

ABU DHABI PUBLIC
HEALTH CENTRE

مركز أبوظبي
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Scientific Research Monitoring on COVID-19

04 April 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

- **Diagnostic:** the multiple benefits for using antibody testing for COVID19.
- **Digital health:** two articles describe the use of digital health during crisis.

*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

1. [Governmental Public Health Powers during the COVID-19 Pandemic](#)
2. [Testing Individuals for Coronavirus Disease 2019 \(COVID-19\)](#)
3. [Non-steroidal anti-inflammatory drugs and covid-19](#)
4. [A Sentinel COVID-19 Case in Houston, Texas: Informing Frontline Emergency Department Screening and Preparedness](#)
5. [Respiratory Support for Adult Patients with COVID-19](#)



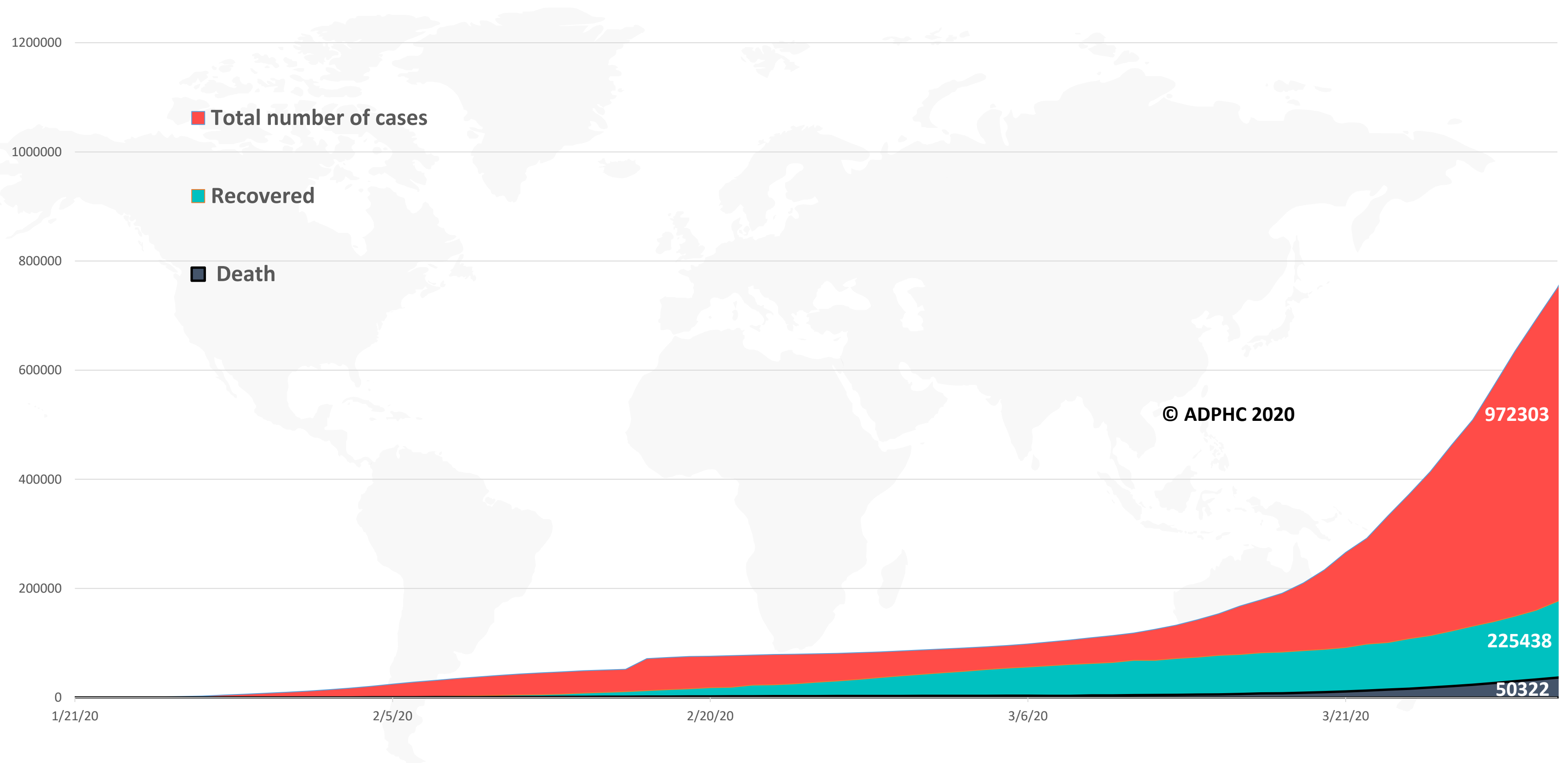
WHO daily report

- One new country/territory/area reported cases of COVID-19 in the past 24 hours: Malawi.
- As cases start to climb in the South-East Asia Region, the Regional Director Dr Poonam Khetrapal Singh held a virtual meeting with Health Ministers of the Region calling for a stronger whole-of-society approach.
- The Pan American Health Organization (PAHO) launched an appeal yesterday for funds towards priority public health measures to **help Latin American and Caribbean countries**. The funds will be used to implement PAHO's COVID-19 Response Strategy.
- Ports, airports and ground crossings require careful monitoring. WHO has produced two online interactive courses to provide guidance for:
 - the management of ill travelers (at Points of Entry – international airports, seaports and ground crossings) intended for National IHR Focal Points, public health authorities and operators at points of entry, conveyance operators, and other stakeholders.
 - Managing COVID-19 cases or outbreaks on board ships. including IHR National Focal Points (NFP), port health authorities, local, provincial and national health surveillance and response systems, as well as port operators and ship operators.

Epidemiology



Figure 1: Total number of infected, recovered, and death cases (January 21st to April 3rd, 2020)

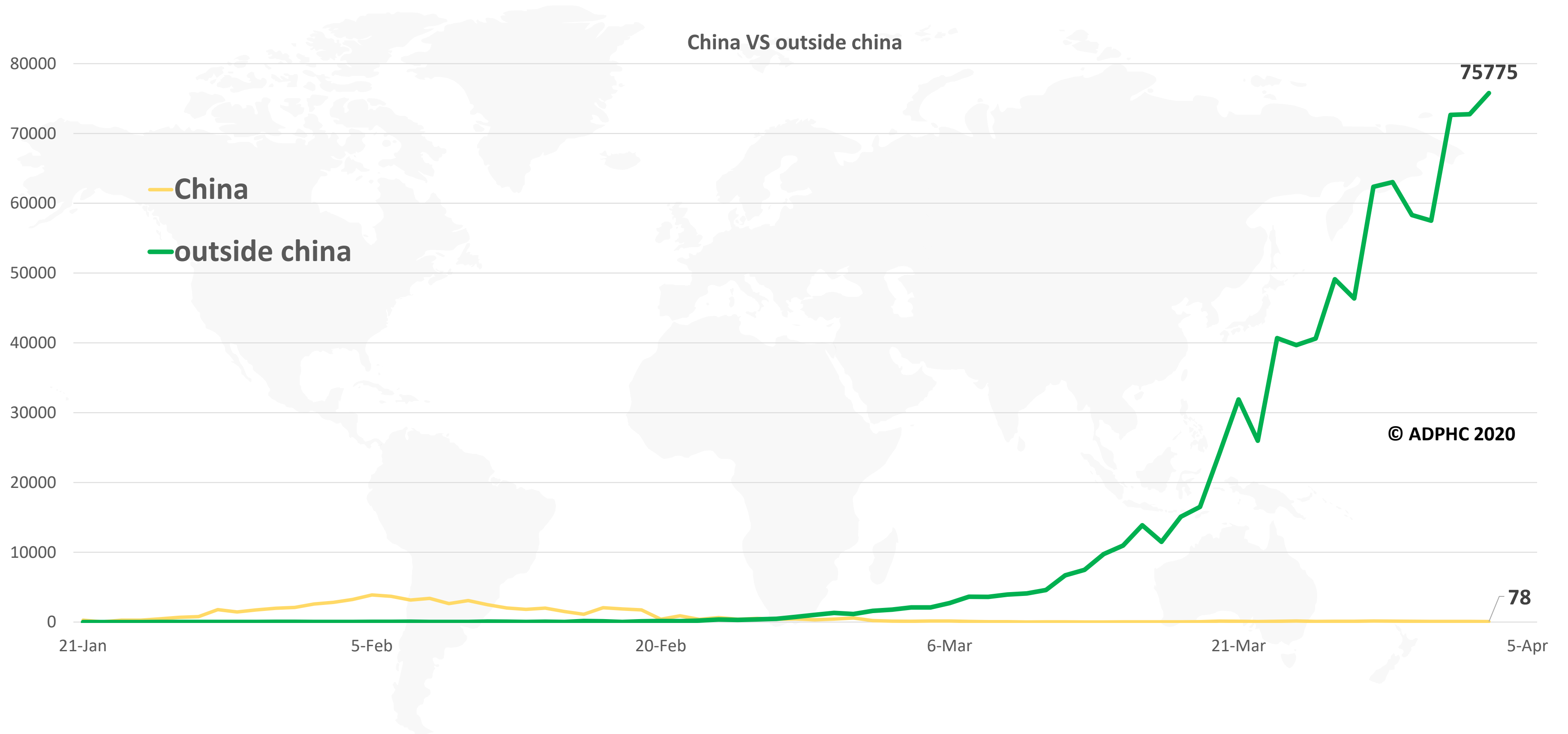


Line graph published by Abu Dhabi Public Health Center 2020.

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



Figure 2: Daily new infected COVID-19 cases reported between (January 21 to April 3rd, 2020).



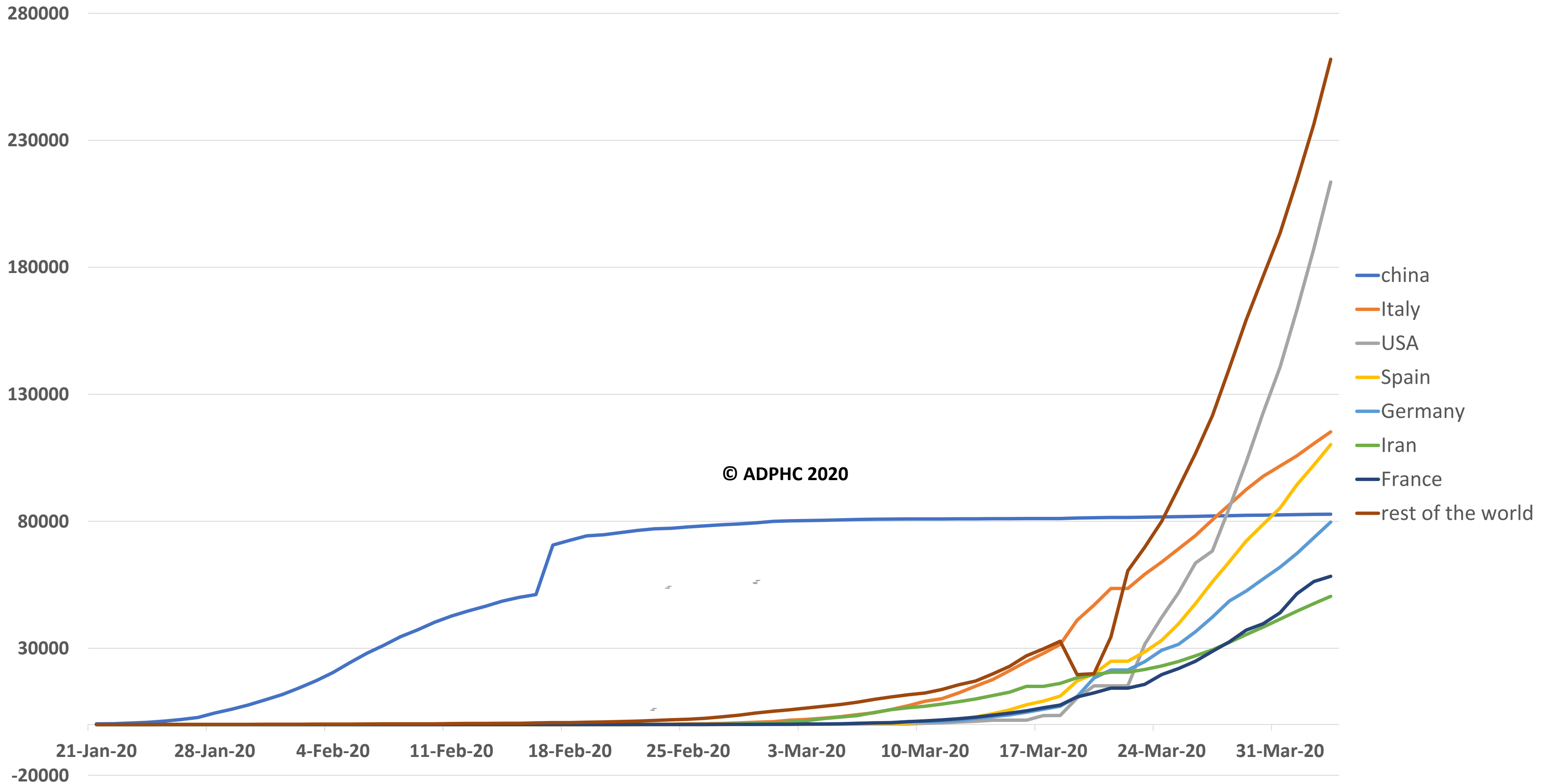
Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)

Epidemiology



Figure 3 : Top 7 countries in the total number of cases due to COVID-19 (January 21 to April 3rd, 2020).



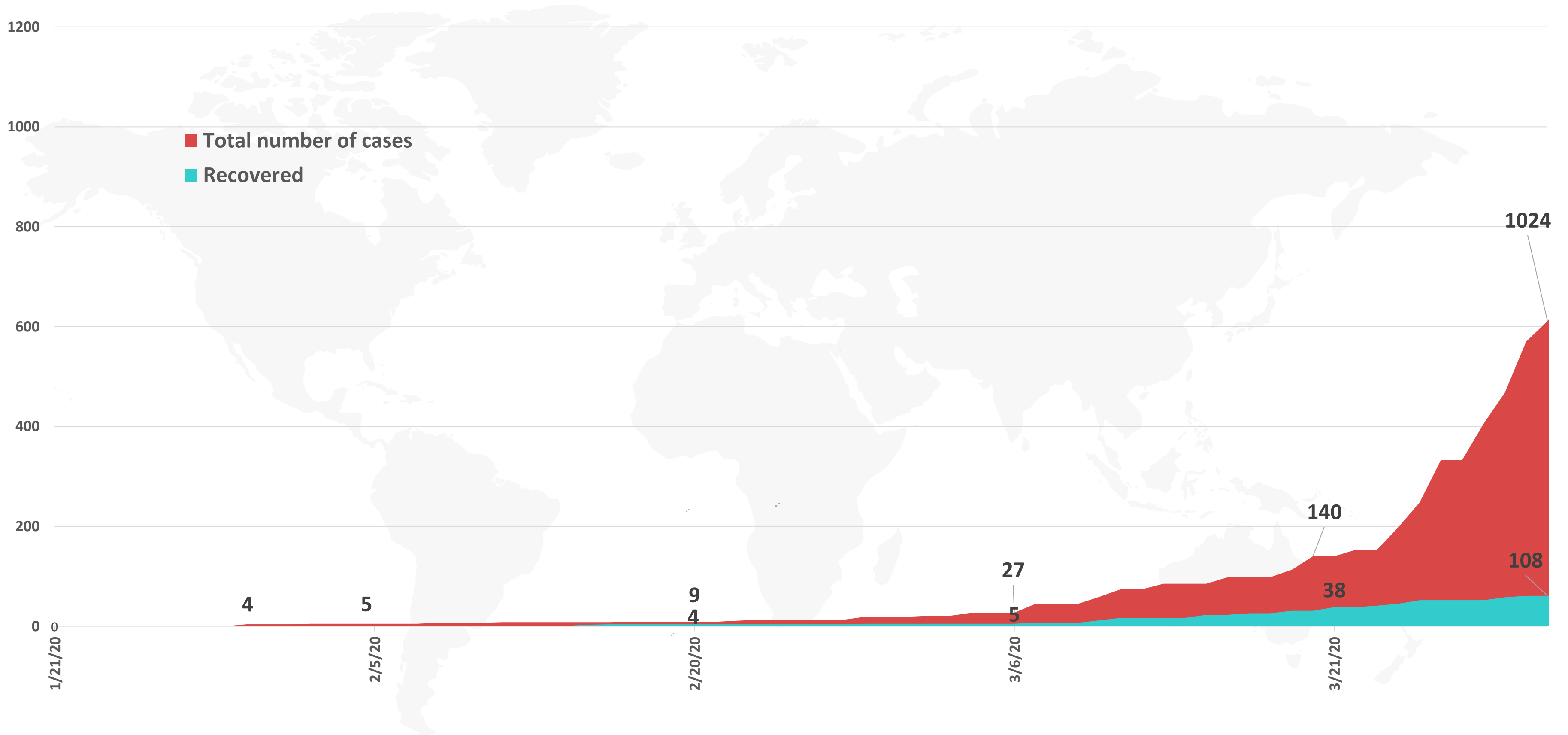
Line graph published by Abu Dhabi Public Health Center 2020.

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

Epidemiology



Figure 4: Total number of COVID-19 infected and recovered cases in UAE over time

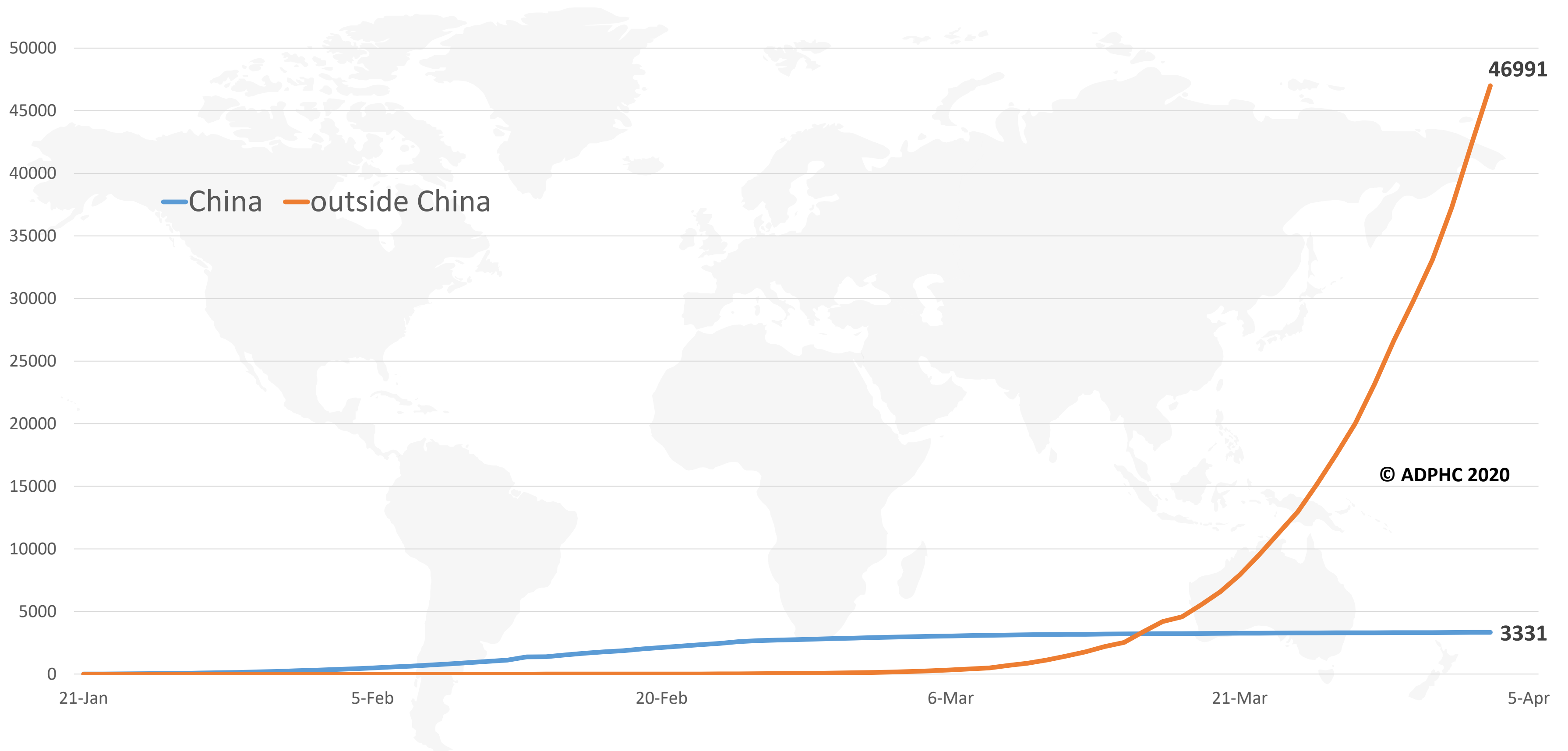


Line graph published by Abu Dhabi Public Health Center 2020.

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



Figure 5: Total number of death due to COVID-19 reported by China and the rest of the world (January 21 to April 3rd, 2020).



Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)



Figure 6: Global daily new deaths due to COVID-19 (January 21 to April 3rd, 2020).



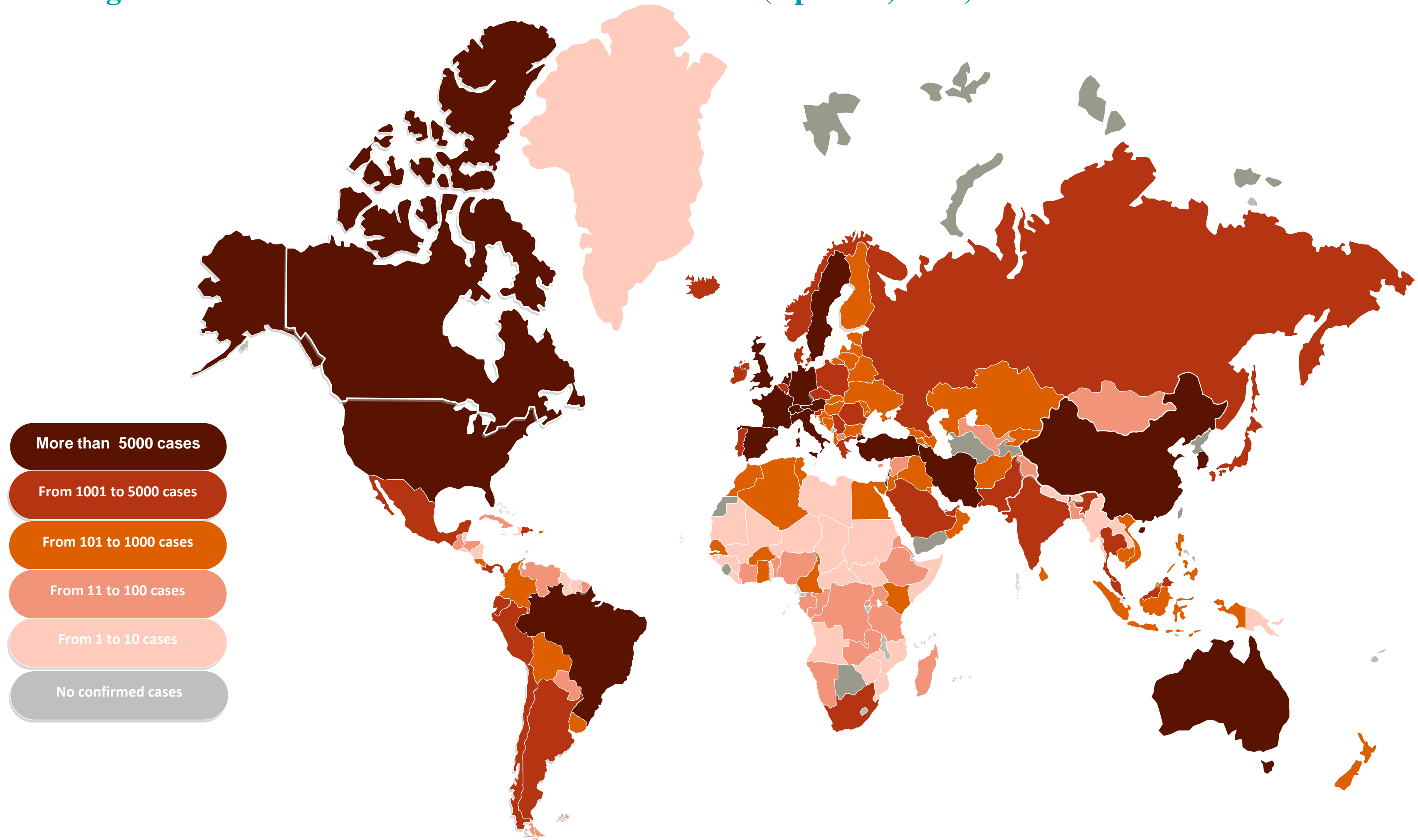
Line graph published by Abu Dhabi Public Health Center 2020.

Data resources: [WHO](#)

Epidemiology



Figure 7a : Global distribution of COVID-19 cases (April 3rd, 2020).

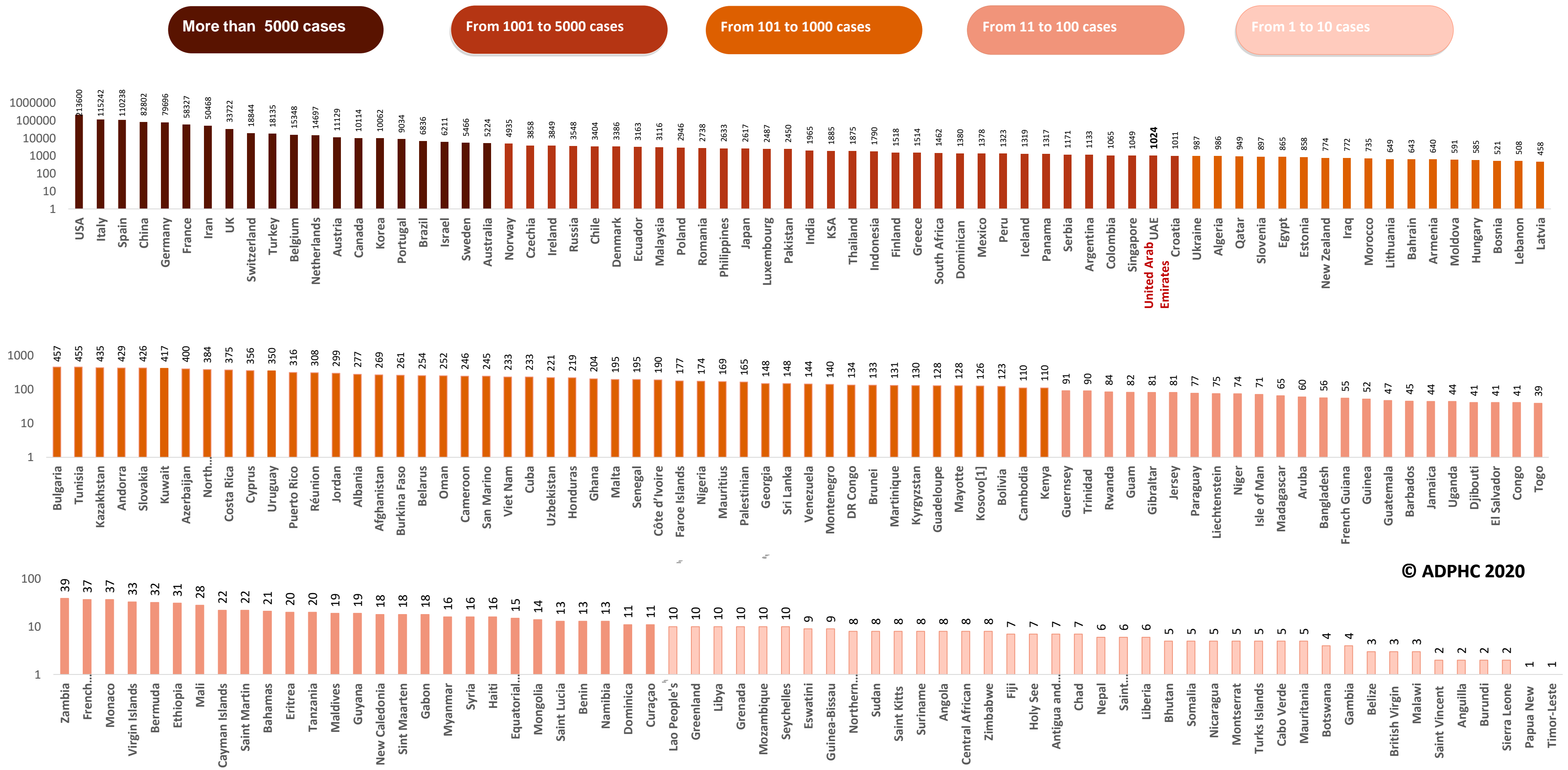


Map chart published by Abu Dhabi Public Health Center 2020.

Epidemiology



Figure 7B: Bar chart illustrate the global distribution of COVID19 cases April 3rd, 2020)



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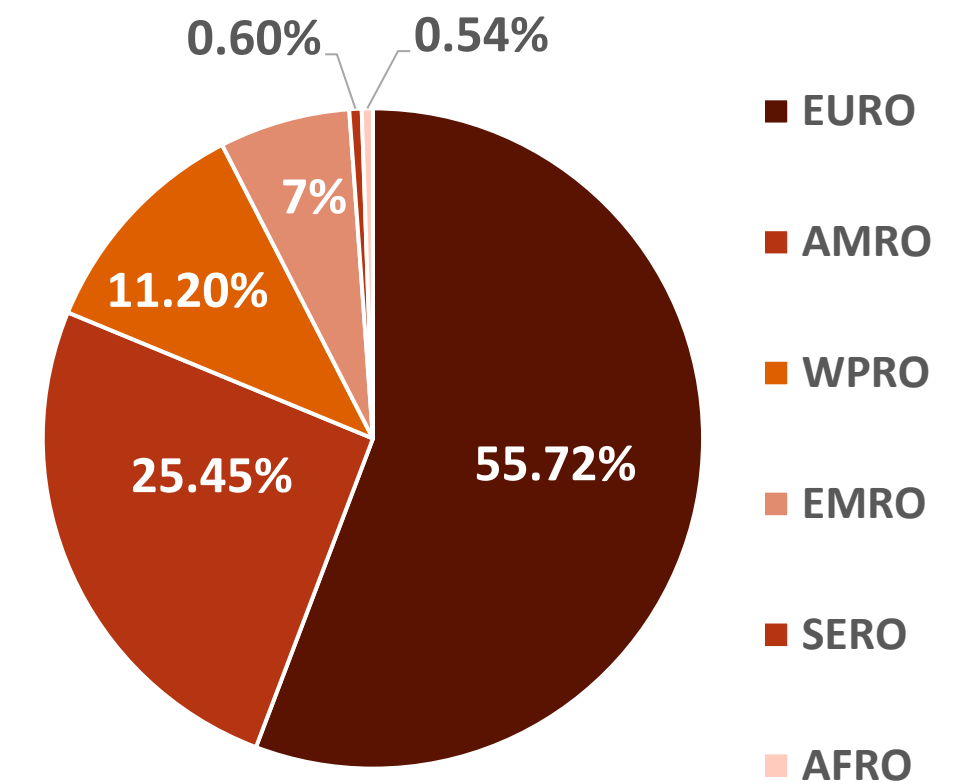
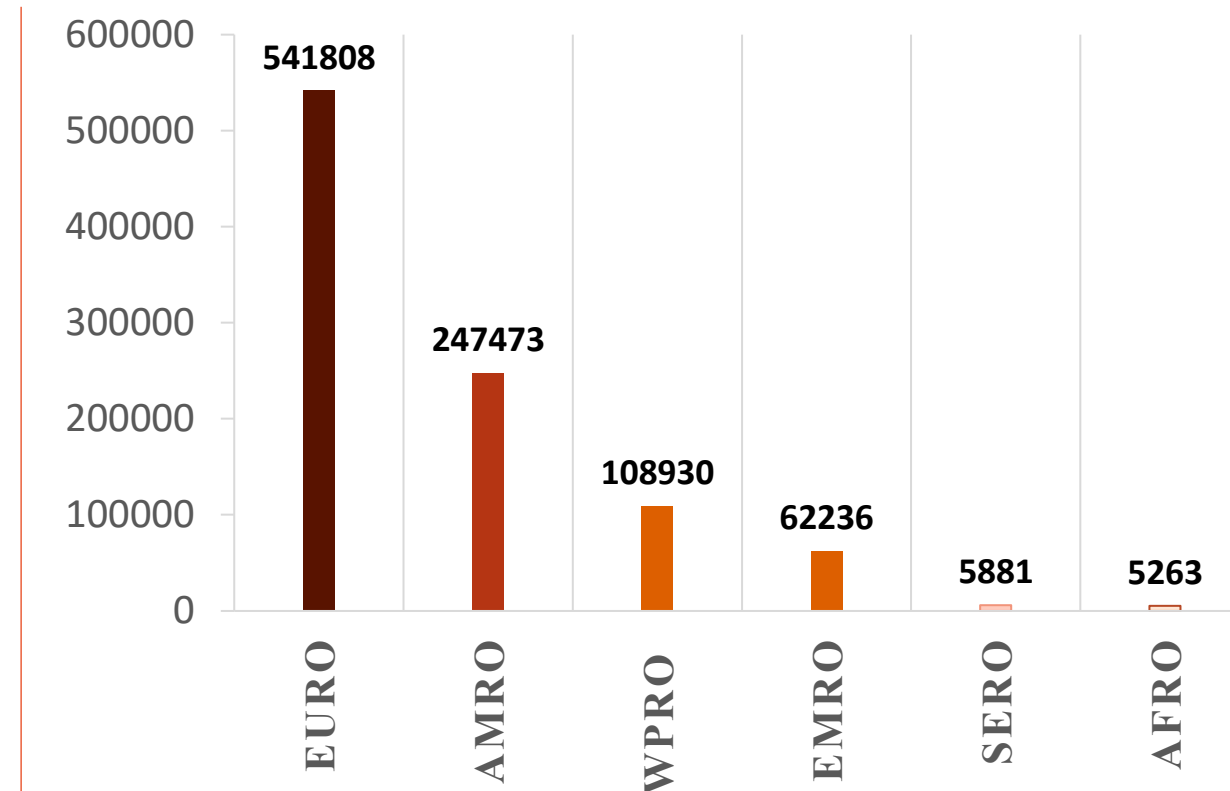
Map chart published by Abu Dhabi Public Health Center 2020.

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

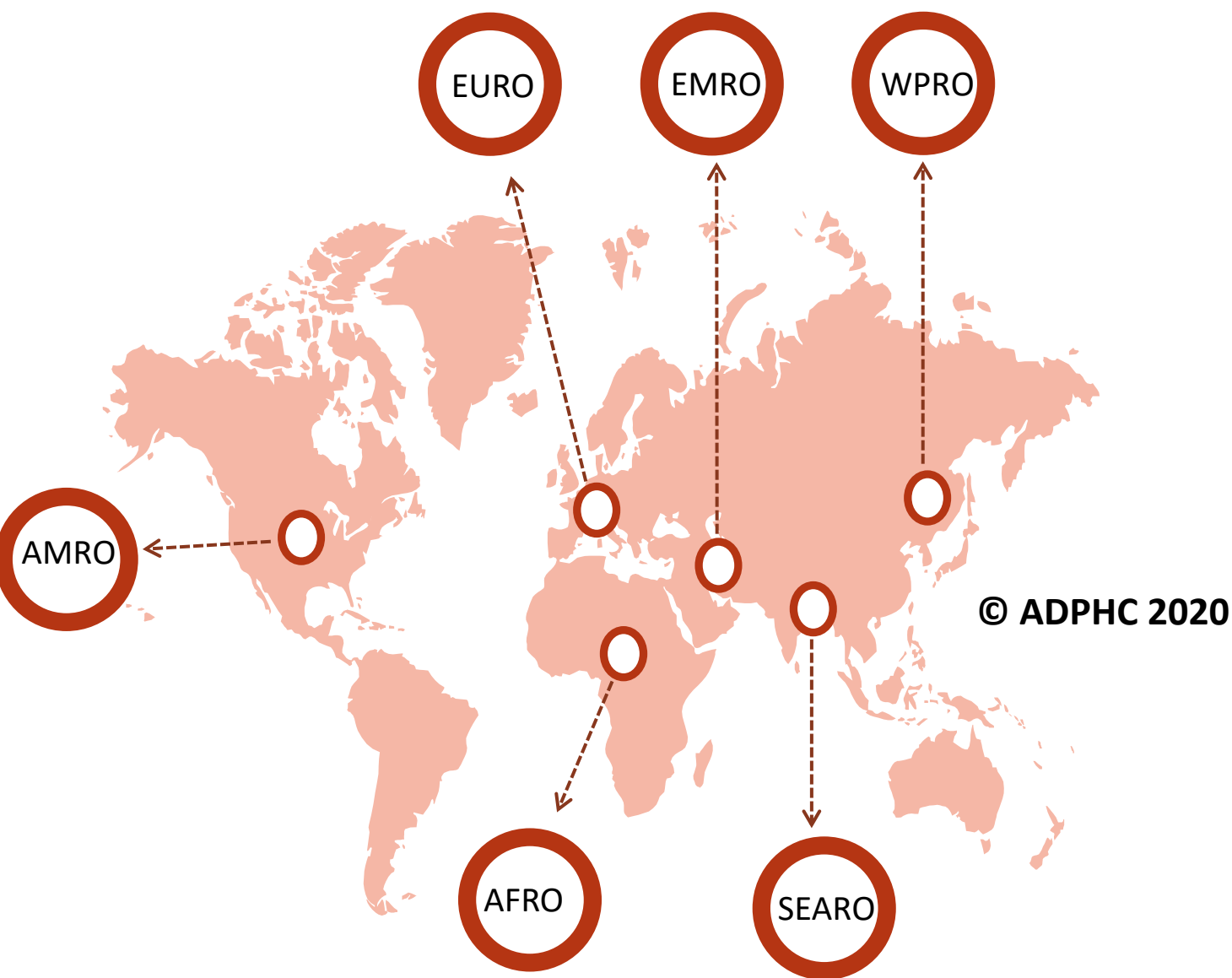
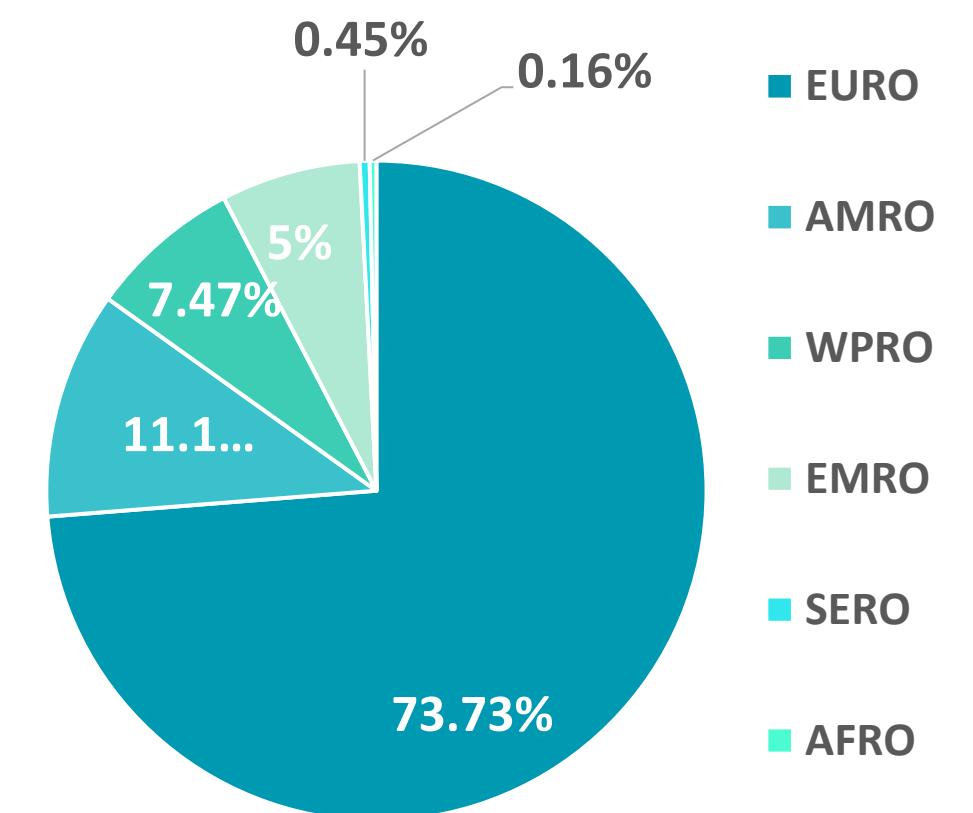
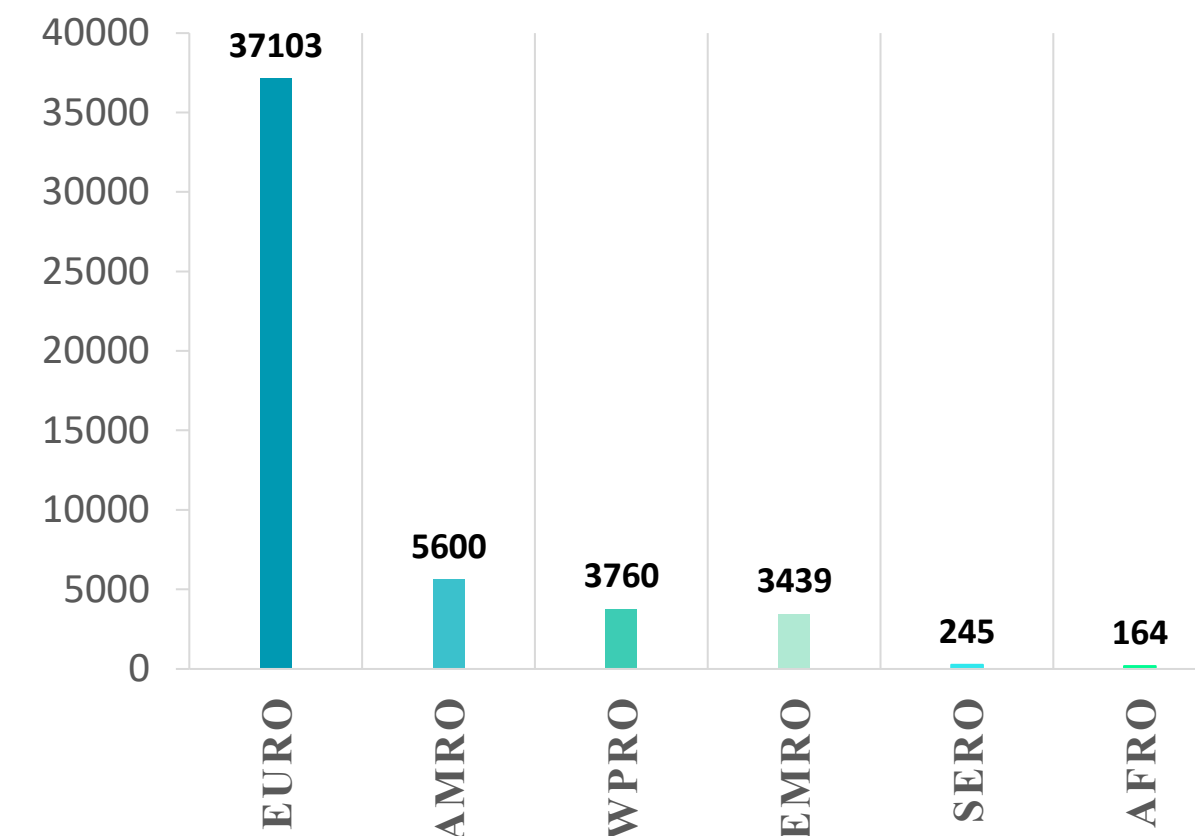


Figure 8: illustrate the Global distribution of COVID19 cases per region (April 3rd, 2020)

INFECTED



DEATH



Map chart published by Abu Dhabi Public Health Center 2020.

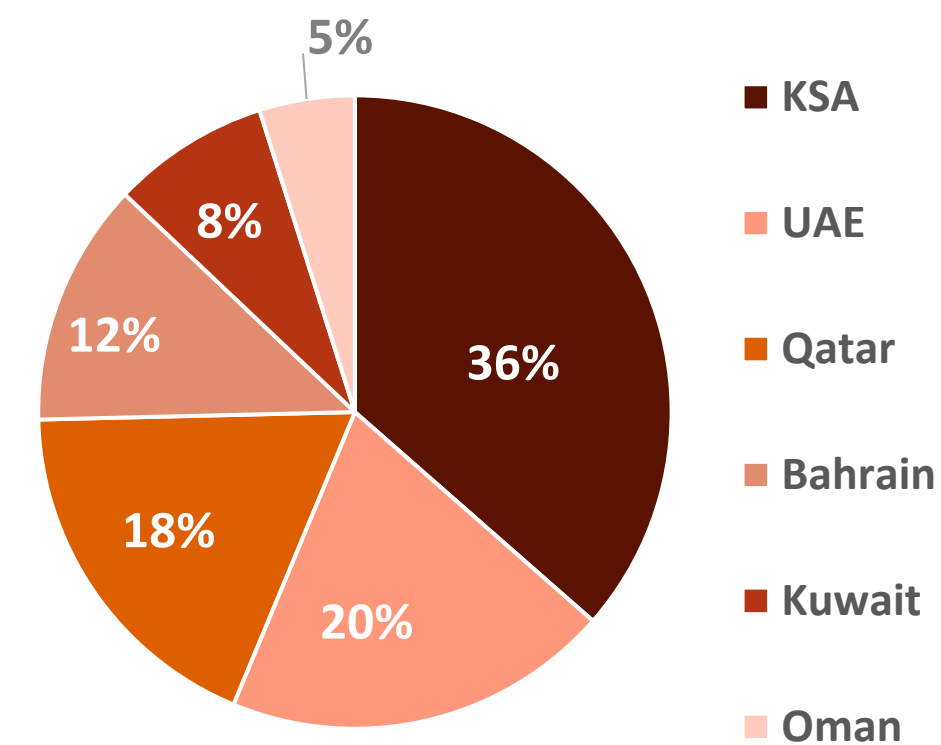
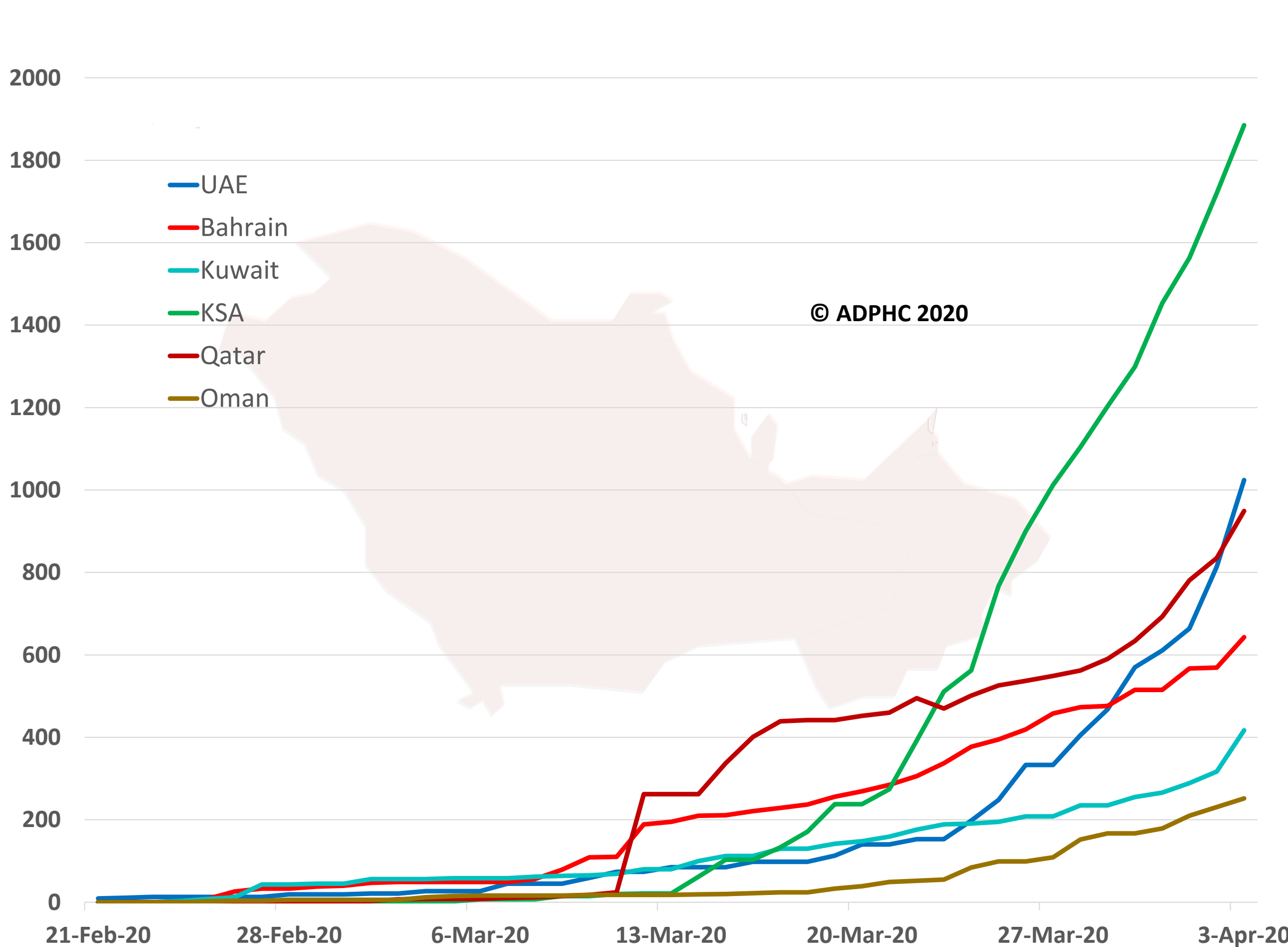
Data resources: [WHO](http://www.who.int)

Epidemiology

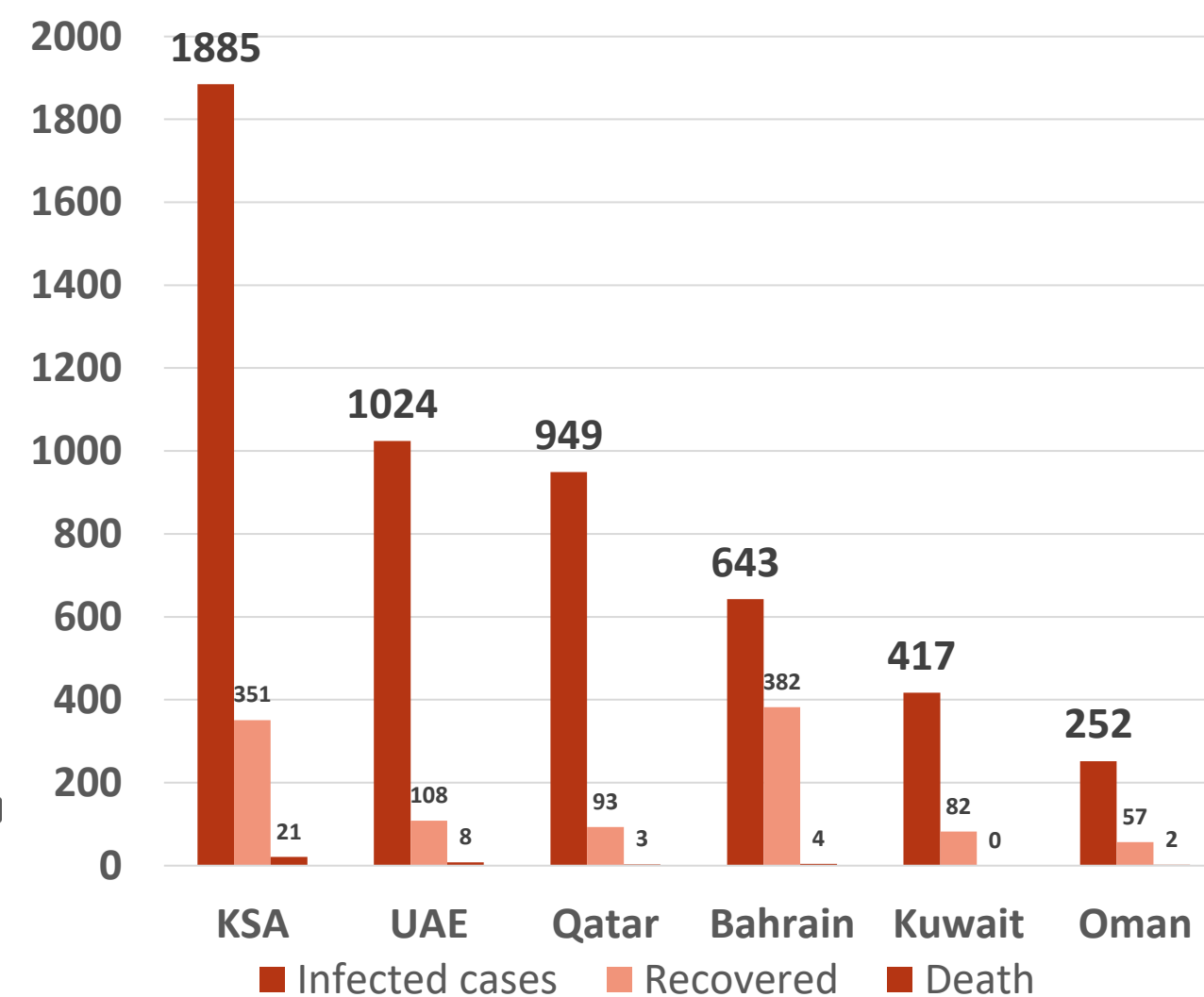


Figure 9: Comparative analysis of the distribution of COVID19 cases in GCC countries (April 3rd, 2020)

TOTAL NUMBER OF INFECTED CASES



Total number of infected, recovered and Deaths



Map chart published by Abu Dhabi Public Health Center 2020.

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

Diagnostic :



Article 1: Developing antibody tests for SARS-CoV-2

Published: April 04, 2020

Link: [Click Here](#)

Summary:

- An antibody detection test can show if a person has already had COVID-19 and is therefore probably immune. It has been argued that once people produce antibodies against a particular coronavirus, they probably have immunity for life. This is very important to know especially for the health care workers so they can return to work without fear of infection and keep the health system stable.
- Antibody detection test is multipurpose – a) it can verify that vaccines are working as intended during clinical trials; b) it can be used in contact tracing weeks or longer after a suspected infection in an individual; and c) it can help inform public policy makers how many asymptomatic cases have occurred in a population. Antibodies shows evidence of a previous infection any time from about a week after the infection has occurred.
- Antibody tests require some knowledge of the proteins that create the viral coat particularly those proteins to which the immune system responds, triggering the production of antibodies that neutralize the virus. However, the question is which proteins are best for this purpose. It is anticipated that spike protein is the main antigen that elicits neutralizing antibodies because this protein is the only protein on the viral surface that is responsible for entry into the host cell.
- This is a reassuring news for the governments that intend to establish antibody tests to find which health care workers are immune and to get their employees back to work as soon as possible.



Article 2 : Covid-19 and Health Care's Digital Revolution

Published: April 3, 2020 Link: [Click Here](#)

Summary:

Background:	Telemedicine, have existed for decades, they have had poor penetration into the market because of heavy regulation and sparse supportive payment structures & privacy regulations.
Models of delivering digital health	<ul style="list-style-type: none"> • telemedicine services (include text, email, and mobile-phone applications uses of wearable devices and "chatbots.) • (creative applications of emerging digital technologies, such as voice-interface systems (Amazon Alexa, Google Voice, Apple Siri) or mobile sensors such as smartwatches, oxygen monitors, or thermometers.) • Hospital-at-home models (available but never widely adopted)
Uses of digital health in crisis	<p>These service can be offered during the crisis to the following:</p> <ul style="list-style-type: none"> • stable patients with newly diagnosed SARS-CoV-2 infections • Early discharge of patients. • oversight of persons under investigation in home quarantine
Payment model	<p>Suggested:</p> <ul style="list-style-type: none"> • time-based models or fixed fee for-service payments • Evaluation and management (E&M) billing codes (modifying by removal of physician exam) • Technical fees to support the required technology infrastructure (software-as-service models payment rules)
Drawbacks and current concern	<ul style="list-style-type: none"> • existing models for remote monitoring services are personnel intensive rather than technology intensive and require approval of monitoring devices by the FDA. • Using of these device have confusing or vague regulatory guidance, this have greatly slowed adoption of digital solutions in health care.
Recommendation	<p>Policy is needed for:</p> <ul style="list-style-type: none"> • evaluating these emergency measures • risk of fraud (asses appropriate use and quality)

Digital Health :



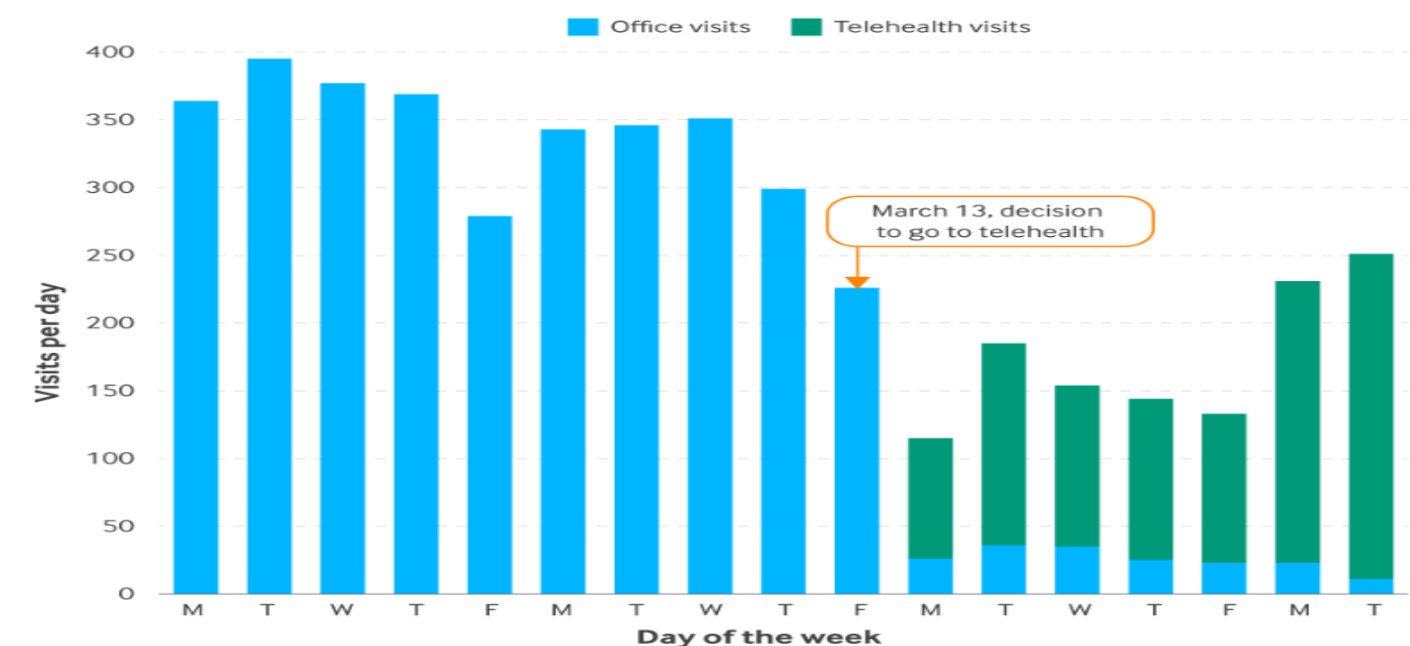
Article 3: Rapidly Converting to “Virtual Practices”: Outpatient Care in the Era of Covid-19

Published: April 1, 2020 [Link: Click Here](#)

Summary:

- The article describe the experience of four primary care practices, in becoming “virtual practices,” challenges they had faced, and the goals for the coming weeks.
- Many of their clinicians are **themselves quarantined** or must **stay at home to care for children**; telemedicine has allowed them to continue to provide care.
- There was a **reduction of the number of nurses and physicians** who physically staff the office, while other staff provide care from their home or “clean” office space (one physician and nurse to come in per day, and we limit in-person care to two visits an hour across the entire practice)
- They are ramping up telehealth modalities by including electronic messaging, within the patient portal, telephone calls, and video visits.
- Physicians are reviewing scheduled appointments and making triage decisions for in-person visits, telehealth visits, or deferred appointments.
- They developed protocols for front-office staff on which visits can be deferred for several months (e.g., annual physicals for adults) or should remain scheduled (e.g., well child immunization visits),

Number of Visits per Day in Transition to Telehealth at One Primary Care Practice



Finding and concerns:

- **We find that telephone care is the current telehealth mainstay, video visits are taking time to ramp up:**
 - In some practices the goal is to make video visits the norm (rather than telephone) to better approximate in-person care and to increase likely payment
 - Barriers to video visits include training clinicians, explaining arrival procedures to patients, using interpreter services, and getting video equipment to clinician’s homes.
 - Some attempted video visits unfortunately have had to be switched to the telephone or less HIPAA-compliant platforms such as **FaceTime and Skype**.
- Concerns about practice revenue will escalate as social distancing continues
- **virtual health visits will need to be rationed and prioritize to only those at high risk for illness,.**
- Consider E-consults (when available) so that clinicians can virtually incorporate input from specialty colleagues.