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**Cold facts about COVID-19**

BY JAMES D. AGRESTI (/NODE/8974) • MARCH 18, 2020

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**G**iven the spread of misinformation about COVID-19, *Just Facts* (<https://www.justfacts.com/>) is providing a trove of rigorously documented facts about this disease and its impacts. These include some crucial facts that have been absent or misreported in much of the media’s coverage of this issue.

The U.S. Centers for Disease Control and Prevention [emphasizes](https://www.cdc.gov/coronavirus/2019-nCoV/summary.html) (<https://www.cdc.gov/coronavirus/2019-nCoV/summary.html>) that “this is an emerging, rapidly

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evolving situation,” and as such, this article will be updated as new data becomes available.

On one hand, the facts show that:

- If the number of people with active COVID-19 infections is actually 10 times the number of people who have been diagnosed with it, the average American would have to meet 4,675 people to come in contact with one person who has it;
- Deaths from COVID-19 in the U.S. are now 0.04 percent of the lives lost each year from some typical causes of untimely death, including the flu, overdoses, and accidents; and
- The death rate for people who contract COVID-19 is uncertain but probably closer to the seasonal flu than figures commonly reported by the press.

On the other hand, COVID-19 is highly transmissible, which means it could spread like wildfire without extraordinary measures to contain it. This would greatly increase its death toll.

However, such precautionary measures often have economic and other impacts that can cost lives, and overreacting can ultimately kill more people than are saved.

### Reported and Active Cases

Per the U.S. Centers for Disease Control and Prevention, a total of 7,038 (<https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html>) in the United States have been diagnosed with COVID-19 as of 4:00 p.m. EST on March 17. The U.S. population is 329 million people (<https://www.census.gov/newsroom/stories/2020/new-years-2020.html>), which means that one out of every 46,746 people has been diagnosed with COVID-19. The disease is not equally dispersed throughout the nation, so this figure is higher in some areas and lower in others.

Reported cases don't include people who may be carrying the disease but have not yet been diagnosed. Because its incubation period (<https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>) is two to 14 days, the number of people who have been infected could substantially exceed the number who have been diagnosed.

Also, the vast majority of people who contract COVID-19 experience only mild or no symptoms, and some of them may never be diagnosed. This means that the count of reported cases is lower than the actual number of people who have been infected. A February 2020 study

in the *Journal of the American Medical Association* based on data from China found that 81 percent of reported COVID-19 cases are “mild.” The true portion of such cases is even higher than this, for as the paper explains, there are “inherent difficulties in identifying and counting mild and asymptomatic cases.”

A rare case in which asymptomatic cases can be counted is the Diamond Princess cruise ship, since all [passengers \(https://www.niid.go.jp/niid/en/2019-ncov-e/9407-covid-dp-fe-01.html\)](https://www.niid.go.jp/niid/en/2019-ncov-e/9407-covid-dp-fe-01.html) were tested for COVID-19. Among those who tested positive, [51 percent \(https://www.niid.go.jp/niid/en/2019-ncov-e/9417-covid-dp-fe-02.html\)](https://www.niid.go.jp/niid/en/2019-ncov-e/9417-covid-dp-fe-02.html) didn’t have symptoms when they were tested. The number of these people who later developed symptoms is currently unavailable.

Inversely, many people who were once infected are [recovering \(https://www.worldometers.info/coronavirus/\)](https://www.worldometers.info/coronavirus/). The upshot of this is that the number of people who are actively infected is lower than the total of reported and undiagnosed cases.

All told, if the number of people with active COVID-19 infections is 10 times the number of people who have been diagnosed with it, the average American would have to meet 4,675 people to come in contact with one person who has it.

### Deaths

A total of 97 U.S. residents have [died from COVID-19 \(https://www.cdc.gov/coronavirus/2019-ncov/cases-in-us.html\)](https://www.cdc.gov/coronavirus/2019-ncov/cases-in-us.html) as of 4:00 p.m. EST on March 17, 2020. Among these deaths, [52 \(https://www.doh.wa.gov/Emergencies/Coronavirus\)](https://www.doh.wa.gov/Emergencies/Coronavirus) occurred in the State of Washington, and at least [30 \(https://kingcounty.gov/depts/health/news.aspx\)](https://kingcounty.gov/depts/health/news.aspx) of them are associated with a single nursing home [near Seattle \(https://www.distance-cities.com/distance-kirkland-wa-to-seattle-wa\)](https://www.distance-cities.com/distance-kirkland-wa-to-seattle-wa).

To put those figures in perspective:

- Roughly 12,469 people in the U.S. [died from the swine flu \(https://www.ncbi.nlm.nih.gov/pubmed/21342903\)](https://www.ncbi.nlm.nih.gov/pubmed/21342903) from April 12, 2009, to April 10, 2010. Unlike COVID-19, which [mainly kills \(https://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2820%2930566-3/fulltext\)](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2820%2930566-3/fulltext) older people with preexisting health problems, [87 percent \(https://www.ncbi.nlm.nih.gov/pubmed/21342903\)](https://www.ncbi.nlm.nih.gov/pubmed/21342903) of people killed by the swine flu were under the age of 65;
- An average of [37,000 people \(https://www.justfacts.com/reference/covid-19\\_vital\\_facts.xls\)](https://www.justfacts.com/reference/covid-19_vital_facts.xls) in the U.S. have [died from influenza](#)

(<https://www.cdc.gov/flu/about/burden/past-seasons.html>) (“the flu”) each year over the past nine years;

- About 67,000 people per year in the U.S. [die from drug overdoses](#) (<https://www.cdc.gov/nchs/data/databriefs/db356-h.pdf>); and
- Around 170,000 people per year in the U.S. [die from accidents](#) ([https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68\\_09-508.pdf#page=6](https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_09-508.pdf#page=6)).

In summary, deaths from COVID-19 are now [0.04 percent](#) ([https://www.justfacts.com/reference/covid-19\\_vital\\_facts.xls](https://www.justfacts.com/reference/covid-19_vital_facts.xls)) of the annual fatalities from some typical causes of untimely death, including the flu, overdoses, and accidents.

### Death Rates

Initial media reports of a two-to-three percent mortality rate for COVID-19 are inflated, and the actual figure may be closer to that of the flu, which has [averaged about 0.15 percent](#) ([https://www.justfacts.com/reference/covid-19\\_vital\\_facts.xls](https://www.justfacts.com/reference/covid-19_vital_facts.xls)) over the past nine years in the United States. A large degree of uncertainty surrounds this issue due to the same factor that prevents accurate counts of infections: unreported cases.

As explained (<https://www.c-span.org/video/?470068-2/secretary-azar-federal-health-officials-coronavirus-briefing>) by [Dr. Brett Giroir](#) (<https://www.ahip.org/speaker/admiral-brett-p-giroir-md/>)—who has authored nearly 100 peer-reviewed scientific publications and serves as the Assistant Secretary for Health at the U.S. Department of Health and Human Services—the COVID-19 death rate is “lower than you heard probably in many reports,” because the bulk of people who contract coronavirus don’t get seriously ill, and thus, many of them never get tested.

Giroir calls this a “denominator problem,” because if you’re “not very ill, as most people are not, they do not get tested. They do not get counted in the denominator.” Giroir’s best estimate is that the mortality rate is probably “somewhere between 0.1% and 1%.” This “is likely more severe in its mortality rate than the typical flu” rate of 0.1 percent to 0.15 percent, “but it’s certainly within the range.”

Giroir’s estimate accords with a [February 2020 commentary](#) (<https://www.nejm.org/doi/full/10.1056/NEJMe2002387>) in the *New England Journal of Medicine* by renowned immunologist Anthony Fauci and others:

If one assumes that the number of asymptomatic or minimally symptomatic cases is several times as high as the number of reported cases, the case fatality rate may be considerably less than 1 percent. This suggests that the overall clinical consequences of COVID-19 may ultimately be more akin to those of a severe seasonal influenza (which has a case fatality rate of approximately 0.1 percent) or a pandemic influenza (similar to those in 1957 and 1968) rather than a disease similar to SARS or MERS, which have had case fatality rates of 9 to 10% and 36%, respectively.

A prime example of how journalists misreport on this issue is a March 12 [article](#)

(<https://www.businessinsider.com/coronavirus-death-rate-south-korea-compared-to-flu-2020-3>) in *Business Insider* by Andy Kiersz. In this piece, he compares the “death rates” of COVID-19 from the [South Korean CDC](#)

([http://is.cdc.go.kr/upload\\_comm/refile.do?cmd=fileDownloadC&comfile\\_se=WxH||%5e||9OZbdDsDQZHFc6A8GfVDuUTCW91H5SjStFBv7HI=&comf](http://is.cdc.go.kr/upload_comm/refile.do?cmd=fileDownloadC&comfile_se=WxH||%5e||9OZbdDsDQZHFc6A8GfVDuUTCW91H5SjStFBv7HI=&comf)) to that of the flu from the [United States CDC](#) (<https://www.cdc.gov/flu/about/burden/2018-2019.html>).

Based on these numbers, he reports that “South Korea—which has reported some of the lowest coronavirus death rates of any country—still has a COVID-19 death rate more than eight times higher than that of the flu.”

What Kiersz and his editors fail to understand is that the denominator for the Korean rate is the number of “confirmed cases,” while the denominator for the U.S. rate is based on (<https://www.cdc.gov/flu/about/burden/how-cdc-estimates.htm>) a “mathematical model.” The CDC clarifies how the model works by citing [a study](#) ([https://wwwnc.cdc.gov/eid/article/15/12/09-1413\\_article](https://wwwnc.cdc.gov/eid/article/15/12/09-1413_article)) on swine flu, which multiplies “43,677 laboratory-confirmed cases” of the disease by 41 to 131 times to calculate the denominator for the death rate. In the authors’ words, they do this because confirmed cases are:

likely a substantial underestimate of the true number. Correcting for under-ascertainment using a multiplier model, we estimate that 1.8 million–5.7 million cases occurred, including 9,000–21,000 hospitalizations.

Put simply, COVID-19 death rates that are based upon reported or confirmed infections grossly undercount the number of people with the disease. This, in turn, makes the death rate seem substantially higher than reality.

### Transmissibility

Another important factor in weighing the risks posed by COVID-19 is its transmissibility, or how contagious it is. In this respect, COVID-19 appears to be much more dangerous than the seasonal flu, but once again, there is some ambiguity.

Scientists measure the contagiousness of diseases with a [basic reproduction number](#) (<https://medical-dictionary.thefreedictionary.com/basic+reproduction+number>), which is the average number of people who tend to catch a

disease from each person who has it. This measure is an innate characteristic of the disease because it doesn't account for actions that people take to prevent it. A [February 2020 paper](https://academic.oup.com/jtm/advance-article/doi/10.1093/jtm/taaa021/5735319) (<https://academic.oup.com/jtm/advance-article/doi/10.1093/jtm/taaa021/5735319>) published in the *Journal of Travel Medicine* explains that any disease with a basic reproduction number above 1.0 is likely to multiply over time.

The same paper evaluates 12 studies of the basic reproduction number of COVID-19 in various nations and finds that they “ranged from 1.4 to 6.49,” with an average of 3.28 and a median of 2.79. Based on their analysis of these studies, the authors conclude that the basic reproduction number of COVID-19 will likely prove to be “around 2–3” after “more data are accumulated.”

In contrast, a [2014 paper](https://link.springer.com/article/10.1186%2F1471-2334-14-480) (<https://link.springer.com/article/10.1186%2F1471-2334-14-480>) in the journal *BMC Infectious Diseases* analyzes 24 studies of the seasonal flu and finds that the median result for the basic reproduction number is 1.28. The authors stress that the seemingly small difference between 1.28 and higher figures like 1.80 “represent the difference between epidemics that are controllable and cause moderate illness and those causing a significant number of illnesses and requiring intensive mitigation strategies to control.”

In other words, if the transmissibility of COVID-19 is as high as currently estimated, the aggressive measures that some governments, organizations, and individuals have taken to limit large gatherings and travel from areas with outbreaks will save many more lives than doing the same for common diseases like the flu.

### Overreactions

There are, however, mortal dangers in overreacting, because measures to limit the spread of COVID-19 often have economic impacts that can cost lives. As detailed in the textbook *Macroeconomics for Today*, countries with low [economic growth](https://www.justfacts.com/income_wealth_poverty#gdp) ([https://www.justfacts.com/income\\_wealth\\_poverty#gdp](https://www.justfacts.com/income_wealth_poverty#gdp)) “are less able to satisfy basic needs for food, shelter, clothing, education, and health.” These hazards can manifest quickly and over extended periods of time.

If certain industries adopted the social distancing extremes that many people have embraced, this would shut down food production and distribution, health care, utilities, and other life-sustaining services. Even under far more moderate scenarios where people who are not in these industries shun work, all of those necessities and many more aspects of modern life depend on the general [strength of the economy](https://www.justfacts.com/income_wealth_poverty) ([https://www.justfacts.com/income\\_wealth\\_poverty](https://www.justfacts.com/income_wealth_poverty)). Thus, overreacting can ultimately kill more people than are saved.

The same applies to people who are [flooding supermarkets](https://www.denverpost.com/2020/03/13/coronavirus-denver-grocery-stores/) (<https://www.denverpost.com/2020/03/13/coronavirus-denver-grocery-stores/>) to stockpile food, toilet paper, and other supplies. In doing so, they have often stood in close proximity to each other and touched the same items, which opens avenues to [spread the disease](https://www.cdc.gov/coronavirus/2019-ncov/prepare/prevention.html) (<https://www.cdc.gov/coronavirus/2019-ncov/prepare/prevention.html>). Panic buying also [creates shortages](https://www.cnbc.com/2020/03/02/grocers-try-to-prevent-panic-buying-as-coronavirus-causes-stockpiling.html) (<https://www.cnbc.com/2020/03/02/grocers-try-to-prevent-panic-buying-as-coronavirus-causes-stockpiling.html>) that deprive typical consumers of provisions.

Likewise, panic can [fuel suicides](https://www.ncbi.nlm.nih.gov/pubmed/21457675) (<https://www.ncbi.nlm.nih.gov/pubmed/21457675>), which number 47,000 per year in the United States. That's about 484 times the current death toll of COVID-19.

The implications of overreacting to COVID-19 or any other potential hazard are aptly summarized in a [teaching guide](https://www.amazon.com/Molecular-Biology-Biotechnology-Teachers-Paperback/dp/B010WF369O/ref=sr_1_1?keywords=Book%3A+Molecular+Biology+and+Biotechnology%3A+A+Guide+for+Teacher+%283rd+edition%29) ([https://www.amazon.com/Molecular-Biology-Biotechnology-Teachers-Paperback/dp/B010WF369O/ref=sr\\_1\\_1?keywords=Book%3A+Molecular+Biology+and+Biotechnology%3A+A+Guide+for+Teacher+%283rd+edition%29](https://www.amazon.com/Molecular-Biology-Biotechnology-Teachers-Paperback/dp/B010WF369O/ref=sr_1_1?keywords=Book%3A+Molecular+Biology+and+Biotechnology%3A+A+Guide+for+Teacher+%283rd+edition%29)), published by the American Society for Microbiology. This book [explains](https://www.justfacts.com/pollution#introduction) (<https://www.justfacts.com/pollution#introduction>) why “the factors driving your concept of risk—emotion or fact—may or may not seem particularly important to you, yet they are” because “there are risks in misperceiving risks.”

## Summary

During a March 14 press conference, U.S. Surgeon General Jerome Adams [asserted](https://www.youtube.com/watch?v=qwWIoGzjSa4) (<https://www.youtube.com/watch?v=qwWIoGzjSa4>) that “this situation will last longer, and more people will be hurt” if “we are complacent, selfish, uninformed,” and if “we spread fear, distrust, and misinformation.” Conversely, he said that “we will overcome this situation” if we “pitch in” and “share the facts.”

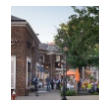
The essential facts above confirm the wisdom of his words.

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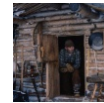
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James D. Agresti is the president of Just Facts, a think tank dedicated to publishing rigorously documented facts about public policy issues.

His writings have been cited by numerous major media outlets, academic publications, think tanks, and government entities. A brief sampling includes CBS, PBS, Investor’s Business Daily, Yahoo News, Vanderbilt University, the University of Texas at Austin, National Review, the Huffington Post, Roll Call, Encyclopædia Britannica, the Journal of Global Faultlines, the International Journal of Sciences: Basic and Applied Research, the Heritage Foundation, the Wisconsin Legislature, the Oklahoma Department of Labor, and the education ministry of Northern Ireland.

Jim holds a Bachelor of Science in Mechanical Engineering from Brown University and has worked as a designer of jet aircraft engines, a technical sales professional, and chief engineer of a firm that customizes helicopters. He is the author of *Rational Conclusions* (<http://www.rationalconclusions.com/about.asp>), a meticulously researched and scholarly acclaimed (<http://rationalconclusions.com/reviews.asp>) book evidencing factual support for the Bible across a broad array of academic disciplines.

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