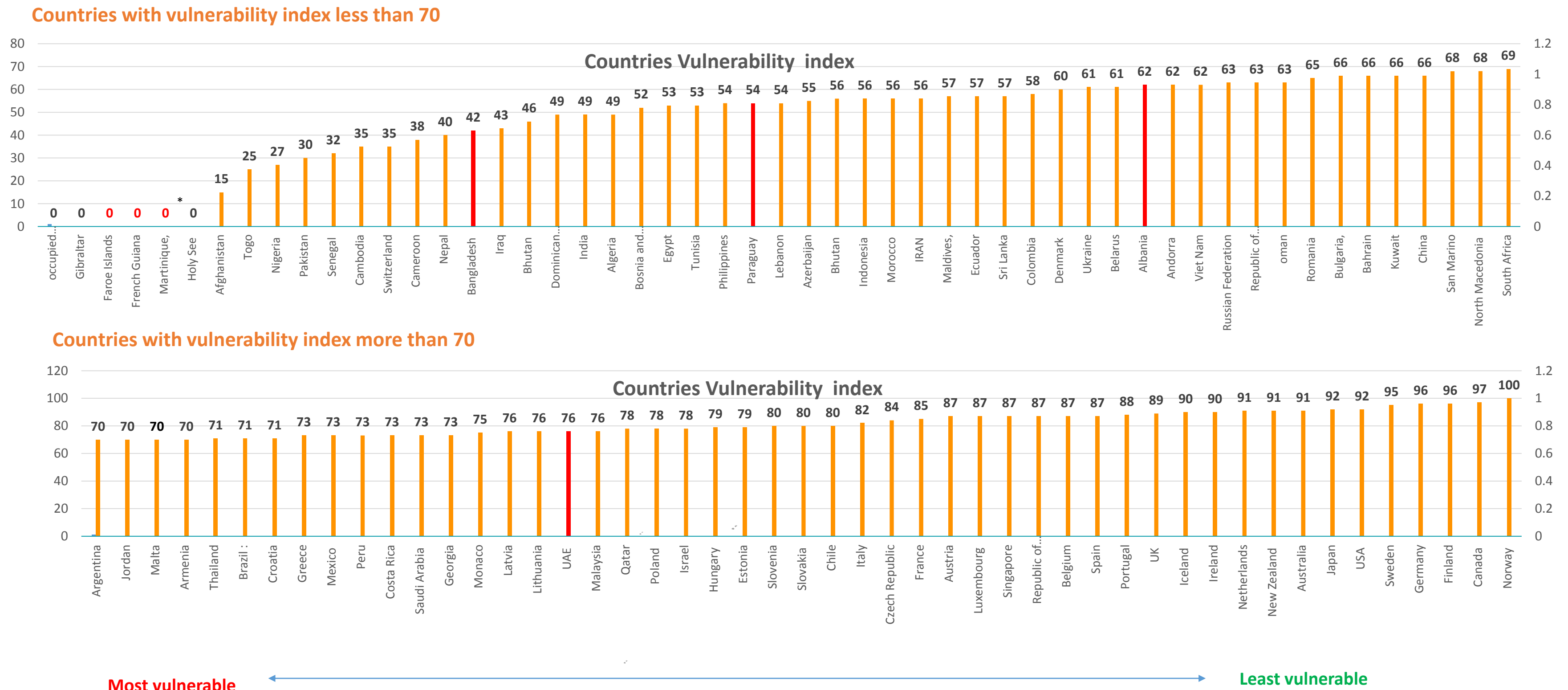
Line graph published by Abu Dhabi Public Health Center 2020.

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



Figure 10 : Capacities of countries reporting COVID19 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](#)



Specific group summery : (pregnancy and COVID19)

Article 1 : Clinical analysis of 10 neonates born to mothers with 2019-nCoV pneumonia (1/2)

Published: 10th February 2020

Link : [click here](#)

Summery:

The authors retrospectively analyzed the clinical features and outcomes of 10 neonates (including 2 twins) born to 9 mothers with confirmed 2019- nCoV infection in 5 hospitals in Hubei from January 20 to February 5, 2020,

Mother outcome : not clearly mentioned apart from having symptoms 1-6 days before delivery.

Neonate outcome :6 had fetal distress. Up to the study date, 5 neonates have been cured and discharged, 1 has died, and 4 neonates remain in hospital in a stable condition. pharyngeal swab specimens were collected from 9 neonates for 2019-nCoV and they were negative.

Conclusion of the study: perinatal 2019-nCoV infection may have adverse effects on newborns, causing problems such as fetal distress, premature labor, respiratory distress, thrombocytopenia accompanied by abnormal liver function, and even death.



Specific group summery : (pregnant women)

Article 1 : Clinical analysis of 10 neonates born to mothers with 2019-nCoV pneumonia (2/2)

Published: 10th February 2020

Link : [click here](#)

Summery:

Table 1 Clinical features of mothers with perinatal 2019-nCoV infection

Case No.	1	2	3	4	5	6	7	8/9	10
Age (years)	25	35	35	30	30	30	30	29	34
Symptom onset	On the day of cesarean section	On the day of cesarean section	2 d after delivery	3 d after delivery	6 d before delivery	4 d before delivery	1 d before delivery	3 d before delivery	1 d after delivery
First symptom(s)	Fever	Fever	Cough	Fever	Cholecystitis and fever	Fever and cough	Fever, cough, sore throat, and diarrhea	Fever and cough	Fever
Intrauterine fetal distress	Yes	No	Yes	Yes	No	Yes	Yes	Yes	No
Other medical histories during pregnancy	No	Scarred uterus	No	Vaginal bleeding in the third trimester	No	No	No	No	No
Delivery mode	Cesarean section	Cesarean section	Vaginal delivery	Cesarean section	Cesarean section	Cesarean section	Cesarean section	Vaginal delivery	Cesarean section
Premature rupture of membranes	No	5 h	7 h	No	No	No	No	6 h	No
Umbilical cord	Torsion	Normal	Normal	Normal	Normal	Colloid	Normal	Normal	Normal
Placenta	Normal	Normal	Normal	Normal	Normal	Placenta previa	Normal	Normal	Normal
Amniotic fluid	Oligohydramnios	Normal	Normal	Normal	Normal	Polyhydramnios	Normal	Normal	Normal



Specific group summery : (pregnant women)

Article 2 : Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records

Published: 12th Feb. 2020

Link : [Click here](#)

Summery:

- Number of patient: 9 pregnant women during infected with COVID19 in third trimester during the period 20 to 31 Jan 2020. Age from 26-40 years.
- The study shows no evidence of transmission of the virus to newborn and the results of mother were similar to other non-pregnant adult infected to the virus .

Article 3 : What are the risks of COVID-19 infection in pregnant women?

Published: 12 February 2020

Link : [Click here](#)

Summery:

Commentary article:

- **Two neonatal cases of COVID-19 infection** have been confirmed so far with one case confirmed at 17 days after birth and having a close contact history with two confirmed cases (the baby's mother and maternity matron) and the other case confirmed at 36 h after birth and for whom the possibility of close contact history cannot be excluded (outcomes are not known)
- The author's opinion of the risk of vertical transmission (*transmission of infection from mother to baby*) of COVID-19 might be as low as that of SARS-CoV-1
- However, no reliable evidence is as yet available to support the possibility of vertical transmission of COVID-19 infection from the mother to the baby.



Specific group summery : (pregnant women)

Article 4 : Coronavirus Disease 2019 (COVID-19) and Pregnancy: What obstetricians need to know

Published: 18 February 2020

Link : [Click here](#)

Summery:

- Review article: Principles of management of COVID-19 in pregnancy include **early isolation, aggressive infection control procedures**, oxygen therapy, avoidance of fluid overload, empiric antibiotics (secondary to bacterial infection risk), SARS-CoV-2 and co-infection testing, fetal and uterine contraction monitoring, early mechanical ventilation for progressive respiratory failure, individualized delivery planning, and a **team-based approach with multi-specialty consultations**
- There are no data to inform whether pregnancy increases susceptibility to COVID-19.
- The author also reviewed pregnancy outcomes of SARS-COV1 and MERS-COV patients.

5. WHO latest statement on comparing high risks individuals for Influenza and COVID19: 6th march

(Those most at risk for severe influenza infection are children, pregnant women, elderly, those with underlying chronic medical conditions and those who are immunosuppressed. For COVID-19, our current understanding is that older age and underlying conditions increase the risk for severe infection)

[Click here to read the full report](#) .

Article 6: Clinical and CT Imaging Features of the COVID-19 Pneumonia: Focus on Pregnant Women and Children

Published: 4 march 2020

Link : [click here](#)

Summery: this article compare CT finding in pregnant adult, non pregnant adults and children.