

RAQ–Rarely Asked Questions on Coronavirus

David Crowe
April 11, 2020
Version 5

This is a list of important questions on the coronavirus, many of them are not asked as much as they should be. In conversations with friends, and especially with journalists and public health officials.

To be more readable, this document is not heavily referenced, for a more technical review of problems with coronavirus theory, please see [CoronavirusPanic.pdf](#)

For a detailed analysis of SARS, which has many parallels, see David's [draft book chapter](#).

Are an Unusual Number of People Dying?

In most parts of the world it is not clear that there is a significant increase in deaths as annual mortality statistics are only available in the following year. Europe might be unique in having [almost real-time mortality statistics \(euromomo.eu\)](#) and there have been significant increases in deaths in some countries, currently Belgium, France, Spain, Switzerland, the UK and especially Italy. Only in Italy have the mortality levels reached as high as the bad flu seasons of the recent past (the statistics only go back to May, 2016), but even there they are not higher than the 2017 flu season, for which the country was not shut down. And there may well be higher mortality levels in winters prior to 2016 for which comparable data is not available.

Coronavirus mortality reports are characterized by scarily large death counts, with no context. Most people have no idea how many people die in a country in normal times. You can roughly estimate the annual death total from the population divided by the average lifespan, and divide again by 52 to reach the weekly total. Obviously this varies during the year, and from year to year, with greater mortality in some winter months. For example, in Italy, during the 2016/2017 year, almost 17,000 people over the age of 65 died in one week (ONE WEEK). At time of writing, global mortality from coronavirus over about 12 weeks was only just over 3 times the over-65 mortality in one week cited above. Put another way, average global coronavirus mortality per week has been less than one-quarter of the over 65 mortality during a bad winter week in Italy. The numbers are not so scary if put in context.

Is the Excess Mortality All from the Coronavirus?

According to an article in Britain's *Daily Telegraph*, Professor Walter Ricciardi, scientific adviser to Italy's minister of health, the country's mortality rate is already far higher due to having the second oldest population in the world, and the manner in which hospitals record deaths. All deaths of people *with* positive coronavirus tests are recorded as if they were *from* the coronavirus, but Ricciardi noted that only 12% of deaths were directly caused by the virus and 88% from causes related to serious pre-existing conditions in elderly patients. However, elderly people with pre-existing conditions did not suddenly appear in Italy, why are the 88% with pre-existing conditions dying in higher numbers now?

A similar approach is being taken in the United States where National Vital Statistics System (NVSS) has added a new death code for the coronavirus. They advise that, "COVID-19 should be

reported on the death certificate for all decedents where the disease caused or is assumed to have caused **or contributed to death**".

What else can Kill Coronavirus Positive People?

Italy and the US have formalized the assumption that someone who is coronavirus positive can only get sick and die from the coronavirus. But, given that there are asymptomatic coronavirus positive people, it is clearly possible to have the virus (if that is what the test indicates) and not be sick. Therefore it is also possible to be coronavirus positive and sick, and have the sickness caused by something else. There are other possibilities for why coronavirus positive patients would be dying at a higher rate:

- After SARS, doctors and researchers looked back and realized that the aggressive treatment of SARS patients had not helped, and probably killed a lot of people. The interventions were eerily similar then, such as moving to intubation (invasive ventilation) immediately rather than waiting until necessary, high dose corticosteroids, and a drug that was completely unproven (ribavirin for SARS, a much wider variety of antiviral and other types of drugs for coronavirus).
- Hospital patients with visitors are known to do better than those without. Not only have all visitors been removed, but even the nurses and doctors cannot provide a friendly face and a comforting hand, because they are behind protective gear, gear that emphasizes how seriously ill the person is. This must have a tremendously negative psychological impact on old, frail people who are lonely, scared, and in pain (if not heavily sedated for intubation).
- The patients dying are generally elderly and with pre-existing health conditions. Alone this would not change the death rate, but combined with intubation, isolation, potent drugs, and iatrogenic death is a real possibility.
- People are being discouraged from going to Emergency Rooms and may stay at home until their symptoms are much worse than would have caused them to go to a clinical or hospital in normal times. This is worst for people with respiratory symptoms, who may be aggressively treated as coronavirus victims, but applies to people with any condition that worsens over time.
- People are scared of going to the Emergency Room because they are sure they will catch coronavirus there, which also causes them to arrive at hospital in worse shape.
- In New York, paramedics have been told that if they cannot revive a person in the ambulance, they should not be brought to the ER to continue to try to revive them. These people will die. In the part of the UK near Birmingham, ambulance drivers are given opposite advice, being told not to use chest compressions until they get to the ER. This will also lead to deaths.
- It is too early to know for sure, but in countries with strict isolation policies, one can expect deaths from suicide, alcohol abuse, drug abuse and domestic violence to increase. Luckily there will likely be a reduction in traffic fatalities, and perhaps an increase in the birth rate, but it is not clear that these benefits will fully compensate.

Does the Virus have a High Mortality?

The coronavirus has been reported to have death rates (death count divided by case count over a period of time) ranging from extremely high to not much higher than seasonal flu. Looking at the actual numbers is not helpful because we know they are not representative of reality because sick people are preferentially tested, and are obviously more likely to die than asymptomatic cases. Many suspect that the great bulk of people who would be positive if coronavirus tested, would be asymptomatic or with only mild, non-life-threatening symptoms. If the mortality rate is currently calculated at 10% and it turns out that there are 10 times as many positive people who are untested (all presumably without serious symptoms) then the death or mortality rate would actually only be 1%. If there are 100 times as many unknown positives, then only 0.1% (similar to flu). This point

has been made by many, most notably Anthony Fauci, perhaps America's most powerful medical bureaucrat, in the prestigious New England Journal of Medicine (although he has also made statements wildly in the opposite direction).

The death rate would also be lowered if people who had severe pre-existing conditions, or whose death was obviously caused by something else, were removed from the coronavirus case count.

What does the Virus Test Look For?

The virus test looks for RNA that is believed to come from coronaviruses. It is important to understand that RNA is found in every living cell in our body, in bacteria, in fungi. Even the tiny symbiotic organisms, known as mitochondria, that live within the cells of our body, not only have their own DNA but RNA. RNA is very similar to DNA chemically (three of the four 'beads' on the chain are the same), but differs in that it is usually created for a purpose, such as to produce a protein, or to send an inter-cellular message, and then is re-absorbed and re-used. Therefore, the types of RNA in our body change over time.

There is no proof that the RNA being searched for is viral, because the virus has not been purified, and it might be created by our own body, perhaps in response to respiratory stress.

Does a Positive Test Mean 'Infected' and a Negative Test, 'Uninfected'?

There are many examples where it is clear that positive and negative tests do not mean infected and uninfected. For example, in one report from Singapore, following 18 patients with daily tests, more than half went from positive to negative and back to positive at least once. In another paper, a woman who doctors really wanted to be infected, was tested 18 times and was negative every time, so the doctors declared that she was infected, and the test must be a false negative. There are many people who test positive but never have any symptoms. It is not possible to tell how many of these are somehow immune (yet the virus is still replicating inside them or they wouldn't be considered infectious) or are false positives. A Chinese study estimated that 80% of positive test results in asymptomatic people were false positives. A few days after an English language abstract was published by the National Library of Medicine (pubmed), it was retracted. Unusually, this was a retraction without explanation, and the Chinese language paper is still available. There are also many cases of people who test positive with no history of travel, and no known contact with another coronavirus positive person. In large samples, often 20-40% of people fall into this category. Epidemiologists claim that they will eventually find a link, but even a handful of cases with no link would show that false positives are possible. And if a few are possible, why not a lot?

False positives can be shown to be a big problem, even with a highly accurate test, by simple mathematics. Say that a test is 99% accurate, meaning that out of 100 people tested, there will only be one false positive. Now imagine that the disease the test is for is only found in 1/10,000 people in the group being tested (say healthy people). For every 10,000 people tested there will be one true positive and 100 false positives. A 99% accurate test can produce false positives 99% of the time.

Are my Symptoms Caused by the Virus?

If you have symptoms and have not been tested then it is unlikely that you will test positive, as most testing programs only find 1-10% of people are positive. Your symptoms, which are not unique for COVID-19 (because there are no unique symptoms) could be explained by numerous other bacteria, viruses or environmental causes.

If you have a positive coronavirus test, this is still not proof that the virus is causing your symptoms. Even assuming that the test detects the RNA of the virus perfectly, it cannot distinguish functional virus from non-functional, and if there are bits of RNA left lying around after your immune system has killed most, those would also register. Further, given that it is believed that there are coronavirus positive people with enough virus to be infectious, but without symptoms themselves, it is possible that you are asymptomatic for coronavirus, and your symptoms are still caused by something else.

What are the Pros and Cons of Testing for Coronavirus?

If you are in a position where you can choose to get tested for coronavirus, and you test positive, and you have some symptoms, you will be more likely to be intubated (which is a horrible experience, akin to a living nightmare by the accounts of some survivors), you will almost certainly receive antibiotics (which have side effects, and cause allergic reactions in some people), possibly will receive corticosteroids (which can do lasting damage), and choose from one of a list of drugs with known harms, but no known benefits for this virus, but with benefits for pharmaceutical companies desperate to be the first on the market with an approved therapy..

Who is Dying from the Coronavirus?

Deaths from the coronavirus are largely in the elderly and infirm. An Italian study of the first 2,003 deaths showed that the average age was 80. In fact, less than 4% were under 60 with no deaths in people under 30. The group was also extremely weak, with almost half having 3 or more pre-existing health conditions like various heart and circulatory problems, dementia, diabetes, COPD, liver and kidney disease. About one-quarter had two co-morbidities, and a similar number had one. Less than 1%, only 3 people, had no pre-existing health problems.

What Treatments are Available?

As an article in the Journal of the American Medical Association recently said, “no clinical evidence currently supports the efficacy and safety of any drug against any coronavirus in human”. There are no treatments, except standard supportive treatment for pneumonia (which is what many of the symptomatic coronavirus positive patients have). But this does not mean that treatments are not used, as described above. The authors note that just one side effect of several drugs (including chloroquine, azithromycin and lopinavir-ritonavir) is cardiac death, and many elderly patients already have heart disease.

Why is there a Shortage of Ventilators?

The shortage of ventilators to intubate patients is real, because it appears that, just like with SARS, coronavirus patients are being put on invasive ventilation very frequently. In a British report, 75% of patients were intubated within 24 hours of admission. One surprising reason is that doctors with inadequate personal protective equipment (PPE) are scared of the spread of the virus, so intubate in preference to a face mask.

This rush to intubate also occurred during SARS, but a comparison of one hospital in Hong Kong that delayed intubation unless necessary, with 13 that intubated patients immediately, had a death rate more than four times lower, despite having patients that were sicker upon admission. Furthermore, not a single transmission to a health care worker was found.

- Intubation is an extremely dangerous, last resort, practice that can cause VALI (Ventilator Associated Lung Injury) and VAP (Ventilator Associated Pneumonia). In New York City, AP reported that 80% of patients on ventilators died.

Has the Virus been Isolated or Purified?

In “Through the Looking Glass”, Humpty Dumpty says, “When I use a word, it means just what I choose it to mean – neither more nor less”. Virologists have taken this to heart with the word “isolation”.

When virologists use the word “isolation” they are probably talking about what happened after they added impure materials (e.g. a nasal swab that will also contain human cells, cell secretions, bacteria and more) to a cell culture and observed one of the following:

- Cell death.
- Abnormally large cells known as syncytia that never occur in humans.
- Certain proteins (such as p24 for HIV).
- Certain enzymes (such as Reverse Transcriptase for HIV).
- Certain RNA or DNA.
- Particles that might be viruses, but also microvesicles or exosomes.

What virologists rarely do is use the word “purify”, perhaps because they simply cannot purify most viruses. But without purification the existence of the virus is not proven, and any tests remain unvalidated, as purification is the ‘gold standard’. Furthermore, the RNA or DNA and proteins claimed to be unique to the virus are not known to come from a virus unless extracted from pure virus.

© Copyright 2020. [David Crowe](#)