

## **REVIEW**



# **COVID-19 pandemic: what are the countries with low cases of COVID-19 doing right?**

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### **Abstract**

As of the 17th of September in 2021, the number of confirmed cases of COVID-19 over the world had reached 227.7 million, with around 8.2 million of those instances being reported in Africa and the island nations of the Atlantic and Pacific. The development of the COVID-19 pandemic in Africa and other countries across the world has been significantly different from the first apocalyptic forecasts researchers in the scientific community provided. This is the case both in terms of the pandemic itself and its impact. This report investigates the factors – such as the political will to address COVID-19 through immediate and severe actions, collaborative leadership, and historical experience with infection disease outbreaks – that are responsible for the low reported cases of infections and deaths in two regions of the world: Africa and the island countries of the Atlantic and Pacific. In Africa, the political will to address COVID-19 through immediate and severe actions was high, and collaborative leadership was prevalent. Despite the fact that they have handled the pandemic in an effective way, vaccination continues to be a major worry because only a tiny fraction of the population in each of these locations has received at least one dose of vaccine. The healthcare systems in the countries located throughout these regions are in a poor shape, and an outbreak of a highly infectious coronavirus variety has the potential to overwhelm the already frail healthcare system and wreak havoc on these global regions. It is recommended that the leadership of these regions turn their attention inward and develop a collaborative strategy for the production of vaccines on a local level. Additionally, it is recommended that these regions make improvements to their healthcare systems so that they are adequately prepared to deal with the next major public health emergency.

Keywords: SARS-CoV-2, Africa, Pacific and Atlantic Islands, Public Health.

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## INTRODUCTION

**D**isease outbreak in the world is not a new phenomenon. There have been multiple outbreaks of diseases, most of which have been effectively controlled with various public health and mitigation measures.

Over the last two decades alone, literature available confirms four different viral disease outbreaks, including the Avian flu (H5N1) in 2004 and 2005, which occurred mostly in Asia, the Swine flu (H1N1) pandemic in 2009, Ebola virus disease in 2014, which occurred mostly in West Africa, and the Zika virus in 2015 and 2016, which affected parts of South and North America, as well as several islands of the Pacific.<sup>1</sup> In that same time frame, there were two outbreaks of coronavirus; the Severe Acute Respiratory Syndrome Coronavirus (SARS-Cov), which began in 2002 in China, and the Middle East Respiratory Syndrome Coronavirus (MERS-Cov), which started in 2012 and affected Saudi Arabia.<sup>2</sup> Infection cases reported from these viral outbreaks were high (run in several thousands) and thousands of human lives were lost to these viral disease outbreaks. The Centers for Disease Control and Prevention [CDC], for instance, estimates that between 150,000 and 600,000 people worldwide died from the H1N1 pandemic of 2009-2010.<sup>3</sup> The CDC also reports that the Ebola outbreak in 2014 and 2016 claimed about 11,310 lives in Guinea, Liberia, and Sierra Leone.<sup>4</sup> As grim as the picture of these outbreaks appear, none of these viral outbreaks has had a devastating impact on global health and economy like the current COVID-19 pandemic. COVID-19 is a severe respiratory disease caused by SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus 2), which is a new coronavirus discovered in 2019 in China.<sup>2</sup>

Coronaviruses belong to the family of viruses known to cause illness ranging from common cold to more severe diseases. COVID-19, known in the scientific and research community as “novel” coronavirus (nCov) is a new strain that has not been previously identified in humans.<sup>5</sup> What makes COVID-19 viral disease dangerous is the mode of its transmission and lethality. Initially believed to spread primarily through respiratory droplets from the nose or mouth

when a person infected coughs, sneezes, or exhales, the World Health Organization [WHO] issued a correction in July 2020, noting airborne transmission as the mode of spread of COVID-19.<sup>6,7</sup> Since it was declared a pandemic in early 2020, more than 4 million deaths have been recorded worldwide.<sup>8</sup>

Globally, the number of COVID-19 cases has surpassed 220 million, with over 190 million confirmed recoveries.<sup>9</sup> As of September 6, 2021, the total number of COVID-19 deaths, worldwide, was 4,565,833.<sup>9</sup> Countries and regions around the world are having record number of coronavirus infections, from Europe to Asia to America, in part because of the new Delta variant. The CDC declared the Delta variant as more contagious, noting it causes more infections and spreads faster than COVID-19 causing virus SARS CoV-2.<sup>10</sup> With the high rate of hospitalization associated with the new Delta variant, officials believe it might result in more severe illness and casualties than previous variants, especially in unvaccinated individuals.<sup>10</sup> The United States, for instance, in late August and early September 2021, was reporting about 150,000 new coronavirus cases per day, which was more than 400% increase from July when daily average stood at about 28,000.<sup>11</sup> The record cases in Europe, Asia, and South America paint a bleak picture of the disease impact on global health and erases all hopes of returning to normalcy. While cases continue to rise in some regions of the world, some countries have managed to put the pandemic under control since it began in early 2020.

### Countries with low COVID-19 burden

The outbreak of COVID-19 took the entire world by surprise, and the rate of the disease spread was quite alarming in the early days of the pandemic. That said, it is somewhat hard to believe that there are countries with no reported cases of COVID-19 as of September 6, 2021, according to WHO.<sup>12</sup> The Pacific

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and the Atlantic Oceans are home to a cluster of COVID-19-free countries. In nations like the Cook Islands, Kiribati, Tonga, Tuvalu, American Samoa, and the Federated States of Micronesia, COVID-19 has been a specter that never emerged from the shadows.<sup>9</sup> Some believe these countries may be experiencing the benefits of bordering only the sea, which is acting like a natural barrier, thereby shielding these countries from the rest of the world where the pandemic is running rampant. Although these countries have zero reported cases of coronavirus, it is important to recognize that cases may go unreported due to these areas' poor health infrastructure and lack of resources to track and report cases.<sup>13</sup> Accurate updated coronavirus data can be difficult to obtain from countries with such reputation, thereby casting doubt on the accuracy of the zero reported cases of the infection.

Besides these countries with no reported cases of COVID-19, other nations have also implemented containment measures such as school and workplace closures, mask wearing orders, and travel restrictions that have kept the rate of infection and death low since the pandemic began.<sup>14</sup> According to figures reported by Johns Hopkins University School of Medicine on September 17, 2021, there were 8.1 million confirmed cases of COVID-19 in Africa.<sup>9</sup> Countries with most infections included South Africa, Morocco, and Tunisia, reporting 2.9 million, 915,835, 698,427 cases, respectively. Death toll on the continent stood at 205,386 with South Africa, Morocco, and Tunisia accounting for more than half of the total deaths in Africa.<sup>11</sup> In contrast, the United States had 42 million confirmed cases of COVID-19 on that same day of September with almost 672,000 total deaths from the pandemic.<sup>11</sup>

Similar to countries with zero reported cases of COVID-19, the problem with getting accurate data on any disease outbreak has been one of the many health information- and research- related challenges facing most public health organizations in Africa. WHO, for instance, noted early on in the pandemic the unique challenge it would face with regards to COVID-19 data.<sup>13</sup> WHO acknowledged the need to use behavioral and social data alongside biomedical data (to mount an effective response against the disease), a tool the Office admitted it would struggle

to obtain from countries' governments and health officials. This, WHO believed, will impede its efforts to design appropriate response tailored to the needs of the population.

Although new cases of COVID-19 are recorded every day in Africa, the pandemic has yet to have the same degree of impact in Africa as it has in the Americas and Europe. The number of infections and deaths in Africa are lower compared to other regions of the world, as can be seen in Figures 1 and 2, made available by Ritchie et al.<sup>11</sup>

Projections that Africa will become one of the continents to suffer the most from the COVID-19 pandemic have not been realized.<sup>15</sup> On May 7, 2020, the WHO Regional Office for Africa issued a statement announcing that based on research conducted and prediction modelling computed, 29 million to 44 million Africans could be infected with the virus in the first year of the pandemic.<sup>15</sup>

The race to inoculate people against the COVID-19 began in December 2020, when the first batch of Pfizer vaccine became available for emergency use.<sup>16</sup> As countries, especially in the West, sped to get the vaccine into the arms of people, particularly the vulnerable, to meet set deadlines, Africa was conspicuously missing from the race. The WHO Regional Office for Africa on September 2, 2021, said 80% of African countries (42 of the 54 nations) are set to miss "the urgent global goal of vaccinating the most vulnerable 10% of every country's population against COVID-19 by the end of September" (para. 1).<sup>17</sup> Lamenting the current pace of vaccine deliveries and vaccination hold, the Office noted the current inequity in vaccine distribution is "deeply disturbing" (para. 7).<sup>17</sup> Countries in Africa significantly lag behind countries in Europe and North America in terms COVID-19 vaccination, with less than 6% of the population of Africa having received at least one vaccine dose, as of September 17, 2021.<sup>11</sup> Yet cases are not rising as fast as one would expect. The continual low cases of infection reported in Africa and the zero reported cases in some parts of the world beg the question of what measures these countries have put in place to mitigate the spread of the virus and to keep the pandemic under control.

### What are countries with low COVID-19 burden doing right?

Four dynamics are fundamental to Africa and the Atlantic and Pacific island countries' effective response to COVID-19: strong political will to address COVID-19 through immediate and severe actions, collective leadership, public support, and past experience with infectious disease outbreak.<sup>18–22</sup> These were vital in the early days of the pandemic and helped laid the groundwork for effective COVID-19 response (through September 2021).

The will to address COVID-19 through immediate and severe actions come in the form of containment measures (e.g., school and work closures, stay-at-home orders, travel restrictions) that were implemented in the early days of the pandemic. One of the earliest actions taken, for instance, by the leadership across the Atlantic and Pacific region, was declaring a state of emergency in March 2020, which put citizens on notice of the impending health crisis. Recognizing the threat that COVID-19 posed to their nations and the devastation it would cause to their weak health systems, if the disease was introduced into these countries, the governments of Nauru, Tonga, American Samoa, Tokelau, Niue, and the Cook Islands put in place strict border and travel restrictions, which limited the number of people entering and leaving these countries, either by air or water.<sup>18,19</sup>

Also, in March 2020, American Samoa and the Federated State of Micronesia implemented aggressive quarantine and testing procedures in addition to border closures. Other areas, for instance, Palau and Federated State of Micronesia implemented heightened control and surveillance procedures to identify and track cases, mandated mask wearing, imposed restrictions on mass gathering events and encouraged social distancing.<sup>18,19,22</sup> With these measure in place, the leadership of these countries turned their focus on training clinical staff; stockpiling personal protective equipment and test kits, and developed protocols for case management, quarantine, and contact tracing.<sup>19</sup> Given the many health system and economic challenges plaguing this region, it is important to note that much of the efforts to control COVID-19 in the Atlantic and Pacific island countries was done with

the help and at the leading of WHO.<sup>23</sup> Although these countries have no reported cases of COVID-19 and WHO transmission classification lists them as having “no cases”,<sup>8</sup> the CDC has advised against traveling to these areas because of the unknown true existence of the virus in these countries.<sup>10</sup>

The success of Africa in the fight against the pandemic is credited to a number of steps the continent took in the early days of the pandemic. Faced with an unprecedented health crisis of the century, Africa demonstrated solidarity and collective leadership in acting quickly. Many African countries have been commended for their efforts to combat the spread of COVID-19 despite being famously known for having poor and fragile healthcare systems.<sup>21</sup> Upon the announcement of the outbreak by WHO in early 2020, most African governments put in place mitigation measures such as those implemented across the Pacific and the Atlantic region to slow the spread of the virus.<sup>20,21</sup> Additionally, the African Task Force for Novel Coronavirus (AFCOR) was created in February 2020 and Emergency Operation Centers were activated all across Africa to help coordinate COVID-19 response and preparedness activities.<sup>24</sup> It is important to note that containment measures are still in place in most African countries, even as the spread of COVID-19 seems to be waning. As of September 17, 2021, Africa had recorded 205,386 deaths, since the pandemic began. In comparison, 1.03 million deaths had been recorded in North America, 1.20 million in Europe, and 1.10 million in Asia.<sup>11</sup>

Related to the above is the public support that met the enactment and the implementation of public health measures to combat the pandemic. The implementation of COVID-19 mitigating measure such as lockdowns across countries and mask wearing mandates were met with less resistance from people across both regions. People complied with these measures. Even though the public understood the social and economic implications of the mandates that were imposed, people were willing to follow these restrictions to not only safeguard their health and that of others, but also to prevent their nations' fragile economies from total collapse.<sup>20</sup>

The success of Africa and the Atlantic and Pacific island countries in handling the pandemic has also

been attributed to their past experience with infectious disease outbreaks.<sup>19,20</sup> For instance, Kuehn Bridget<sup>20</sup> argued that Africans experience with dealing with viruses (and knowing the SARS-CoV-2 was real danger) is what might have propelled health experts to act more swiftly to control the rate of infections of COVID-19 than officials did in the United States and Europe, where some officials and health experts denied the existence of COVID-19, and/or did not fully appreciate the threat it posed.<sup>20,25</sup> Clark et al.<sup>19</sup> also noted that the willingness of health leaders across the Atlantic and Pacific region to take drastic steps to control the pandemic “reflects the islands historical experience with imported infectious disease, as well as the vulnerability of their populations and health systems” (p. 12).

One critical step that some health officials took, in the early days of the pandemic, was flooding news outlets with health promotion messages, including lifestyle changes. Health officials educated the public on the need to keep one’s immune system healthy, especially during the pandemic, and how individuals could achieve a healthy immune system. Eating nutritious food, staying hydrated, and getting enough rest among others, were considered healthy lifestyle changes people needed to adopt. Additionally, the use of herbal plants and natural remedies was also promoted in most African countries.<sup>21</sup> The effects of herbal plants and natural remedies in boosting natural immunity against the COVID-19 viral disease have been studied since the pandemic began. Findings of these studies generally indicate plant-based medicine serves as antiviral agents against COVID-19, as they act as potential inhibitors and lower the ability of SARS-CoV 2 agents (COVID-19 agents) to attach to cell in the early stages of COVID-19 infection.<sup>26,27</sup>

### Lessons and final thoughts

The COVID-19 viral disease is a dangerous disease that has claimed millions of lives worldwide. Early on in the pandemic, most scientists had predicted a COVID-19 catastrophe in Africa and places around the world with weak health infrastructure, a calamitous situation than what has actually been observed across these areas.<sup>20</sup> A combination of factors, including the political will to address COVID-

19 through severe actions, collective leadership, public support, and past experience with infectious disease outbreak, are credited with the Atlantic and Pacific island countries and Africa’s effective response to COVID-19. In April 2020, WHO called attention to how Africa was leading the global response against COVID-19, emphasizing the examples of the creation of Africa Task Force for Novel Coronavirus and the implementation of stringent public health measures such as border closures, lockdowns, wearing of face masks and the practice of social distancing.<sup>28</sup> Africa and the Atlantic and Pacific island countries are, undoubtedly, benefitting from public health measures implemented to defeat the pandemic and strict adherence to these measures. Although the specific impact of each mitigation measure could not be ascertained in this paper, it is recommended future studies examine each mitigation measure to determine which ones were more beneficial.

Many challenges remain though as these areas are not in the clear. In Africa, for instance, low testing rates continue to undermine the continental response, as less than 6% of the total population of Africa have been inoculated against COVID-19,<sup>11</sup> and the region’s poor healthcare infrastructure remains a significant source of concerns as health experts warn another wave of coronavirus will most likely collapse the already weak healthcare system.<sup>20</sup>

The COVID-19 pandemic has exposed further vulnerabilities of Africa and the island countries of the Atlantic and Pacific in providing for the health care needs of their populations. Several deficiencies including poor healthcare system, leadership and governance, lack of resources and shortage of healthcare professional are seen as posing significant risk to a successful handling of the pandemic and any future health emergencies.<sup>19,29</sup> The African continent, for instance, has been known for decades to be the least prepared to prevent, detect, and respond to health emergencies, and to protect healthcare workers.<sup>24,29</sup> This presumably led health experts around the world to predict Africa will be decimated with the COVID-19 outbreak. These deficiencies are dangerous and must urgently be addressed.

The issue with vaccine inoculation is twofold: first, there is the problem of obtaining vaccines from man-

ufacturing industries and donor countries, and second, there are concerns of vaccine hesitancy among people.<sup>30,31</sup> Like the island countries of the Atlantic and the Pacific, Africa lacks the capacity to produce its own vaccine to fight COVID-19. Vaccines, therefore, have to be shipped to the continent from manufacturing companies and donor countries. The reliance on overseas companies and donor countries for COVID-19 vaccine presents unique logistical problems with devastating consequences. COVID-19 vaccine roll-out, especially in Africa, has been all but smooth.<sup>30,31</sup> As of September 17, 2021, out of more than 3 billion vaccine doses produced, Africa has only received approximately 82 million (about 3 percent of all COVID-19 vaccines, despite having about 17 percent of the world's population), and data suggest less than 6% of the total population of Africa had received at least one vaccine dose at the time.<sup>11</sup>

More vaccine candidates have been proven effective against COVID-19, yet studies from African countries report a subpar acceptance rate.<sup>30</sup> As Nehega et al.<sup>30</sup> note, reasons for the low vaccine acceptance rate in Africa range from disinformation and anti-vaccine campaigns warning Africans to refuse COVID-19 vaccine on social media to pharmaceutical industry poor public image and concerns about source and efficacy of the vaccine. There is also the issue of cost to individual as one of the reasons vaccine acceptance rates are low in Africa.<sup>30,31</sup>

Countries across Africa, the Atlantic and the Pacific may have been spared the ravages of COVID-19 today, but no one knows what the next infectious disease will be and the danger it will pose to these areas. It is therefore important that steps be taken to address the health system failures and challenges to ensure the systems are ready to handle the next major health crisis. The pandemic has highlighted the need to build robust capacities for routine healthcare that countries could scale up to during health emergencies. Efforts should be geared toward rebuilding the health infrastructure, with specific attention paid to improving the following building blocks: health workforce, access to service and service delivery, supply system, health information system, financing, and leadership/governance.<sup>32</sup> Enhancing these critical areas of the health care system will not only improve health of the population but will also enhance

the health systems' responsiveness and efficiency in addressing health emergencies.

As countries in Africa and the Pacific and the Atlantic work to address the vaccine challenges discussed above, the leadership of these regions also need to turn their focus inward and develop a collaborative approach for local manufacturing, which would lower the cost of importing vaccine and prevent unnecessary delays in the roll-out process. Locally made vaccine will increase trust and prevent vaccine hesitancy.<sup>30</sup> As more vaccine candidates are proven efficacious against COVID-19, there is the need to educate the population on vaccine and why it is important everyone gets inoculated.

Lockdowns and stay-at-home mandates across countries with low cases of COVID-19 have been critical mitigation measures. They involve ban on large gatherings, school and business closures, ban on social gatherings, and travel restrictions. As effective as these measures are in controlling the spread of COVID-19, the economic and socio-emotional toll of these measures can be quite significant. Most countries across these regions have high levels of poverty and financial insecurity and social protection programs are weak, if nonexistent.<sup>19,20</sup> Social and religious gatherings are not uncommon in Africa and the island countries of the Pacific and the Atlantic.<sup>24</sup> A ban on these gatherings means separation from family and friends and the inability to meet one's emotional and spiritual needs.

Given the positive impact of these measures, it is important to realize that full lockdowns are not sustainable in Africa and the island countries of the Pacific and the Atlantic, even with some social protection.<sup>19,33</sup> Prolong periods of lockdowns can trigger economic recession which could plunge majority of the population into severe economic hardship, the result of which could be catastrophic. Extended periods of lockdowns and bans on social and religious gatherings threaten to undo the success achieved thus far in handling the pandemic. It is recommended that the leadership of these countries consider easing some of the measures while encouraging their citizens take all necessary precautions to protect themselves and their compatriots.

## CONCLUSIONS

Within the context of weak health systems that largely addresses pressing need for clinical services rather than preventive public health programming, countries in Africa and the Atlantic and Pacific islands response to COVID-19 has been highly effective. Through the implementation of mitigation measures and collaborative leadership, these regions of the world have been able to prevent COVID-19 infections and mortality at the scale seen elsewhere. But many challenges remain as these areas are not in the clear. Vaccination remains a bigger concern and these areas are historically known for their weak healthcare system, two issues that need immediate attention. It is recommended that leadership across these regions turn their focus inward and develop a collaborative approach for local production of vaccines and make improvements to their healthcare systems to ensure they are adequately prepared to handle the next major health crisis.

## INFORMATION

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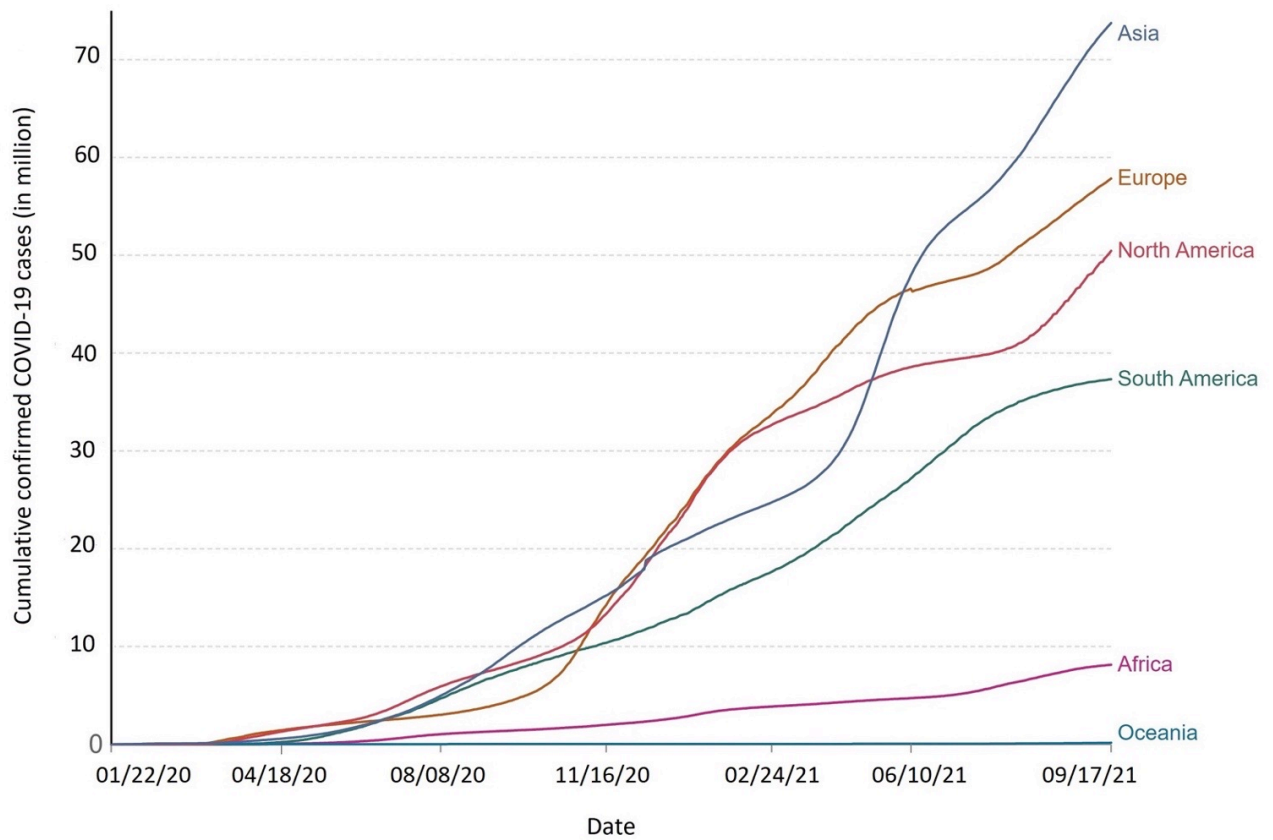
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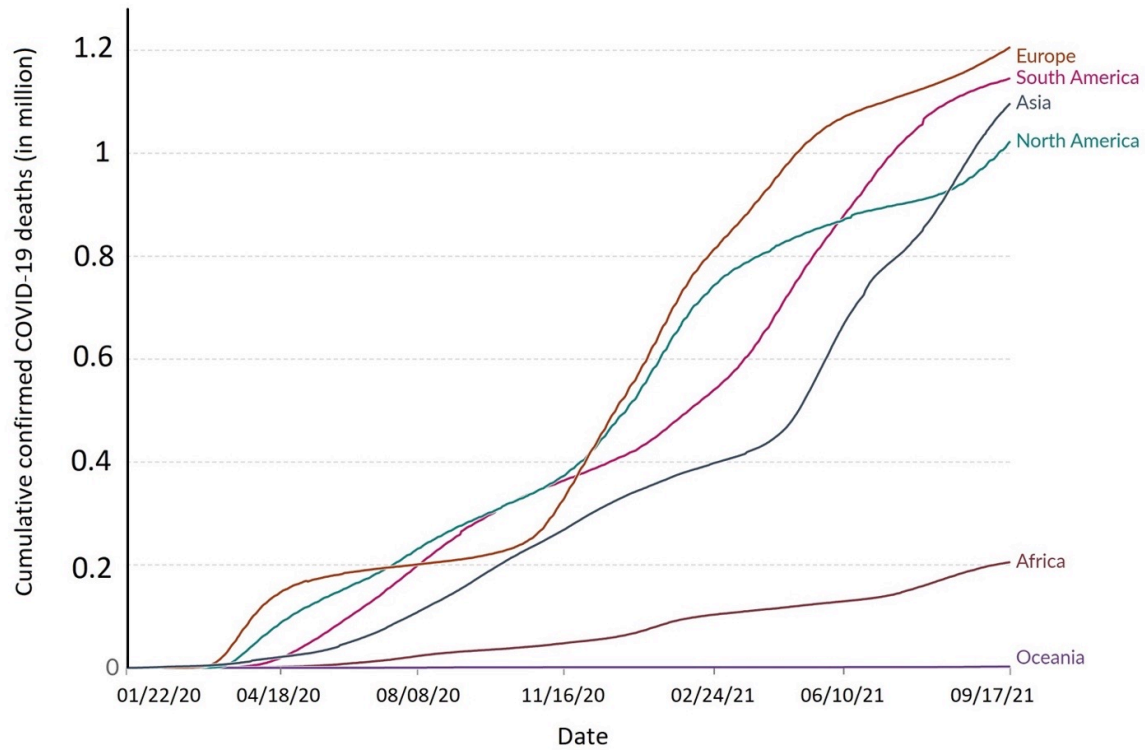


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**Figure 1. Cumulative confirmed COVID-19 cases as of September 17, 2021.**

**Source: Ritchie et al. of Our World in Data (adapted from Johns Hopkins University CSSE COVID-19 Data).**



**Figure 2. Cumulative confirmed COVID-19 deaths as of September 17, 2021.**

*Source: Ritchie et al. of Our World in Data (adapted from Johns Hopkins University CSSE COVID-19 Data).*