BECKER'S HEALTHCARE

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COVID-19: The Latest in Testing and Treatment

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Paxlovid cuts long COVID-19 risk, early VA findings show

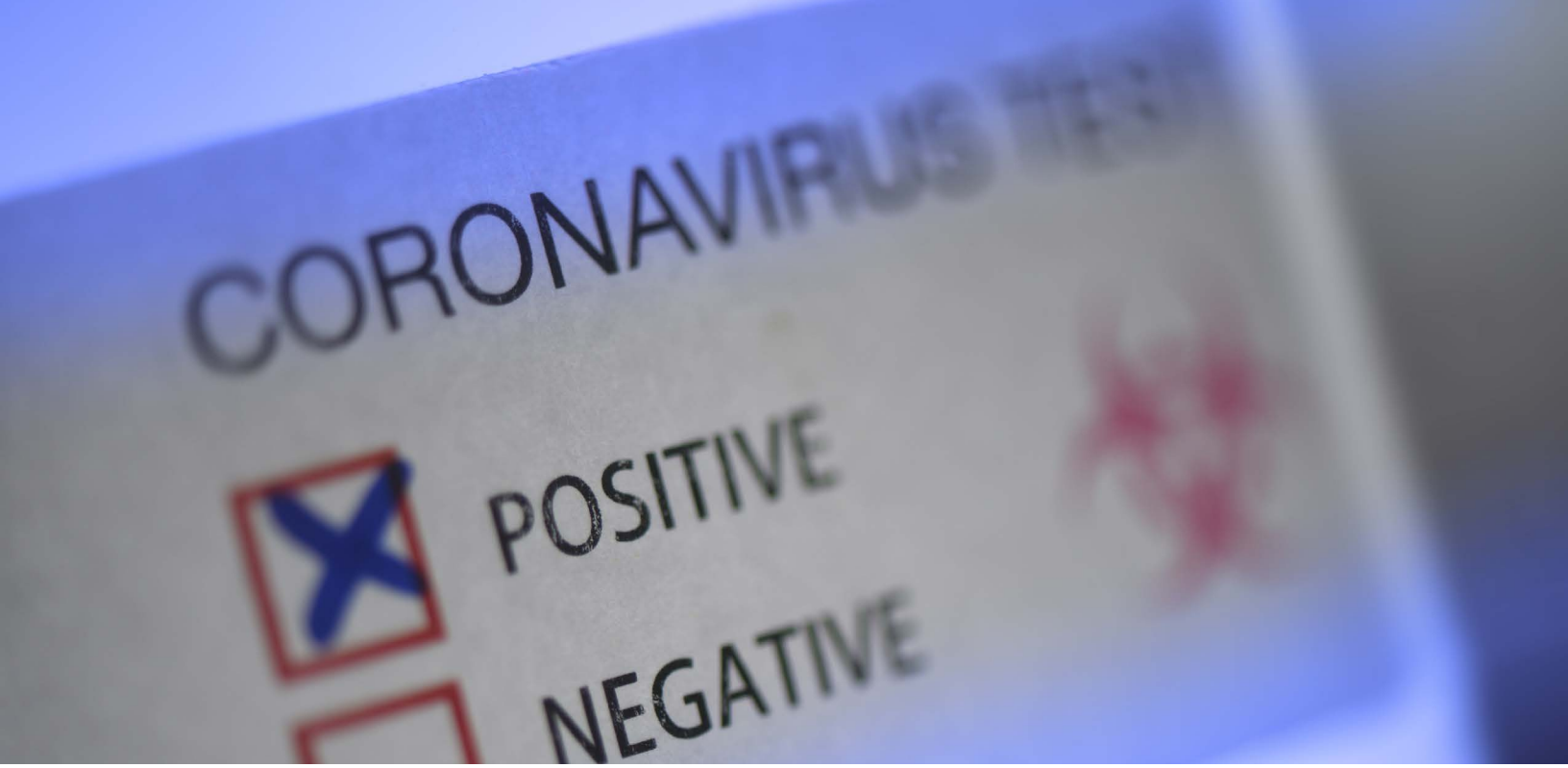
By Erica Carbajal, Becker's Healthcare

People who take the antiviral Paxlovid within the first few days of a COVID-19 infection may have a 25 percent lower risk of developing a number of conditions associated with long COVID-19, according to findings published Nov. 5 in the preprint server *medRxiv*.

Researchers used electronic health records from the Department of Veterans Affairs to identify patients who tested positive for COVID-19 between March 1 and June 30. The study included more than 56,000 veterans, including 9,217 patients who were given Paxlovid within five days of testing positive.

Those who were given the oral antiviral medication had a 25 percent lower risk of developing heart disease, blood disorders, fatigue, liver disease, kidney disease, muscle pain, neurocognitive impairment and shortness of breath in the 90 days after infection. Researchers found a lower risk of developing long COVID symptoms after Paxlovid treatment regardless of vaccination status or whether it was a patient's first infection. For new onset diabetes and cough, there was not a statistically significant association between taking Paxlovid and risk of developing the two conditions.

"Paxlovid reduces the risk of severe COVID-19 in the acute phase, and now we have evidence that it can help reduce the risk of long COVID," said Ziyad Al-Aly, MD, study author and chief of research and development at the VA St. Louis Health Care System. "This treatment could be an important asset to address the serious issue of long COVID."



Pediatric COVID-19 cases jump for 2nd week

By Mackenzie Bean, Becker's Healthcare

COVID-19 cases among children have been rising nationwide for two consecutive weeks, according to a Nov. 3 report from the American Academy of Pediatrics.

Nearly 30,000 children in the U.S. tested positive for COVID-19 in the week ending Nov. 3, up about 30 percent from the 23,000 cases reported the week prior. This figure likely represents a substantial undercount, AAP said.

The increase comes as children's hospitals face significant capacity issues amid a surge in patients with respiratory illnesses, and as pediatric COVID-19 vaccination rates lag nationwide.

Data from Kaiser Family Foundation shows pediatric vaccination rates have stalled across all age groups. As of Nov. 3, 3.2 percent of children under 5, 31.8 percent of kids ages 5-11 and 61.1 percent of those 12-17 had completed their primary vaccination series.

New Hampshire launches telehealth service to expand access to Paxlovid

By Noah Schwartz, Becker's Healthcare

New Hampshire is launching a telehealth service through a partnership with Newport-based On-Site Medical Services that will work to expand Paxlovid access in the state, *NHPR* reported Nov. 3.

Paxlovid is an antiviral that reduces the risk of severe illness among patients at a high risk from COVID-19. New Hampshire residents will have the ability to make free video consultations with On-Site Medical clinicians who can then prescribe them Paxlovid.3tt

The New Hampshire Executive Council Approved the $3.4 million telehealth contract Nov. 3. The program is funded using federal funds from the 2021 American Rescue Plan Act.

2 Pfizer updates: bivalent booster efficacy and a combo flu, COVID-19 vaccine

By Paige Twenter, Becker's Healthcare

After Pfizer raised its projected COVID-19 vaccine annual revenue to $34 billion, the drugmaker reported positive results for its modified booster and began testing a vaccine candidate intended for COVID-19 and flu.

1. Compared to its original vaccine formula, Pfizer's omicron-focused booster elicited a response with four times higher neutralizing antibody titers against omicron subvariants BA.4 and BA.5. In the study, adults between 18 and 55 years old saw a 9.5-fold rise in neutralizing antibody titers compared to pre-booster levels, and people older than 55 reported a 13.2-fold rise. The results offset smaller studies that put the new vaccine's efficacy into question.

2. Pfizer and BioNTech launched a phase 1 trial for their combined flu and COVID-19 vaccine candidate using mRNA technology.

"By combining both indications in one vaccine approach, we aim to provide individuals with an efficient way to receive immunization against two severe respiratory diseases with evolving viruses that require vaccine adaptation," Uğur Şahin, MD, CEO and co-founder of BioNTech, said in a Nov. 3 statement.

With 282M vaccine jabs, pharmacists saved healthcare $450B, study estimates

By Paige Twenter, Becker's Healthcare

Pharmacist-administered COVID-19 vaccines have averted 1 million U.S. deaths and saved $450 billion in healthcare costs, according to estimates published in the *Journal of the American Pharmacists Association*.

The study pulled data from published literature, government agencies and professional pharmacy associations to determine the number of COVID-19 vaccines pharmacists have administered. From February 2020 through September 2022, pharmacists provided more than 270 million COVID-19 jabs, meaning they "plausibly accounted" for more than 50 percent of U.S. COVID-19 vaccinations.

Since the paper was published, that number has racked up to 282 million, APhA said Nov. 4.

John Grabenstein, PhD, president of consultancy business Vaccine Dynamics and former global executive director for medical affairs of Merck's vaccine segment, ran the study. Dr. Grabenstein concluded that for the past two and a half years, pharmacists have worked around "supply constraints, intricate storage requirements, workflow revisions and workforce shortages," which "came at a personal cost" to their mental and physical health.

"This is the first peer-reviewed study which documents the incredible impact that pharmacy had on the health and well-being of our nation, across the entire spectrum of potential patient interventions," Ilisa Bernstein, PharmD, APhA's interim CEO and executive vice president, said in a statement. "There's only one conclusion to draw from this impressive report — the work of pharmacists during the pandemic has been heroic."

BQ.1 + BQ.1.1 make up 35% of US cases: 10 CDC findings

By Mackenzie Bean, Becker's Healthcare

Omicron subvariants BQ.1 and BQ.1.1 — dubbed 'escape variants' for their immune evasiveness — now account for more than a third of U.S. COVID-19 cases, according to the CDC's COVID-19 data tracker weekly review published Nov. 4

Ten findings:

Variants

1. Based on projections for the week ending Nov. 5, the CDC estimates that BQ.1 accounts for 16.5 percent of cases, while BQ.1.1 accounts for 18.8 percent.

2. BA. 5 remains the nation's dominant strain, accounting for 39.2 percent of infections. BF.7, another omicron subvariant experts are closely monitoring, makes up 9 percent of cases. Other omicron subvariants make up the rest.

Cases

3. As of Nov. 2, the nation's seven-day case average was 39,016, a 4.7 percent increase from the previous week's average. This marks the first week of increase seen in more than three months, CDC data shows.

Hospitalizations

4. The seven-day hospitalization average for Oct. 26 to Nov. 1 was 3,272, a 1 percent decrease from the previous week's average.

Community levels

5. As of Nov. 3, 2 percent of counties, districts or territories had high COVID-19 community levels, 20.1 percent had medium community levels and 77.5 percent had low community levels.

Deaths

6. The current seven-day death average is 358, down 3 percent from the previous week's average. Some historical deaths have been excluded from these counts, the CDC said.

Vaccinations

7. As of Nov. 2, about 266.4 million people — 80.2 percent of the U.S. population — have received at least one dose of the COVID-19 vaccine, and more than 227.4 million people, or 68.5 percent of the population, have received both doses.

8. About 112.5 million people have received a booster dose, and more than 26.4 million people have received an updated omicron booster. However, 49.1 percent of people eligible for a booster dose have not yet gotten one, the CDC said.

Wastewater surveillance

9. About 38 percent of the U.S. is reporting moderate to high virus levels in wastewater. Of these surveillance sites, 12 percent are seeing some of the highest levels since Dec. 1, 2021.

10. About 58 percent of sites are reporting an increase in virus levels, and 33 percent of sites are seeing a decrease.

COVID-19 disrupts gut bacteria, increasing risk of infections

By Mariah Taylor, Becker's Healthcare

Researchers at NYU Langone Health in New York City found COVID-19 alone, and not the initial use of antibiotics, damages the gut microbiome.

The report, published Nov. 1 in *Nature Communications*, followed 96 people hospitalized with COVID-19 in 2020 in New York City and New Haven, Conn. Researchers found most patients had low gut microbiome diversity with a full quarter dominated by a single type of bacteria. In 20 percent of patients, antibiotic-resistant bacteria were found migrating into the bloodstream, making the patients more susceptible to secondary infection.

"Our findings suggest that coronavirus infection directly interferes with the healthy balance of microbes in the gut, further endangering patients in the process," study co-senior author Ken Cadwell, PhD, said. "Now that we have uncovered the source of this bacterial imbalance, physicians can better identify those patients with coronavirus who are most at risk of a secondary bloodstream infection."

U of Missouri study finds high prevalence of COVID-19, flu coinfections

By Erica Carbajal, Becker's Healthcare

During the 2021-2022 influenza season, central Missouri saw a high prevalence of people coinfected with COVID-19 and the flu, according to a study involving 462 patients.

The findings are based on 462 patients who tested positive for COVID-19 between Oct. 1, 2021, and Jan. 27, 2022, across University of Missouri Health Care settings. Researchers subsequently tested the COVID-19 patients for flu and 33 percent tested positive.

"Co-infection in our samples peaked in October 2021 at 48 percent when the delta variant was dominant, and reached the lowest point at 7.1 percent in January 2022 when the omicron variant prevailed," said Henry Wan, PhD, senior study author and professor of molecular microbiology and immunobiology, veterinary pathobiology, electrical engineering and computer science at the University of Missouri in Columbia.

Those who were infected with omicron were less likely to develop a coinfection or become hospitalized, compared to those who had a delta infection. People who received at least one flu vaccine during the 2020-2022 influenza seasons were also less likely to become coinfected, according to the findings published in the November issue of *Virology*.

"Testing for both influenza and SARS-CoV-2 viruses in individuals experiencing symptoms of respiratory illness and vaccinations against influenza and SARS-CoV-2 for all eligible individuals should continue to be encouraged," researchers said.

2 updates on the future of COVID-19 vaccines, treatments

By Paige Twenter, Becker's Healthcare

As vaccine-makers reroute their COVID-19 therapy and vaccine plans for the future of the pandemic, drugmakers are testing potential avenues with human proteins and intranasal options.

Here are two recent updates:

1. Researchers are noting progress in COVID-19 therapies that target proteins, which could help solve the recurring issue of some treatments losing their effectiveness as the virus continues to mutate. When the U.S. government allocated about half a billion dollars toward development for antivirals, though, work that explored human proteins was excluded, *The Washington Post* reported Oct. 31.

"Many of us were quite disappointed with that exclusion," Charles Rice, PhD, a virologist at the New York City-based Rockefeller University, told the *Post*. "Both of those approaches should work and should be pursued."

Early research shows promise, but treatments that target human proteins could come with their own issues. Two protein-focused medications, ivermectin and hydroxychloroquine, caused "distractions in the real fight" earlier in the pandemic, which Carl Dieffenbach, PhD, director of the Division of AIDS at the National Institute of Allergy and Infectious Diseases, said were examples of protein-targeted drugs that failed to treat COVID-19.

2. The lack of federal funding for future COVID-19 vaccines could be why the U.S. lags behind India and China when it comes to vaccines that don't require a jab, *Time* reported Oct. 31. India approved a nasal vaccine in September, and China began to administer an inhalable vaccine in October. Neither country has published follow-up, conclusive results but have each tested the vaccines for safety and efficacy in humans.

There are multiple ongoing efforts toward a U.S.-developed nasal vaccine, but there are still multiple unknowns and not enough funds to answer those questions, according to *Time*.

AstraZeneca recently said its nasal vaccine candidate failed to reach its primary goal in a phase 1 trial.

Jha: Bivalent boosters still effective as 'escape variants' gain traction

By Paige Twenter, Becker's Healthcare

The White House's COVID-19 response coordinator is optimistic bivalent boosters will offer protection against omicron "escape variants" BQ.1 and BQ.1.1, which now account for nearly 30 percent of U.S. infections.

The latest CDC estimates indicate BQ.1 accounts for 14 percent of cases, while BQ.1.1 accounts for 13.1 percent. Last week, the pair accounted for 16.6 percent of cases. In an Oct. 28 tweet referencing the variants, Eric Topol, MD, founder and director of Scripps Research Translational Institute in San Diego, said they are "on a path to be dominant" in the weeks ahead.

White House COVID-19 Response Coordinator Ashish Jha, MD, told *CBS News* he expects the bivalent omicron boosters to offer some level of protection against the new strains, since they are BA.5 relatives, and updated boosters were tailored to target BA.4 and BA.5.

"The one I am paying most close attention to in the United States is BQ.1.1, which is a BA.5 derivative, and based on all of the things that we understand about immunology, your protection against BQ.1.1 is going to be significantly better after a BA.5 bivalent [booster]," Dr. Jha said.

Small early studies have suggested the updated omicron booster doesn't offer better protection against BA.5 than the original shots. Dr. Jha said "well-controlled trials" with "larger samples" could eventually show more promising results. Moderna has said its omicron booster "elicits broad cross-neutralization against omicron variants," and a Pfizer spokesperson told Becker's people who are vaccinated and boosted are better protected against severe disease.

Experts contend the updated shots still offer protection, especially against severe disease, though perhaps not to a substantially higher degree than the original formula. Regardless, "A booster is a booster until proven otherwise and we are in great need of getting more of them in the U.S.," Dr. Topol told *CNN*.

The bivalent vaccines can also easily be modified again to target other omicron subvariants, but Dr. Jha told *CBS* it's unlikely the U.S. will need another updated COVID-19 booster soon.

Read more about BQ.1 and BQ.1.1 here.

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