

Dr. Delgado COVID-19 Update 10-16-20

More on Testing

An effective test hinges on a concept called sensitivity: the ability of the test to detect what it is supposed to detect. The more abundant the viruses in your body, the easier it is for a test to detect it. PCR tests aid this process by artificially multiplying genetic material in a patient sample, thus making them very sensitive. They are able to detect the virus when it is present even at lower levels.

No test is 100% accurate, but the gold standard for diagnosis Covid-19 is still a nasal swab PCR test. The advantage of PCR tests is that they are extremely accurate. False negatives are usually very rare, close to about 2%, although some studies early in the pandemic reported false negative rates as high as 30 to 40%.

But these tests have disadvantages too. That swabs can be uncomfortable to obtain and need to be collected correctly. Samples also need to be delivered to a fully equipped lab. In addition, they have to be prepared accordingly and then processed which can take up to 24 hours at best (or longer when capacity is stretched). Lastly, their sensitivity may be too great and lead to

positive tests in those with only remnants of virus when they are no longer infectious to others.

Rapid tests, on the other hand, can deliver results in just minutes. But what rapid tests gain in speed, they lose in accuracy, especially when it comes to false negatives. Their false negative rate is much higher and can range anywhere from 5%-50%. In other words, their probability of erroneous negative results when a patient is actually infected is much higher than PCR tests.

At the earliest stages of infection, there may not be enough virus for the rapid test to detect it - they are just not sensitive enough. The rapid test works when a person has a higher viral load, that is, more viral particles in the body and thus more likely to be shedding particles and expelling them into the air. So if you're newly infected, a rapid test could come back negative in the morning, but as the viral load builds in your body over the course of the day, you could become more infectious and then the test could come back positive either later that day or the following morning.

Even knowing this, there are still many unknowns to consider. Some people might be very infectious even early in their disease. Some people might have a slow ramp-up. We're still trying to clarify the exact relationship

between infectiousness and viral load, and how much virus is actually needed to cause an infection.

Some research on super spreaders estimates that only a few people actually prove infectious enough to transmit the virus - it is estimated that only 10 to 20% of the infected individuals are responsible for up to 80% of new Covid-19 cases.

With all these nuances and variables, testing alone will not be a panacea. Only through the combination of voluminous testing with appropriate contact tracing will it become an effective tool, not a solution, to mitigate spread. Without the appropriate volume (to offset false negatives) and using that data to notify those at risk for further spread, the entire premise of testing - regardless of which type of test - becomes a futile exercise.

We cannot just test our way out of a pandemic.

Current Local update

Our most recent nadir showed a local (Blaine County) test positivity rate of 1.86/100,000 on 9/14. Yesterday that number had climbed to 30.41/100,000. At any number above 25, the risk of accelerated community spread increases.

Enough said.

The buy in

Without an efficacious vaccine or new therapeutic breakthrough, prevention tools remain the best approach to controlling the spread. Precautions like wearing masks, maintaining social distancing and proper hand hygiene do help lower the risk of transmission, but will not lead to a demonstrative change unless our society collectively agrees to them.

We are now entering our third acceleration phase of the pandemic since its onset. We still remain in the first wave of the pandemic as we now see spread into the more rural areas of our country. The rate in the US of hospitalizations is at its highest point since the end of August. The rise in rate of deaths is sure to follow as it has in the previous two instances.

It is estimated that less than 10% of the US population has been infected with Covid-19 to this point. Regardless of the actual numbers, we still have a long way to go. Less than 4% of my practice has tested positive thus far and as any internal medicine practice, the demographics

are skewed towards an older population with associated risk factors for poorer outcomes with Covid-19 infections.

Pandemic fatigue and inconsistent school reopening policies have undoubtedly contributed to this new acceleration. The mixed messages from our leadership has sown doubt as to the veracity of any recommendations or information from our public health experts. Add to that the divisiveness over such simple measures as masks and social distancing, which is perceived by many as an affront to their civil liberties, and it is easy to explain our current trajectory.

Yearning for a return to our past while ignoring the simple and scientifically proven measures that will allow that to occur seems incongruent with any level of sensible thinking or behavior.

Enacting a nationwide policy that will be adhered to seems far fetched at this point regardless of the upcoming election results. Adversarial and litigious positions by both state and local governance will likely become further entrenched along party lines and appear to have become equated with their platforms and ultimately political survival.

What to do? The buy in must begin individually. Continuing to understand that by our actions we can help

mitigate the spread. Just “most of the time” will not be sufficient and equates to you contributing to our ongoing pandemic.

Your choices will lead to others hopefully modeling your behaviors. If at a minimum, a significant majority of our valley can adhere to these basic principles, then invariably our country sees a drop in the rates of positivity and so on and so on.

People seek a path out of our present situation. The answers are clear.

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