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'I've already gotten this thing. . . Should I start returning to normal?'

RYAN GAGNON of Quincy

Strong immunity still comes with warnings

Vaccinated people recovering from COVID likely have solid protection. But for how long?

By Jessica Bartlett

GLOBE STAFF

Despite all his caution, dutifully getting his shots and limiting his socializing, Ryan Gagnon still wound up getting COVID around the holidays, as did hundreds of thousands

of other people in Massachusetts.

Now mostly on the mend, the Quincy resident is venturing out again, albeit somewhat cautiously. And with an immune system charged up with antibodies from his infection, Gagnon questions how

much he should limit going out.

"I've already gotten this thing. It's already held me back," he said. "Should I start returning to normal?"

That question is likely on the minds of a lot of people: More than 300,000 vaccinated Massachusetts residents got breakthrough infections during the height of the Omicron surge, possibly more because

of the wider use of at-home tests that do not automatically report positive results to the state.

So, has a huge class of "super immune" people risen among us, and could they help hasten the return to normal? In fact, scientists say that vaccinated people who have also recently recovered from a natural infection have among the highest de-

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A different way to root out stoned drivers

New method can show who's really impaired, MGH researchers say

By Dan Adams

GLOBE STAFF

Boston researchers say they've developed a new, noninvasive technique for detecting marijuana highs that can reliably tell the difference between people who are truly impaired by the drug and those who merely used it recently.

The claimed breakthrough by scientists at Massachusetts General Hospital comes amid intensified debate in the state over how to police stoned driving in the wake of cannabis legalization, with Governor Charlie Baker recently calling for a crackdown even as critics question the extent of the problem and warn that existing impairment tests are flawed.

The MGH researchers eschewed older methods that attempt to infer functional impairment from the amount of marijuana compounds in someone's blood or saliva in favor of a more direct approach: Peering into the brain itself with light-based imaging.

While further development and validation is needed, the team behind the work is hopeful it could lead to a roadside device that would allow police to catch dangerously stoned drivers without sweeping up law-abiding cannabis consumers and medical marijuana patients who have THC in their system but are not actively impaired.

MARIJUANA, Page A7

Captain James Cook's shipwrecked HMS Endeavour is lying in Newport Harbor, according to Australian researchers. But others aren't so sure. **B1.**

The Sheraton Boston in Back Bay, the largest hotel in the city, has a new owner, and change may be coming. **D1.**

The US arm of Spanish banking giant Santander is taking an unusual step for a brick-and-mortar bank: It's getting out of the home lending business. **D1.**

British Prime Minister Boris Johnson fought for his premiership following fresh resignations from his inner team and new calls for him to step down. **A4.**



TOP AND BOTTOM: BEN STANSALL/AFP VIA GETTY IMAGES; MIDDLE: LINTAO ZHANG/GETTY IMAGES:

Fireworks marked the Opening Ceremony in Beijing on Friday, and US athletes waved the flag. The torch-lighting was far more understated than usual. **More in Sports, C1.**

In changed world, an opening more subdued than celebratory

By John Powers

GLOBE CORRESPONDENT

The last time the Olympics were held in Beijing, the Opening Ceremony was a coming-out party, an opportunity for the world's most populous country to open its doors to the world.

Fourteen years later, the XXIVth Winter Games, which officially began Friday, are being held in a China that is more economically powerful, more technologically advanced, and decidedly more repressive. The rest of the world knows far more about the Middle Kingdom than it did in the summer of

2008, and much of it is far from flattering.

Beijing, the first city to stage both the Summer and Winter Olympics, was a controversial selection seven years ago when the International Olympic Committee chose it over Almaty, Kazakhstan's largest city, and is more contentious now that the country's human rights record has worsened and the Games are being held amid a global pandemic that originated in China.

The government's strict zero-COVID policy has banned foreign spectators and cocooned

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Jan. 6 was 'legitimate' discourse, GOP says

Cheney and Kinzinger censured for refusing to toe Trump's line on insurrection

By Jonathan Weisman and Reid J. Epstein

NEW YORK TIMES

WASHINGTON — The Republican Party on Friday officially declared the Jan. 6, 2021, attack on the Capitol and events that led to it "legitimate political discourse," and rebuked two lawmakers in the party who have been most outspoken in condemning the deadly riot and the role of Donald Trump in spreading the election lies that fueled it.

The Republican National Committee's voice vote to censure Representatives Liz Cheney of Wyoming and Adam Kinzinger of Illinois at its winter meeting in Salt Lake City culminated more than a year of vacillation, which started with party leaders condemning the Capitol attack and Trump's conduct, then shifted to downplaying and denying it.

On Friday, the party went further in a resolution slamming Cheney and Kinzinger for taking part in the House investigation of the assault, saying they were participating in "persecution of ordinary citizens engaged in legitimate political discourse."

After the vote, party leaders rushed to clarify that language, saying it was never meant to apply to rioters who violently stormed the Capitol in

Pence says, "I had no right to overturn the election," and Trump was "wrong." A2.

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Omicron's toll doesn't slow job growth

Surprising January report gives a boost to Biden

By Jim Puzzanghera

GLOBE STAFF

WASHINGTON — The US economy appears to have weathered the biggest COVID surge yet, fighting through record case counts to produce surprisingly strong job growth last month.

The nation added 467,000 jobs in January despite disruption caused by the Omicron variant, the Labor Department reported Friday, providing a political boost to President Biden and likely clearing the way for the Federal Reserve to focus all its firepower on containing rapidly rising inflation.

Record COVID case counts last month had been expected to slow hiring significantly, with some economists even forecasting a decline after a seemingly lackluster December. But new data released Friday also showed that job growth was much stronger at the end of last year than initially reported, with December's figure revised up sharply to 510,000.

The momentum continued into January as a resilient and highly competitive job market proved largely immune to the resurgent virus. The unemployment rate ticked up to 4 percent, but that was because the labor force grew as more

JOBS, Page A7

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Sunday: Not as windy but still chilly.
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Weather and Comics D4-5.
Obituaries, C10.

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JONATHAN WIGGS/GLOBE STAFF

A DANGEROUS DAY — Snow, sleet, and freezing rain made roads treacherous in Boston (above) and across the state Friday, causing hundreds of accidents and leaving at least one person dead. **B1.**

THE CORONAVIRUS PANDEMIC

Administration tells Congress funds key in fight are dwindling

By Tony Romm and Jeff Stein
WASHINGTON POST

WASHINGTON — Nearly all of the money in a key federal program to boost coronavirus testing, therapeutics, and vaccines appears to have been committed or already shelled out, raising the potential that the Biden administration may have to ask Congress to approve additional aid.

The dwindling funds reflect an uptick in spending as the White House in recent months has labored aggressively to battle back the rise of the Omicron variant. While top officials say they are confident in their ability to weather the latest surge, they have started to explore whether more money might be needed to protect the public against any future variants.

“We will never let funding get in the way of our COVID response, and remain in touch with Congress on resources needed to ensure we stay ahead of the virus and move toward the time when COVID won’t disrupt our daily lives,” according to an official at the Office of Management and Budget.

The issue is captured in documents that the Biden administration privately has shared with congressional lawmakers, which The Washington Post obtained on Thursday. Two people familiar with the documents confirmed their details, speaking on the condition of anonymity to describe them.

In total, the figures focus on roughly \$350 billion earmarked specifically at the Department of Health and Human Services since the start of the pandemic in 2020. That includes funding under former president Donald Trump and the more recent provision of \$80 billion as part of the \$1.9 trillion American Rescue Plan that President Biden signed into law last spring.

By the Biden administration’s accounting, nearly all of the dollars in the HHS program, known as the Public Health and Social Services Emergency Fund, have been allocated or obligated in some way, a budgetary term that essentially means the money is locked up in contracts or other formal commitments.

That includes more than \$87 billion that had been set aside for testing and other mitigation measures earlier in the pandemic, for example, and roughly \$178 billion authorized by Congress to



MARCIO JOSE SANCHEZ/ASSOCIATED PRESS

A COVID-19 testing site in Los Angeles. The dwindling funds reflect an uptick in US spending to battle back the rise of the Omicron variant.

shore up the finances of hospitals and other public health institutions, according to the data.

The Biden administration did not provide a more detailed accounting to Congress in each of the spending categories, including the specific recipients of some of the funds or how much time remains before the money is exhausted. An official stressed Thursday that the administration had plenty of aid to address current needs and fulfill existing commitments, including Biden’s pledge to make 1 billion free tests available to Americans. But the official still confirmed that nearly all of the prior assistance under the critical HHS program had been slated for some use.

In recent days, top White House officials have appeared to echo some of those concerns publicly, suggesting that Congress may need to act in the days ahead to ensure the country is ready for a worst-case scenario.

“We have what we need in this current fight against Omicron, and we’ve done a lot to prepare for what’s ahead,” White House coronavirus response chief Jeff Zients said at a news briefing with reporters on Wednesday. “We have boosters for all Americans, we’ve secured 20 million doses of the highly effective Pfizer pill. We’ve expanded supplies and stockpiles of PPE, including masks and gloves.”

But, Zients added, the country is “looking at a future where we will likely need funding for treatments and pills;

we’ll need funding to continue to expand testing and to continue to lead the effort, as we’ve done with 1.2 billion doses donated to the world, but to continue to lead that effort to vaccinate the world.”

“So, we will be working with Congress as needed to make sure we have the funding to continue to fight this virus,” he said.

The uncertainty serves to highlight anew the difficulty facing lawmakers and watchdogs alike, as they have struggled to track more than \$6 trillion in total emergency spending approved since the beginning of the public health crisis. The figures shared with Congress recently are far more timely and complete than the spending data available to the public, which in turn has made it difficult for experts to assess the country’s pandemic readiness.

“It’s not readily available or apparent,” warned Jen Kates, senior vice president and director of global health and HIV policy at the Kaiser Family Foundation. “It’s really important to understand if it’s enough . . . so that if there’s more needed the case can be made.”

The data also adds new complexity to the ongoing, tense negotiations on Capitol Hill about the future of government funding broadly. That must-pass package could serve as a vehicle for another round of coronavirus-related relief, though lawmakers have not yet settled on an exact approach.

Omicron’s heavy toll on workers doesn’t slow job growth in January

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people came off the sidelines to look for work.

“It clearly had an effect, yet as this Omicron wave surged it was quite clear in our marketplace and jobless claims and other data that employers were barely sneezing at Omicron,” said Julia Pollak, chief labor economist at online job site ZipRecruiter.

“Demand for labor remains incredibly strong,” she said. “Employers were in no way pulling job postings down or running for the hills. They are locked in a war for talent and they were not prepared to stand down.”

January’s job growth was broad based. It was led by a gain of 151,000 jobs in leisure and hospitality businesses, which had been expected to take a hit after Omicron scrambled plans to travel or go out to restaurants and bars. Wage growth also was strong, with average hourly earnings up 5.7 percent from a year earlier.

But that pay increase wasn’t enough to keep up with inflation. The consumer price index increased 7 percent last year, the fastest pace in decades and a key factor in Americans’ low approval ratings on the economy and Biden’s handling of it.

Still, Friday’s report was cause for relief and celebration at the White House, which had been bracing for disappointment. Biden’s economic aides had been warning of discouraging January job growth because the Omicron wave peaked during the period in the middle of the month when the Labor Department gathered its data. Instead, they got a strong January figure and revised numbers from last year that added 709,000 more jobs combined for November and December.

“America’s job machine is going stronger than ever,” Biden said at the White House, touting January gains, the record 6.6 million jobs created in 2021, and overall economic growth last year that was the best since 1984. “I’m proud of the role the administration played and this economic plan has played in the recovery.”

He acknowledged there was “still a lot of work to do,” including the need to ease the burden of higher gas and food prices, as well as continue fighting the pandemic.

“I know that January was a very hard month for many Americans. I know that after almost two years the physical and emotional weight of the pandemic has been incredibly difficult to bear for so many people,” Biden said. “But here’s the good news: we have the tools to save lives, and to keep businesses open and keep schools open, keep workers on the job, and sustain this historic economic comeback.”

Republicans had pounced on the initial report on hiring for December showing job growth of 199,000 to argue that Biden’s economic policies were failing. But they had trouble finding flaws in January’s jobs report. The Republican National Committee resorted to tweeting that Republican governors led 16 of the top 20 states in recovering jobs lost by COVID.

Omicron still had an impact last month. The Labor Department said 3.6 million workers missed time in January because of illness, more than triple the usual January level. And economists expect the variant will slow overall economic growth in the first three months of the year.

But they also echoed Biden’s upbeat assessment of the job market.

A report from Bank of America’s global research team declared it was a “good time to ask for a raise.” Brian Coulton, chief economist at credit rating firm Fitch Ratings, said the January report “confirms that each successive wave of the virus is having a smaller and smaller impact” on the economy and jobs. And Chris Rupkey, chief economist at FWDBONDS, a financial markets research company, pronounced the labor market back to its pre-pandemic strength, even though the United States remains about 2.9 million jobs short of its February 2020 peak.

“The labor market didn’t hit a wall in January and instead is growing by leaps and bounds,” Rupkey said. “There’s only one fight to be had now

and that’s the fight against inflation, which is raging out of control.”

The Fed already has turned its attention in that direction, beginning to pull back some of its support for the economy and signaling it will begin raising its benchmark interest rate in March to try to slow down price growth. Fed officials indicated in December that they expected three small quarter percentage point increases this year, lifting the rate from near zero to close to 1 percent.

Analysts said Friday’s report could cause the Fed to be more aggressive on interest rates, possibly raising the rate by half a percentage point in March and ultimately pushing it closer to 2 percent by the end of the year. Fed Chair Jerome Powell said last month that he and his colleagues would watch incoming data and be “nimble” in response.

Fed officials have a two-part mandate: achieving maximum employment and stable prices. After January’s jobs report, Rupkey believes they’ve achieved the first goal.

“At this point, their laser focus should be on inflation and no longer the labor market,” he said.

Powell said in January that the United States had a “very, very strong labor market” and that he thought the Fed could hike rates without “severely undermining it.” But raising interest rates risks pushing the economy into a recession.

Even with strong job creation and a low unemployment rate, Pollak thinks the Fed will proceed cautiously in hopes of maintaining the labor market momentum.

“They have been very concerned about employment,” she said. “They’re going to balance the two issues and I think we could get to a situation where we get to a goldilocks economy — not too cold like 2020, not too hot like 2021, but just right with a sustainable pace of job growth.”

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A different way to root out stoned drivers

► MARIJUANA
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“For so long, our model has been alcohol, so there’s been a lot of focus on breath and blood levels,” Dr. Jodi Gilman, who led the research, said. “Our thought was, ‘What about looking directly at the brain?’”

In their study, published in January in the journal *Neuropsychopharmacology*, the MGH researchers first measured levels of oxygenated hemoglobin in the brains of 169 sober volunteers using functional near-infrared spectroscopy, or fNIRS.

Unlike the massive, electricity-hungry MRI scanning machines employed by hospitals, fNIRS is relatively portable; it measures the photon reflections from low-power LED bulbs mounted on a skullcap and shined into the skull. Similar technology is already widely used in smartwatches and other fitness gadgets to measure users’ heart rates and blood oxygenation.

After giving some of their volunteers THC capsules and others a placebo, the MGH team classified each person as impaired or not impaired based on self-reporting by the study subjects and the consensus of multiple clinicians who were unaware of which subjects had eaten the “real” edible and had made thorough before-and-after observations of their behavior (an impossibility on the roadside).

The researchers then conducted a second round of brain scans and found that the people classified as impaired had significantly higher levels of oxygenated hemoglobin than subjects who ate the placebo or didn’t get too high from the THC-infused edible.

“Essentially, the [impaired] brain becomes more active but less efficient at processing, so the body gives it priority and sends more oxygen,” said Dr. A. Eden Evins, who directs the MGH Center for Addiction Medicine and helped oversee the research.

Next, the scientists trained a computer algorithm to spot the differences in oxygenated hemoglobin between those who were deemed high and those who were not. Later, analyzing only the “after” scans, the software yielded false positives in just 10 percent of subjects and correctly guessed which were impaired about 76 percent of the time, a significant improvement over existing techniques and a figure the researchers believe they can boost substantially with further refinements.

Crucially, the system rarely indicated impairment in test subjects who consumed the THC-infused edibles yet were not deemed functionally impaired. That puts it far ahead of older methods that automatically designate anyone with a high enough level of marijuana metabolites in their system as impaired, regardless of how well they’re actually functioning.

The scan results lend further credence to a wave of recent studies indicating (as marijuana consumers have long insisted) that there is little if any connection between a given dose of THC, the level of marijuana metabolites in blood or saliva at a given time after use, and a particular level or even likelihood of impairment. Reactions to the drug simply vary too drastically between individuals, as do methods of ingesting cannabis and the rates at which people metabolize it. Meanwhile, heavy consumers appear to at least partially adapt, and some medical marijuana patients even show cognitive improvements following use.

Taken together, those confounding factors mean traditional blood and saliva tests are barely more accurate than a coin toss at detecting impairment, according to Dr. Thomas Arkel of the University of Sydney’s Lambert Initiative cannabis research center.

“People wanted an easy cutoff like the blood alcohol limit, but it turns out cannabis doesn’t really work that way at all,” said Arkel, who conducted a simulated driving study last year in

which common limits on THC concentrations in blood failed to accurately sort out which test subjects were actually stoned. “There is a need for a new model.”

The MGH study also raises troubling questions about the validity of another existing technique for measuring pot impairment: examinations by so-called drug recognition experts, police officers who are trained to detect impairment through a series of observations and simple physical tests like those used to assess suspected drunk drivers.

The researchers had initially planned to compare their experimental results to verdicts rendered by DREs, which proponents hail as the gold standard for assessing drug impairment. Officers across the country, including dozens in Massachusetts, have been using the system for years to evaluate suspected drugged drivers and present evidence against them in court.

But the MGH scientists quickly discarded the DRE protocol as a reference after their experiments showed it produced false positives in a staggering 34 percent of the subjects who were not deemed impaired by the clinical and self-assessments. The DRE-trained observers even incorrectly flagged 20 percent of the volunteers who had eaten the placebo and were verifiably sober as stoned.

Baker last year proposed a bill that would significantly expand the deployment of DRE-trained officers in Massachusetts and require courts to accept their testimony as experts. Critics have warned the proposed law, under which drivers who refuse a blood test for cannabis metabolites would lose their licenses, is subjective, prone to officer bias, and would result in the arrests of innocent marijuana consumers. Earlier this week, a key State House committee sent the proposal to study, likely ending its hopes of passage during the current legislative session.

Evins and Gilman hope their novel, more objective approach will prove it can sidestep those limitations, though they stressed it isn’t ready to be deployed. One critical next step will be testing the system on a larger group of volunteers, in part to ensure that other drugs or health conditions don’t produce scan results that mimic those of stoned people. Researchers will also need to develop a slightly smaller and more rugged fNIRS device suitable for roadside use, perhaps one that sends its readings over the cellphone data network to a remote computer for analysis.

“Officers need a better tool,” Evins said. “A big part of what got us going was the potential for bias in the system that exists now. There’s a real urgency to develop a reliable and objective way to identify marijuana impairment and make our roads safer, and we’re delighted to contribute to that.”

Other researchers in the field praised MGH’s innovation as intriguing and worthy of further study, but also pointed to potential limitations.

“A lot of factors can potentially influence blood flow in that part of the brain,” Arkel said. “Without having an individual baseline, I’m not sure how effective this would be as a roadside strategy.”

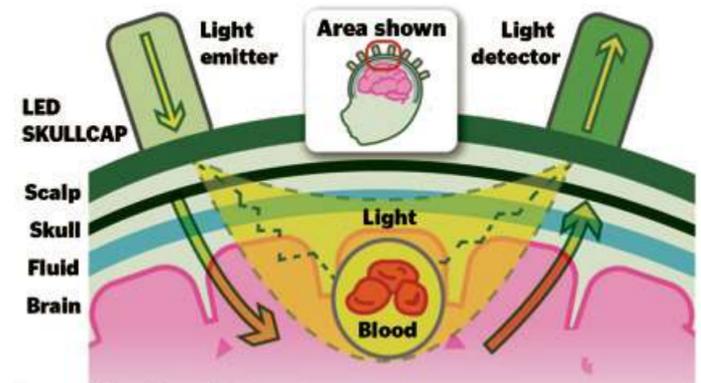
Dr. Timothy Naimi, a Boston Medical Center physician and public health researcher at the Boston University Schools of Medicine and Public Health, said MGH’s approach was promising but would need to be extensively validated in future studies that included driving simulations instead of leaning on self-assessments of impairment.

“There could be a host of legal issues about using this in practice,” he said. “The reliability would have to be really good to use as the basis of a [court] proceeding.”

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Detecting marijuana impairment

By shining low-power lights through the skull and measuring the reflections, functional near-infrared spectroscopy, or fNIRS, can detect levels of oxygenated hemoglobin in blood that may correspond to marijuana impairment.



Sources: NIRx, “Neonatal brain resting-state functional connectivity imaging modalities”