Town of New Castle, NH
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COVID Update January 29, 2021

New Hampshire is now vaccinating phase 1B residents. This includes Residents age 65 and older, residents and staff of facilities for people with developmental disabilities, corrections officers, health care workers not previously vaccinated and those under age 65 with two or more of the following medical conditions: Cancer, Chronic kidney disease, COPD and other high-risk pulmonary disease, Down Syndrome, Heart Conditions, such as heart failure, coronary artery disease, or cardiomyopathies, Immunocompromised states, Obesity (body mass index of 30 kg/m or higher), Pregnancy, Sickle cell disease, Type 2 Diabetes Mellitus.

The great news is that as of January27 over 75% the 300,000 people eligible for Phase 1B of COVID vaccination have registered. This is a great start towards our eventual goal of herd immunity so that restrictions can ease.

Expectations were set by the state that people would not receive confirmation of their registration or an invitation to schedule a vaccine appointment for 3-5 days, and that appointments would be at least 2-3 weeks after that. The state far surpassed that and many received their registration confirmations the same day, and some had their initial vaccinations this week.

Other great news is that the state plans to keep doses at or very close to the CDC recommendations. As a state, NH did far better than most states. We should be proud of how DHHS has handled the overall rollout.

There were hiccups- and some larger than others.

Pease is not a site of vaccination for the general public. It is for Federal employees only. If you scheduled an appointment there, go and reschedule it now. In order to do this, **enlarge the search area beyond 10 miles for vaccination location scheduling** (I believe 10 miles is the default setting). There are currently 13 fixed sites that will be open for vaccinations in the coming weeks. These sites are in: Concord, Tamworth, Nashua, Hooksett, Exeter, Londonderry, Dover, Littleton, Lebanon, Laconia, Plymouth, Keene and Claremont. These sites will vaccinate people in their cars, minimizing the risk of COVID-19 spreading between residents. Our closest options are Dover and Exeter.

Some have 6-8 weeks between vaccine dosing appointments.

IMPORTANT: For those who had scheduled and cancelled appointments at Pease, and those who have 6 weeks to 2 months between the first and second dose. the State is aware of this and they

say they will be able to move up your vaccine appointment. This will be today on January 29 via email or Text. You need to respond to this outreach TODAY or you will only be able to email them in the future.
This is impressive as in other states there is not even a centralized number to call or website for questions.

Phase 1B registration also displaced some Phase 1A dosing appointments (first and second doses). That is also being remedied.

If you have registered for a vaccination appointment as you fit within Phase 1B guidelines, please keep checking your spam folder and your emails all the way through getting your second dose. It's easy to miss a scheduling or rescheduling email that comes from the CDC's VAMS system.

There are no data to support this that I can find, but **recently it was suggested that you do NOT pre-medicate with Acetaminophen, Ibuprofen, Naproxen, or other Non-steroidal anti-inflammatory painkillers prior to receiving the COVID vaccine.** This is based on a lack of data on how these medications impact the immune response to the vaccine. The theory is that it could dull your response to the vaccine.

For more detail on the theory: A study from Duke University found that children who took pain relievers before getting their childhood vaccines had fewer antibodies than those who did not take the medications, which could mean less protection. However, there were still protective antibody levels, despite the blunting.

An attachment to this email has the updated COVID vaccine General FAQ.

More on Vaccines:
As of Jan 28, 48 Million doses distributed; 21 Million people have received at least 1 dose; 4 Million people have received both doses.

- Moderna and Pfizer are both in discussions with the US Government to purchase 100 million more doses. That would bring the total to 300 million doses of each vaccine by this summer which is enough to vaccinate 300 million Americans
- J&J will release the data on their single shot Phase 3 vaccine study next week.
- Merck has discontinued development of their vaccines.
- AstraZeneca has completed enrollment in their Phase 3 trial. It will be about 2 months before we see the results.
- Pfizer has completed enrollment in an adolescent study of 12-17 year olds.
- Novavax is over half way complete in enrolling in a Phase 3 study in the US and Mexico. Yesterday they released data from their UK trial which showed 89.3% efficacy. This study included over 50% UK variants for which the efficacy was 85.6%. Also Novavax performed a Phase 2b study in South Africa where 92.6% of cases were the South African variant. The efficacy was 60% in HIV negative participants and 49.4% (HIV positive and negative) for all participants.

Variants: The South African variant is now formally in the US. This variant is not only more contagious/transmissible, but the current vaccine are less effective against it (not ineffective, less effective).
South African, Brazilian and UK variants have all been found in the US. New data from the UK indicates that the variant is not only more transmissible/contagious, but may be associated with an increased risk of death.
The Brazilian and South African variants have similar mutations to one another. Early in vitro test tube data indicate that the Moderna and Pfizer vaccines are active against the mutations in the UK and South African variant although the activity was slightly lower against the South African variant.
It is likely that the current mRNA vaccines will still have efficacy againist the variants but there is some chance it is slightly lower than previously reported.
Moderna is now modifying and updating the mRNA in the vaccine to cover the South African variant. It is working on a booster shot. This new vaccine will be tested in the future.
Also the Regeneron antibodies casirivimab and imdevimab have been shown to neutralize the UK and South African variants.

Please be vigilant about community mitigation measures and the CDC is requesting that you avoid travel. Now is not the time to let down your guard.

CDC Safety Update on Vaccines
The CDC has been monitoring the safety of self reported events after vaccination. Thus far over 2 Million people have reported their vaccination experience to the CDC. Additionally there have been more than 15,000 pregnancies reported. As seen in the clinical studies, the most common side effects in order from highest to lowest were:
Pain 70.7%
Fatigue 33.4%
Headache 29.4%
Myalgia (muscle aches) 22.8%
Chills 11.5%
Fever 11.4 %
Swelling 11.0%
Joint pain 10.4 %
Nausea 8.9%

There were 71 cases of anaphylaxis reported (50 Pfizer, 21 Moderna). Over 90% were females. The median onset was 10 minutes with 90% occurring within 30 minutes. Over 80% had a history of allergies or allergic reactions. It is important to wait at the vaccination site for at least 30 minutes if you have a history of allergies or allergic reactions, and at least 15 minutes otherwise.

No other signals of serious side effects have been detected.

Vaccination and Long Term Care Facilities:
The CDC has received reports of 129 Long term care facility residents who died between Dec 21-Jan 18 after vaccination. The scientists studied the expected number of deaths given the age and risk factors for this population and found 129 was substantially lower than what would be anticipated . Also Brown University studied vaccinated and unvaccinated residents of nursing homes and found that mortality was lower among vaccinated versus unvaccinated residents within the same facilities and compared to residents in not-yet-vaccinated facilities. Overall the risk of death is much higher from COVID-19 infection and other causes than is seen in people receiving the vaccine. GET VACCINATED; IT SAVES LIVES.

FAQ: Do I have to receive the second dose of the vaccine on the exact day (21 for Pfizer or 28 for Moderna)?
Although the studies were performed with this dosing regimen, the booster (second dose) is highly likely to be effective in a wider time window. The CDC guidelines now state that you can give the vaccines up to 4 days before or up to 6 weeks later. However if you wait longer than the 21/28 days, remember that your immunity will not be as strong i.e. your antibody titers go up further after the second dose. Therefore try to receive the second dose as close to the scheduled day as possible but no need to worry if for some reason there is a shortage that requires some delay as long as it is less than 6 weeks.

Testing: In general, the important thing to realize is that antigen tests are not meant to diagnose SARS-CoV-2 infection, but rather to determine whether person taking the test is *contagious*. The PCR test is much more accurate in determining infection. A combination of both can help determine who has the disease, who is infectious, and who is no longer infectious. This does NOT currently change your quarantine or isolation time if you are exposed to or have COVID

More in depth information on contagiousness for the scientists in town:

New data gives insight on how long patients can spread coronavirus.

Precisely how long patients infected with SARS-CoV-2 are contagious has been the focus of intense debate and scrutiny, with implications on how long isolation periods should last. One problem has been that people who contract the virus may generate positive tests via PCR nasal swab for weeks on end. At some points, patients test positive via PCR, but are no longer contagious. Many experts have suggested that the lower quantity of viral genetic material a test detects, the less likely a person is to be contagious. Typically, this is determined via a measurement known as "cycle threshold," which refers to how many cycles a testing machine must run on a sample in order to uncover a positive result. However, many experts feel that the most reliable measurement of whether a person is generating viable and contagious virus is to check whether a sample drawn from a patient is capable of growing new virus in laboratory "viral cultures."

A new study out two days ago in the *New England Journal of Medicine* studied this closely in 21 hospitalized patients in China. The patients were frequently tested for SARS-CoV-2 by PCR and also by viral culture. The researchers reported on the cycle threshold results and whether or not samples drawn simultaneously were able to generate positive viral cultures. The results are illuminating. First, the average patient *stopped* being contagious by day 7 after the onset of symptoms. None of the 21 patients generated a positive viral culture more than 12 days after the

beginning of symptoms. This indicates that for most patients sick enough to be hospitalized, the contagious window ends by day 12 of symptoms. This is important because many workplaces have had policies requiring two negative PCR tests. The data in this paper suggest that the average patient remained PCR positive for 34 days. This means, as we have begun to suspect, that PCR tests pick up the genetic fingerprints of the virus still in our system long after we can spread it.

While some PCR tests have different ranges of normal, the type used in this study also identified a compelling triaging that can be done using cycle threshold results. All patients with low cycle threshold values (under 20 cycles) *always* had simultaneously positive viral cultures. Those with high values (over 30 cycles) *never* generated simultaneously positive blood cultures. Values between 20 and 30 went in either way.

Also of interest, but buried in the appendix of the report, is that many patients had fever and other highly suggestive covid-19 symptoms relatively late in their illness. One patient was evidently contagious on day 4, developed a fever on days 6-11, but was found *not* to be contagious on days 8 and 11. This means that using time since symptom resolution could be highly misleading in determining when isolation should end. Another patient had a fever on days 5 and 6 but was still contagious on day 9. Two patients out of 21 had positive cultures, followed by negative cultures, only to become positive *again*, suggesting that contagion can come and go. This comports with an that I have often spoken about which I call the "geyser theory" of contagion. Until now, there was almost no direct evidence of that. This work implies the need to do more testing to sort this out. Combining these efforts with rapid at-home antigen tests—which are designed to test for contagion above all else—could provide powerful information.

—*Jeremy Samuel Faust, MD MS in Brief 19*

Many thanks again to Tony and Diane Coniglio for their contributions to this update.
Yours in Health,

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