

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
February 2021			
26-Feb-21	COVID-19 'long haulers' still struggle with lingering symptoms	MSN	Anecdotes on symptoms of brain fog, fatigue, physical pain, and cardiac symptoms.
25-Feb-21	Debilitating 'long-COVID' may have severe health, social impacts—WHO	Reuters	<p>“An initial report by Britain’s National Institute for Health Research last year suggested long-COVID may be not one condition, but multiple syndromes causing a rollercoaster of symptoms affecting the body and mind.</p> <p>“Hans Kluge, the WHO’s European regional director, said long-COVID could have ‘severe social, economic, health and occupational consequences.’”</p>
25-Feb-21	Understanding the survivorship burden of long COVID	The Lancet	<ul style="list-style-type: none"> • “The concept of ‘survivorship’ provides healthcare professionals, researchers and policy makers with a communal lens through which they may frame holistic interventions aimed at reducing the overall burden of living through a condition.” • “There is a pressing need for both breadth and longitudinal evidence in survivorship, particularly in the treatment complications, social function and self-care survivorship domains. As such, we are left with the following recommendations: <ul style="list-style-type: none"> • 1) Healthcare professionals must not only recognize the symptomatology of post-COVID syndrome but also understand the longer-term support that patients require in the community. For policy makers, it is only through objectively quantifying the impact of this condition on both an individual and societal level are they able to lobby for appropriate funding and resources at a governmental level. • 2) There is also a responsibility for both researchers and patients in the coming months. Triallists should be urged to collaborate in order to develop ‘joined up’ research studies which are complimentary and avoid research waste. A promising first step has been undertaken by The National Institute for Health Research (NIHR) and the international long-term care policy network, who have formed dedicated steering groups to coordinate large scale international research studies. • 3) Finally, public education concerning long COVID will help to dispel stigma around the condition thus reinforcing the previous two recommendations. There is a need for long COVID to be publicly recognized as a legitimate health condition, so that there will be support for allocation of public funds towards long COVID.”
25-Feb-21	COVID 'long-haulers:' What is PASC, and why do some people get it?	Debbie Lord, Cox Media Group National Content Desk	<ul style="list-style-type: none"> o Lists several studies: <ul style="list-style-type: none"> • “According to research by the Mayo Clinic, older people and those with other serious medical conditions are the most likely to experience lingering COVID-19 symptoms; In a study of 3,762 people who said they were suffering long-term COVID-19 symptoms, the majority were female, white and between the ages of 30 and 60; A Centers for Disease Control and Prevention report showed that those hospitalized with severe symptoms, regardless of gender, were more likely to suffer effects from the virus for a longer time.”

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			<ul style="list-style-type: none"> “Ryan Hurt, an internist who leads post-COVID-19 syndrome research at the Mayo Clinic, told The Lily that 10% of the approximately 20,000 patients who have tested positive for the coronavirus at the clinic are considered long-haulers. Of that number, 60% to 80% are women, he said.”
24-Feb-21	Dr. Anthony Fauci aims to answer ‘a lot of important questions’ about ‘COVID long-haulers’ in new nationwide initiative	<i>USA Today</i>	<p>“The U.S. government is launching a nationwide initiative to study COVID-19 patients who suffer from residual symptoms months after recovery, commonly known as ‘COVID long-haulers,’ Dr. Anthony Fauci said in a White House briefing Wednesday.”</p> <p>Cited JAMA 30% WA study.</p> <p>“The National Institutes of Health expects to integrate data from existing projects on COVID-19 patients into the initiative. One such project is the COVID-19 Neuro Databank-Biobank (or the NeuroCOVID Project), a database and biobank led by New York University.”</p>
24-Feb-21	Long-haul COVID-19 cases could plague comp industry	<i>Business Insurance</i>	<p>Repeats 10% figure.</p> <p>Issue with workers compensation and disability claims and varied symptomology, and some do not exist in SSA.</p> <p>Also difficulty in having sufficient evidence to have it specified as COVID-19.</p> <p>“The key to understanding COVID-19’s long-haul impact could be found in the history of other diseases, such as Lyme disease acquired through a work-related tick bite or pneumoconiosis from long-term work exposure to asbestos, experts say.”</p>
23-Feb-21	NIH launches new initiative to study “Long COVID”	<i>NIH Director Press Release</i>	<p>“In December, Congress provided \$1.15 billion in funding over four years for NIH to support research into the prolonged health consequences of SARS-CoV-2 infection. A diverse team of experts from across the agency has worked diligently over the past few weeks to identify the most pressing research questions and the areas of greatest opportunity to address this emerging public health priority.”</p> <p>“Today we issued the first in a series of Research Opportunity Announcements (ROAs) for the newly formed NIH PASC Initiative. Through this initiative, we aim to learn more about how SARS-CoV-2 may lead to such widespread and lasting symptoms, and to develop ways to treat or prevent these conditions.”</p>
23-Feb-21	Collecting Data About COVID-19–Related Brain Symptoms	<i>JAMA</i>	Article describing the NIH’s launch of NeuroCOVID to track neurological symptoms of COVID-19 long-haulers.
23-Feb-21	‘What’s Wrong With Me?’ Young COVID Survivors Battle Long-Haul Symptoms	<i>US News</i>	Lists anecdotal accounts of post-COVID symptoms. Listing the 1 in 3 <i>JAMA</i> article, neurological, psychiatric, cardiac, respiratory, and skin conditions.
16-Feb-21	What are the changes in the physical phenotype of blood cells in COVID-19?	<i>News Medical Life Sciences</i> <i>bioRxiv</i>	“Infection with the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) leads to the constellation of signs and symptoms called coronavirus disease 2019 (COVID-19). While primarily a respiratory illness, there are distinctive

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	Physical phenotype of blood cells is altered in COVID-19		<p>alterations in the type and number of blood cells in COVID-19. A new study by a team of researchers in Germany describes the nature of these changes.”</p> <p>Study (not peer reviewed): Physical phenotype of blood cells is altered in COVID-19 (<i>bioRxiv</i>):</p> <p>“More than 4 million blood cells of 17 COVID-19 patients at different levels of severity, 24 volunteers free from infectious or inflammatory diseases, and 14 recovered COVID-19 patients were analyzed. We found significant changes in erythrocyte deformability, lymphocyte stiffness, monocyte size, and neutrophil size and deformability. While some of these changes recovered to normal values after hospitalization, others persisted for months after hospital discharge, evidencing the long-term imprint of COVID-19 on the body.”</p>
15-Feb-21	Frequency and profile of objective cognitive deficits in hospitalized patients recovering from COVID-19	<i>Nature</i>	<p>“In total, 50 patients (88%) had documented hypoxemic respiratory failure and 44 (77%) required intubation. Forty-six patients (81%) had cognitive impairment, ranging from mild to severe. Deficits were common in working memory (26/47 [55%] of patients), set-shifting (21/44 [47%]), divided attention (18/39 [46%]), and processing speed (14/35 [40%]).”</p> <p>“Executive dysfunction was not significantly associated with intubation length or the time from extubation to assessment, psychiatric diagnosis, or preexisting cardiovascular/metabolic disease.”</p> <p>“In summary, we show that medically stable inpatients who were recovering from prolonged COVID-19 hospitalization and required acute inpatient rehabilitation prior to discharge, commonly have impairments in attention and executive functions including working memory, divided attention, and set-shifting. The frequency of impairment was not related to the presence of chronic cardiovascular and metabolic disease.”</p>
14-Feb-21	The Challenges of Getting Long-Covid Patients Back to Work	<i>WSJ</i>	<p>It is difficult for those with chronic COVID-19 symptoms to return to work, especially with fatigue and the inability to focus on tasks. Long-COVID is already being claimed as a disability and may become a federal disability. “Some 26% of 1,733 Chinese Covid patients discharged from a Wuhan hospital between January and May 2020 still experienced fatigue six months after acute infection, according to a study published in January in the <i>Lancet</i>.”</p>
14-Feb-21	Why So Many Covid-19 Workers’ Comp Claims Are Being Rejected	<i>WSJ</i>	<p>With COVID-19 it is difficult to determine if workers became infected on the job. Workers’ compensation claims were expected to rise due to COVID-19 but have seen a 7.6% drop due to remote work environments. However, “the industry remains cautious, worried that so-called long-haulers—individuals with continuing complications from Covid-19 infections—will be eligible for large and ongoing medical and wage-replacement payouts, according to James Lynch, chief actuary for the Insurance Information Institute, a trade association.”</p>
12-Feb-21	COVID Long-Haulers Find Relief Among Fellow Sufferers on Road to Recovery	<i>CBS Local</i>	<p>“About 10 percent of patients who’ve had an initial COVID-19 infection will go on to not fully recover,” said UCSF neurologist Dr. Juliet Morgan.</p> <p>The symptoms for long-haul syndrome vary but can also include a loss of the sense of smell and taste, as well as hair loss.</p>
12-Feb-21	Guidelines in the Works as ‘Long-Haul’ Patterns Emerge in COVID	<i>MedScape</i>	<p>CDC, NIH, and WHO developing guidelines for long-COVID-19.</p>

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			The expectation would be that it's likely that most people will get better over weeks to months, and approximately 10% to 15% will have longer-standing problems," Bell said.
11-Feb-21	Ask the Doctors: Gut microbiome makeup could impact severity of COVID-19,	<i>Tulsa World</i>	<p>"Researchers analyzed samples of blood and stool taken from 100 patients with COVID-19 whose disease was severe enough that they were admitted to the hospital and compared the results to samples drawn from 78 healthy control subjects. They discovered that species of certain bacteria that are known to play a role in the immune system were present in much lower numbers in the guts of the patients hospitalized with COVID-19."</p> <p>They also found a link to long-haul COVID.</p>
11-Feb-21	Researchers suggest ways to cope with long term Covid-19 symptoms	<i>The Hindu Business Line</i>	<p>"A study, published in the Oxford Open Immunology by Oxford University Press, stated that although Covid-19 was initially believed to be a short-term illness, a substantial number of patients experience symptoms beyond that. In fact, for patients who were initially hospitalized, more than 80% reported at least one symptom that persisted beyond the first month, it added."</p> <p>Strategies include tackling a patient's level of stress with increased social support, physical exercise, and an adjusted diet could also be useful in managing long-term symptoms related to COVID-19.</p>
11-Feb-21	AHA News: Here's What Heart Patients Need to Know About COVID-19 in 2021	<i>Medical Xpress</i>	"Parikh is seeing so-called long-haul patients with 'a constellation of symptoms, and some of them are cardiac in nature' that linger after they are no longer infected with the virus. Those symptoms range from feeling lightheaded to heart palpitations and chest pain."
10-Feb-21	Long covid: WHO calls on countries to offer patients more rehabilitation	<i>BMJ</i>	<p>"WHO has produced a standardized form to report clinical data from individual patients after hospital discharge or after their acute illness to examine the medium and long term consequences of covid-19."</p> <p>"Hannah Davis, a patient researcher, told the seminar that her study with colleagues had identified 205 symptoms in 10 organ systems among patients with long covid. The survey, which was published as a preprint at the end of December, included 3762 respondents from 56 countries. Most patients (91.6%) had not been admitted to hospital."</p>
10-Feb-21	Long-haul symptoms should be a 'wake-up call' for young people when it comes to avoiding Covid, Texas Children's doctor says	<i>MSN</i>	<p>"About 10 to 30% of all Covid patients will suffer from long haul symptoms, according to the latest research from Mt. Sinai's Center for Post-Covid Care."</p> <p>"Medical researchers are unsure whether patients with post-acute Covid syndrome will be dealing with the effects for the rest of their lives, or if its temporary for an undetermined period."</p> <p>"Post-acute Covid syndrome will have a major impact on the economy, and on the healthcare system, Hotez said. Covid has a "heavy psychiatric burden" including for people who weren't infected. They can suffer "post traumatic stress" from losing a loved one, their livelihood, or just dealing with pandemic living conditions."</p>
9-Feb-21	Global COVID-19 Clinical Platform Case Report Form (CRF) for Post COVID	<i>WHO</i>	"WHO's Post COVID case report form (CRF) has been designed to report standardized clinical data from individuals after hospital discharge or after the acute illness to examine the medium- and long-term consequences of COVID-19."

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	<u>condition (Post COVID-19 CRF)</u>		
5-Feb-21	<u>Way more women are reporting 'long-haul' covid symptoms. Doctors aren't sure why.</u>	<i>The Lily</i>	<p>The Mayo Clinic is researching post-covid syndrome and has found that 60-80% of its 20,000 patients are women.</p> <p>UCLA is launching a national study.</p> <p>Online groups are mostly women, like Survivor corps, but may be due to societal gender discrepancies with tendency to discuss symptoms.</p>
5-Feb-21	<u>COVID-19 long-haulers struggle with persistent mental health issues: brain fog, anxiety, depression and sleep disorders</u>	<i>Hartford Courant</i>	<p>"Fesharaki-Zadeh has seen long-haulers with mental health symptoms, many of them referred to him through the Post-COVID-19 Recovery Program at Yale New Haven Hospital's Winchester Chest Clinic."</p> <p>"Dr. Subramani Seetharama, a physiatrist at Hartford Healthcare affiliated with the health care system's COVID Recovery Center, a resource hub for long-haulers, is also seeing patients struggling with sleep issues and depression."</p> <p>Common cognitive and psychiatric symptoms for long-haulers include anxiety, depression, brain fog and sleep disorders.</p>
5-Feb-21	<u>Sexual Orientation Disparities in Risk Factors for Adverse COVID-19-Related Outcomes, by Race/Ethnicity—Behavioral Risk Factor Surveillance System, United States, 2017–2019</u>	<i>CDC MMWR</i>	<p>"CDC examined disparities between sexual minority and heterosexual adults in the prevalence of underlying conditions with strong or mixed evidence of associations with severe COVID-19-related illness."</p> <p>"This analysis found that several underlying health conditions that increase or might increase the risk for more severe COVID-19-related illness were more prevalent among sexual minority persons than heterosexual persons, both within the overall population and within specific racial/ethnic groups. Non-Hispanic Black and Hispanic populations have been disproportionately affected by the COVID-19 pandemic in the United States, and the increased prevalence of certain risk factors among sexual minority members of these racial/ethnic minority populations is of particular concern."</p>
4-Feb-21	<u>Scientists want to know if vaccinated people can still become COVID-19 long-haulers</u>	<i>The Verge</i>	<p>"Duggal and Heinrich are hoping to find answers on the relationship between vaccination and long-haulers through their research on COVID-19 patients. Duggal is running a survey of 25,000 people who've had the disease, and it includes a question asking if they've been vaccinated or are participating in a vaccine trial."</p> <p>"Duggal isn't sure vaccines will reduce the risk for persistent symptoms entirely. 'I think there is going to be a small percentage of people that could get infected even post-vaccination that could become long-haulers,' she says. It's not likely that vaccination, by converting severe cases of COVID-19 to mild cases, will create more long-haulers."</p>
4-Feb-21	<u>Mass General uses EHRs to create COVID-19 death risk prediction tool</u>	<i>ASC COMMUNICATIONS 2021</i>	<p>"Mass General Hospital researchers used medical histories of patients collected and stored in EHRs combined with artificial intelligence technology to predict patients' probability of dying from COVID-19. The Boston-based hospital's analytics and medical team used COVID-19 data and medical records from more than 16,000 patients and applied a computer algorithm to identify 46 clinical conditions representing potential risk factors for death after a COVID-19 infection."</p>

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			"[T]he role of age as the most important risk factor for COVID adverse outcomes."
3-Feb-21	Denied treatment, some Covid long-haulers could become lifelong-haulers	<i>STAT News</i>	"Post-Covid syndrome... can prey on individuals who were previously healthy and in their 30s and 40s. In a recent survey by an international team of researchers, among the 3,762 respondents from 56 countries, 33.7% were 40 to 49 years old and 26.1% were 30 to 39 years old. The syndrome is particularly difficult to describe because it shape-shifts, moving through the body seemingly at random to affect various organs."
3-Feb-21	'Long-haul' of COVID-19 can make food taste rotten	<i>Newsday</i>	"While most patients regain smell and taste within a few weeks or a month, some don't, said Dr. Alan Bulbin, director of St. Francis Hospital's division of infectious diseases and antimicrobial stewardship. "For those who don't, returning to the olfactory and gustatory status quo might necessitate special training."
3-Feb-21	What Industrial Categories Are Workers at Excess Risk of Filing a Covid-19 Workers' Compensation Claim? A Study Conducted in 11 Midwestern U.S. States	<i>PubMed</i>	A study of 21,336 workers compensation (WC) claims highlights that healthcare employment is associated with an increased risk of developing infections and submitting a WC claim. Specifically, ~83% of the claims submitted and accepted were from healthcare workers.
3-Feb-21	COVID-19 Virus May Prompt Body to Attack Itself	<i>Medscape</i>	Recent studies suggest the COVID-19 causes the body to create autoantibodies. Study of 300 people from four different hospitals showed that 50% of people hospitalized for their infections had autoantibodies, compared to less than 15% of those who were healthy and uninfected. The study also opens the question of whether other viruses might also break the body's tolerance to itself, setting people up for autoimmune diseases like multiple sclerosis, rheumatoid arthritis, and lupus later in life.
3-Feb-21	Long COVID-19 symptoms not associated with reduced cell-mediated immunity	<i>News Medical</i>	"The current study aimed to explore the associations between cell-mediated immunity and the period over which COVID-19 symptoms persisted." "Among 33 patients, 14 and 19 had a short and long period of symptoms, respectively, indicating a duration of 0-8 days and 18-61 days, respectively." "The findings of this study suggest that the presence of persistent COVID-19 symptoms in mild to moderate disease has no significant effect on cell-mediated immunity against SARS-CoV-2, nor is it associated with cellular immunity against seasonal human coronaviruses. The researchers suggest that this may indicate different immune processes underlying severe COVID-19 relative to prolonged mild disease."
2-Feb-21	Long haulers: Why some people experience long-term coronavirus symptoms	<i>UC Davis Health</i>	"Researchers estimate about 10% of COVID-19 patients become long haulers, according to a recent article from The Journal of the American Medical Association and a study done by British scientists. That's in line with what UC Davis Health is seeing." They include symptoms and ongoing information on long haul COVID-19.
2-Feb-21	The COVID-19 Sequelae: A Cross-Sectional Evaluation of Post-recovery Symptoms and	<i>PubMed</i>	<ul style="list-style-type: none"> • 158 recovered COVID-19 survey respondents; An overwhelming majority (94.9%) experienced at least one post-COVID-19 symptom, with fatigue (82.9%) being the most prevalent post-discharge manifestation.

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	the Need for Rehabilitation of COVID-19 Survivors		<ul style="list-style-type: none"> The long-COVID syndrome is similar to the post-discharge manifestations of the survivors of prior pandemics of SARS and MERS. Multi-disciplinary rehabilitation teams, healthcare workers, and the general population
2-Feb-21	Evidence that Long COVID-19 impacts children	<i>News Medical Life Sciences</i>	<p>129 children, all diagnosed between March and November 2020, with a mean age of 11 years.</p> <p>“Within the group, 53% of children were reported to have one or more symptom 120 or more days after diagnosis, fitting the diagnosis of Long COVID. Strikingly, 36% of them had one or two symptoms at the time of evaluation, and 23% three or more symptoms.”</p>
2-Feb-21	The Forever Disease: How Covid-19 Became a Chronic Condition	<i>TNR</i>	<p>“Long Covid could be the key to better understand myalgic encephalomyelitis (ME) and other complex illnesses that our system hasn’t studied enough or dealt with very well,’ said Leonard Jason, an expert in the epidemiology of ME/CFS who directs the Center for Community Research at DePaul University in Chicago. “Covid-19 is an opportunity to track the factors that may lead to postinfectious fatigue. Really going into the mysteries of unexplained illnesses has the potential to transform medicine.”</p>
1-Feb-21	The Long Road Back: Mobility, Lung Issues in People with Long-Haul COVID-19	<i>Healthline</i>	<p>“Researchers say people with long-term COVID-19 symptoms are now reporting mobility difficulties and lung issues.</p> <p>“They note that these long-haul symptoms aren’t limited to people who were hospitalized.</p> <p>“These long-term symptoms are affecting worker productivity as well as adding extra stress to our healthcare system, researchers say.”</p> <p>““In our 118 patients that we looked at, the vast majority still had at least one symptom at 3 to 4 months — 64 percent of the patients who had not been hospitalized had at least one symptom. Usually most common ones were fatigue... and shortness of breath,’ she said.”</p>