

COVID PATIENT RECOVERY ALLIANCE

The COVID Patient Recovery Alliance is a multi-sector collaboration with the mission to support the energy and innovation of government and private-sector leaders as they care for individuals with long-COVID. The Alliance is developing national solutions that link diverse data sources, improve clinical care pathways, and ensure sustainable federal financial support for the care of these patients. The Alliance is particularly interested in those patients who served their communities and nation when called to duty; whose COVID-19-related costs are extraordinary and burdensome; or who are underserved by existing programs, including racial and ethnic minorities and communities experiencing health disparities.

For more information, please visit our website at COVID19PatientRecovery.org.

PURPOSE OF RESEARCH TRACKER

The research, news, and knowledge of long-COVID is quickly evolving. To stay up-to-date and informed on long-COVID, the Patient Recovery Alliance is performing routine intel scans from a variety of sources – from peer-reviewed publications to various news websites – and on variety of long-COVID-related topics, including health care coverage, workers' compensation, impacted populations, symptoms, and prevalence. The outputs of these intel scans are compiled in this document, which will be periodically updated.

COVID-19 Patient Recovery Alliance Research Tracker

Date	Article	Publication	Key Takeaways
September 2022			
9/5/2022	Long-term cardiac pathology in individuals with mild initial COVID-19 illness Nature Medicine	Nature	N=346 individuals with prior COVID infection (for which they were not hospitalized) who underwent a baseline scan after a minimum of 4 weeks from the diagnosis of initial COVID-19 between April 2020 and October 2021 and a follow-up examination after a minimum of 4 months from baseline (longest follow-up duration was 11 months). At the beginning of the study, 73% reported heart problems; for 57% these symptoms persisted 11 months after the SARS-CoV-2 infection. The research team measured mild but persistent heart inflammation that was not accompanied by structural changes in the heart. Blood levels of troponin—a protein that enters the blood when the heart muscle is damaged—were also unremarkable. Because the study is restricted to a selected group of individuals who took part because they had symptoms, the prevalence of findings cannot be extrapolated to the population as a whole.
9/5/2022	How long COVID is impacting the nationwide labor shortage The Hill	The Hill	The number of Americans either employed or looking for work eclipsed its pre-pandemic level in August, according to Labor Department data released Friday. But the labor force participation rate remains 1 percentage point below its February 2020 level, a gap roughly equivalent to 1.6 million people. “We don’t know what proportion of people are having very debilitating symptoms with a lot of certainty,” said Julia Raifman, an assistant professor at Boston University’s School of Public Health. “But we know that it is happening to some people and we know that each infection seems to increase the chances of it happening.” “I don’t think anyone who’s seriously looking at this thinks that long-COVID is not a big problem,” said Kathryn Bach, a nonresident senior fellow at Brookings, who analyzed the data and estimated anywhere from 2 to 4 million long-COVID sufferers could be sidelined by their symptoms. . “But when it comes to the labor market impact, the specific numbers do matter and we don’t have the data right now to get to those numbers.” “We’re about 1 percentage point overall below where the trend would suggest we are. If half of that were long COVID, and I’m not saying it is, that is absolutely impacting people’s ability to hire.”
9/2/2022	Post-COVID Conditions: CDC Science CDC	CDC	This September 2 update to the Post-COVID Conditions page of the CDC website details what CDC is doing to learn more about post-COVID conditions and the current research activities underway to facilitate this learning.
9/1/2022	Lots of long COVID treatment leads, but few are proven PNAS	PNAS	Currently, doctors are choosing a trial-and-error treatment method. Most patients are given short trials of a wide variety of drugs to explore their efficiency based on variability in patients. Many researchers believe that apart from increased funding and improved access to drugs, a central database on long COVID can help accelerate the research on long-COVID treatment methods. Anecdotal evidence from long COVID patients who have seen symptoms recede after treatment with antivirals lends credibility to this hypothesis. Currently, Remdesivir appears promising compared to other antivirals, such as Paxlovid, since it is less reactive to other drugs. Researchers are exploring the role of activated endothelial cells and coagulation proteins in the various PASC manifestations. They believe that symptoms like fatigue and muscle ache could result from oxygen deprivation which occurs when viral fragments trigger immune signaling that activates endothelial cells and inflames blood vessels, constricting blood flow. PASC treatment using Pravastatin, which suppresses specific endothelial-cell transmembrane protein, and the HIV drug Maraviroc, which blocks inflammatory signaling, are being explored. Scientists are also trying to target the microclots directly by using an atherosclerosis treatment regimen consisting of anti-platelet drugs clopidogrel and aspirin along with the anticoagulant Apixiban. When this combination was used in 23 patients part of a small study, all participants showed recession of symptoms and restoration of pre-COVID-19 platelet levels.

COVID-19 Patient Recovery Alliance Research Tracker

Date	Article	Publication	Key Takeaways
9/8/2022	Long COVID's link to suicide: scientists warn of hidden crisis	Reuters	<p>There is no authoritative data on the frequency of suicides among sufferers. Several scientists from organizations including the U.S. National Institutes of Health and Britain's data-collection agency are beginning to study a potential link following evidence of increased cases of depression and suicidal thoughts among people with long COVID, as well as a growing number of known deaths. "I'm sure long COVID is associated with suicidal thoughts, with suicide attempts, with suicide plans and the risk of suicide death. We just don't have epidemiological data," said Leo Sher, a psychiatrist at Mount Sinai Health System in New York who studies mood disorders and suicidal behavior. Sher said pain disorders in general were a very strong of predictor of suicide, as was inflammation in the brain, which several studies have linked with long COVID. Among key questions now being examined by researchers: does the risk of suicide potentially increase among patients because the virus is changing brain biology? Or does the loss of their ability to function as they once did push people to the brink, as can happen with other long-term health conditions? An analysis for Reuters conducted by Seattle-based health data firm Truveta showed that patients with long COVID were nearly twice as likely to receive a first-time antidepressant prescription within 90 days of their initial COVID diagnosis compared with people diagnosed with COVID alone. Long-COVID on average reduces overall health by 21% - similar to total deafness or a traumatic brain injury, the University of Washington's IHME found.</p>
8/26/2022	Association between BNT162b2 vaccination and reported incidence of post-COVID-19 symptoms	npj Vaccines	<p>N=2447 adults who reported no previous SARS-CoV-2 infection; N=951 with prior infection. Of the 951 participants with prior COVID infection, 36% reported receiving a single vaccine dose and 31% reported having received at least two vaccine doses (of which 27 received a third dose). Of the 2447 individuals reporting no previous infection 0.9% received one dose, 48.8% received two doses, 30.4% received three doses, and the rest were unvaccinated (19.9%). Of the 951 infected participants, 35% reported not fully recovering from the initial COVID-19 symptoms at follow-up. After adjusting for factors such as age and time elapsed from infection to responding to the survey, they found that vaccination with two or more doses of the Pfizer vaccine was associated with a reduced risk of reporting the most common post-COVID symptoms. Among those in the study population, the most common symptoms reported — fatigue, headache, weakness of limbs, and persistent muscle pain — reduced by 62%, 50%, 62%, and 66%, respectively. Shortness of breath reduced by 80% and persistent muscle pain by 70%.</p>
9/8/2022	Top scientists join forces to study leading theory behind long COVID Reuters	Reuters	<p>The Long-COVID Research Initiative aims to streamline research and quickly pivot to clinical trials of potential treatments. By sharing diverse skill sets and resources, the group hopes to uncover the scientific underpinnings of the disease and use that to design evidence-based trials. The initiative is backed by an initial \$15 million from Balvi, a scientific investment fund formed by Vitalik Buterin, co-founder of the blockchain platform Ethereum. It includes scientists from Harvard University, Stanford University, the University of California, San Francisco, Yale University and the J. Craig Venter Institute. Researchers will use advanced imaging and gene-sequencing techniques looking for evidence of the virus in tissues and analyzing its effects on the immune system. If viral persistence is proven to cause long COVID, the research initiative aims to test antiviral treatments, such as Pfizer's Paxlovid, as well as other types of drugs that modulate the immune system. "Antivirals are our top clinical trials target," Proal said, adding the group would like to study Paxlovid. She could not say whether Pfizer is working with the group. The initiative was organized by a group of long-COVID patients with backgrounds in finance, start-ups and technology, who are leading the fundraising efforts, such as the initial \$15 million grant, as well as others yet to be disclosed, said Henry Scott-Green, one of the organizers. The goal is to accelerate research by cutting across institutional silos and breaking down funding bottlenecks.</p>

COVID-19 Patient Recovery Alliance Research Tracker

Date	Article	Publication	Key Takeaways
9/8/2022	You Can Still Get Long COVID If You're Vaccinated and Boosted (msn.com)	TIME	Studies have come to very different estimates about the degree of protection vaccines offer against long-COVID; this is because of differences in how they were designed, how long they tracked people, and how they defined Long COVID, says Dr. Ziyad Al-Aly, chief of research and development at the Veterans Affairs St. Louis Health Care System, But regardless of the exact numbers, “the common thread is vaccines do offer some protection, but it’s never complete,” he says. “It’s partial.” That makes sense because the shots weren’t designed with chronic symptoms in mind, but rather to reduce the severity of acute disease, which offers some secondary benefits for long-COVID prevention.
9/8/2022	Doctors take long Covid into their own hands- POLITICO	Politico	With little official guidance and various treatment approaches, doctors have tried to pool knowledge in an ad-hoc group that includes providers at 41 long-COVID clinics. The collaborative aims to help fill some of the vacuum, sharing what its members have learned with primary care doctors and other specialists on the frontlines of diagnosing and treating the disease. But those practitioners are stretched thin, typically squeezing their work on long-COVID in between their day jobs, and they fear the public, and the Biden administration, is losing focus. For the millions affected by long-COVID now, even getting into a specialized clinic can take weeks or months. Even if a patient can get an appointment, all doctors may be able to do is confirm they likely have long-COVID and help them manage symptoms. The FDA did note last week, when authorizing new COVID booster shots, that new data suggested immunization can reduce the risk of developing long-COVID. But that comes as the administration is planning, in the absence of new funding from Congress, to shift the cost of getting vaccinated onto consumers and their insurers. “I think all of us in chronic care are quite worried that we’re going to have a really significant population of people burdened by long-COVID for years to come,” said Bradley Schlaggar, president and CEO of the Kennedy Krieger Institute, which runs a pediatric long-COVID clinic. “It shouldn’t be a surprise at this point.”
9/12/2022	The Impacts of Covid-19 Illnesses on Workers NBER	NBER	The total size of the labor force reached 164.7 million people in August, exceeding the February 2020 pre-pandemic level for the first time. The labor force would have 500,000 more members if not for the people sickened by COVID. “If we stay where we are with COVID infection rates going forward, we expect that 500,000-person loss to persist until either exposure goes down or severity goes down.” – Soltas. The economists found that people who experienced weeklong absences due to their own health problems were about 7% less likely to be in the labor force one year later than similar workers who didn’t miss work for health reasons. That translated to a 0.2% reduction in the labor-force participation rate, or the share of adults holding or seeking jobs. This estimate is conservative in that it excludes anyone who wasn’t working at the survey’s outset but who would have become employed if not for illness, as well as those whose absences fell outside of the week during which the Census conducted its monthly survey. Accounting for these, the economists estimate the labor-force decrease would be around 750,000 people, equal to a reduction in participation of about 0.3%.
9/12/2022	One of Long COVID’s Worst Symptoms Is Also Its Most Misunderstood	The Atlantic	Of long-COVID’s many possible symptoms, brain fog “is by far one of the most disabling and destructive,” – Emma Ladds, a primary-care specialist from the University of Oxford. It’s also among the most misunderstood. Brain fog wasn’t included in the list of possible COVID symptoms when the pandemic first began; but 20 to 30 percent of patients report brain fog three months after their initial infection, as do 65 to 85 percent of the long-haulers who stay sick for much longer. At its core, brain fog is almost always a disorder of “executive function”—the set of mental abilities that includes focusing attention, holding information in mind, and blocking out distractions. Memory suffers, too, but in a different way from degenerative conditions like Alzheimer’s. The memories are

COVID-19 Patient Recovery Alliance Research Tracker

Date	Article	Publication	Key Takeaways
			<p>there, but with executive function malfunctioning, the brain neither chooses the important things to store nor retrieves that information efficiently. Emerging science linking COVID-related brain fog to neuroinflammation suggests that brain fog is “potentially reversible,” Monje said. If the symptom was the work of a persistent brain infection, or the mass death of neurons following severe oxygen starvation, it would be hard to undo. But neuroinflammation isn’t destiny.</p>
9/2/2022	Persistent circulating SARS-CoV-2 spike is associated with post-acute COVID-19 sequelae	Clinical Infectious Diseases	<p>N=63; 37 patients with PASC and 26 patients with a history of acute COVID-19. Only two patients had been hospitalized with PASC, thus indicating that few suffered severe illness. The researchers measured viral antigen levels and a 10-cytokine panel from each plasma sample, including S1 spike subunit, full-length spike, and nucleocapsid (N) antigens. About 67% of PASC patients had one of the viral antigens present within their plasma at any time point following recovery from acute infection. The spike antigen was detected most frequently in 60% of PASC patients; however, it was not detected in the plasma of any acute COVID-19 patient. The S1 subunit was observed in about 20% of PASC patients, with the N protein reported in only one patient. SARS-CoV-2 antigens were found in almost 75% of patients with current cardiovascular, systemic, or musculoskeletal symptoms, as well as those with head, eye, ear, nose, or throat (HEENT) symptoms. Acute gastrointestinal (GI) or neuropsychiatric symptoms were also associated with a high chance of antigen detection. When a greater number of organs were affected, antigen detection was much more likely. Spike antigen levels in acute COVID-19 patients were high immediately after diagnosis, with the levels waning rapidly thereafter to undetectable levels. The cytokine panel failed to show any significant change from the normal range.</p>
9/8/2022	Sociodemographic Characteristics and Comorbidities of Patients With Long COVID and Persistent Olfactory Dysfunction	JAMA	<p>In this cross-sectional study of 219 patients with long COVID and neurologic symptoms, 64% had olfactory dysfunction, with the highest prevalence among women, adults, and outpatients. Patients with olfactory dysfunction may develop severe olfactory loss (hyposmia or anosmia) that may persist for more than 1 year after the onset of symptoms. This study suggests that olfactory dysfunction in patients with long COVID may become permanent.</p>
9/13/2022	At least 17 million people in the WHO European Region experienced long COVID in the first two years of the pandemic; millions may have to live with it for years to come	WHO	<p>In 2020 and 2021, at least 17 million people in the European Union met the WHO's criteria of long-COVID — with symptoms lasting at least three months. The modeling also suggests that women are twice as likely as men to experience long-COVID, and the risk increases dramatically among severe infections needing hospitalization. One-in-three women and one-in-five men are likely to develop long-COVID, according to the report.</p>
9/7/2022	Associations of Depression, Anxiety, Worry, Perceived Stress, and Loneliness Prior to Infection With Risk of Post-COVID-19 Conditions	JAMA Psychiatry	<p>This prospective cohort study used data from 3 large ongoing, predominantly female cohorts: Nurses’ Health Study II, Nurses’ Health Study 3, and the Growing Up Today Study. N=54,960 total participants; N=3193 of whom did not report infection at baseline and reported a positive SARS-CoV-2 test result during follow up (1 to 47 weeks after baseline). Among participants who did not report SARS-CoV-2 infection at baseline (April 2020) and reported a positive SARS-CoV-2 test result over 1 year of follow-up, depression, anxiety, perceived stress, loneliness, and worry about COVID-19 were prospectively associated with a 1.3- to 1.5-fold increased risk of self-reported post-COVID-19 conditions, as well as increased risk of daily life impairment related to post-COVID-19 conditions. Participants with 2 or more types of distress prior to infection were at nearly 50% increased risk for post-COVID-19 conditions. All types of distress were associated with increased risk of daily life impairment (783 cases) among individuals with post-COVID-19 conditions (RR range, 1.15-1.51).</p>

COVID-19 Patient Recovery Alliance Research Tracker

Date	Article	Publication	Key Takeaways
9/16/2022	Who Is Long Covid Hurting?	WSJ	In this podcast episode, Reddy and Guilford speak with with Stuart Smith, a lawyer whose career was cut short after he got sick with long-COVID, about the economic and emotional impacts of the condition.
9/16/2022	It's Time To Create A National Long COVID Compensation Program Health Affairs	Health Affairs	“The burden of long-COVID will fall on various groups: including the health care system, which will be responsible for the critically important tasks of developing diagnostic criteria and effective treatments; many employers, both public and private, who provide disability and health insurance; and health insurers who will have to decide which treatments to cover.” “Private health insurers will likely pass on any increased costs to employers, and Medicaid and Medicare, which, given the potential number of patients involved, will need additional financial support.” “Altogether, it is impossible to overstate the challenge, complexity, and cost of responding to a new disease that will affect millions of individuals. It will likely require billions of dollars and runs the very real risk of perpetuating persistent disparities in care, coverage, and outcomes, by race, ethnicity, income, and region.” Suggests that the US should create the National Long-COVID Compensation Program, modeled after the National Vaccine Injury Compensation Program created by Congress in 1986.
9/19/2022	Long COVID Experts and Advocates Say the Government Is Ignoring 'the Greatest Mass-Disabling Event in Human History'	TIME	We’re in the middle of the greatest mass-disabling event in human history,” says long-COVID patient and advocate Charlie McCone. And unless people wake up to the long-term consequences of COVID-19, it is “going to continue taking folks out like fish in a barrel.” HHS’s two reports on long-COVID—one describing resources available to patients, the other outlining the government’s research agenda—were largely seen by long-COVID advocates as more symbolic than substantive. “If we have millions of people being infected, we’re going to have millions of people getting Long COVID,” Emanuel says. “That’s going to be an ongoing, serious national problem that is going to weigh down the economy, weigh down the disability insurance system, and be tragic for people.”
9/14/2022	Neurological Consequences, Mental Health, Physical Care, and Appropriate Nutrition in Long-COVID-19	Cellular and Molecular Neurobiology	“The rehabilitation process for COVID-19 and long-COVID-19 requires a multidisciplinary approach strictly connected to the patient’s needs. In particular, treatment of long-COVID-19 patients involves two aspects: respiratory function and physical re-education...There are no specific drug treatments for the neurological effects of the long-COVID-19. Some articles propose therapeutic interventions but they did not provide any clinical evidence. The use of the flavonoid luteolin, which inhibits the pro-inflammatory cascade of mast cells and microglia, has been suggested as a potential treatment.” Recent ongoing multidimensional trials, such as the Rehabilitation Exercise and psycholoGical support After covid-19 InfectioN (REGAIN), will be helpful to evaluate and manage the impact of long-COVID in the population.
Sep-22	Circulating anti-nuclear autoantibodies in COVID-19 survivors predict long-COVID symptoms	European Respiratory Journal	A rapid assessment line immunoassay was used to measure circulating levels of antinuclear/extractable-nuclear antibodies (ANA/ENAs) in 106 convalescent COVID-19 patients with varying acute phase severities at 3, 6, and 12 months post-recovery. Patient-reported fatigue, cough, and dyspnea were recorded at each timepoint. Compared to age- and sex-matched healthy controls and those who had other respiratory infections, patients with COVID-19 had higher detectable ANAs at 3 months post-recovery. The mean number of ANA autoreactivities per individual decreased from 3 to 12 months (3.99 to 1.55) with persistent positive titers associated with fatigue, dyspnea, and cough severity. Pro-inflammatory cytokines such as tumour necrosis factor alpha (TNF α) and C-reactive protein predicted the elevated ANAs at 12 months. TNF α , D-dimer, and IL-1 β had the strongest association with symptoms at 12 months. Regression analysis showed TNF α predicted fatigue and general symptomatology at 12 months.

COVID-19 Patient Recovery Alliance Research Tracker

Date	Article	Publication	Key Takeaways
9/15/2022	Two-Year Health Outcomes in Hospitalized COVID-19 Survivors in China Chronic Obstructive Pulmonary Disease	JAMA	In this longitudinal cohort study that included 1864 patients, the most common symptoms at 2 years after SARS-CoV-2 infection were fatigue, chest tightness, anxiety, dyspnea, and myalgia, and most symptoms resolved from 1-year to 2-year follow-up, although the incidence of dyspnea showed no significant change. Patients with severe disease during hospitalization, especially those who required intensive care unit admission, had higher risks of persistent symptoms and higher chronic obstructive pulmonary disease assessment test scores.
9/23/2022	Will Long COVID Exacerbate Existing Disparities in Health and Employment? KFF	Kaiser Family Foundation	Early data from shows that as of August 8, 2022, rates of self-reported long-COVID are higher among adults who are female, transgender, Hispanic, and without a high-school degree than they are among all adults. This new data on long-COVID comes from the CDC Household Pulse Survey, which began asking questions about long-COVID in June 2022. Rates of long-COVID are higher for adults who are female (18%) and transgender (19%) relative to males (11%). One in five (20%) Hispanic adults reported ever having long-COVID compared with less than 15% of White, Black, or Asian adults. Of adults with less than a high-school diploma, 20% report having long COVID, compared with only 12% of adults with a college degree. Because long COVID disproportionately affects people of working age, it may exacerbate employment outcomes, in addition to health.
9/19/2022	Association of COVID-19 With Major Arterial and Venous Thrombotic Diseases: A Population-Wide Cohort Study of 48 Million Adults in England and Wales	Circulation	This study analyzed vascular diseases after COVID-19 diagnosis in population-wide anonymized linked English and Welsh electronic health records from January 1 to December 7, 2020. Adjusted hazard ratios were estimated by comparing the incidence of arterial thromboses and venous thromboembolic events (VTEs) after diagnosis of COVID-19 with the incidence in people without a COVID-19 diagnosis. Findings: Adjusted hazard ratios for first arterial thrombosis after COVID-19 diagnosis compared with no COVID-19 diagnosis declined from 21.7 in week 1 after COVID-19 diagnosis to 1.34 during weeks 27 to 49. Adjusted hazard ratios for first VTE after COVID-19 diagnosis declined from 33.2 in week 1 to 1.80 during weeks 27 to 49. Adjusted hazard ratios were higher, for longer after diagnosis, after hospitalized versus non-hospitalized COVID-19, among Black or Asian versus White people, and among people without versus with a previous event. The estimated whole-population increases in risk of arterial thromboses and VTEs 49 weeks after COVID-19 diagnosis were 0.5% and 0.25%, respectively.
9/26/2022	Long COVID Has Forced a Reckoning for One of Medicine's Most Neglected Diseases	The Atlantic	This article compares long-COVID to myalgic encephalomyelitis, or chronic fatigue syndrome (ME/CFS) and highlights how the conditions overlap, how ME/CFS management methods could benefit long-COVID patients, and how research and attention for long-COVID could lead to better understanding and awareness of ME/CFS. ME/CFS involves a panoply of debilitating symptoms that affect many organ systems and that get worse with exertion. It is estimated to effect 836,000 to 2.5 million people in the U.S. alone, but is so misunderstood and stigmatized that about 90 percent of people who have it have never been diagnosed. At best, most medical professionals know nothing about ME/CFS; at worst, they tell patients that their symptoms are psychosomatic, anxiety-induced, or simply signs of laziness. While ME/CFS patients, their caregivers, and the few doctors who treat them have spent years fighting for medical legitimacy, the coronavirus pandemic has now forced the issue. A wide variety of infections can cause ME/CFS, and SARS-CoV-2, the coronavirus that causes COVID-19, is no different: Many cases of long-COVID are effectively ME/CFS by another name. The exact number is hard to define, but past studies have shown that 5 to 27 percent of people infected by various pathogens, including Epstein-Barr virus and the original SARS, develop ME/CFS. ME/CFS specialists also know how to help, in ways that are directly applicable to cases of long COVID with overlapping symptoms. ME/CFS has no cure but can be managed,

COVID-19 Patient Recovery Alliance Research Tracker

Date	Article	Publication	Key Takeaways
			often through “simple, inexpensive interventions that can be done through primary care.”
9/22/2022	Long-term neurologic outcomes of COVID-19 Nature Medicine	Nature Medicine	<p>Data were obtained from the VA for 154,068 individuals who lived beyond the initial month of SARS-CoV-2 infections and two groups of control individuals: the contemporary control group comprising 5,638,795 VA users lacking SARS-CoV-2 exposure, and the historical control group comprising 5,859,621 VA users who predated the SARS-CoV-2 pandemic. Risk was measured by hazard ratios (HR); burden indicates excess cases per 1,000 people at 12 months. Estimated that the hazard ratio of any neurologic sequela was 1.42; burden is estimated to be 70.69 per 1,000 persons at 12 months. The risks and burdens were elevated even in people who did not require hospitalization during acute COVID-19. Individuals who lived beyond the initial month of SARS-CoV-2 infection showed an elevated risk of developing cerebral venous thrombosis (HR 2.7; burden 0.1), hemorrhagic stroke (HR 2.2; burden 0.2), and ischemic stroke [HR 1.5;burden 3.4 for every 1,000 individuals at one-year; transient ischemic attacks (HR 1.6; burden 2.0)]. The burden and risk of the composite cerebrovascular outcome were 4.9 and 1.6, respectively. Elevated risks were noted for Alzheimer’s disease (AD, HR 2.0, burden 1.7) and memory issues (HR 1.8; burden 10) with the memory and cognition outcome composite burden and risk being 10 and 1.8, respectively. The risks and burdens for peripheral neuropathic illness (HR 1.3, burden 5.6), paraesthesia (HR 1.3, burden 2.9), Bell’s palsy (HR 1.5, burden 0.3), and dysautonomia (HR 1.3, burden 1.6) with the peripheral nerve disorder outcome composite burden and risk being 8.6 and 1.3, respectively. Mental health illnesses included prime depressive illnesses (HR 1.4, burden 17), adjustment and stress illnesses (HR 1.4, burden 14.3), anxiety (HR 1.4, burden 12.4) and psychotic illnesses (HR 1.5, burden 1.0). The composite burden and risk for mental health issues were 25 and 1.4, respectively. Musculoskeletal diseases included arthralgia (HR 1.3, burden 28), myopathic illness (HR 2.8, burden 0.7), and myalgia (HR 1.8, burden 16), with the composite burden and risk of the musculoskeletal disorder outcome being 40 and 1.5, respectively.</p>
9/28/2022	Pediatric and Autonomic Dysfunction Long COVID Symptoms Guidance Statements Released by the American Academy of Physical Medicine and Rehabilitation	Insider	<p>The American Academy of Physical Medicine and Rehabilitation (AAPM&R) announced new guidance for diagnosing and treating pediatric patients with Long COVID symptoms and patients with autonomic dysfunction symptoms of Long COVID. "We know pediatricians and family care doctors are most likely going to be seeing, diagnosing, and treating children and adolescents with long-COVID symptoms," said Amanda Morrow, MD, FAAPMR, lead co-author of the pediatric Long COVID guidance statement. "They are vital to diagnosing and treating long-COVID in children. This guidance is intended to provide diagnosis and treatment recommendations from the multidisciplinary PASC Collaborative Pediatric Workgroup. Rehabilitation in children should be geared towards participation in school, extracurricular activities, and social engagement, which are important to a child's typical development. Guidance for Long COVID in adults cannot be automatically used in pediatric patients.</p>

COVID-19 Patient Recovery Alliance Research Tracker

Date	Article	Publication	Key Takeaways
9/26/2022	Post COVID-19 condition after Wildtype, Delta, and Omicron variant SARS-CoV-2 infection and vaccination: pooled analysis of two population-based cohorts	medRxiv	<p>N=1,350 SARS-CoV-2-infected individuals from two representative population-based cohorts in Switzerland, diagnosed between Aug 5, 2020, and Feb 25, 2022. Found strong evidence that vaccinated individuals infected with Omicron had a reduced risk of developing long-COVID, compared to non-vaccinated Wildtype-infected individuals (odds ratio 0.42). The risk among non-vaccinated individuals was similar after infection with Delta or Omicron compared to Wildtype SARS-CoV-2. No difference in prevalence with respect to the number of received vaccine doses or timing of last vaccination. The prevalence of long-COVID-related symptoms among vaccinated, Omicron-infected individuals was lower across severity levels. In cluster analyses, researchers identified four clusters of diverse systemic, neurocognitive, cardiorespiratory, and musculoskeletal symptoms, with similar patterns across variants.</p>