

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
July 2021			
1-Jul-21	Long recovery	World	<ul style="list-style-type: none"> COVID-19 onset symptoms: fever, fatigue, cough, headache, loss of taste or smell, and troubled breathing. Most symptoms go away within two to three weeks. But for some the symptoms persist for longer.
1-Jul-21	Shifting the Spotlight to Children’s Mental Health	The Roanoker	<ul style="list-style-type: none"> Centers for Disease Control and Prevention statistics showed mental health visits to emergency rooms for adolescents ages 12 to 17 were 31% higher April to October 2020, as compared to 2019; for children ages 5 to 11, it was up 24% Last year, school systems began creating mental health teams at schools, which included trauma and mindfulness coaches, so student care could be coordinated, teachers could be trained onsite and programs could be crafted to answer the particular profile of each school. In addition to the physical health needs that students require as a result of the pandemic, mental health treatment in connection to anxiety, isolation, and depression are necessary for children following the pandemic.
2-Jul-21	Covid-19: Long covid cases are underreported in GP records, research suggests	The BMJ	<ul style="list-style-type: none"> Electronic health records of patients in England found only 40 cases of long covid reported per 100000 people. Study found that the rate of long covid recorded among practices using EMIS software was 53.7 per 100000 people compared with 20.9 per 100000 in practices using TPP software. The problem may be variable awareness of the new diagnostic codes that were launched in November 2020 and only available in EMIS at the end of January 2021.
5-Jul-21	Persistent symptoms in adult patients one year after COVID-19: a prospective cohort study	NIH	<ul style="list-style-type: none"> “At month 12, only 22.9% of patients were completely free of symptoms and the most frequent symptoms were reduced exercise capacity (56.3%), fatigue (53.1%), dyspnea (37.5%), concentration problems (39.6%), problems finding words (32.3%), and sleeping problems (26.0%)” Long Covid Symptoms typically last for at least one year Neurocognitive symptoms could have been caused by ANA Titre elevations.
7-Jul-21	Study explores the prevalence of long COVID in England	News Medical Life Sciences	<ul style="list-style-type: none"> A high prevalence of symptoms 12 weeks post-acute COVID-19 infections shows the need for specialized services support for these patients and financial support for lower-income individuals.
7-Jul-21	Can Drugs for Other Diseases Help People with Mild or Moderate COVID-19?	Everyday Health	<ul style="list-style-type: none"> NIH is launching new trials to see if medications already in pharmacies can be repurposed to help people with mild or moderate COVID-19. Researchers have yet to develop a cure for the disease, doctors now have several therapies they can use to combat symptoms, including monoclonal antibodies and the antiviral drug remdesivir (Veklury). The new investigation is part of a project called Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV), designed to prioritize and speed development of the most promising possibilities. ACTIV-6 will evaluate whether certain drugs showing promise in small trials can pass the rigor of a larger trial.

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7-Jul-21	Fitbits Detect Lasting Changes After Covid-19	The New York Times	<ul style="list-style-type: none"> • 1 in 5 Americans uses a device that can track health data. • Research suggests that these devices can help track patients recover from Long COVID. • “Wearable devices offer an ability for us to be able to monitor people unobtrusively over long periods of time to see in an objective way — how really has the virus affected them?” • Individuals who gave permission to share their data through an app called my data matters have provided data on Long Term COVID’s effects on heart rate and activity levels. • Assessment of Prolonged Physiological and Behavioral Changes Associated with COVID-19 Infection: Primary research article that collected biometric data
7-Jul-21	Clinical characterization of dysautonomia in long COVID-19 patients	Nature	<ul style="list-style-type: none"> • Long COVID-19 participants with fatigue presented higher values of NIJMEGEN and PCL-5 scores (respectively, 36 [15] vs 20 [18] p=0.002 and 31 [18] vs 18 [19], p=0.001) but not for loss of body mass exceeding 10% (respectively 0 [9.3] vs 0 [9.8], p=0.632) and the 30 s of up and down test (respectively, 4 [3] vs 5 [2], p=0.192,) than long COVID-19 participants without fatigue. • No neurological symptoms were reported during COVID-19 episode, except loss of taste and smell for 14 patients, but with no difference between the two groups (p=0.951). • HRV is one of the main marker of dysautonomia. HRV could be an important “window” for better understanding the inflammatory mechanism and neuroimmune system involved in long COVID-19 patients.
7-Jul-21	Meet 3 Black Women Fighting for Long COVID Recognition	U.S. News	<ul style="list-style-type: none"> • Experts can't yet prove whether people of color have been disproportionately affected by long COVID, but researchers suspect that's likely the case given they are among the groups hardest hit by the pandemic. • Many doctors have discounted black patients’ symptoms or denied them altogether, forcing them to search for new doctors that believe them. • Provides narrative information about the experiences of the shortcomings of the medical field due to systematic racism and difficulty diagnosing Long COVID.
13-Jul-21	'Long COVID': More than a quarter of COVID-19 patients still symptomatic after 6 months	ScienceDaily	<ul style="list-style-type: none"> • In a study of adults, more than a quarter of those infected by acute COVID-19 still had persisting symptoms six to 8 months and 40% had at least one further healthcare contact related to COVID-19. • 55% of 'Long COVID' sufferers reported fatigue, 25% had shortness of breath, and 26% had symptoms of depression • A higher percentage of females reported having not recovered than males.
13-Jul-21	How suburban hospitals are handling 'long-haul' COVID-19 patients	Daily Herald	<ul style="list-style-type: none"> • Suburban doctors have created one-stop COVID clinics with a focus on creating individualized care for patients. • Physicians are focusing on neurological symptoms first, but they have cardiology and pulmonary physicians on standby for patients that have heart and lung issues.

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14-Jul-21	IncellDx: Two New Studies Offer a First Model for Diagnosing, Monitoring and Treating Long COVID	Businesswire	<ul style="list-style-type: none"> • Two Studies <ul style="list-style-type: none"> ○ Persistence of SARS CoV-2 S1 Protein in CD16+ Monocytes in Post-Acute Sequelae of COVID-19 (PASC) Up to 15 Months Post-Infection <ul style="list-style-type: none"> ▪ The presence of SARS-CoV-2 S1 protein was investigated in 46 people. T-cell, B-cell, and monocytic subsets were analyzed in both severe COVID-19 patients and in patients with post-acute sequelae of COVID-19 (PASC). The levels of both intermediate (CD14+, CD16+) and non-classical monocyte (CD14Lo, CD16+) were significantly increased compared with healthy controls. ○ Immune-Based Prediction of COVID-19 Severity and Chronicity Decoded Using Machine Learning <ul style="list-style-type: none"> ▪ 224 individuals, including healthy controls and patients spanning the COVID-19 disease continuum, were assessed using machine learning for severity and chronic symptoms following initial infection. • Both studies used unique approaches to potentially identify and diagnose post-acute COVID-19 • “Taken together, findings from these two studies provide an objective and measurable model for understanding what’s happening and why long COVID patients continue to experience symptoms long after initial COVID infection, and why those symptoms are so diverse and widespread. . .”
15-Jul-21	Can vaccinated people get long Covid? Doctors say risk is 'very, very small'	NBC News	<ul style="list-style-type: none"> • Currently there is minimal data that supports the theory that vaccinated individuals will get long COVID. • Physicians and researchers warn that this could be due to a potential lag time, and more time needs to pass before we can calculate what the risks are with any certainty. • At least 6 months need to pass before we can know what the trends are for Long COVID and vaccinated individuals.
15-Jul-21	Characterizing long COVID in an international cohort: 7 months of symptoms and their impact	EclinicalMedicine	<ul style="list-style-type: none"> • Symptoms varied in their prevalence over time, and we identified three symptom clusters, each with a characteristic temporal profile. 85.9% of participants (95% CI, 84.8% to 87.0%) experienced relapses, primarily triggered by exercise, physical or mental activity, and stress. • By seven months, many patients have not yet recovered (mainly from systemic and neurological/cognitive symptoms), have not returned to previous levels of work, and continue to experience significant symptom burden.
17-Jul-21	Covid patients with 5 symptoms in first week of infection are more likely to be 'long-haulers'	Studyfinds	<ul style="list-style-type: none"> • “There is evidence the impact of acute Covid-19 on patients, regardless of severity, extends beyond hospitalization in the most severe cases, to ongoing impaired quality of life, mental health and employment issues,” says lead author Dr. Olalekan Lee Aiyegbusi • The ten most common Covid symptoms are: fatigue, shortness of breath, muscle pain, cough, headache, joint pain, chest pain, diarrhea and altered smell or taste. • Patients with five symptoms in the first week of infection are more likely to be “long-haulers” who battle symptoms for many months, according to new research.

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17-Jul-21	<u>Antibody Response to SARS-CoV-2 is Associated with Long-term Clinical Outcome in Patients with COVID-19: a Longitudinal Study</u>	Springer Link	<ul style="list-style-type: none"> • Of 146 patients (60% male, median age 64 years) followed-up, 20.6% required hospital readmission and 5.5% died. • Antibody titers gradually waned, with seroreversion occurring at 6 months in 27 (27.6%) patients for N-IgG and in 6 (6%) for S-IgG. • Long-COVID is associated with weak anti-SARS-CoV-2 antibody response, severity of illness, and female gender.
19-Jul-21	<u>More than a quarter of people with COVID-19 not fully recovered after 6–8 months</u>	Medical News Today	<ul style="list-style-type: none"> • Patients reported symptoms of fatigue, dyspnea, and depression. • Participants in the study were from Zurich, Switzerland, 18, sufficient knowledge of German, and had a confirmed infection of SARS-CoV-2 between 2/27/20 and 9/5/20. • The study used the fatigue assessment scale, modified medical research council dyspnea scale, and 21-item depression, anxiety, and depression scale. (factors into what questions/scales the studies use will affect the symptoms the patients report) • Results of the study: <ul style="list-style-type: none"> ○ 26% (111) of the participants reported they had not fully recovered from COVID-19 between 6 and 8 months after initial infection. ○ 55% (233) of the participants reported they had symptoms of fatigue. ○ 25% (96) of the participants reported some level of dyspnea. ○ 26% (111) of the participants reported symptoms of depression. ○ 40% (170) of the participants reported they had at least one visit with a general practitioner related to COVID-19 after the 4-week period of acute illness.
19-Jul-21	<u>Clinical Pharmacy Congress: highlights from CPC Live! 2021</u>	Wiley Clinical Healthcare	<ul style="list-style-type: none"> • Experts held a meeting to discuss key topics, this included Chronic Pain Managements. • There has been a disconnect in treating chronic pain outcomes and patient expectations. • Pharmacists and doctors are attempting to shift away from the high use of pain killers and explore other long-term options for treatments such as therapy and exercise. • Shifting to long term care is essential for the patient to not feel abandoned.
7/20/2021	<u>Comp predicts more spending in treating 'long COVID'</u>	Business Insurance	<ul style="list-style-type: none"> • Doing business as myMatrixx, the Tampa, Florida-based PBM published a white paper this month stating that “even as infection rates begin to fall dramatically with growing levels of vaccination and immunity” pharmacy costs could escalate because the medical community is “just beginning to understand the long-term damage that the disease is causing for a significant portion of patients.” • With most of the issues related to pulmonary and cardiac issues, myMatrixx says the lingering symptoms for compensable workers comp claims have led to an increase in medication use, which it will continue to track.
20-Jul-21	<u>EXCLUSIVE: Lab discovers root cause of confusion, fatigue experienced by COVID 'long haulers'</u>	ABC 7	<ul style="list-style-type: none"> • Machine learning was used by Dr. Patterson (CEO of IncellDx) on a type of white blood cell known as the monocytes. • Monocytes are reprocessing dying cells that contain COVID-19 proteins so the immune system can see them. • These cells then trigger inflammatory responses that lead to COVID-19 symptoms (brain fog, fatigue, etc.)

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20-Jul-21	U of U joins treatment study to battle COVID-19	FOX13	<ul style="list-style-type: none"> University of Utah and John Hopkins is both participating in a study on Long-COVID Treatment In this study doctors are looking for convalescent plasma with antibodies that are effective against the virus, they hypothesize if they treat the patient early the long-term symptoms will not develop.
20-Jul-21	NIH to study long COVID in kids	AXIOS	<ul style="list-style-type: none"> Children's National Hospital in Washington, D.C. and the National Institutes of Allergy and Infectious Disease are launching a \$40 million study to examine long COVID and multi-system inflammatory syndrome in children. This study is seeking answers of the long-term effects of COVID on developing children, as well as looking at what could be causes/factors of more severe cases in children.
7/25/2021	Six months in, two challenges could define Biden's presidency	The Hill	<ul style="list-style-type: none"> As the spread of the delta variant occurs, the president has been criticized for spreading misinformation about the effectiveness of the vaccines. Next steps for the Biden administration include getting the vaccines fully approved under EUA. The Biden administration is also putting its focus on whether booster shots will be made available for certain members of the population or the immunocompromised.
26-Jul-21	Over 450 key workers with long Covid tell MPs of their struggles	The Guardian	<ul style="list-style-type: none"> Frontline workers shared their COVID experiences with the British Parliament. "The harrowing evidence we've received lays bare how long Covid has devastated lives and ruined careers. It is morally indefensible that key workers who got long Covid on the frontline of the pandemic are being abandoned without proper financial support." Legislators are using their authority to provide funding and support for the frontline workers who risked their lives during the pandemic.
26-Jul-21	Nerve damage in cornea could be sign of 'long COVID,' study hints	Live Science	<ul style="list-style-type: none"> Nerve damage and a buildup of immune cells in the cornea may be a sign of "long COVID." Preliminary evidence suggests that long COVID may involve damage to small nerve fibers. Using a technique called corneal confocal microscopy (CCM), the team took snapshots of nerve cells in the cornea.
	Biden administration says long Covid can be considered a disability under law	Politico	<ul style="list-style-type: none"> Long-term Covid can qualify as a disability under federal anti-discrimination laws, including the Americans with Disabilities Act. An "individualized assessment is necessary to determine whether a person's long COVID condition or any of its symptoms." Employers must try to reasonably accommodate workers who have been diagnosed with a disability because of long Covid, like by providing modified equipment or work schedules, however they do not have to provide any accommodations that would incur an undue hardship.

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26-Jul-21	Doctor Says These Existing Drugs Can Help Long COVID	Eat this, not that	<ul style="list-style-type: none"> • Doctor used machine learning to develop immune profiles on long haulers, using this information a treatment was developed that has had a 98% success rate with over 2,000 patients. • Once Dr. Patterson realized the immunological abnormality was vascular inflammation, they started treatment by preventing the COVID cells from moving to areas of inflammation and using statins to block the fractalkine pathway that allows the cells to find blood vessels and cause inflammation. • This treatment takes 4 to six weeks, and the patient also scales up in physical exercise and exertion during this period.
27-Jul-21	Experts worry older COVID-19 survivors who have long-term memory problems are at a higher risk for Alzheimer's disease	Daily mail	<ul style="list-style-type: none"> • Researchers from UT Health San Antonio followed Covid patients with long-term brain fog, memory problems, and other neurological issues for a year • They found that Covid patients in their 60s and 70s developed symptoms like early-onset Alzheimer's.
27-Jul-21	Long COVID: Epstein-Barr virus may offer clues	Medical News Today	<ul style="list-style-type: none"> • Two small studies found that Long-COVID reactivated latent or dormant EBV. • More than 95% of healthy adults have a “latent” or dormant infection of the Epstein-Barr virus (EBV), a type of herpes virus. • In one of the studies 66.7% of patients with Long COVID had reactivated EBV infection. • “The hypothesis is that primary infection with SARS-CoV-2 targets cells in our mouths and [throat] in which EBV is already present and that this induces high levels of EBV replication,” • Researchers think that they may be able to treat Long COVID with some of the treatments for EBV.
27-Jul-21	Eye scan could determine whether COVID patients will be ‘long haulers’	Studyfinds	<ul style="list-style-type: none"> • A new study now suggests that COVID patients who could be long haulers could be diagnosed by taking a close look at their eyes. Nerve fiber loss and an increase in key immune cells on the surface of the eye may be a way of identifying the long-term impact of the virus. • Researchers used a real-time, non-invasive, high-resolution imaging laser technique, called corneal confocal microscopy — or CCM — to pick up nerve damage in the cornea.
30-Jul-21	Stanford Medicine opens clinic for patients struggling with long COVID	Stanford Medical	<ul style="list-style-type: none"> • Stanford medical clinic is looking for more research on Long-COVID. • Currently researchers are saying that this is a heterogeneous condition, and they are going to look for more research to determine if there are subgroups within this condition. • In December, Congress provided the National Institutes of Health with \$1.15 billion to study the long-term symptoms of COVID-19. • A Stanford study found that 70% of hospitalized COVID-19 patients had at least one symptom months later; another Stanford study found that even those with less severe cases of the virus, who were never hospitalized, were experiencing long COVID.
30-Jul-21	Study Finds COVID-19 May Lower Intelligence	WebMD	<ul style="list-style-type: none"> • A study from the United Kingdom, findings that are consistent with reports of “brain fog” among long-haul COVID-19 patients. • Researchers said those who had been placed on a ventilator while ill showed the most substantial effects, on average, their score dropped 7 IQ points.