



Global Status of COVID-19 Pandemic

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The COVID-19 pandemic is generally accepted to have begun in Wuhan, China. Through the power of exponential growth coupled with international travel, the virus quickly spread to touch nearly every country in the world, saturating several. No individual nation's response has fully conquered the virus. As of May 6, over 3.5 million cases and 250,000 deaths are attributed to the pandemic, and this is certainly a vast undercount. Because it is a novel or "new" virus, there is no vaccine. There are currently no known, confirmed cures for the virus.

(I realize some readers will take exception to some of the statements I have made in the preceding paragraph and in many of the following paragraphs. I am writing from the viewpoint of information "known and confirmed" by epidemiologists, virologists, and other doctors. While many hypotheses, possibilities, and theories are circulating, in this article I will refrain from the speculative.)

I. Current Status

Unfortunately, in spite of the existence of over three million cases, relatively little is known about this virus. Further, what *is* known varies greatly by context. Still, we can generally say COVID-19 presents a unique set of dangers:

- It appears to be more infectious than the many varieties of flu with which it is often compared. Estimates of the R0 value (a measure of how many people one infected person will, on average, infect) vary from 1.5 to 5.0.
- It appears to be more fatal than the flu. The World Health Organization has estimated the global crude fatality rate (known deaths/known cases) at 3.5%. In the USA, the known crude fatality rate (known deaths/known cases) is 4.6%. CDC estimates influenza in the United States typically has a fatality rate of about 0.1%. Thankfully, COVID-19 does not appear to be as deadly as SARS, MERS or Ebola, whose high fatality rates generated significant urgency.

- It has a three to five-day post-infection asymptomatic period. During this time, an infected person can live life without any symptoms—walking around, not knowing they have the virus, while passing it on to others. (In fact, some new research suggests as much as 25% of actual cases never show symptoms at all, while still being infectious.) This is a primary driver of COVID-19 transmission.
- During the second week after infection, symptoms begin to show and people will know they are infected. About 80 to 90% cases never progress beyond a “mild” variation—though even this can be similar to a “very severe case of the flu” which can take two to three weeks for initial recovery, then several more weeks for full recovery.
- About 10% of cases worsen and need hospitalization in the second or third week. In the early stages, this generally means some form of oxygen support. About one-third of these cases will require intubation and the use of a special ventilator. Of patients requiring a ventilator, about half will die. (All ages can experience a need for hospitalization, although fatalities are more common among the elderly and those with certain pre-existing health problems.)

Very early on, doctors and epidemiologists began warning about “the big problem:” the highly infectious nature of the virus causes exponential growth, rapidly infecting large numbers of people. Consider the United States, with a population of about 330 million. The UK’s Imperial model analyzed what might happen if the virus were to sweep through, infecting 85% or more. 85% is 281 million people. Of these, the model estimated 7%, or 20 million, would likely need hospitalization. Of those, around one-third, or 6 million, would require critical care. About half of those in critical care—three million—would likely die.

There was a bigger problem, however: Because the numbers are large, even small percentages requiring ICU care in hospitals means hospital systems can be rapidly overwhelmed. The stark reality is, the United States does not have six million ICU beds available at any given time. At best, at any given time, it has about 100,000 ICU beds (American Hospital Association, 2020). If exponential growth happened too fast, hospitals could be overwhelmed with more cases than they had beds for. And without ICU care, *everyone* requiring it would likely die.

No one wanted to see this scenario happen. Is it realistic? How close are we to this happening?

II. How big is the problem, really?

How do we know how many cases are out there? Most of the time, people are treated for an illness when they go to a doctor’s office or urgent care facility. In an exponentially growing pandemic, by the time a person shows up for professional care, they have probably passed on the virus to several other people. The one person showing up for care today can result in three people showing up next week. Those three will become nine some days after that... and so on. We can count how many seek medical attention today, but we don’t know about all those other cases that will arrive tomorrow.

In fact, no one knows how many “actual” infections there are in the world. The number of *confirmed* cases does not equal *actual* cases. Confirmed cases simply means those confirmed by a test. If a country doesn’t test more than 10,000 people per day, it won’t discover more than 3.65 million cases in a year. A country testing 100,000 cases a day could uncover 36 million

cases in a year, or about 10% of the United States. If such a country were actually 20% infected, we would never know it.

Nations usually can't test everyone in their country. Decisions must be made about who to test. Some countries, like South Korea and Singapore, responded by testing those who have the disease, *and* those they were around. Some countries, such as the United States, test only those with symptoms, and not necessarily all of those. And some countries, like Iran and India, simply do not have the capacity to test much at all. Worst, some countries are intentionally under-testing and under-reporting their numbers, or insisting they have no infections at all.

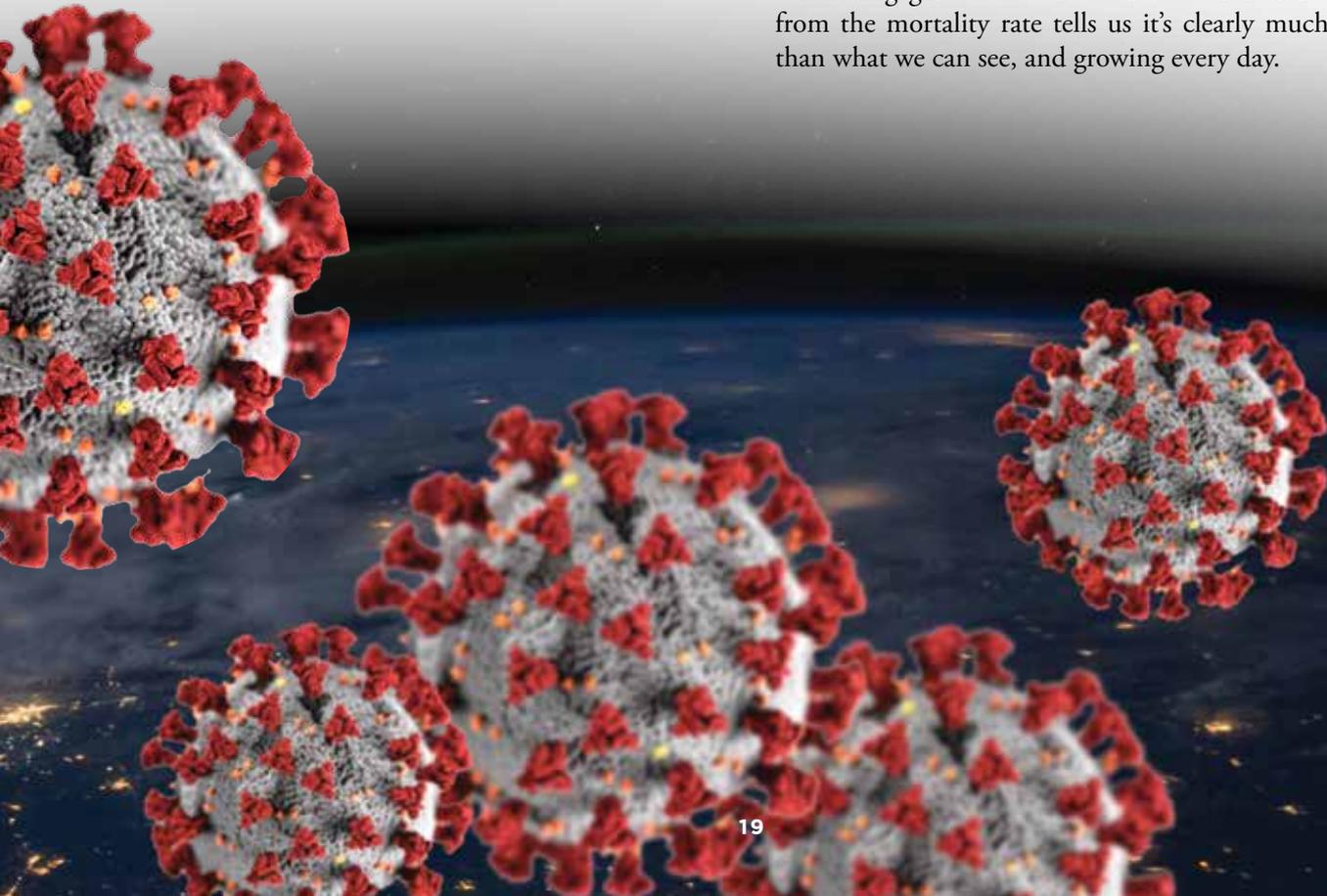
The unseen nature of the early asymptomatic period complicates this further. By the time a person has symptoms and decides to go for a test, they may have already passed the disease to many others—so tested numbers will always lag behind actual numbers, but we don't know by how much.

Because of tests done up to this point, we know *at least* 3.6 million are infected. The total number of known cases, and the growth in those cases over time, gives us a limited picture of the reality. Obviously, there are far more than that in reality. Can we estimate how many people actually have the virus?

We can rely on the fatality rate. We calculate this based on deaths divided by cases, but we don't know the *real* fatality rate because we don't know the number of actual cases (many mild cases are missed), and we undercount the deaths. The 'Crude Fatality Rate' is total *confirmed* deaths divided by total *confirmed* diseases. Globally, this rate is estimated at 257,000 / 3.6 million or 7%. Rates differ between countries, and the limitations on what we know about total cases and deaths in some can significantly skew even the calculation. Where testing is widest, the rate is closer to 2%. The World Health Organization has estimated the actual average rate at 3.5%.

If we assume 3.5% is somewhat close to correct, then for every death there would be about 29 cases (1 is 3.5% of 29). However, the virus typically takes around three weeks to progress from infection to death. And over the last few months, the virus has demonstrated a doubling rate of four days. In three weeks' time, there would be five such doublings. 29 cases three weeks ago would become 29 -> 57 -> 114 -> 229 -> 457 -> 914. For every death, there are potentially 1,000 more cases out there—some known, most not. 100,000 deaths suggests 100 million infections.

It's hard to build a good model, and all models are very imprecise. It's like using a sledgehammer on a finishing nail. Many people have debated and argued and even disregarded the models. Because we have so little testing, we don't really know the scope of the problem. But the continuing growth in cases and the indicators we have from the mortality rate tells us it's clearly much bigger than what we can see, and growing every day.





III. Immediate responses

When governments began to come to grips with this reality, some began to respond. Three kinds of responses have been tried, to varying degrees. First is testing. If exponential growth can be caught early, the virus can more easily be stopped. Step one would be to find a confirmed infection. Next would be to test everyone with whom the infected person has come into contact, and you quarantine all the positive results. (Better yet, re-test them a week later.) It's easier to quarantine one person and his or her 10 or even 100 closest friends for a couple of weeks (take over a hotel, or confine them to houses, or what have you) than to quarantine everyone after the virus has doubled five or six times.

Second is surveillance. This is often done in concert with testing, and can touch on privacy issues (some governments have less problem with this than others). South Korea, for example, had very broad surveillance. When a person was found to be infected, Korea would go back through their cell phone GPS logs and track every cell phone the infected person had come in contact with for two weeks. All of *those* people were then told to quarantine as well. South Korea furthered the use of “geofencing” surveillance as a form of quarantine: people were required to stay in their homes as defined by a set of GPS coordinates. If they left, the police would be summoned.

The third response is a lockdown. When the virus gets ahead of a government, the only option may be to confine everyone in a given area to their homes in order to break the transmission chains. A person can't give it to someone else if they don't come in contact with them. Various degrees of lockdowns have been used. China used mobile phones and police enforcement to make sure people didn't leave. In Dallas, where I live, the “shelter in place” order leaves exceptions for “essential” businesses, and everything mostly functions on the honor system.

IV. Short Term Dangers

Some governments do not have the technological ability or political will to do all these things. Lockdowns become inevitable but may be unenforceable. Many countries are now looking into a very dark abyss. I don't think any country's existence is threatened, but many are realizing they will see thousands, perhaps millions, dead.

Even those countries that have the ability to respond to the virus are finding it's a challenging disease to quash. Many countries have addressed the virus too late and have had to go to lockdown. These countries are suffering significant economic impacts as a result.

Countries most impacted by the virus have also begun scrambling for medical supplies. Some supply rationing has happened. Some people began threatening others over availability of medical supplies. Some nations with supplies began using their donations as a form of diplomacy, which has been decried by others. (China in particular has fallen afoul of this issue.) Problems in the supply line and problems in product delivery can lead to darker accusations.

There's also the ever-present panic of some individuals, leading to panic buying in stores, conspiracy theories, misinformation about cures and other rampant speculation. While most of the supply-chain issues that lead to panic buying have been sorted out, some will continue endlessly. In some countries, the severe economic impact in parts of the country less impacted by the virus is making citizens question the need for the lockdown—especially citizens under lockdown in less impacted parts of the country. In some countries with large numbers of day laborers (like India), the lockdown choice is a choice between starvation (no money) and death from the disease. Partisanship has begun to complicate medical efforts.

V. Mid-term threats (the next year or two)

All of these are short-term dangers: the sorts of challenges governments must deal with in the early stages of the pandemic, as people begin to recognize the scope of the problem. As governments and individuals begin to grapple with the exponential spread of the virus, more and more extraordinary efforts have been contemplated to “get ahead of the curve.” These have led to several broad actions that endanger international relations and will impact the ability for missions to conduct their work over the next several months.

First, many governments are facing economic crises, and the interplay of these is leading to a global recession. Supply chains are being damaged. Countries that rely on oil revenues, tourism or monetary remittances from migrant work are being deeply affected. The damage to the economy will certainly impact charitable giving. Sources in some American denominations are already suggesting as much as a 50% drop, threatening the very existence of some churches.

Some countries do not have the hospitals or medical infrastructure to adequately address the virus. In many, the true scope of the impact may be hidden. In some cases, hidden because without testing or hospitals, no one knows who is infected and who has died of the virus. In other cases, hidden because the governments are intentionally

hiding it. Yet early analysis suggests countries like Iran and India could see hundreds of thousands or even millions of deaths. One report suggested 75% of Iranians could become infected. The widespread infection of whole populations will also impact the many Christians and Christian workers in these countries.

The rapid rise of infections, especially from people streaming into nations across borders, has led to the closure of borders. Nearly every country in the world currently has some sort of border restriction, and most are insisting on quarantines of all international arrivals, or even going so far as to close their borders and shut down international travel altogether. China, for example, has reduced all incoming arrivals over its borders (sea, land and air) by 90%.

This will have serious and long-term ramifications for cross-cultural missions (especially the short-term variety), and seems unlikely to change any time in the near future. Once nations “turn the corner” on the pandemic within their borders, they are loathe to “re-import” infections from the outside. Most international travelers will likely face the requirement of some kind of health certification or localized two-week quarantine, which will make short-term trips very challenging. Borders may remain closed for months or years.

Finally, there has been a significant rise in xenophobia and nationalism. There are instances of racism against foreigners in China, and against Chinese in other nations. The Dalits and Muslims in India have seen their position worsen. Many countries are hardening their restrictions against migrants. Xenophobia will make cross-cultural work harder still.

VI. Long-term scenarios (2 to 5 to 10 years)

This pandemic was not unexpected. For years experts have anticipated the rise of a world-changing pandemic. Scenarios have ranged from the “professional” (such as the Bush administration’s 2006 pandemic flu preparation plan) to the latest surge in zombie movies. COVID-19, however, is not a Hollywood movie with a two or three-hour plot and a pivotal ending where a cure is found and the world is saved. In the long run, COVID-19 will almost certainly persist until a vaccine is found. Even then, the virus will not end in a flash.

Ebola is an example. The first case of Ebola was identified in 1976. Probably the most memorable recent outbreak was the 2014 West Africa epidemic, which infected some 28,000 people and killed 11,000 (a near 50% fatality

rate). But it did not end there. 2017 and 2018 saw outbreaks of Ebola in DR Congo. Just this month, there was another case of Ebola in DR Congo.

Likewise, the COVID-19 vaccine will not be rolled out overnight. It will take months and perhaps years to be administered throughout the world. This virus will continue to live in various places, and countries will have to guard against it.

It is possible that in this time frame, more business will be conducted via teleconference call, and the handful of trips abroad will already have the required health certifications. Exchange trips between universities will likely happen the same way. The remaining travel will be either tourism or religious volunteerism. I could envision a world where this segment of travel will receive a lot of scrutiny: countries will not welcome the idle tourist (who may carry the virus) or religious workers. I think international travel will likely become far more difficult for the next few years.

In the long term, the Church will continue to face a number of challenges:

- *Fear.* We will grapple with the temptation to care for ourselves instead of serving others. Just as some in the church have asserted “We should disciple our own nation before we send workers elsewhere,” so we are likely to hear “We should protect the Church now so we can sustain our witness later.”
- *Churches’ inability to meet in person* will shake our definition of *church, community, service, and acceptable risk.* We can anticipate many debates over the nature of religious freedom and Christian responsibility, what is required of us, and what a “church” truly is.
- *The need to see traditionally unseen people.* As the virus persists in some countries until a vaccine is found and deployed, responses to the virus—especially with the economics involved—will (indeed, already have begun to) take on a politically charged nature. People from other cultures will be viewed with more suspicion. The Church, and mission agencies specifically, will

need intentional effort to focus on reaching difficult parts of the world (as well as diaspora here at home), where many will be suffering from the virus.

- *Choices due to downturns in charitable giving.* Fewer resources available will force us to employ methods that don’t require significant monetary outlays. This, coupled with the difficulty of travel, may cause us to rely more on telecommuting and teleconferencing, and less on in-person conferences.
- *The danger of infection in the mission community.* Since many missionaries work in places experiencing significant infection rates, missionaries and agencies will face hard choices. Many agencies are already shutting down physical movement, shifting conferences online, and even bringing their people back to their home countries. Once workers have left their fields of service, it’s uncertain how easily they will re-enter in the future.
- *The ability to sustain presence.* With borders being closed, foreigners’ visas being cancelled, and people being expelled or repatriated, mission agencies’ ability to sustain their presence in any given country will be challenged.

Conclusion

In truth, we cannot envision all the scenarios we may face in the near future. I believe apocalypse and cataclysm will be largely avoided; instead, we will be faced with a long-term weakening. The virus has wounded us, and it will take a long time to heal.

During this time, we won’t know all the risks we face. Many of the risks will turn out to be substantial. All we can do is try to understand what we can while acknowledging the many things we cannot know. Jesus offers us life everlasting, but His words to His disciples were clear: “If anyone would come after me, let him deny himself, take up his cross, and follow me.” We can reduce the risks as much as possible, but in the end we will have to decide to take Christlike action in spite of the risks.

