

COVID-19: SOME COMMON MISCONCEPTIONS

After the SARS-CoV-2 virus emerged in fall 2019 in Wuhan, the scientific community sprang into action, generating a wealth of data. And many, many preprints. Some were helpful, some were conflicting, and some were of dubious quality and later debunked. Combined with the politicization of COVID-19 control measures and apparent conflict between the White House and the Centers for Disease Control and Prevention (CDC) keeping up with the COVID-19 literature — and knowing what to believe — is challenging. We hope that this issue of the *CD Summary* can clarify some misconceptions about COVID-19 and the virus (SARS-CoV-2) that causes it.

MISCONCEPTION 1. COVID-19 is “just like the flu.”

CDC estimates that for the last 10 flu seasons, deaths from influenza have ranged from 12,000 to 61,000 annually. In contrast, the coronavirus has already claimed [more than 250,000 lives in the U.S.](#) this year as of early October. Granted, the flu mortality estimates are just that — estimates — because flu is not nationally reportable.

But the Oregon Health Authority (OHA) has its own sources. CDC coordinates two hospitalization surveillance systems in 14 states, and Oregon is one of them. One system tracks patients hospitalized with lab-confirmed influenza, and the second logs [lab-confirmed cases of COVID-19](#), allowing for direct comparison of in-hospital mortality associated with the two diseases. In the three-county area of metropolitan Portland* (one of the 14 surveillance sites) during the last three flu seasons, 3.7% of Oregonians hospitalized for flu died in hospital, compared to 11.2% of hospitalized cases of COVID-19 as of the end of October of this year.

Lastly, if you seek further evidence of the high burden of mortality from COVID-19, we suggest you explore CDC’s [dashboard \(Figure 1\) showing all-cause mortality](#). Notice the orange line indicating the upper range of what would be considered an excess number of deaths. Follow the counts for each week for the last three years and observe how they peak each winter and wane each summer. It is hard to miss the sudden spike in deaths — numbering in the thousands per week — in spring of 2020. The [CDC](#) estimated nearly 300,000 excess deaths occurred in the U.S. between March and early October of this year.

Unfortunately, COVID-19 has proved much more lethal than seasonal influenza.

MISCONCEPTION 2. I don’t need to test every patient who has a cough.

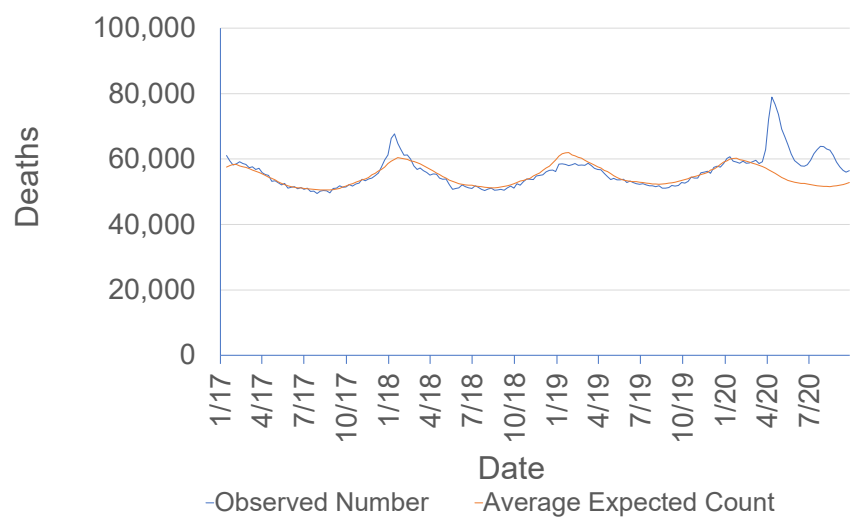
Actually, you do. Back during the cold, dark days of March when the Oregon State Public Health Laboratory (OSPHL) first started testing for the SARS-Cov-2 virus using the polymerase chain reaction (PCR) test developed by CDC, capacity was quite

limited, so we asked clinicians to limit their requests for testing. But the brakes have come off as testing has become more widely available. Currently, the combination of labs at major healthcare systems, large commercial reference laboratories and OSPHL allow [more than 120,000 tests on Oregonians](#) each week. And the recent arrival of point-of-care rapid antigen tests from the federal government further increases our testing capacity.

But the reason for testing individuals with symptoms of COVID-19 goes beyond accessibility. The results matter to both patients and the community at large. Patients need to protect family members. Local public health authorities need to investigate to identify other close contacts. And contact tracers need to advise and facilitate quarantine for those exposed.

In the short run, test results inform decisions in workplaces, schools, child care, and long-term care and other residential settings about who needs isolation and quarantine. A negative test in a symptomatic person with no history of exposure to SARS-CoV-2 allows someone to return to work or school without being isolated for 10 days, and a positive test result calls in services for individuals who need a place

FIGURE 1. WEEKLY NUMBER OF DEATHS (FROM ALL CAUSES), U.S., JAN. 1, 2017–SEPT. 26, 2020



*Clackamas, Multnomah, and Washington counties

to stay or food delivered to their family during their isolation period. The latter is absolutely critical to many Oregon families struck by COVID-19: community-based organizations receiving federal funds to provide wraparound services can only serve lab-confirmed cases.

In the long run, those test results also help public health officials understand the full spectrum and burden of disease, monitor trends, evaluate risk factors, prioritize resources, and make important decisions about re-opening businesses.

Bottom Line: You should test individuals presenting with cough, fever, or shortness of breath, especially if they have been excluded from work, school or childcare due to their symptoms.

MISCONCEPTION 3. If I'm exposed to someone with COVID-19 but I have a negative test, I don't have to quarantine.

Although this strategy has been widely utilized and endorsed by professional athletes and politicians, it ignores the basic fact that the incubation period of the virus can be as long as 14 days. A negative test 4 days after exposure **does not** prevent you from developing symptoms a day or two later — up to the 14th day following exposure. A negative test on a given day simply means that you don't have COVID-19 on that day.

Except when you do. A second flaw in the strategy is that even the PCR — the most sensitive test for SARS-CoV-2 — has a sensitivity of only about 70%, giving you a ~30% chance of testing negative even if you are infected. The rapid antigen tests, seemingly so fast and convenient, are even less sensitive,[†] as many high-ranking politicians and the president of the University of Notre Dame have learned.

Bottom line: You can't test your way out of quarantine.

MISCONCEPTION 4. Focused protection, or the "Let the good times roll!" strategy.

Published on October 5, the "[Great Barrington Declaration](#)" (GBD) has attracted attention in the press and in public health circles with its thesis that the most compassionate strategy "is to allow those who are at minimal risk

[†] Be aware that the manufacturer's estimates of sensitivity for the commercial assays may appear satisfactory (often over 95%), but the estimate uses the PCR as a gold standard, so it can't ever be higher than the 70% sensitivity of the PCR

of death to live their lives normally to build up immunity to the virus through natural infection, while better protecting those who are at highest risk."

While achieving herd immunity is the ultimate goal, the suggested strategy has flaws. As discussed under Myth 1, the SARS-CoV-2 virus has already exacted a huge toll in mortality. Despite great efforts to protect the elderly living in long term care facilities, [58% of the deaths in Oregon have been among residents of these facilities](#). And a recent national study found that more than [40% of U.S. adults have at least one of the five conditions](#) — obesity, diabetes, chronic obstructive pulmonary disease, heart disease, and chronic kidney disease — placing people at [a six-fold risk of hospitalization and a twelve-fold risk of death](#) from COVID-19. No one has come up with a way to prevent surging disease among the young, healthy population from making its way to higher-risk groups. Protecting the vulnerable is going to be a daunting task if the non-vulnerable don't wear a mask.

A second drawback with GBD is that we are not close to achieving herd immunity. [One national study that sampled patients on dialysis](#) in the U.S. during the month of July found that 9% of adults had antibodies to SARS-CoV-2. While some highly impacted areas, like New York, probably have much higher antibody prevalence than the rest of the U.S., Oregon is likely below average given our low incidence rate compared to the rest of the country: our [model](#) estimates that fewer than 200,000 Oregonians — less than 5% of us — have been infected by the end of October. [Most estimates of the level of immunity needed for "herd" immunity are 50% or higher](#): to achieve

that level, the U.S. case count would need to increase at least five-fold, while we pray that the body count doesn't rise proportionately.

Lastly, we suggest that the authors of the GBD compare the epidemic curves for diseases like measles and polio in the decades before and after vaccinations became available. What they show is that herd immunity doesn't last forever — as long as susceptible children are born and added to the risk pool each year, along with migrants from regions that haven't experienced a recent outbreak, the proportion of the population that hasn't had the infection slowly rises over time until a new cycle of infection begins (Figure 2).

As the historical curve for measles in Oregon shows, epidemics involving thousands of Oregonians occurred every 2–3 years in the pre-vaccine era. After a vaccine became available, the cycle shifted — outbreaks were further apart and claimed far fewer victims. It is unlikely that herd immunity without some contribution from vaccine will provide a long-lasting solution to the current pandemic.

Bottom Line: Don't throw away your mask just yet.

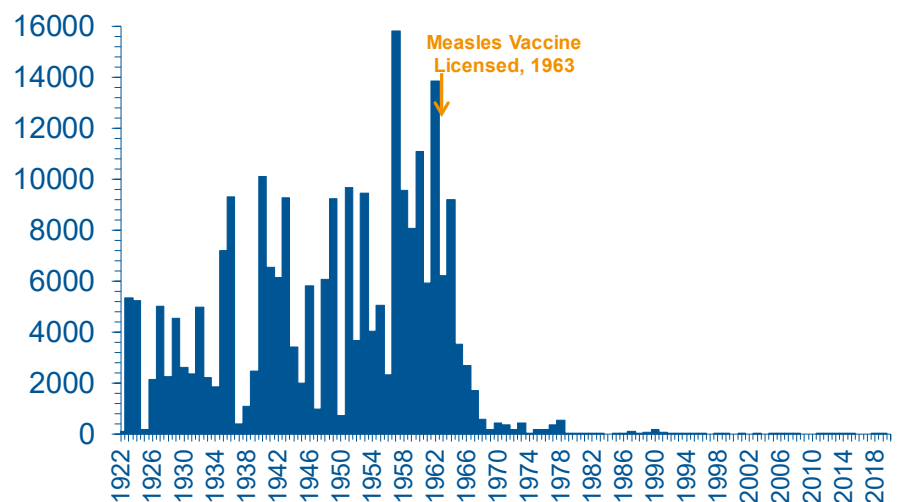
CONCLUSION

In WWII, American soldiers were drafted "for the duration." The same might be said of the sacrifices we're called upon to make in the battle against COVID-19 until vaccines relieve us of the duty. Fight the good fight and keep the faith.

FOR MORE INFORMATION

- OHA COVID-19 page: <https://govstatus.egov.com/OR-OHA-COVID-19>
- CDC COVID-19 page: www.cdc.gov/coronavirus/2019-ncov

FIGURE 2. REPORTED MEASLES OREGON, (1922–2018)





Providence Portland Medical Center designates this enduring material for a maximum of .5 *AMA PRA Category 1 credit™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity. Portland Providence Medical Center is accredited by the Oregon Medical Association to sponsor continuing medical education of physicians.

You can get this document in other languages, large print, braille or a format you prefer. Contact the Public Health Division at 971-673-1222. We accept all relay calls or you can dial 711. for TTY.