



# SCIENTIFIC RESEARCH MONITORING ON COVID-19

17 MAY 2021

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# SCIENTIFIC RESEARCH MONITORING ON COVID-19

(Issue 423)

مركز أبوظبي  
للصحة العامة  
ABU DHABI PUBLIC  
HEALTH CENTRE



Abu Dhabi Public Health Center (ADPHC) is gathering the latest scientific research updates and trends on coronavirus disease (COVID-19) in a daily report. The report provides summaries on breakthrough or updated research on COVID-19 to allow health care professionals and public health professionals get easy and fast access to information.

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**Research**

Titles



**Statistics**



**Articles**

Summary

Note : All articles presented in this report represent the authors' views and not necessarily represents Abu Dhabi Public Health Center views or directions. Due the nature of daily posting , some minor language errors are expected.

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The views and opinions expressed in this report are those of the authors and do not reflect the official policy or position of the Abu Dhabi Public Health Center (ADPHC).

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## PUBLIC HEALTH RESPONSE

The Leading Causes of  
Death in the US for 2020

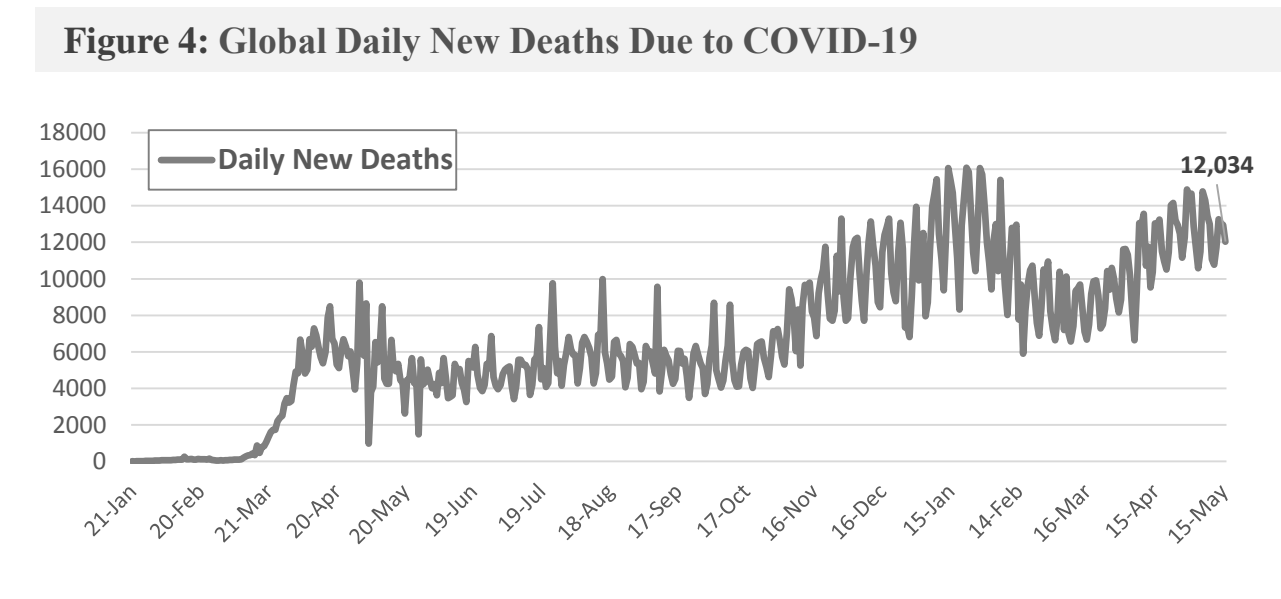
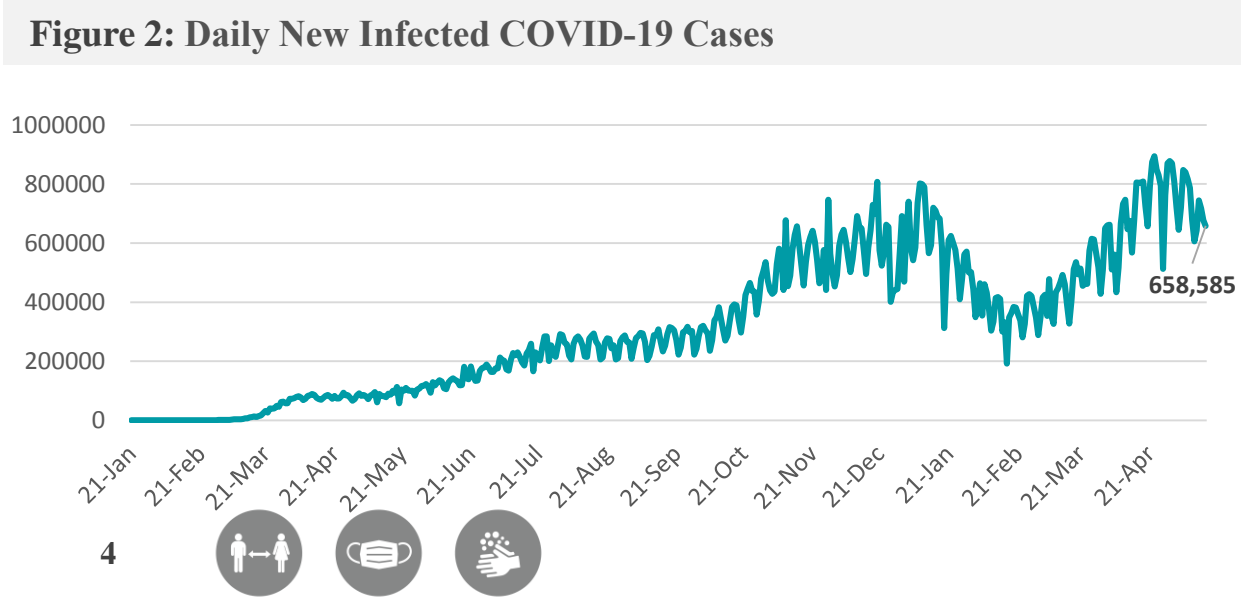
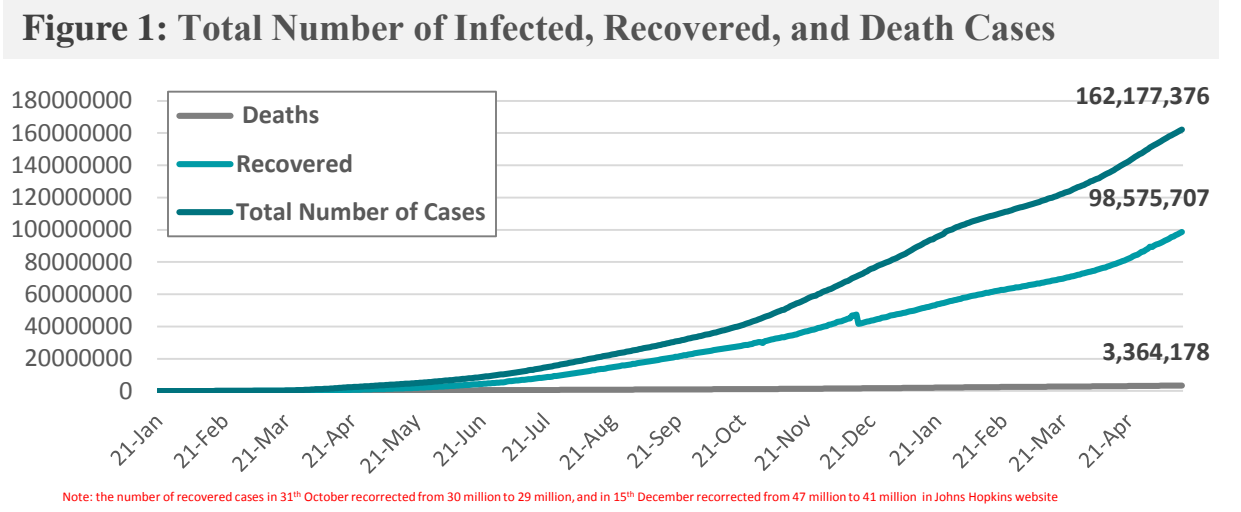
The Coronavirus  
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What Went Wrong?

Harms of public health  
interventions against  
covid-19 must not be  
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Leveraging Open Science  
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Ambulatory Contacts and  
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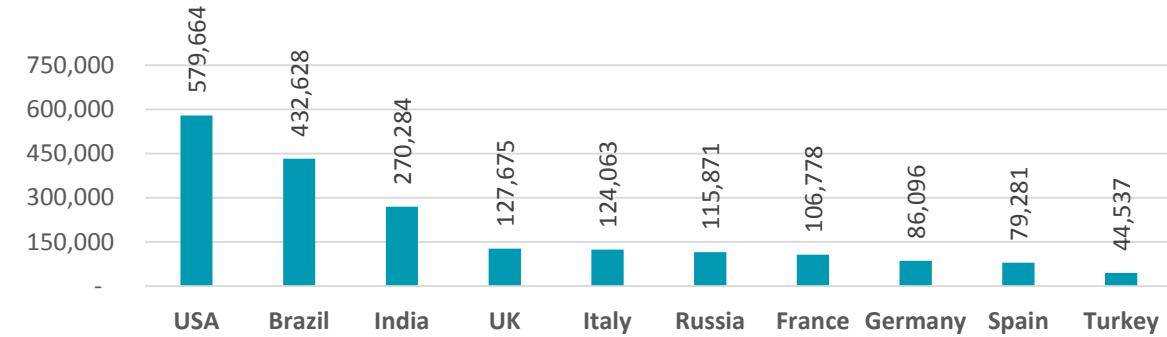




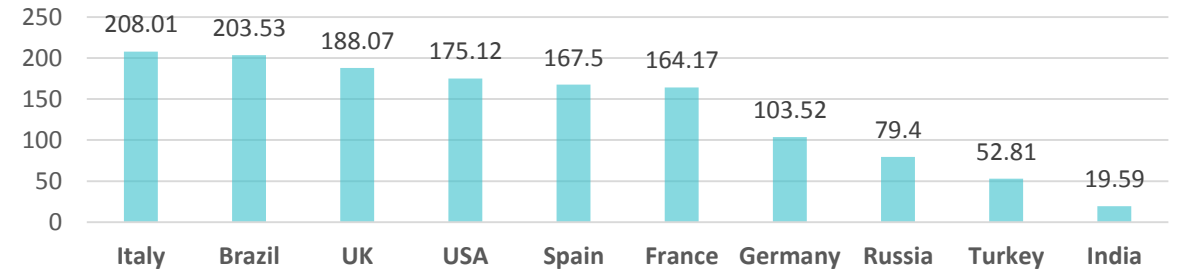


**Figure 5: Top 10 Countries in the Total Number of Cases Due to COVID-19**

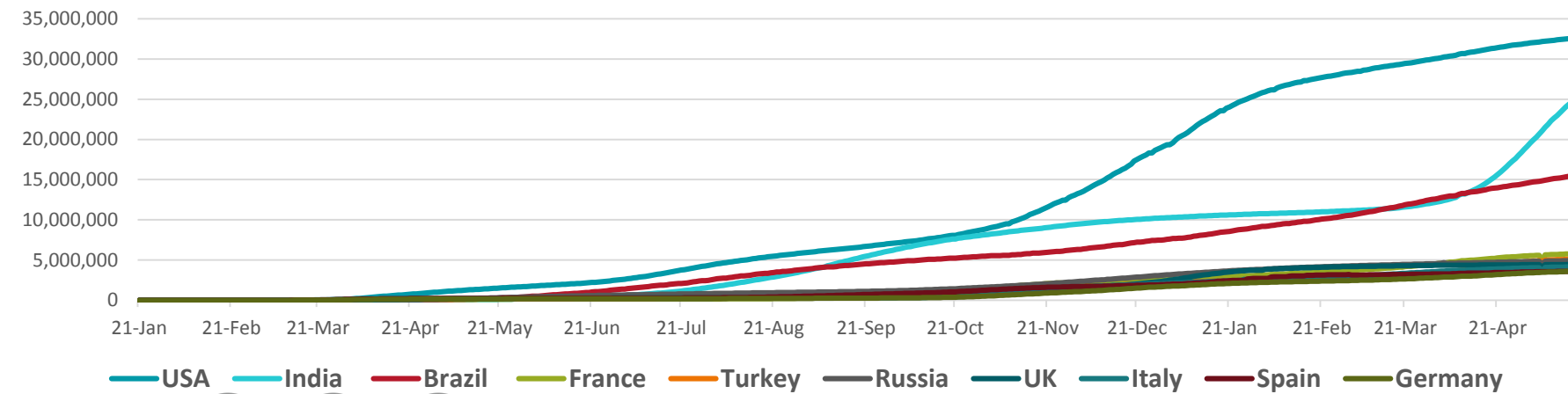
## TOTAL DEATHS



## DEATHS PER MILLION



## TOTAL INFECTED CASES

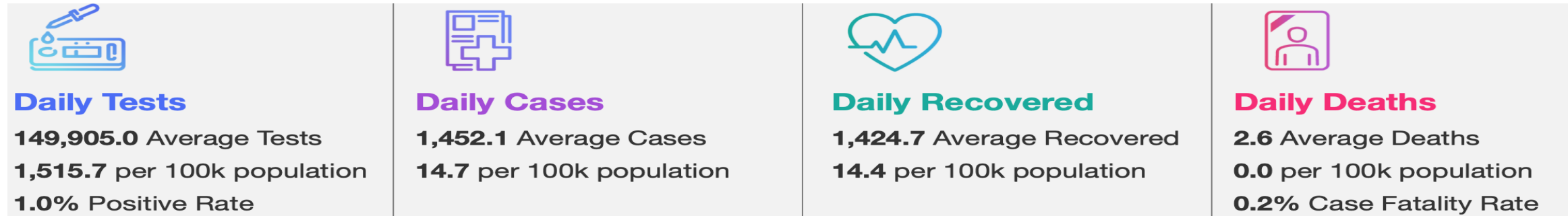


USA	32,574,504
India	24,684,077
Brazil	15,519,525
France	5,769,839
Turkey	5,106,862
Russia	4,940,245
UK	4,448,855
Italy	4,153,374
Spain	3,598,452
Germany	3,593,434

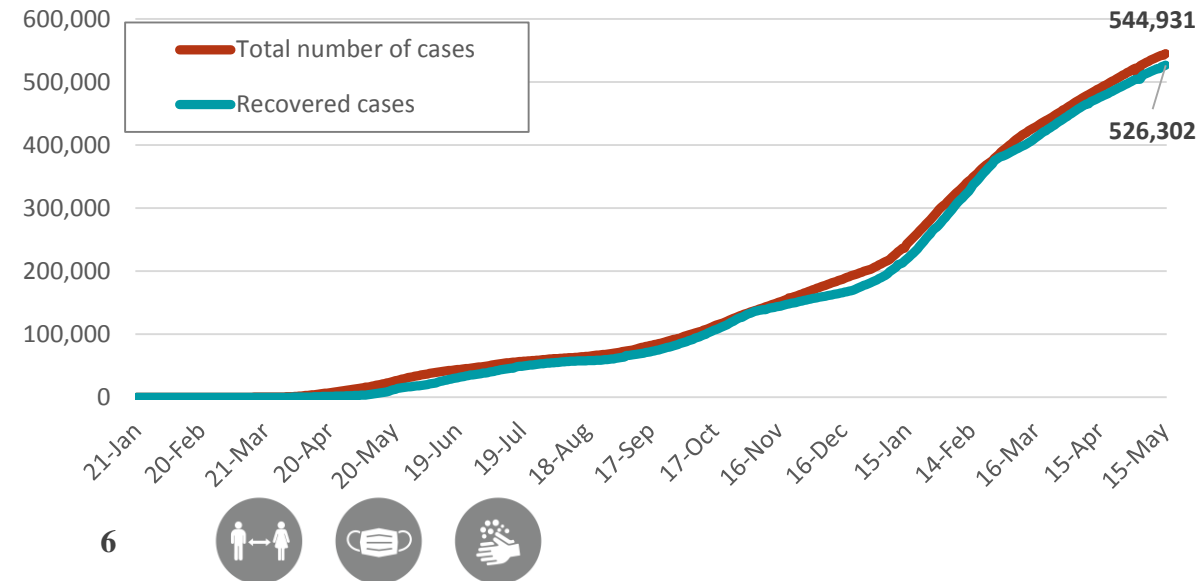




**Figure 8: COVID-19 Status in the UAE** (Federal Competitiveness and Statistics Authority Dashboard)



**Figure 6A: TOTAL Number Of Infected And Recovered Cases Due To Covid-19 Reported By The UAE**



**Figure 6 B: TOTAL NUMBER and Percentage of UAE population Vaccinated**

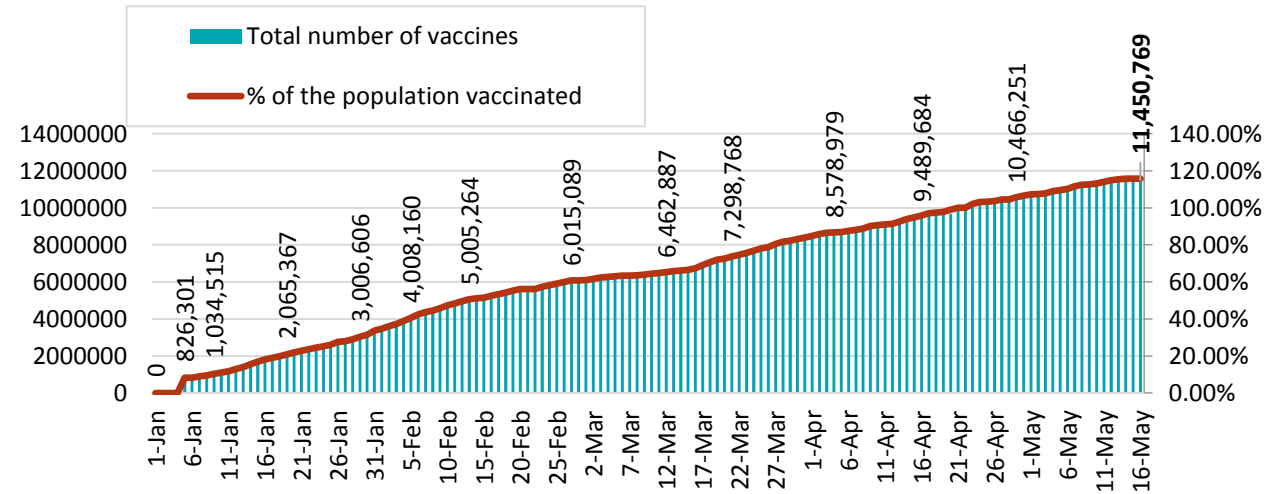




Figure 7A : Global Distribution of COVID-19 Cases

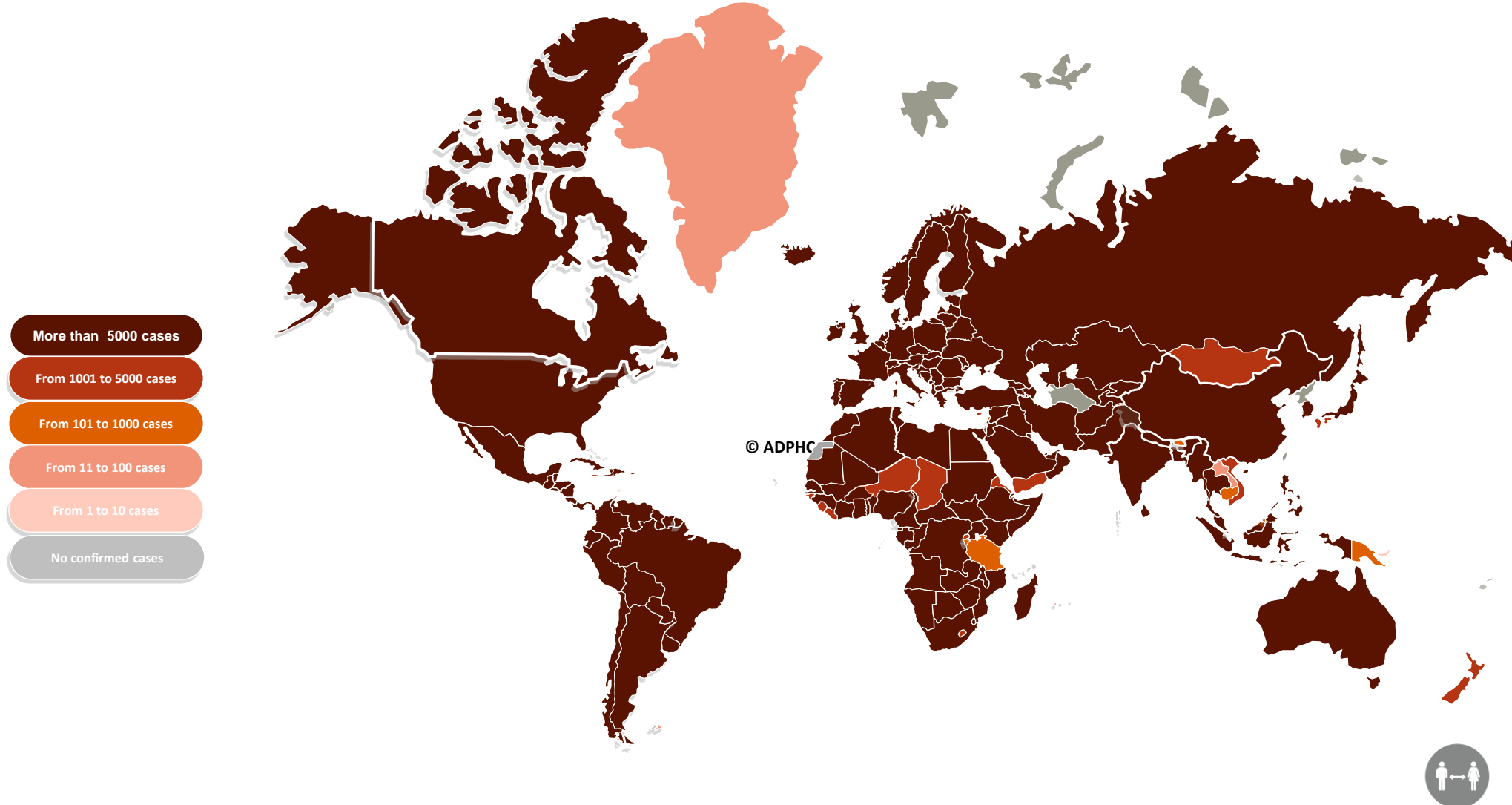
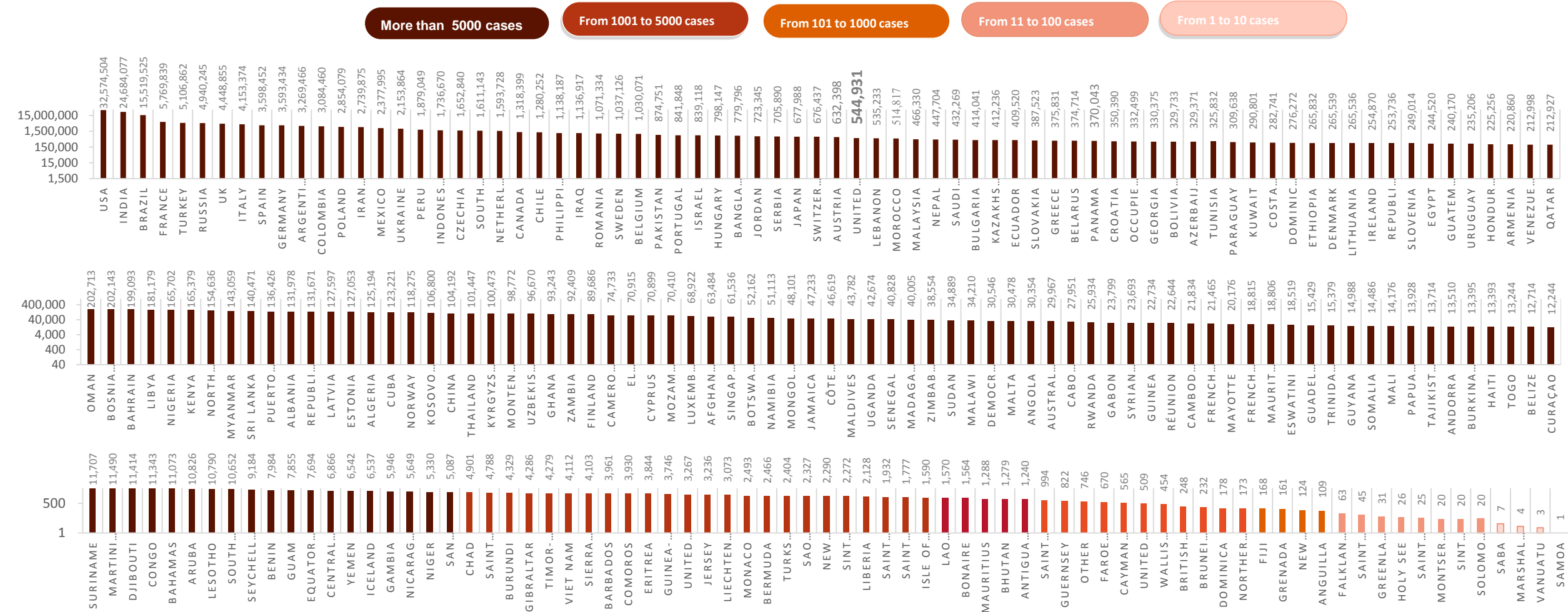




Figure 7B: Bar Chart Illustrates the Global Distribution of COVID19 Cases

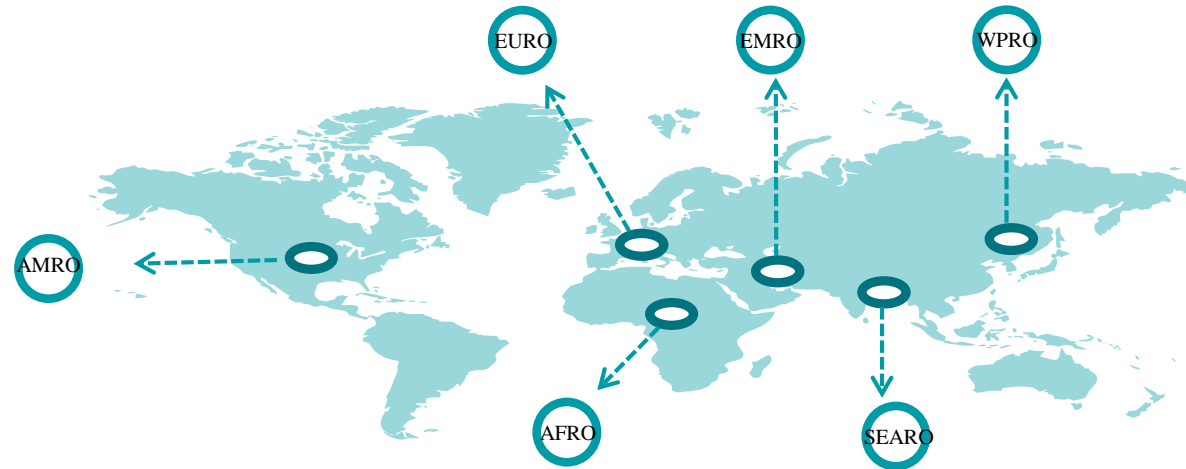


Other\*: includes cases and deaths reported under the international conveyance (Diamond Princess)

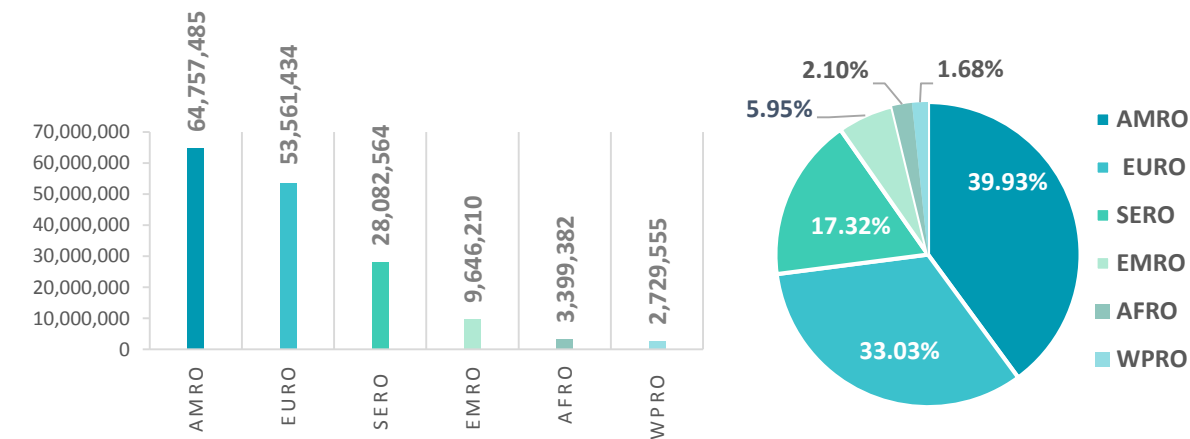




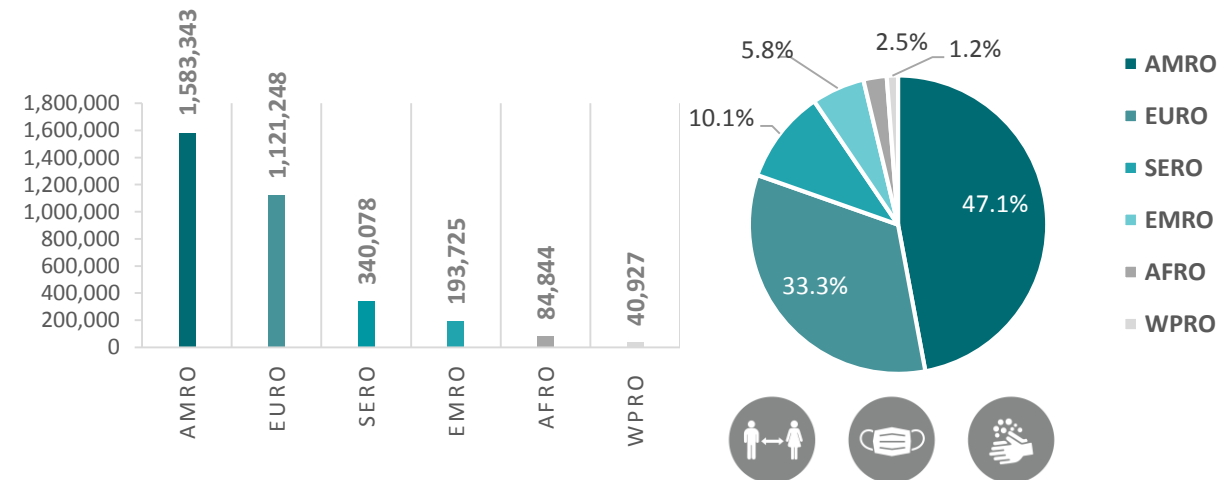
**Figure 6: Global Distribution of COVID-19 Cases per Region**



## INFECTED

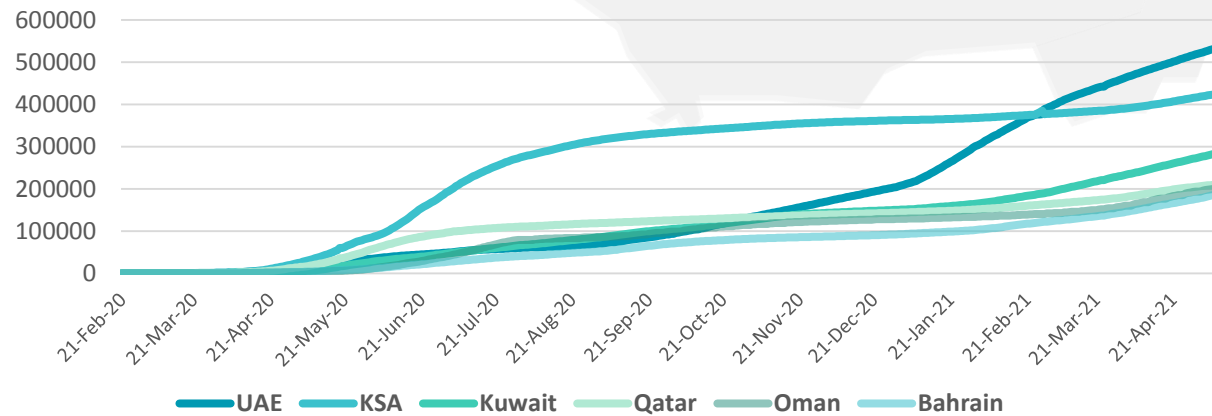
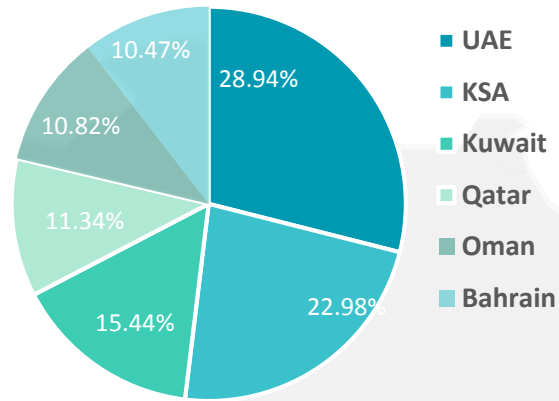


## DEATHS

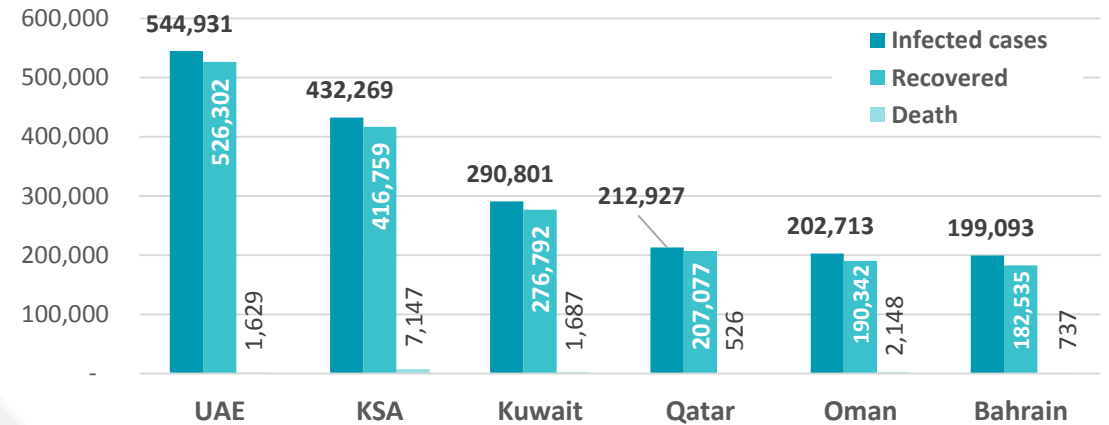


**Figure 7: Comparative Analysis of the Distribution of COVID-19 Cases in GCC Countries**

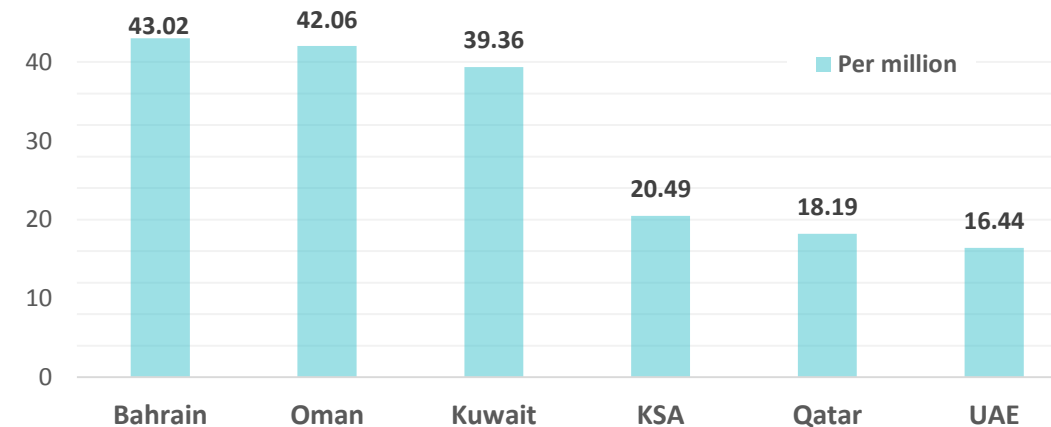
## TOTAL NUMBER OF INFECTED CASES



## TOTAL NUMBER OF INFECTED, RECOVERED AND DEATHS

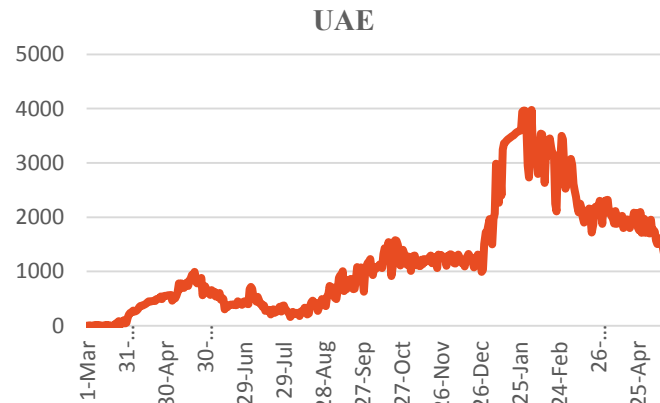


## DEATHS PER MILLION

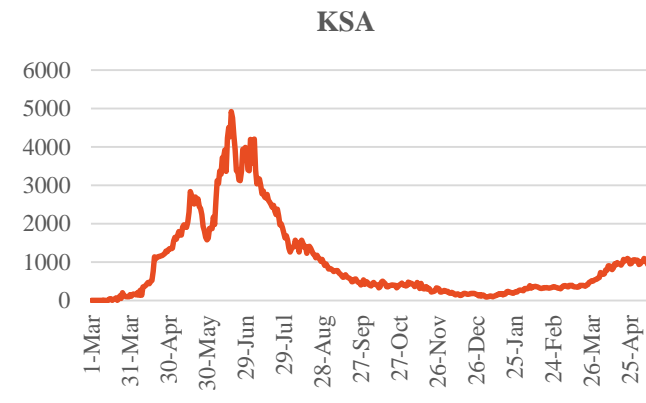




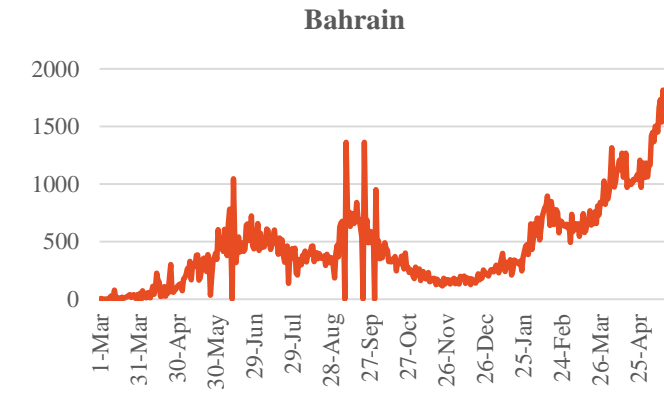
**Figure 10: Comparative Analysis of the Distribution of COVID-19 New Cases in GCC Countries**



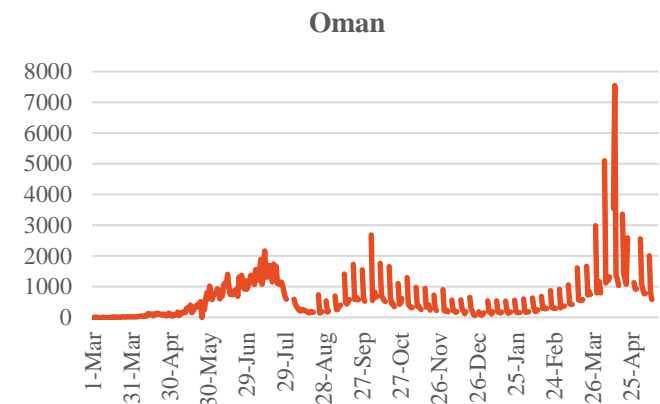
Source : National Emergency Crisis and Disaster Management Authority



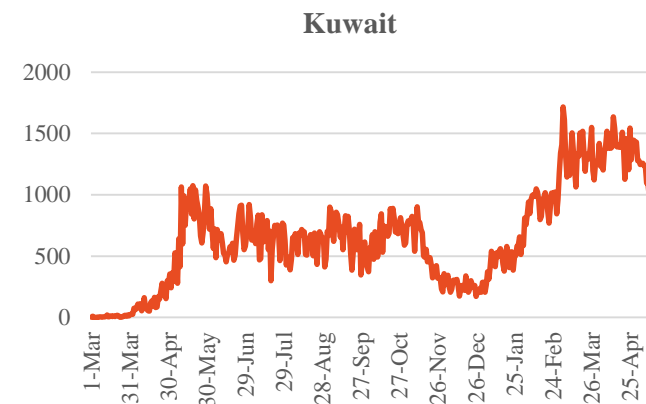
Source : KSA ministry of health



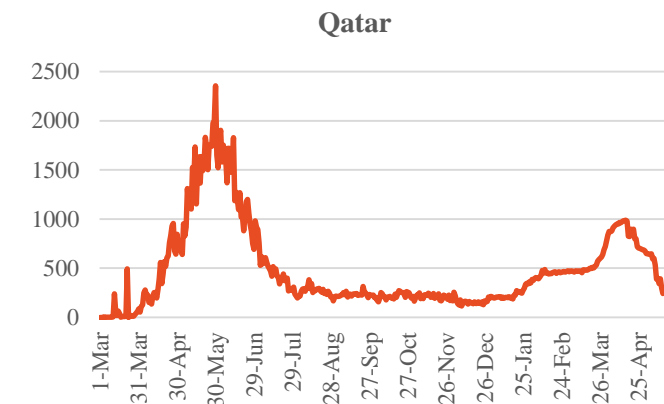
Source : WHO



Source : Oman ministry of health



Source : Kuwait ministry of health

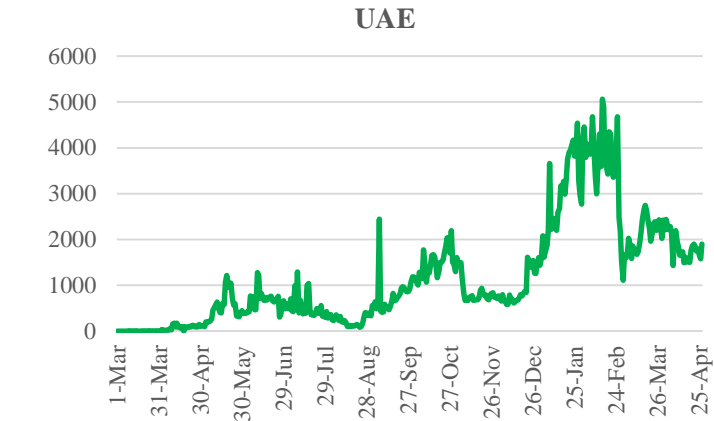


Source : Qatar ministry of health

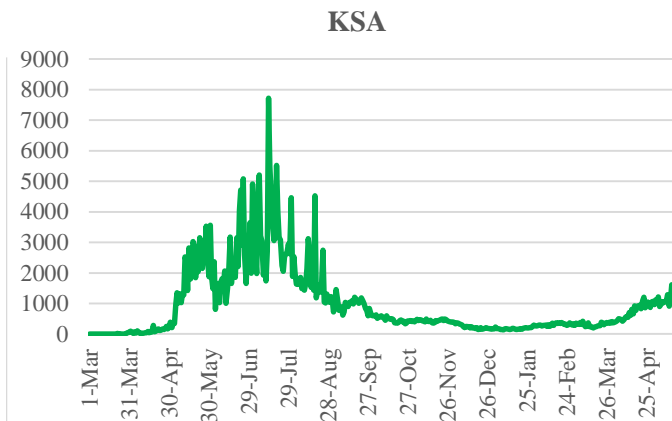




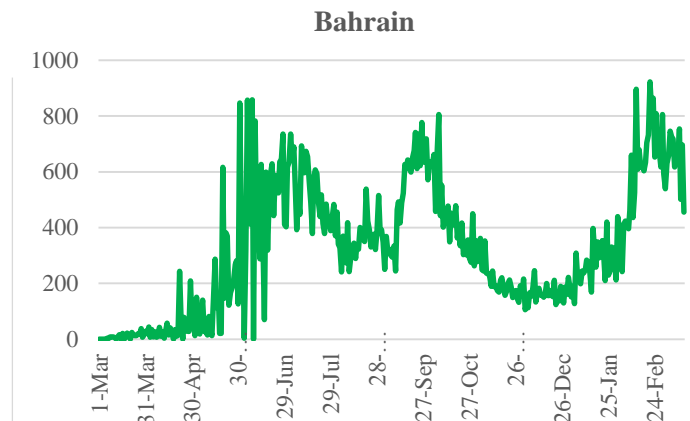
**Figure 11: Comparative Analysis of the Distribution of COVID-19 Recovered Cases in GCC Countries**



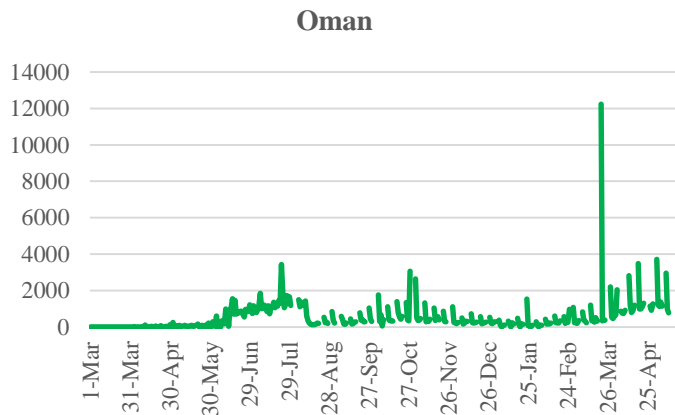
Source : National Emergency Crisis and Disaster Management Authority



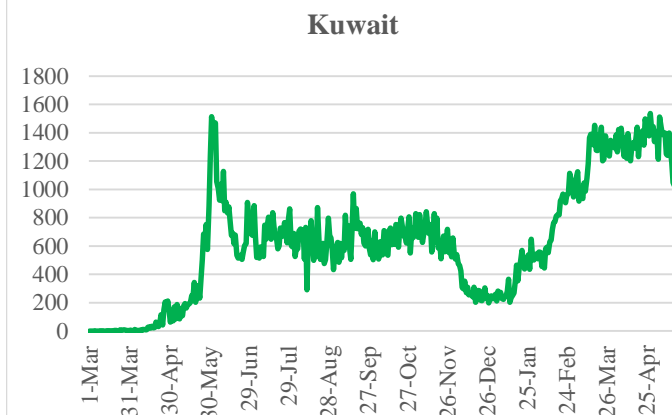
Source : KSA ministry of health



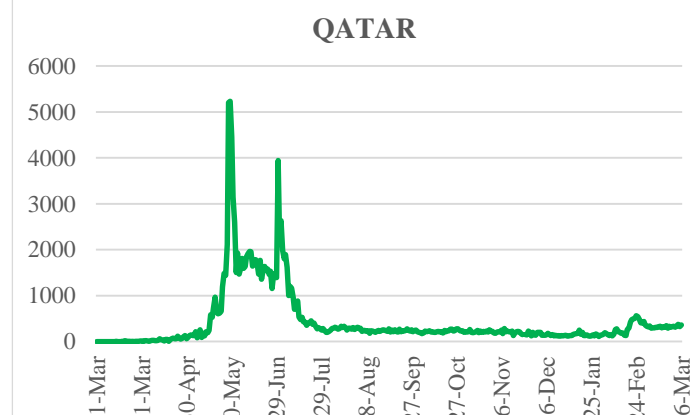
Source : Bahrain ministry of health



Source :Oman ministry of health



Source : Kuwait ministry of health

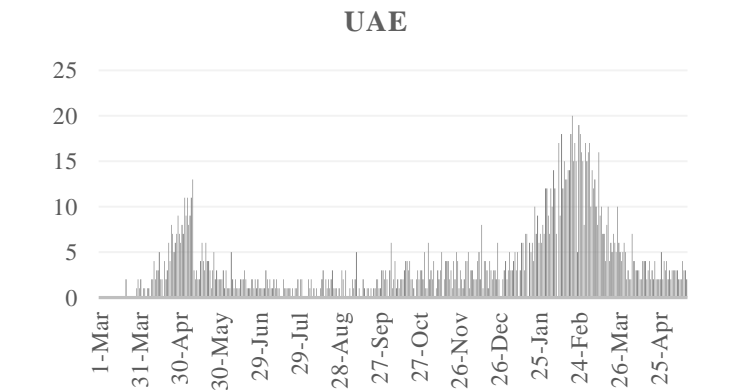


Source : Qatar ministry of health

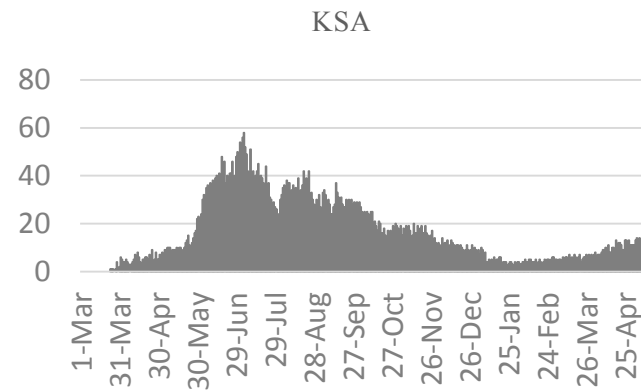




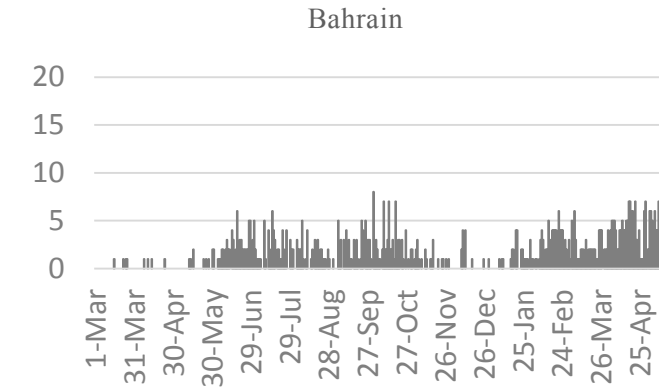
**Figure 12: Comparative Analysis of the Distribution of COVID-19 New Death Cases in GCC Countries**



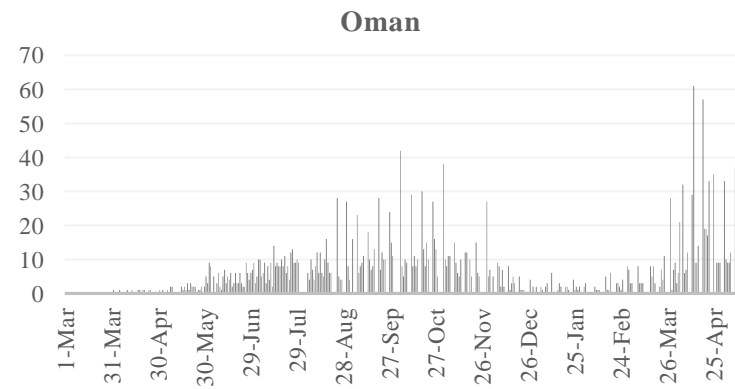
Source : National Emergency Crisis and Disaster Management Authority



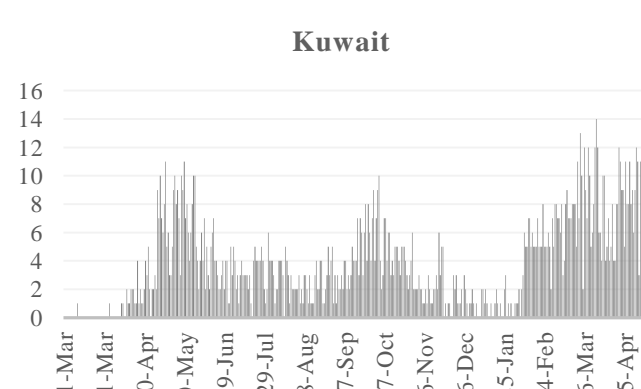
Source : KSA ministry of health



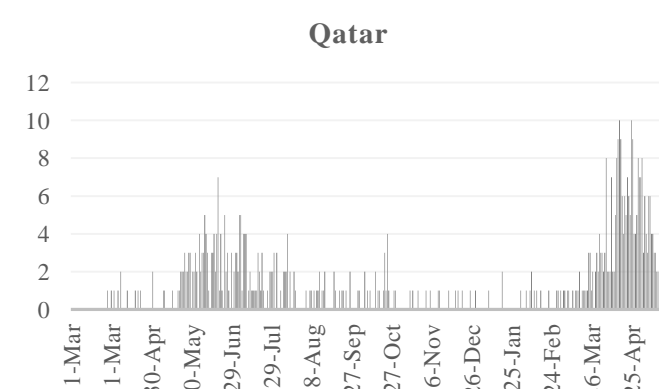
Source :WHO



Source :Oman ministry of health



Source : Kuwait ministry of health



Source : Qatar ministry of health



## Article 1

## The Leading Causes of Death in the US for 2020

Published

March 31, 2021 in [THE JAMA](#)

- The provisional leading cause-of-death rankings for 2020 indicate that COVID-19 was the third leading cause of death in the US behind heart disease and cancer.
- The leading causes of death in the US for the years 2015 to 2020. In 2020, there were notable changes in the number and ranking of deaths compared with 2019. COVID-19 was the third leading cause of death in 2020, with an estimated 345323 deaths and was largely responsible for the substantial increase in total deaths from 2019 to 2020. Substantial increases also occurred for several other leading causes. Heart disease deaths increased by 4.8%, the largest increase in heart disease deaths since 2012. Increases in deaths also occurred for unintentional injury (11.1%), Alzheimer disease (9.8%), and diabetes (15.4%). Influenza and pneumonia deaths in 2020 increased by 7.5%, although the number of deaths was lower in 2020 than in 2017 and 2018. From 2019 to 2020, deaths due to chronic lower respiratory disease declined by 3.4% and suicide deaths declined by 5.6%.

- Trends in mortality for leading causes of death are important indicators of shifting patterns in mortality. During the COVID-19 pandemic, changes in leading causes provide insight into the direct and indirect effects of the pandemic on mortality burden. Most of the increase in deaths from 2019 to 2020 was directly attributed to COVID-19. However, increases were also noted for several other leading causes of death. These increases may indicate, to some extent, underreporting of COVID-19, i.e., limited testing in the beginning of the pandemic may have resulted in underestimation of COVID-19 mortality.<sup>6</sup> Increases in other leading causes, especially heart disease, Alzheimer disease, and diabetes, may also reflect disruptions in health care that hampered early detection and disease management. Increases in unintentional injury deaths in 2020 were largely driven by drug overdose deaths. Final mortality data will help determine the effect of the pandemic on concurrent trends in drug overdose deaths.

## Article 2

## The Coronavirus Pandemic 1 Year On—What Went Wrong?

Published

March 23, 2021 in [THE JAMA](#)

### The Collapse of Global Solidarity

- At a national level, the lessons are clear, including undervaluing science, weak public health infrastructure, and public resistance to risk mitigation measures like wearing a mask. At the global level, the collective failures have been still greater.

### Early Failure of the Global Health System

- Rapid detection of response. Yet a timeline of events shows major delays in China's reporting and the veracity of information provided to the WHO. China did not report the novel viral clusters to the WHO. Instead, the WHO was alerted through news and social media outlets.

### A Better System for Outbreak Detection and Verification

- The timeline of events clearly shows the need to empower the WHO to independently verify official reports and to deploy support and containment personnel to member states, including to places where the outbreak originated.

### An Amply Funded WHO

- The world needs a better-resourced WHO. Member states should at least double their assessed contributions to the WHO and provide the organization with flexibility to put funding toward the most pressing health threats.

### Declaring a PHEIC (Public Health Emergency of International Concern)

- The WHO has been criticized for not declaring COVID-19 a global health emergency until January 30, 2020, by which time SARS-CoV-2 had spread to [20 places outside China](#).

### Coordinated National Responses

- Even after the PHEIC had been declared, countries were slow to act. In part because governments failed to build IHR (International Health Regulation) core health system capacities, including surveillance, testing, and contact tracing. Stronger IHR mechanisms to secure funding for and to evaluate health systems would support core capacities, leaving countries far more prepared in the future. Although the approval of COVID-19 vaccines before the end of 2020 was a historic achievement, it is clouded by inequitable distribution. High-income countries with their own vaccine supply deals are expected to vaccinate nearly their entire populations by the end of 2021. Lower-income countries may not accomplish the same until 2 years later, with some estimates projecting the world will not be fully vaccinated for a decade. In addition to being inequitable, it also puts the whole world at greater risk as SARS-CoV-2 will continue to circulate, mutate to evade vaccines, and again spread across the globe.

## Article 3

## Harms of public health interventions against covid-19 must not be ignored

Published

November 02, 2020 in [THE BMJ](#)

- interventions to limit the spread of the coronavirus also carry negative health effects, which have yet to be considered systematically.

### Collateral damage

- The harmful consequences of public health interventions can be direct or indirect—for example, psychological harms, equity harms, group and social harms, opportunity harms, and inequalities in intervention benefits. social distancing may have slowed viral spread, they also brought about unprecedented levels of unemployment that led to justifiable resistance from some sectors.

### Excess deaths and inequalities arising from economic damage

- Application of the “first do no harm” to public health means that positive outcomes of public health interventions need to outweigh any negative effects. The economic shock caused by efforts to contain SARS-CoV-2 is larger than that arising from the 2007-09 financial crisis. It is therefore critical that models that aim to understand the effect of covid-19 policies on health also consider lives lost as a result of the economic consequences of the response to the pandemic to avoid portraying a false choice between the economy and health.

### Negative health effects

- Restrictive measures on social mobility and the economy are associated with adverse health outcomes in both the short term and the long term. Short term health effects For example, psychological harms of quarantines, increased anger, confusion, and symptoms of post-traumatic stress disorder (PTSD).
- Lockdowns can also cause long term health harms, such as from delayed treatment and investigations. Delays in the diagnosis and treatment of various types of cancer.

### Effect on vulnerable populations.

- Disadvantaged low income communities and people with mental health and addiction problems are more likely to be adversely harmed by social distancing measures. It also increase child abuse and domestic violence rates.

Public health needs to increase its investment into assessing the harms of policy options and transparently report the harmful consequences of public choices when deciding on and evaluating public health strategies to combat SARS-CoV-2.



## Article 4

## Leveraging Open Science to Accelerate Research

Published

March 24, 2021 in [NEJM](#)

**This article discusses about the need to optimize Open Science to accelerate research.**

- United States has concentrated the efforts of its clinical research enterprise on the Covid-19 pandemic situation by allocating billions of dollars to assist timely research. National Institute of Health (NIH) provided about a thousand awards worth around \$2 billion, to aid Covid-19 projects such as development of medical products that includes vaccines and diagnostics. Additionally, the aid is also used for evaluating population-specific risk factors and outcomes; consequently, new technologies and important evidence are generated to illustrate the value of robust scientific infrastructure.
- Studies have indicated that investigators fail to report results and share data from numerous federally supported trials. In addition, protocols and data-collection tools are not publicized; therefore, to optimize the return on federal investment in clinical research, policymakers should integrate open-science principles into research policies and programs, which could have benefits beyond the pandemic.
- The vision of open science for research conduct is to endorse standard processes to share protocols, register studies, share data, biospecimens, code, report and disseminate results.
- The iterative process of advancements in science is contingent upon reporting practices for enabling data to be discoverable, accessible, interoperable, reusable, and replicable to permit follow-on investigations and independent scrutiny for the public or the scientific community.

- Also, open-access journals and preprint platforms should be available. For example, [National Institute of Health \(NIH\)](#) published data sharing guidelines and public-private partnerships for data distribution, such as the Yale University Open Data Access Project.
- Researchers developed a data-sharing precedent and metadata, by uploading the initial genome sequence of SARS-CoV-2 in an open access database in January 2020, that later enhanced our understandings about new Covid-19 variants.
- The NIH generated ClinicalTrials.gov website platform for sharing research tools for Covid-19 and supported investigators to accelerate reporting ahead of requirements. Preprint endorsement promotes awareness of research successes and failures. Similarly, dedicated Covid-19 Web pages, and an emphasis on sharing data with public health authorities, expedite the distribution of actionable information. Only 8% of completed Covid-19 studies have been published on ClinicalTrials.gov; thus, this has hindered researchers' ability to synthesize and learn from emerging evidence.

## Continued

- Government and regulators should provide funding for publishing data on institutional compliance with transparency expectations, such as on rates of timely reporting and data accessibility, on the Tracking Accountability in Government Grants System (TAGGS) dashboard.
- Policymakers should encourage open science in their expectations for federally funded projects, and cultivate standards that mandate timelines for study registration, protocol posting, results reporting, data and code sharing for all Covid-19 grantees. More than 2500 registered clinical trials associated to Covid-19, are subsidized by federal funds. The NIH has launched a preprint pilot through PubMed Central for NIH-funded research.
- The NIH and Food and Drug Administration (FDA) have the authority to reprimand non-compliant parties that violate legal conditions for registration and reporting results by imposing holds on grant funding.
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- The National Institute of Health (NIH) and Food and Drug Administration (FDA) have the authority to reprimand non-compliant parties that violate legal conditions for registration and reporting results by imposing holds on grant funding.
- NIH's lately finalized Policy for Data Management and Sharing to promote data-sharing practices for Covid-19 could offer an opportunity to clarify ambiguities. Overall, these measures taken could be a reminder not only of what science can do, but also how science should be implemented during a pandemic.





## Article 5

# In-Person and Telehealth Ambulatory Contacts and Costs in a Large US Insured Cohort Before and During the COVID-19 Pandemic

Published

March 23, 2021 in [THE JAMA](#)

- The article is about the study of the role of telehealth in the delivery of care at the start of the COVID-19 pandemic.
- The cohort study mentions about working-age people continuously enrolled in private health plans from March 1, 2019, to June 30, 2020. Blue Health Intelligence's data repository provided the claims' data files and data analysis was implemented from June to October 2020.
- From March to April peak time, the telehealth usage increased from less than 1% of visits to around 80% where the COVID-19 prevalence was high. Consequently, nearly all regulatory, financial, and technical barriers that hindered with past telehealth expansion, has been eradicated by practitioners, policy makers, and payers.
- The shift to telehealth not only impacted more than 7.5% of Americans with confirmed COVID -19, but also every individual coming in contact with the health care system. Ambulatory encounters in-person or telehealth along with allowed charges, stratified by characteristics derived from practitioner claims, enrolment files, and community characteristics linked to the enrollee's zip code. An encounter is described as a patient seeing a particular practitioner on a specific date.
- Out of 36,568,010 people; 18,466,557 female individuals [50.5%]) were included in the analysis. In-person contacts declined by 37% (from 1.63 to 1.02 contacts per enrollee) from 2019 to 2020. Throughout 2020, telehealth visits (0.32 visit per-person) reported for 23.6% of all interactions in comparison to 0.3% of contacts in 2019. The COVID-19 era patient and practitioner visit rate was 18% lesser than that in 2019 (1.34 vs 1.64 visits per person), even after adding the virtual contacts. Behavioral health encounters were more common than medical contacts virtually (46.1% vs 22.1%). COVID-19 prevalence in a region was related with greater use of telehealth.
- People with limited social resources have a lower chance of using telehealth (27.4% vs 19.9% usage rates, most vs least socially advantaged neighborhoods). Medical care costs per enrollee reduced by 15%, from \$358.32 to \$306.04 per person per month, between 2019 and 2020. People with 1 or more telehealth visits during 2020 experienced greater expenses than people opting for in-person ambulatory contacts (\$2214.10 vs \$1337.78 for the COVID-19-related subgroup and \$735.87 vs \$456.41 for the non-COVID-19 subgroup).

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