

I hope everyone had a good week

Today under COVID-19 News CDC “quietly” updated guidance on Healthcare Infection Prevention and Control Recommendations in Response to COVID-19 Vaccination. This did not get the same news coverage as the masking update, but it has some very important information including some changes in testing. Next an update on the vaccine slowdown.

Under Journal Review I begin with an article of human to cat transmission of SARS-CoV-2 in the UK. The next article demonstrates the efficacy of mRNA vaccines in persons ≥ 65 . The next article looks at vaccine side effects and efficacy in the UK looking at 2 vaccines. The last article demonstrates decreased viral load after just one dose of the Pfizer vaccine and potential impact on transmission.

Have a wonderful weekend

Ed

COVID-19 News

Updated Healthcare Infection Prevention and Control Recommendations in Response to COVID-19 Vaccination

April 27, 2021

Highlights

- Visitation Post-acute care facilities, including nursing homes:
 - Indoor visitation could be permitted for all residents except as noted below:
 - Indoor visitation for unvaccinated residents should be limited solely to compassionate care situations if the COVID-19 county positivity rate is $>10\%$ and $<70\%$ of residents in the facility are fully vaccinated.
- Acute care facilities: Visitation should continue to be prioritized for those visitors important for the patient’s physical or emotional well-being and care (e.g., care partner, parents).
 - Indoor visitation should be limited solely to compassionate care situations, for:
 - Vaccinated and unvaccinated patients with SARS-CoV-2 until they meet criteria to discontinue isolation.
 - Vaccinated and unvaccinated patients in quarantine until they have met criteria for release from quarantine.
 - Full vaccination for visitors is always preferred, when possible.
 - Visitors should be screened and restricted from visiting, regardless of their vaccination status, if they have: current SARSCoV-2 infection; symptoms of COVID-19; or prolonged close contact (within 6 feet of an infected person for a cumulative total of 15 minutes or more over a 24-hour period) with someone with SARS-CoV-2 infection in the prior 14 days or have otherwise met criteria for quarantine.
 - Visitors, regardless of their vaccination status, should wear a well-fitting cloth mask, facemask, or respirator (N95 or a respirator approved under standards used in other countries that are similar to NIOSH-approved N95 filtering facepiece respirators).
- HCP
 - In general, fully vaccinated HCP should continue to wear source control while at work. However, fully vaccinated HCP could dine and socialize together in break rooms and conduct in-person meetings without source control or physical distancing. If

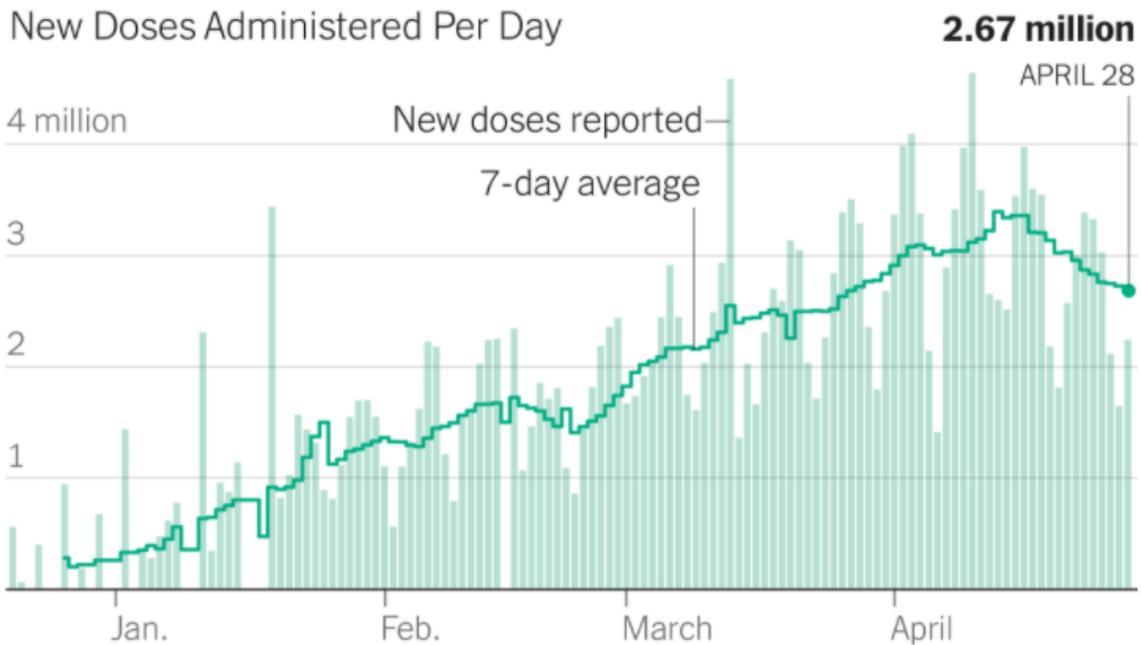
unvaccinated HCP are present, everyone should wear source control and unvaccinated HCP should physically distance from others.

- Fully vaccinated HCP with higher-risk exposures who are asymptomatic do not need to be restricted from work for 14 days following their exposure.
- Fully vaccinated inpatients and residents in healthcare settings should continue to quarantine following prolonged close contact (within 6 feet for a cumulative total of 15 minutes or more over a 24-hour period) with someone with SARS-CoV-2 infection.
 - Although not preferred, healthcare facilities could consider waiving quarantine for fully vaccinated patients and residents following prolonged close contact with someone with SARS-CoV-2 infection as a strategy to address critical issues (e.g., lack of space, staff, or PPE to safely care for exposed patients or residents) when other options are unsuccessful or unavailable. These decisions could be made in consultation with public health officials and infection control experts.
 - Quarantine is no longer recommended for residents who are being admitted to a post-acute care facility if they are fully vaccinated and have not had prolonged close contact with someone with SARS-CoV-2 infection in the prior 14 days.
- SARS-CoV-2 testing
 - Anyone with symptoms of COVID-19, regardless of vaccination status, should receive a viral test immediately.
 - Asymptomatic HCP with a higher-risk exposure and patients or residents with prolonged close contact with someone with SARS-CoV-2 infection, regardless of vaccination status, should have a series of two viral tests for SARS-CoV-2 infection. In these situations, testing is recommended immediately and 5-7 days after exposure.
 - People with SARS-CoV-2 infection in the last 90 days do not need to be tested if they remain asymptomatic, including those with a known contact. [not clear to me why this is different from vaccinated HCP]

Comment: The CDC still does not recommend work restriction for asymptomatic HCP who are fully vaccinated and who have had high-risk exposures. But they now recommend testing of asymptomatic HCP with high-risk exposures, regardless of vaccination status, immediately and again 5-7 days after the exposure, but not if you have been infected in the last 90 days. [?] The recommendation of allowing fully vaccinated HCP to dine and socialize together in break rooms and conduct in-person meetings without source control or physical distancing is a welcomed change.

Vaccine Slowdown – A Concern

One picture is worth a thousand words: Source CDC

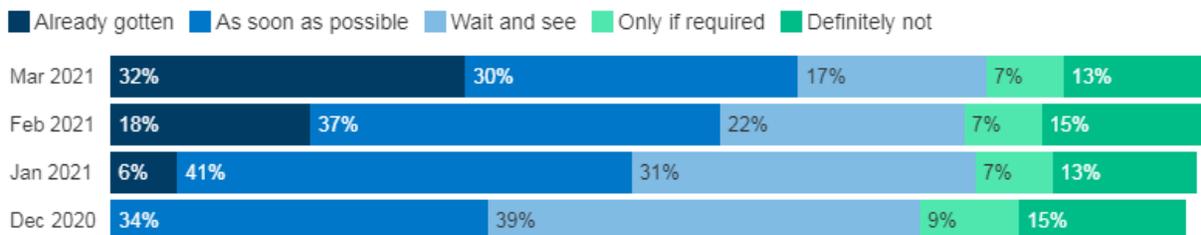


U.S. has now given at least one dose to more than half of eligible citizens. There are only four countries ahead of the U.S. [Israel, the United Arab Emirates, Chile, and UK]. However, the average number of daily vaccinations has declined 20 percent in just the past two weeks.

Why the slowdown? Some medical experts believe that a full pause for the J&J vaccine was an overreaction. But the J&J pause is not the only factor. Vaccine hesitancy also plays a role. A poll last month by the Kaiser Family Foundation [shared several weeks ago in the Daily Briefing] found that 20 percent of U.S. adults said that either they would not get vaccinated or would do so only if required. (see graph below) Another 17 percent said they wanted to wait until the vaccine had been available longer and they could see how it affected others. Put those two groups together, and you can see why the country is starting to see a slowdown in vaccinations despite wide availability and mass vaccination facilities who no longer require an appointment.

One-Third Report Having Received At Least One COVID-19 Vaccine Dose; Share Wanting To "Wait And See" Continues To Shrink

Have you personally received at least one dose of the COVID-19 vaccine, or not? When an FDA authorized vaccine for COVID-19 is available to you for free, do you think you will...?

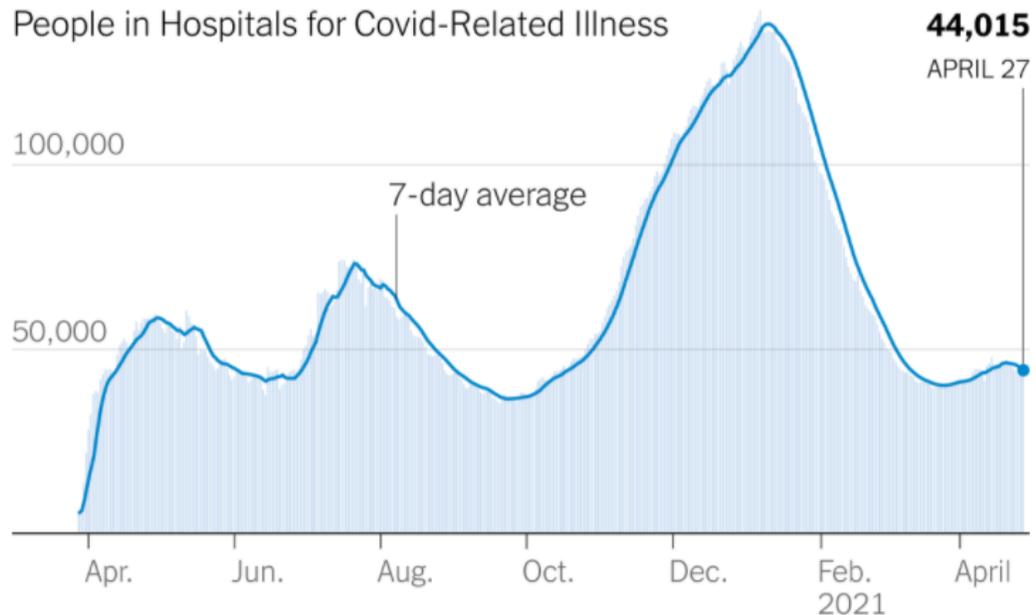


NOTE: December 2020 survey did not have an option for respondents to indicate they had already been vaccinated. See topline for full question wording.

SOURCE: KFF COVID-19 Vaccine Monitor • [Download PNG](#)

[KFF COVID-19 Vaccine Monitor](#)

Comment: I hope as people see how efficacious and safe these vaccines are, vaccine hesitancy will decline (see articles reviewed below). The number of people in hospitals has declined substantially especially in persons ≥ 65 years of age. Below from HHS shows the decline in COVID-19 admissions of all ages.



Some organizations will begin to require vaccination as a condition of employment as Houston Methodist has announced. This fall should we require teachers and student 12 and older (assuming FDA will give EUA for children 12-15) to be vaccinated? Most of you know I believe we have a moral and ethical obligation to not only protect ourselves, but also our community.

Journal Review

Detection of SARS-CoV-2 in Respiratory Samples from Cats in the UK Associated with Human-to-Cat Transmission

VetRecord published April 23, 2021

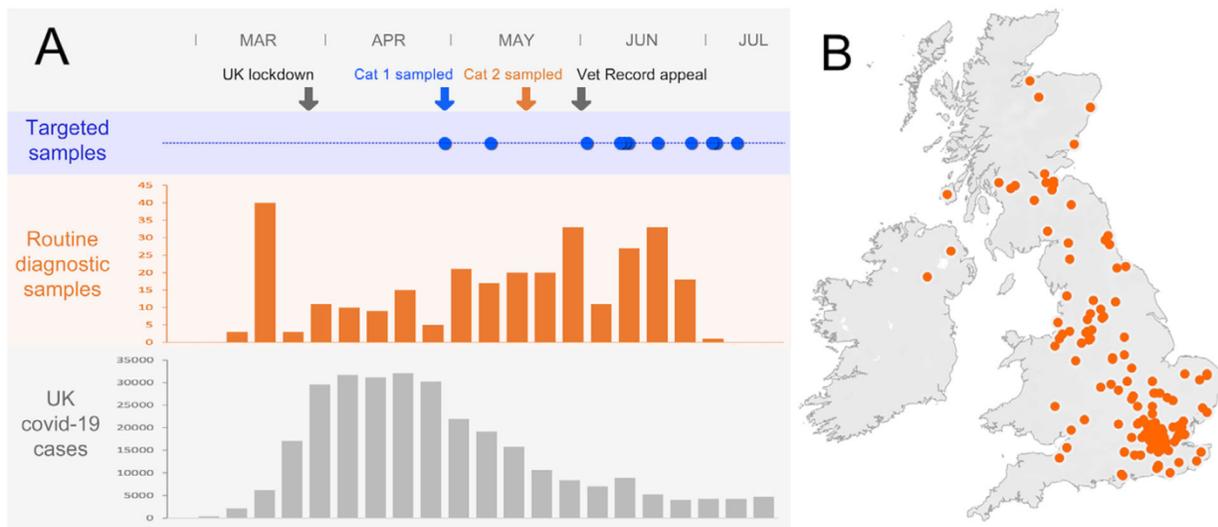
DOI: [10.1002/vetr.247](https://doi.org/10.1002/vetr.247)

During the current COVID-19 pandemic, naturally occurring SARS-CoV-2 infections linked to transmission from humans have been reported in domestic cats, nondomestic cats, dogs, and mink. Cat-to-cat transmission has been demonstrated experimentally, but the significance of SARS-CoV-2 as a feline pathogen, as well as its reverse zoonotic potential, remains poorly understood. At present, there is no evidence of cat-to-human transmission or that cats, dogs, or other domestic animals play any appreciable role in the epidemiology of human infections with SARS-CoV-2. The aim of the study was to find evidence of SARS-CoV-2 infection in UK cats.

This study performed a retrospective screening program testing a set of 387 oropharyngeal swabs that had been submitted to the University of Glasgow VDS for routine testing for respiratory pathogens (feline calicivirus (FCV), feline herpes virus (FHV), and *Chlamydia felis* (*C. felis*)). Samples

received in VTM were screened for FHV, FCV and *C. felis*. RNA extraction was performed for every seven samples. All samples were tested using two reverse transcriptaseq PCR (RT-qPCR) assays.

Lung tissue was also collected *post-mortem* from cat 1 which tested positive for both SARS-CoV-2 nucleocapsid antigen and RNA. SARS-CoV-2 RNA was detected in an oropharyngeal swab collected from cat 2 that presented with rhinitis and conjunctivitis. High throughput sequencing of the viral genome revealed five single nucleotide polymorphisms (SNPs) compared to the nearest UK human SARS-CoV-2 sequence, and this human virus contained eight SNPs compared to the original Wuhan-Hu-1 reference sequence. An analysis of the viral genome of cat 2 together with nine other feline-derived SARS-CoV-2 sequences from around the world revealed no shared cat-specific mutations.



Comment: These findings indicate that human-to-cat transmission of SARS-CoV-2 occurred during the COVID-19 pandemic in the UK, with the infected cats developing mild or severe respiratory disease. Given the ability of the new coronavirus to infect different species, it will be important to monitor for human-to-cat, cat-to-cat, and cat-to-human transmission. Sorry cat lovers!

Effectiveness of Pfizer-BioNTech and Moderna Vaccines Against COVID-19 Among Hospitalized Adults Aged ≥ 65 Years — United States, January-March 2021

MMWR published online April 28, 2021

(CDC) just published that the mRNA COVID-19 vaccines are highly effective in preventing hospitalizations among Americans ages 65 and older.

The assessment, based on two US networks totaling 24 hospitals in 14 states, found fully vaccinated adults 65 years and older were 94% less likely to be hospitalized with COVID-19 than people of the same age who were not vaccinated. Among partially vaccinated adults over 65 who had received only one dose of vaccine, hospitalizations were 64% less likely.

Real-world data show vaccination* **reduced the risk** for COVID-19 hospitalization among adults 65 and older†

Vaccination is a critical tool to **reduce severe COVID-19** in adults 65 and older

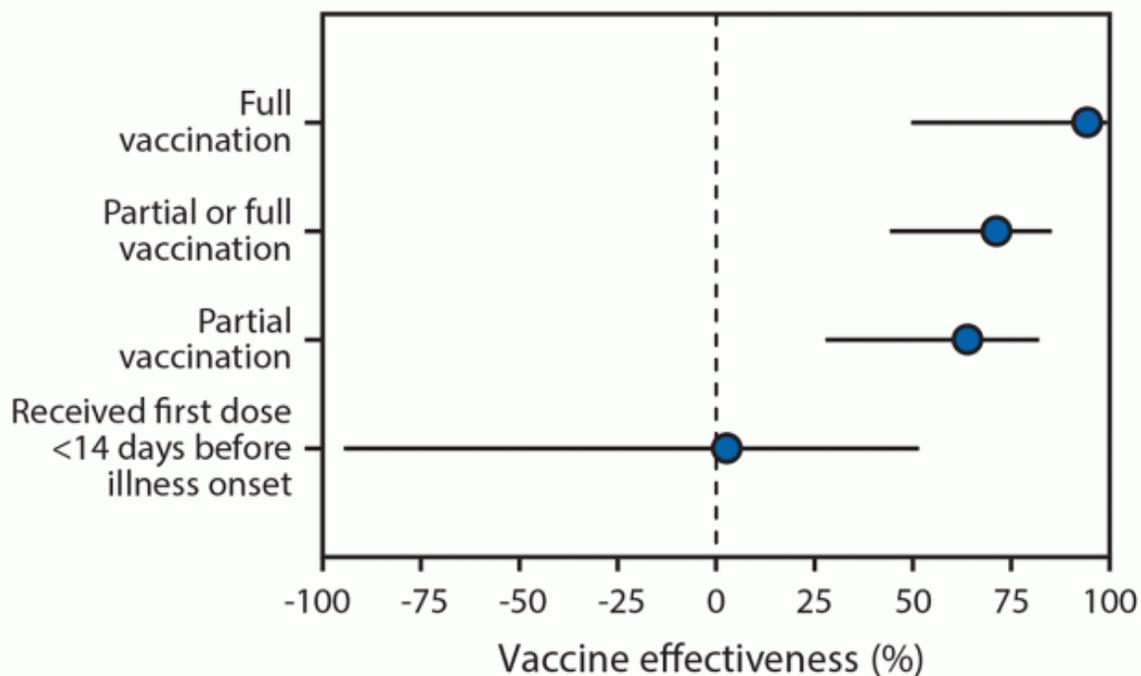


* Receipt of Pfizer-BioNTech or Moderna 2-dose vaccine series
† Patients enrolled from 24 U.S. hospitals in 14 states

CDC.GOV

bit.ly/MMWR42821

MMWR



Comment: These are the first real-world data that show mRNA vaccines prevent severe illness during a time of a significant surge. This report is similar to the Israeli and UK experience. The CIs for VE estimates were wide because of the small sample size, and the number of participants was too small to assess VE by vaccine product, age group, or underlying conditions. Since the analysis included self-reported data, vaccination status might have been misclassified, or participants might have had imperfect recollection of vaccination or illness onset dates. Nonetheless, this is great news.

Vaccine Side-Effects and SARS-CoV-2 Infection After Vaccination in Users of the COVID Symptom Study App in the UK: A Prospective Observational Study

Lancet Infect Dis published online April 27, 2021

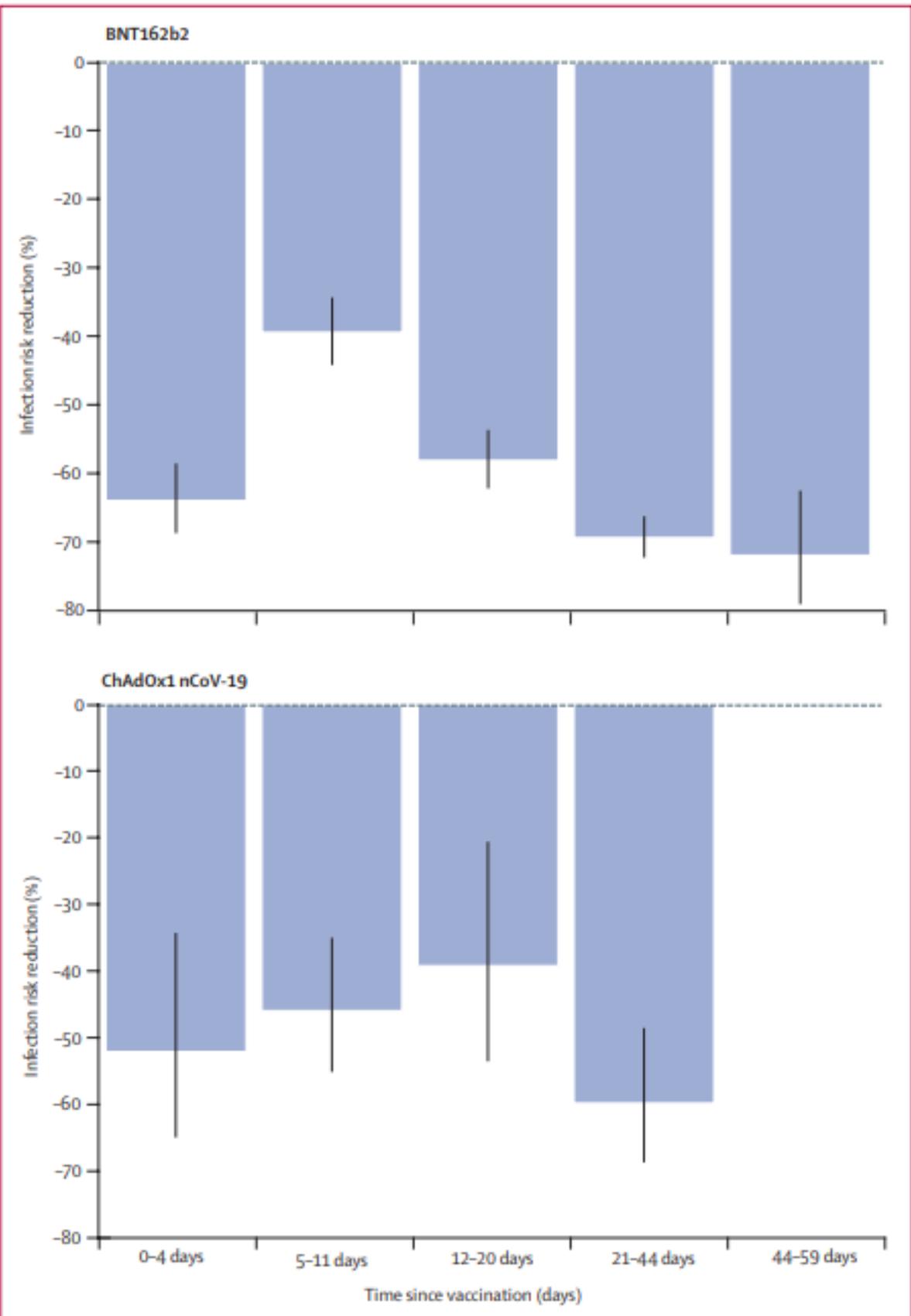
[https://doi.org/10.1016/S1473-3099\(21\)00224-3](https://doi.org/10.1016/S1473-3099(21)00224-3)

The authors investigated the safety and effectiveness of the Pfizer and AstraZeneca vaccines in a UK community setting. This was a prospective observational study to examine the proportion and probability of self-reported systemic and local side-effects within 8 days of vaccination in individuals using the COVID Symptom Study app who received one or two doses of the Pfizer vaccine or one dose of the AstraZeneca vaccine. They also compared infection rates in a subset of vaccinated individuals subsequently tested for SARS-CoV-2 with PCR or lateral flow tests with infection rates in unvaccinated controls. All analyses were adjusted by age (≤ 55 years vs > 55 years), sex, health-care worker status (binary variable), obesity (BMI < 30 kg/m² vs ≥ 30 kg/m²), and comorbidities (binary variable, with or without comorbidities).

Systemic side-effects were reported by 13.5% (38,155 of 282,103) of individuals after the first dose of Pfizer vaccine, by 22.0% (6,216 of 28,207) after the second dose, and by 33.7% (116,473 of 345,280) after the first dose of the AstraZeneca. Local side-effects were reported by 71.9% (150,023 of 208,767) of individuals after the first dose of Pfizer vaccine, by 68.5% (9,025 of 13,179) after the second dose, and by 58.7% (104,282 of 177,655) after the first dose of the AstraZeneca vaccine. Systemic side-effects were more common (1.6 times after the first dose of the AstraZeneca vaccine and 2.9 times after the first dose of the Pfizer vaccine) among individuals with previous SARS-CoV-2 infection than among those without known past infection. The most reported systemic side effect was headache. 7.8% of people reported suffering from headaches after the first Pfizer dose and 13.2% after the second Pfizer dose. 22.8% of people who had the first dose of the AstraZeneca vaccine reported a headache.

Local effects were similarly higher in individuals previously infected than in those without known past infection (1.4 times after the first dose of AstraZeneca vaccine and 1.2 times after the first dose of the Pfizer vaccine). 3,106 of 103,622 vaccinated individuals and 50,340 of 464,356 unvaccinated controls tested positive for SARS-CoV-2 infection. The most common local side effect was tenderness: 57.2% and 50.9% after first and second dose of Pfizer vaccine, and 49.3% after first dose of AstraZeneca vaccine.

Significant reductions in infection risk were seen starting at 12 days after the first dose, reaching 60% (95% CI 49-68) for AstraZeneca and 69% (66-72) for Pfizer at 21-44 days and 72% (63-79) for Pfizer after 45-59 days.



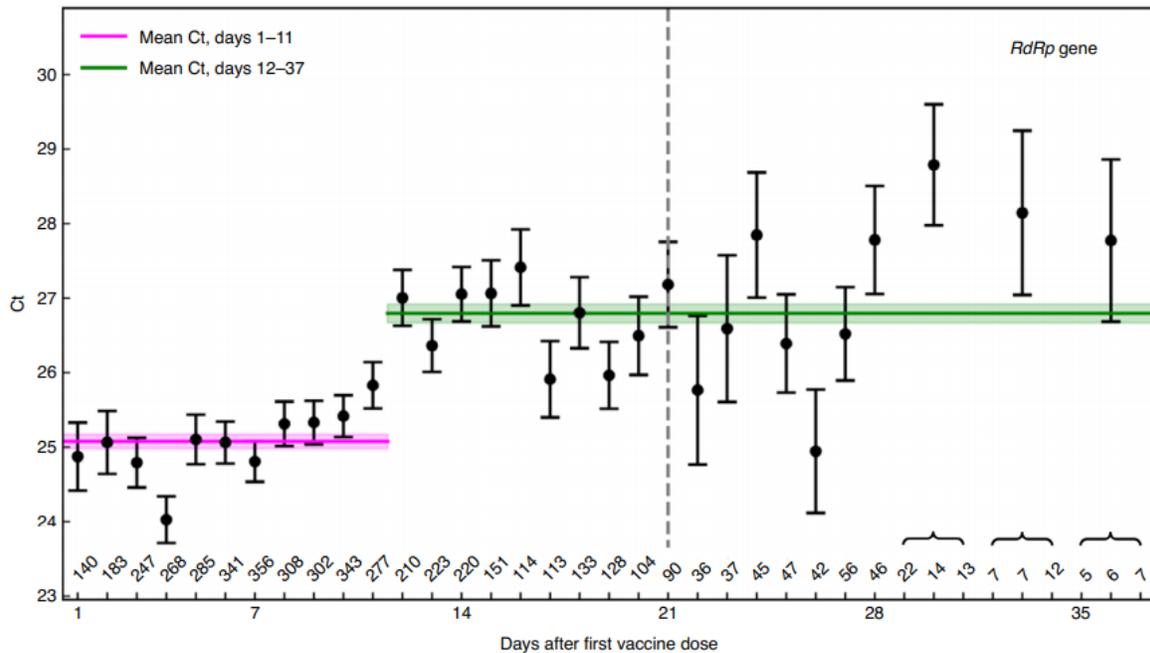
Comment: Their results showed up to 70% protection after 3 weeks following a single dose, which is fantastic news. One in four people experience mild, short lived systemic side effects after receiving either the Pfizer or AstraZeneca vaccine, with headache, fatigue, and tenderness the most common symptoms. Most side effects peaked within the first 24 hours following vaccination and usually lasted 1-2 days.

Initial Report of Decreased SARS-CoV-2 Viral Load After Inoculation with the BNT162b2 Vaccine

Nat Med published online March 29, 2021

<https://doi.org/10.1038/s41591-021-01316-7>

Among 4,938 vaccinated and subsequently infected individuals, mean cycle threshold (Ct; inversely related to viral load), was 25 when reinfection occurred 1-11 days after the first dose and 27 when reinfection occurred ≥ 12 days after the first dose. Moreover, Ct was significantly higher among individuals reinfected 12-37 days after the first dose compared with the unimmunized group. No difference in Ct was observed in first dose vaccinated individuals who became infected during the first 11 days compared with the control group.



Comment: The investigators demonstrated that after 12 days from first vaccine dose protective immunity begins to develop. They showed that after 12 days, infected subjects had high Ct meaning lower viral loads. This supports the growing evidence that immunization can lower viral load which should correlate with lower risk of transmission in those with breakthrough infection.