



Town of New Castle, NH
Settled 1623
Incorporated 1693

COVID Update February 21, 2021

My apologies for the delayed update this week. Better late than never...
I'll keep it short.

1. **There is a COVID vaccine scammer locally** posing as a Portsmouth High School Student offering for an individual to pay \$50 for a fake vaccine. No one should have to pay for a vaccine. If a deal seems too good to be true, or simply fishy, call 211 to verify.

2. **The US life expectancy has decreased by a full year** to 77.8 years since the beginning of COVID. It is the largest dip in life expectancy since World War II. Worse yet is the fact that life expectancy of the Black population declined by 2.7 years in the first half of 2020.

3. **MHT quarantine guidance has changed relative to exposure and travel.** Please see the MHT Re-Entry plan for details.

4. More Vaccine News:

A new study in Israel found that the Pfizer vaccine was 85 percent effective after one shot, a finding that could lead some countries to delay the second shot in order to get more people vaccinated more quickly. There is no plan for this in the US.

The results on the Pfizer vaccine echo research on the AstraZeneca vaccine, which has been shown to offer protection weeks after the first dose.

A separate study suggested that the AstraZeneca vaccine was more effective when people received a second dose after three months, instead of six weeks.

Pfizer and BioNTech also announced that their vaccine can be stored at standard freezer temperatures for up to two weeks, rather than five days as recommended in their initial guidelines. Distribution of doses has been complicated by the requirement that the vaccines be stored at ultracold temperatures, and the change has the potential to expand the number of smaller pharmacies and doctors' offices that can administer the vaccine.

Separately, new data from the Centers for Disease Control and Prevention found that the vaccines from Pfizer and BioNTech and Moderna were reassuringly safe and that side effects were rare. The agency examined nearly 14 million vaccinations and found nearly 7,000 reports of adverse events — including headaches, fatigue and muscle aches — and said that 91 percent of those cases were not serious.

5. Variants:

PO Box 362
New Castle, NH 03854

www.NewCastleNH.org
603-431-6710

There have 44 cases of British variant, 2 of South African variant found in Massachusetts.

As of Thursday, 44 cases of the British coronavirus variant and two cases of the South African variant have been identified in Massachusetts, [according to the US Centers for Disease Control and Prevention](#). Across the country, the agency has identified 1,523 British variant cases, 21 cases of the South African variant, and 5 cases of a variant first found in Brazil. These variants increase transmission and at least the South African variant decreases the effectiveness of the vaccines.

The Good news is that vaccinations could limit further mutations. For those interested in more detail:

As more of the population is vaccinated, an increasing number of people have antibodies against SARS-CoV-2, either via infection or, more safely, via inoculation. Many experts have pointed to vaccination as a way to limit future evolution of the coronavirus into new and possibly more dangerous variants. The overall immune status of an entire population can in essence serve as an evolutionary selection pressure; but that assumes there is enough replication going on for mutations to be under positive selection—meaning that mutations don’t just occur but that there are conditions that either favor or disfavor that new version of virus by virtue of some change in its structure and therefore its “behavior.” This means that we might see a greater number or more effective so-called escape variants (i.e. variants that evade vaccines). That could happen if one or both of the following scenarios occur:

1. Widespread community transmission persists with slow vaccine uptake.
2. The vaccines don’t provide any protection against infection and transmission continues unchecked after vaccination.

Currently, our trajectory is most akin to the first scenario. We need to get transmission under control as we ramp up immunization. The second scenario is far less likely, as several lines of evidence suggest that the existing vaccines in use protect at least partially against infection and thus transmission.

Mutation is a relatively constant process. It happens randomly whenever a virus replicates. Selection pressures themselves don’t increase mutation or make the virus mutate differently. They simply refer to the conditions in which mutations occur. For example, if an animal has a mutant that makes its neck longer, that won’t give it an advantage if it does not allow it to reach food in trees that other animals can’t also reach. So there would be no selection pressure in that circumstance to “select” for the animal with the long neck mutation. But if there were higher branches with food that only long-necked animals could reach, then a selection pressure would exist, and other time, animals with that mutation would have an advantage and perhaps survive while other animals did not.

Similarly, positive selection is when a randomly acquired mutation changes a virus in a way that gives it an advantage based on the prevailing circumstances. In this case, evading the human immune system’s weapons would be an advantage. But acquiring mutations is a numbers game, because it happens randomly. When it does happen, it has to be “meaningful” (i.e. there has to be a selection pressure) or else that mutation won’t be favored or disfavored; it simply would not even be “noticed.” The process is akin to buying lottery tickets. Buy one? Chances of winning are very low. Buy millions of tickets? Your chances go up. Depending on how many millions or billions you buy, your odds increase. Because transmission is so high right now, SARS-CoV-2



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is, by analogy, out there buying unlimited Powerball tickets. Thus, as the population's immunity to some variants grows, a selective pressure that favors the occasional new variant amount to some jackpots for the virus. By doubling down on efforts to reduce transmission while simultaneously ramping up vaccination, we can cut the virus off from its supply of chances to win. Immunization is a major way out of the pandemic. It won't automatically select for vaccine-resistant variants, especially if we do everything we can to knock down transmission now.

6. The FDA cracks down on fraudulent coronavirus cures.

Wherever there is fear or uncertainty, unscrupulous individuals will seek to profit. The covid-19 pandemic is no exception. In response to this, the US Food and Drug Administration (FDA) maintains an up-to-date [list](#) of products on its website that fraudulently claim to prevent, treat, mitigate, diagnose or cure the disease. Reassuringly, a total of 146 products had been listed since last March, and as of this writing, only seven are still on the market.

The site also includes a link that enables members of the general public to [report](#) any suspicious or concerning products that may not have yet caught the agency's attention. The long and short of it is that if a product makes claims that are too good to be true, they likely are.

On a separate note, High dose Vitamin D did not improve outcomes on length of stay or mortality in hospitalized COVID patients. Zinc and Vitamin C also were not shown to improve outcomes of COVID-19.

Kathy Hollister, MD
Deputy Health Officer
Email: healthofficer@newcastlenh.org