



Town of New Castle, NH
Settled 1623
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COVID19 Update December 31, 2020

Happy New Year's Eve! I have included a lot of information this week- much of it about vaccines.

Case numbers continue to rise and the US daily death toll reached a new record high yesterday at over 3740 cases. In New Hampshire 51.8% of all COVID-19 cases occurred in December thus far. Additionally, local cases in our town are ticking up. We have had a total of 15 cases.

More specifically: In New Hampshire, active COVID-19 hospitalizations [have been above 200 for three weeks](#). That number sits at 295, as of Tuesday. Steve Ahnen, president of the New Hampshire Hospital Association, said capacity is getting tight and officials are seeing more patients needing critical care in ICU beds. "The next several weeks are likely to be some of the most challenging of the pandemic yet," he said.

Vaccines are starting to roll out- still phase 1a, but we need to practice social distancing, wear masks when out in public, stay 6 feet apart from others, wash our hands frequently, and avoid social gatherings. It is not just public indoor spaces such as restaurants, bars, and gyms where transmission occurs; it is also in small inter-household family and friend gatherings. Our surgeon general stated that 'we have been in a marathon, let's not trip at the finish line.'

Please stay home and stay safe.

More on vaccines.

I promise to IMMEDIATELY let you all know when the vaccine becomes available people beyond those in long term care facilities and health care workers- and when we are close to that. We need herd immunity (from a combination of people immune from infection via vaccination and/or previous infection with a persistent immune response) in order to decrease the infection rate nationally and internationally, for more parts of our lives open up and normalize. Herd immunity is reached when 75-85% of people are immune. Until this happens, our society cannot normalize. Thus, when your turn comes, please choose to be vaccinated. And yes, you

should receive the vaccine even if you have had COVID, as we do not know how long or persistent our immune response is to it.

Just prior to December 24 the CDC Advisory Committee on Immunization Practices (ACIP) revised the **Phase 1 b vaccination roll out to include those 75 and older and specific front-line essential workers, including emergency responders and teachers.** More details are below, but this change moves those 75 and older earlier than the previous guidelines. Phase 1 b starts after the current Phase 1 a, which includes health care workers and residents of nursing homes and long-term care facilities. **It is estimated that Phase 1b will begin in February.** Below is a link to the CDC FAQ page regarding vaccines for more specifics:

<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/faq.html>

Both the Moderna and Pfizer vaccines are in distribution. In NH they are being distributed to long term care facilities and health care workers. They are being distributed via hospitals and through 13 DHHS state sites. Once the vaccine is distributed more widely, it will be via CVS and Walgreens-whether within medical practices, at the pharmacies, other sites, etc., but we do not yet know what exactly that will look like. Additionally, the US Government has agreed to purchase 100 million MORE doses of the Pfizer vaccine expected to be available in June and July.

Here is a link from the state of NH for setting up an immunization appointment for phase 1 a people:

<https://mail.yahoo.com/d/folders/1/messages/61732>

I. Phases of Vaccination- CDC (Please note that NH may amend these categories and dates will likely change)

The CDC previously defined Phase 1a, 1b, and 1c for the initial roll-out. Phase 1a is ongoing now and targets healthcare workers and nursing home/long-term care facility residents. The following summarizes the groups, the number of people in the groups and the **approximate** timing:

Phase 1a Healthcare workers and Long-term Care facility residents: 25 Million people
December-February

Phase 1 b Frontline essential workers* and people 75 yo and older: 50 Million people
February-March



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Phase 1c 65–74 years, 16-64 years with high-risk medical conditions**, and other essential workers***: 130 Million March-May

Phase 2 16 years and older not included above: 90 Million May-July

***Who are frontline essential workers for 1b?** This includes workers essential to the functioning of society who are at higher risk of exposure to COVID 19, including First Responders (Firefighters, Police), Education (teachers, support staff, daycare), Food & Agriculture, Manufacturing, Corrections workers, U.S. Postal service workers, Public transit workers, Grocery store workers

****What are the underlying medical conditions that place you at higher risk of severe illness from COVID 19?** Examples include: obesity, diabetes, chronic obstructive pulmonary disease, heart disease, and chronic kidney disease

*****Who are "other essential workers"?** Transportation and logistics, Food Service, Shelter & Housing (construction), Finance, IT & Communication, Energy, Media, Legal, Public Safety (Engineers), Water & Wastewater

Other vaccines in the pipeline in the US: Johnson&Johnson One shot Vaccine trial- Enrollment completed in the Phase 3 study of J&J's one shot vaccine on Dec 17. Results are expected at the end of January 2021. If the data indicate the vaccine is safe and effective, the Company expects to submit an Emergency Use Authorization application to the U.S. Food and Drug Administration (FDA) in February and approval of the EUA and distribution would be anticipated in March.

Novavax has started a Phase 3 study in the US of their COVID 19 vaccine. It is a two shot vaccine that does not require freezing, only refrigeration.

The AstraZeneca/Oxford vaccine was approved in the UK yesterday. We are still waiting for the US study data and the EUA submission that will follow, most likely in 1st Q 2021.

There are three new strains of the coronavirus meriting mention, one from the UK called B.1.1.7 (SARS-CoV-2 VUI 202012/0), one from South Africa called 501Y.V2, and one from Nigeria. Although research is still ongoing, early signs indicate that

- 1) the UK and South Africa strains appear to have a higher transmission rate (56% higher for the UK strain)
- 2) the current vaccines are expected to be effective against these strains,
- 3) the UK strain has been found in Colorado and California in people who have not recently travelled and in at least 14 other countries including Canada
- 4) the strains do not appear to be more deadly. For interested scientists, below is the link to the CDC brief regarding this released December 30.

<https://www.cdc.gov/coronavirus/2019-ncov/more/science-and-research/scientific-brief-emerging-variants.html>

Mutations - It is not surprising that the virus is mutating and creating new strains. Variants of viruses, including the novel coronavirus, normally and commonly emerge. As viruses replicate in cells they naturally accumulate mutations or errors. Some rare mutations do change how a virus behaves, but most don't. Instead, researchers primarily use variants as “fingerprints” to track disease.

The UK does more genetic sequencing of the coronavirus than the US, which may be part of the reason the “UK strain” was seen first in the UK. The scientists are concerned that this strain acquired 17 mutations all at once, which wasn't seen before. Both the UK and the South African mutation (501Y.V2) have a N501Y mutation. This N501Y mutation has been shown to increase how tightly the protein binds to the ACE2 receptor, its entry point into human cells. Studies on these are ongoing.

Many thanks to Tony and Diane Coniglio for contributing some of the information above.

Of other interest:

A New Variant Of Covid-19, Isn't Kidding Around. What We Know About A Fast-Spreading Mutant And Its Effect On Children

<https://brief19.com/2020/12/28/brief>



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Viruses mutate by changing their genetic code. SARS-CoV-2, the virus that causes covid-19, is no exception. The [CDC estimates](#) that any particular SARS-CoV-2 strain will acquire a new mutation around every two weeks. Not all of these mutations to viral genes will be evident to scientists, however. That is, unless the mutations change the structure of the virus itself, altering its efficiency, infectivity, and the severity of disease it causes, no one is likely to notice or even care when they occur. But when a mutation does cause a noticeable change in how the virus operates, we become acutely interested in understanding it.

On [December 20th](#), a "new" strain of the SARS-CoV-2 started making global headlines. [Public Health England](#) (an agency in the United Kingdom which carries out many of the functions that the US Centers for Disease Control and Prevention does in the US) emphasized that this new version of the virus does not seem to cause more severe disease nor higher mortality rates. The concern is that this variant spreads faster than the "usual" strain of SARS-CoV-2. It also appears that children are more susceptible to this iteration, which has ramped up concerns in the UK and around the world.

The rate of transmission for this new mutant—known as [B.1.1.7](#)—is 71 percent higher than seen among other typical viral variants of SARS-CoV-2. This is likely due to the strain's enhanced ability to find and enter human cells.

Children have never been immune to the novel coronavirus, but when kids come into contact with it, the virus less frequently enters the lungs and causes less significant disease, owing to differences between the respiratory tracts (as covered in [Brief19](#)) and lungs of children and adults. Changes in B.1.1.7 viral variant apparently make it easier for the virus to circumvent the advantages children have had in staving off clinical impactful covid-19 disease. The concern is that this new virus could cause symptoms and complications more frequently, though that has not yet been determined.

While the B.1.1.7 variant has been most closely tracked in the United Kingdom so far, it is probably already in the United States. It started spreading back in September, though researchers did not begin to understand its enhanced features until more recently.

Before you panic, it is important to remember sly mutations like this are a typical part of the viral playbook. Also, the vaccines being rolled out were developed to account for the likelihood that small shifts in viral proteins would occur. Therefore, the current versions of the vaccines are likely to retain their ability to neutralize the virus and prevent most disease. However, this strain may yet change how most people view children as viral vectors and force policymakers to reassess safety in schools. One thing is certain: no mutation can evade the effect of the simple public health measures that experts have been emphasizing. Make it your New Year's Resolution to maintain safe physical distancing, wash your hands, and wear a mask. These precautions can still outsmart this prevalent pathogen, no matter how many mutations it accrues.

– [Joanna Parga-Belinkie, MD](#)

Persistence of antibodies among United Kingdom healthcare workers.

<https://brief19.com/2020/12/29/brief>

While safe and effective vaccines have been cause for hope that the dawn of a post pandemic era may be in sight, the question of how long our antibodies will last (whether attained via natural immunity or vaccine) remains largely unanswered. Case reports from both the United States and Hong Kong have reported individuals getting reinfected with SARS-CoV-2—typically after 90 days and often following fairly asymptomatic initial infections. Now, researchers in the United Kingdom have attempted to assess just how long we might maintain our immunity.

A longitudinal study was published in the [New England Journal of Medicine](#) last week that followed healthcare workers over a 31 week period between March and November. Only symptomatic individuals were included at the beginning of the study, but after a month, asymptomatic staff were also invited to join. Every two months the entire cohort received an antibody blood test in order to track whether immunity still persisted in each individual.

Of the 12,541 participants, 90.6 percent were initially seronegative, meaning they generated a negative antibody test. Of the remaining 9.4 percent, approximately two-thirds recalled having symptoms consistent with covid-19. The particularly good news was that of all the individuals who did have positive antibody tests, not a single one had a confirmed symptomatic infection for the following six months. These data suggest that we should have a good deal of faith that our antibodies will last at least that long, and possibly longer. This is also welcome news given that early in the covid-19 pandemic there were widespread fears that antibodies to SARS-CoV-2 were short-lived. Fortunately, the most dire of those fears have already been cast aside, as more reliable tests became standard and the detection of lasting antibodies became more routine.

Furthermore, knowing that there are already two vaccines with Emergency Use Authorization (which offer a stable controlled dose of antibodies which may in fact provide more robust immunity than infection itself), we may have even more success in our ability to provide



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sustainable immunity at the population level. Yes, case reports have suggested the possibility of reinfection. Mostly, reinfections have brought about mild illness. Only in extremely rare cases have reinfections caused more severe disease than the first bout. It is becoming increasingly clear that on the scale of almost one year of experience with covid-19, these reinfections (let alone serious life-threatening disease) appear to be significant outliers. Brief 19- December 29, 2020:

New Vaccine Guidance For People With Weakened Immune Systems And Those With A History Of Guillan-Barré Syndrome Or Bell's Palsy

<https://brief19.com/2020/12/30/brief>

3) Links for more information:

Link for Vaccine Group 1A

<https://www.dhhs.nh.gov/dphs/cdcs/covid19/documents/phase-1a-technical-assistance.pdf>

If you wish to volunteer for the AstraZeneca COVID-19 vaccine trial, you may phone 603-319-8863, or go to <https://activmedresearch.com/>

Links to research studies:

<https://www.nih.gov/coronavirus>

https://www.covidvaccinestudy.com/?utm_source=ct&utm_medium=ct&utm_campaign=ct&utm_term=ct&StudyID=C4591001

Updated FAQ from the State of New Hampshire regarding COVID:

<https://www.dhhs.nh.gov/dphs/cdcs/covid19/documents/covid-19-faq.pdf>

COVID dashboard website- for daily positivity rate, school infections, graphics, etc.

<https://www.nh.gov/covid19/dashboard/overview.htm>

COVID numbers update by town:

https://www.wmur.com/article/new-hampshire-town-by-town-covid-cases/34879297?utm_source=Sailthru&utm_medium=email&utm_campaign=Coronavirus%20Newsletter%202020-12-10&utm_term=wmur-coronavirus_COMBINED

CDC guidance for holiday celebrations:

<https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/holidays.html>

Yours in Health,

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