PATIENT-LED RESEARCH COLLABORATIVE

2026 Long COVID Fact Sheet

This is a resource for people who want to learn up-to-date evidence on Long COVID. This Fact Sheet does not include all research available; it is a nonexhaustive list of evidence-based information. This is an updated version from the 2025 Long COVID Fact Sheet.

1. **Long COVID rates remain high.**
    a. In large US Electronic Health Records datasets of 3.4 and 1.9 million adults, Long COVID risk did not decrease over time, with highest risk in 2024 compared to 2021. 10-26% of adults developed Long COVID.[1]
    b. The prevalence of people currently living with Long COVID has remained between 5.3-7.6% of the US adult population from July 2022 to September 2024.[2]
    c. 17% of 4,708 study participants developed Long COVID after Omicron infection, compared to 23% after pre-Omicron variants.[3]
    d. Global Long COVID prevalence was estimated at 29% of non-hospitalized confirmed COVID cases, based on a meta-analysis of 144 studies. Prevalence did not vary between 2021 and 2024[4].

2. **Reinfection increases the risk of developing Long COVID.**
    a. People in a Canadian cohort were 1.7x more likely to develop Long COVID after 2 infections, and 2.6x more likely to develop Long COVID after 3 or more infections.[5]

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[1] https://doi.org/10.1093/cid/ciaf046
[2] https://www.cdc.gov/nchs/covid19/pulse/long-covid.htm
[3] https://doi.org/10.1001/jamanetworkopen.2024.17440
[4] https://doi.org/10.1093/ofid/ofaf533
[5] https://www150.statcan.gc.ca/n1/pub/75-006-x/2023001/article/00015-eng.htm

b. In an international cohort, people were 2x more likely to develop Long COVID after having COVID twice, and 3.7x more likely after having COVID 3 or more times.
c. In a Spanish cohort of 193,000 people, those with 3 or more infections were 3-10 times more likely to get Long COVID.[6]
d. Long COVID occurred in 24% of reinfections in a US cohort.[7]
e. Reinfections led to higher incidence and severity of Long COVID in a Chinese cohort of more than 74 thousand people.[8]
f. In a large database of healthcare claim records in Singapore, 2 infections raised the risk of new-onset diagnoses by 17%, with increased risk in cardiovascular, neurological, endocrine, respiratory, renal and gastrointestinal diagnoses. Increased risk associated with reinfections didn't attenuate over 300 days of follow up.[9]
g. Reinfection more than doubles the risk of Long COVID in children in a US cohort. Reinfected children are 3.6x more likely to get myocarditis, 2.8x more likely to get a blood clot, 2x more likely to develop heart disease, and 2x more likely to develop kidney disease, among other serious outcomes.[10]
h. People who had COVID reinfections were more likely to experience severe fatigue, post-exertional malaise, perceived immune dysfunction, physical function limitation and worsened existing Long COVID.[11]
i. Reinfections increase the rates of long-term health problems including heart, lung, and brain issues.[12]

3. Long COVID is common.

a. As of fall 2024, at least 1 in 19 US adults were living with Long COVID,[13] with many additional cases likely going undiagnosed or misdiagnosed.
b. In a 2024 population survey of a Brazilian nation-wide cohort of over 33 thousand people, 65% of those who had COVID had met WHO case definition for Long COVID.[14]
c. An estimated 6 million children in the US have Long COVID, exceeding the number of children with asthma.[15]

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[6] https://doi.org/10.3390/vaccines13090905
[7] https://doi.org/10.1001/jamanetworkopen.2024.17440
[8] https://doi.org/10.1016/j.lanwpc.2024.101218
[9] https://doi.org/10.1186/s44263-025-00222-1
[10] https://doi.org/10.1016/S1473-3099(25)00476-1
[11] https://doi.org/10.21203/rs.3.rs-4909082/v1
[12] https://doi.org/10.1038/s41591-022-02051-3
[13] https://www.cdc.gov/nchs/covid19/pulse/long-covid.htm
[14] https://doi.org/10.1093/ije/dyaf143
[15] https://doi.org/10.1001/jamapediatrics.2025.1415

4. **COVID causes high rates of serious conditions and lifelong illnesses.**
    a. SARS-CoV-2 infection induces high rates of permanent and debilitating conditions, including dysautonomia, myalgic encephalomyelitis,[16] and diabetes.[17] COVID is associated with a 49% increased rate of new-onset autoimmune diseases[18] and increased risk of autoimmune and autoinflammatory connective tissue disorders.[19]
    b. Neurological and cognitive conditions are common; among people not hospitalized for COVID, 12 months after infection there was still an increased risk of 30 neurological disorders, including Alzheimer's, ischemic stroke and transient ischemic attack, memory problems, peripheral neuropathy, migraine, epilepsy, and hearing and vision abnormalities.[20]
    c. Cardiovascular and clotting conditions are common; among people not hospitalized for COVID, 12 months after infection there was still an increased risk of 18 cardiovascular conditions, including myocarditis, pulmonary embolism, and heart failure.[21]
    d. Evidence is emerging on higher risk of some types of cancer after COVID.
        i. In a large international cohort, COVID was associated with an increased risk of thyroid cancer.[22]
        ii. In an Italian cohort of over 200 thousand people, incidence of new cancer diagnoses increased in comparison to pre-pandemic periods, with notable increase in new diagnosis of brain and skin cancers, even after controlling for screening rates.[23]
        iii. UK BioBank data show that cancer mortality is twofold higher among those who tested positive for SARS-CoV-2.[24]
        iv. Infection can promote awakening and expansion of dormant cancer cells.[25]
        v. People who had herpes zoster virus (shingle) reactivations from COVID found higher incidence of multiple myeloma, acute and chronic leukemia, lymphoma,[26] and colorectal cancer.[27]

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[16] https://doi.org/10.1016/j.jinf.2024.106297
[17] https://doi.org/10.1016/S2213-8587(22)00044-4
[18] https://doi.org/10.1007/s12016-025-09124-4
[19] https://doi.org/10.1001/jamadermatol.2024.4233
[20] https://doi.org/10.1038/s41591-022-02001-z
[21] https://doi.org/10.1038/s41591-022-02001-z
[22] https://doi.org/10.3390/biomedicines13081933
[23] https://doi.org/10.1186/s12916-025-04237-1
[24] https://doi.org/10.1038/s41586-025-09332-0
[25] https://doi.org/10.1038/s41586-025-09332-0
[26] https://doi.org/10.3389/fmed.2025.1651614
[27] https://doi.org/10.3390/cancers17142306

5. **The majority of people with Long COVID had mild acute COVID infection.**
    a. Mild COVID cases make up the majority of people with Long COVID, since far more people had mild infections. The risk of Long COVID is higher after severe COVID, yet mild acute infections still pose a meaningful risk of long-term disease. Studies show between 76%[28] to 90%[29] of Long COVID cases were from a mild infection.

6. **Recovery from Long COVID is rare.**
    a. Only 5-9% of people with Long COVID report recovery at 2-3 years.[30] [31] [32] [33]

7. **People are more susceptible to other infections after having COVID.**
    a. Those who had COVID had higher rates of bacterial, mycoplasma, and influenza infections.[34]
    b. Children aged 0-5 who had COVID were 1.4x more likely to get RSV (respiratory syncytial virus) that required medical attention.[35]
    c. Reinfections increased the odds of reporting poor perceived immune health, including having many other infections and taking longer to recover from common infections.[36]
    d. People not hospitalized with COVID compared to controls had increased rates of bacterial infections (blood, urine, and respiratory cultures) and viruses (Epstein-Barr, herpes simplex reactivation, and respiratory viruses). They were 17% more likely to have increased rates of outpatient bacterial, fungal, and viral infections, 46% more likely to have outpatient respiratory illnesses, and 41% more likely to be hospitalized for future infectious illnesses.[37]

8. **Long COVID has caused the highest rates of serious, persistent cognitive problems in the US population than any time in the last 15 years.[38]**
    a. Cognitive impairment from COVID includes problems with memory, reasoning, executive functioning, language, and processing speed.[39]
    b. Younger people have worse and more marked cognitive impairment.[40]

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[28] https://s3.amazonaws.com/media2.fairhealth.org/whitepaper/asset/Patients%20Diagnosed%20with%20Post-COVID%20Conditions%20-%20A%20FAIR%20Health%20White%20Paper.pdf
[29] https://doi.org/10.1001/jama.2022.18931 (eTable 16 in Supplement 1)
[30] https://doi.org/10.1016/j.lanepe.2023.100724
[31] https://doi.org/10.1016/j.lana.2025.101026
[32] https://doi.org/10.3390/jcm12030741
[33] https://doi.org/10.1093/ofid/ofaq040
[34] https://doi.org/10.1016/j.lanwpc.2024.101218
[35] https://doi.org/10.1101/2023.05.12.23289898
[36] https://doi.org/10.21203/rs.3.rs-4909082/v1
[37] https://doi.org/10.1016/S1473-3099(24)00831-4
[38] https://www.nytimes.com/2023/11/13/upshot/long-covid-disability.html
[39] https://doi.org/10.1093/arclin/acae042
[40] https://doi.org/10.1038/s41598-023-32939-0

c. Prevalence of self-reported cognitive disability in 18-39 year olds in the US has nearly doubled from 2013 to 2023, from 5.1% to 9.7%.[41]
d. Multiple cognitive impairments persist at 4 years post-infection.[42]
    i. Attention, working memory and memory retention did not show any improvement over time.
    ii. Where improvements were observed, they typically happened starting 24 months after infection. However, improvements generally plateaued by 32 months.
    iii. Processing speed and executive functioning scores remained well below average.

9. **People with Long COVID experience severe functional limitations, poor quality of life, and severe fatigue at least as detrimental as many serious illnesses, including Parkinson's disease and certain cancers.**
    a. Functional ability scores in those with Long COVID ranked lower than those with stroke and were on par with those with Parkinson's disease on a scale measuring ability to work, manage the household, engage in leisure, and maintain social relationships.[43]
    b. Quality of life scores in those with Long COVID ranked lower than those with advanced/metastatic cancers.[44]
    c. Fatigue scores in those with Long COVID were worse than those with kidney failure.[45]

10. **Long COVID substantially impacts patients' livelihoods and ability to work, with most being unable to work or needing reduced hours.**
    a. In a French cohort, at 2 years only 40% of people with Long COVID could work full-time.[46]
    b. In a UK cohort, 52% had reduced work hours and lost an average of 25% of their monthly income .[47]
    c. People with Long COVID in the US are nearly twice as likely to report housing insecurity, with higher housing insecurity among those with moderate or severe functional limitations.[48]

[41] https://doi.org/10.1212/WNL.0000000000214226
[42] https://doi.org/10.1016/j.bbih.2025.101093
[43] https://doi.org/10.1136/bmjopen-2022-069217
[44] https://doi.org/10.1136/bmjopen-2022-069217
[45] https://doi.org/10.1136/bmjopen-2022-069217
[46] https://doi.org/10.3390/jcm12030741
[47] https://doi.org/10.1007/s10198-023-01653-z
[48] https://doi.org/10.1016/j.ssmph.2023.101586

d. People with Long COVID in the US report high rates of food insecurity[49] [50] and difficulty paying utility bills.[51]
e. In an international cohort, 20% of people with Long COVID were unable to work at 7 months and at 1 year follow-up. 9% lost their jobs or retired at 1 year follow-up.[52]
f. To continue working, 1 in 4 people with Long COVID in the US limit chores, errands, hobbies, and social life and relationships.[53]

11. COVID increases risks of negative pregnancy and childbirth outcomes, and is associated with reproductive health and fertility issues.

a. COVID infections are associated with early miscarriages[54], stillbirths[55], preterm births and cesarean deliveries[56], and preeclampsia and maternal mortality.[57]
b. COVID is associated with many reproductive health and fertility disorders including menstrual changes, endometriosis, erectile dysfunction, decreased semen quality and motility, and others.[58] [59] [60] [61] [62] [63]
c. In an international cohort, 31% of people who menstruated had new onset reproductive health symptoms after COVID and 81% said that reinfections made them worse. Those with reinfections were more likely to experience heavy bleeding, bleeding with clots, abdominal pain, and worsening of baseline symptoms around their period.[64]

12. Long COVID disproportionately impacts people from already marginalized groups and low-and-middle income countries.

a. Rates of Long COVID are higher in Hispanic/Latine and Black people, trans people, disabled people, and women.[65] [66] [67]

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[49] https://doi.org/10.1016/j.jand.2024.07.171
[50] https://www.urban.org/research/publication/employment-and-material-hardship-among-adults-long-covid-december-2022
[51] https://www.urban.org/research/publication/employment-and-material-hardship-among-adults-long-covid-december-2022
[52] https://doi.org/10.1093/ofid/ofag040
[53] https://www.urban.org/sites/default/files/2023-07/Employment%20and%20Material%20Hardship%20among%20Adults%20with%20Long%20COVID%20in%20December%202022.pdf
[54] https://doi.org/10.1093/humrep/deac062
[55] http://dx.doi.org/10.15585/mmwr.mm7047e1
[56] https://doi.org/10.1186/s12884-024-06767-7
[57] https://doi.org/10.1001/jamapediatrics.2021.1050
[58] https://doi.org/10.3389/fresc.2023.1122673
[59] https://doi.org/10.1038/s41579-022-00846-2
[60] https://doi.org/10.1002/mco2.70240
[61] https://doi.org/10.1038/s41598-025-20637-y
[62] https://doi.org/10.1038/s41467-025-62965-7
[63] https://doi.org/10.3390/v16071142
[64] https://doi.org/10.21203/rs.3.rs-4909082/v1
[65] https://doi.org/10.1007/s11606-022-07997-1
[66] https://www.census.gov/library/stories/2023/05/long-covid-19-symptoms-reported.html
[67] https://www.cdc.gov/nchs/covid19/pulse/long-covid.htm

b. US children living in a context of economic instability (poverty and food insecurity) had a higher risk of Long COVID. Those living in poorer social contexts (high level of discrimination and low social support) had double the risk of Long COVID.[68]
c. Indigenous peoples had the highest Long COVID symptom burden in a 2024 population survey of a Brazilian nation-wide cohort.[69]
d. In an international cohort of COVID hospitalized and nonhospitalized people, Long COVID prevalence was higher in participants from lower middle-income (30%) compared with high-income countries (14%). Prevalence was highest among people of Arab/North African ethnicity.[70]

13. Long COVID has a major impact on children.

a. An estimated 6 million children have Long COVID as of early 2024.[71] [72]
b. 4-15% of children develop Long COVID.[73] [74]
c. Long COVID in children includes multiple forms of organ system complications and new-onset conditions.[75] [76]
d. Children who get COVID are more likely to develop allergic diseases (including asthma),[77] ADHD,[78] dyslipidemia,[79] acute and unspecified renal failure and diabetes type-1[80] and type-2,[81] and autoimmune disease.[82] [83]
e. Many biological abnormalities have been found in children,[84] including:
    i) microclots[85]
    ii) systemic long-term SARS-CoV-2 persistence[86]
    iii) altered cytokine profile involving coagulation and homeostasis of T-cells[87]
    iv) proinflammatory and pro-angiogenetic blood chemokine profile consistent with endothelial inflammation.

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[68] https://doi.org/10.1001/jamapediatrics.2025.5485
[69] https://doi.org/10.1093/ije/dyaf143
[70] https://doi.org/10.1136/bmjgh-2024-017126
[71] https://doi.org/10.1001/jama.2024.0356
[72] https://doi.org/10.1542/peds.2023-062570
[73] https://doi.org/10.1016/j.jiph.2023.03.005
[74] https://doi.org/10.1093/cid/ciaf046
[75] https://doi.org/10.1542/peds.2023-062570
[76] https://doi.org/10.1183/13993003.00092-2025
[77] https://doi.org/10.5415/apallergy.0000000000000245
[78] https://doi.org/10.1136/bmjment-2025-301662
[79] https://doi.org/10.1016/j.jpeds.2026.114996
[80] http://dx.doi.org/10.15585/mmwr.mm7131a3
[81] https://doi.org/10.1001/jamanetworkopen.2024.39444
[82] https://doi.org/10.1016/j.bjid.2021.101585
[83] https://doi.org/10.1111/1756-185X.14724
[84] https://doi.org/10.1007/s00431-026-06789-7
[85] https://doi.org/10.21203/rs.3.rs-7483367/v1
[86] https://doi.org/10.1016/S2666-5247(23)00115-5
[87] https://doi.org/10.1097/INF.0000000000004558

f. Many cardiac abnormalities have been found, some of which only detected by imaging or advanced testing,[88] including:
    i. pericardial effusion (collection of fluid around the heart) and coronary artery dilatation[89]
    ii. impaired cardiac function on MRI with lower volume of blood collected in and pumped by the heart[90]
    iii. abnormal cardiopulmonary exercise testing with lower functional capacity[91]
    iv. autonomic cardiac dysfunction[92]
g. Children with Long COVID were 3.1x more likely to have health-related chronic absenteeism (missing >18 days of school). 14% of children with Long COVID missed at least 18 days, with 11% missing at least 30 days.[93]

14. Long COVID has a destructive impact on the economy.

a. The global economic cost of Long COVID is estimated at $1 trillion per year.[94]
b. In 2024, 1.5 billion work hours were lost in the US due to Long COVID, corresponding to a potential cost of more than US $152.6 billion.[95]
c. Long COVID is responsible for massive Gross Domestic Product losses worldwide – including $24.4 billion in Saudi Arabia, $12.3 billion in Taiwan, and $11 billion in Brazil.[96]
d. Five years of Long COVID burden is projected to cost $3.7 trillion to the US economy in reduced quality of life, lost earnings, and increased medical spending.[97]
e. Long COVID disproportionately impacts certain labor sectors, particularly those with high exposure to COVID infections, like low-wage workers, farm workers, and those in education and the service industry.[98] [99] [100]
f. A quarter of US Marines who had COVID developed Long COVID, with long-term decrease in functional performance.[101] An October 2025 analysis from the U.S. Military Health System estimated up to 20% of service members develop Long COVID.[102]

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[88] https://doi.org/10.1542/peds.2023-062570
[89] https://doi.org/10.1007/s00246-022-02977-y
[90] https://doi.org/10.1055/a-2684-7721
[91] https://doi.org/10.1097/INF.0000000000004371
[92] https://doi.org/10.1007/s00431-024-05503-9
[93] https://pubmed.ncbi.nlm.nih.gov/41570188/
[94] https://doi.org/10.1038/s41591-024-03173-6
[95] https://impact.economist.com/perspectives/health/incomplete-picture-understanding-burden-long-covid
[96] https://impact.economist.com/perspectives/health/incomplete-picture-understanding-burden-long-covid
[97] https://cutler.scholars.harvard.edu/sites/g/files/omnuum5891/files/cutler/files/long_covid_update_7-22.pdf
[98] https://labor.ucla.edu/wp-content/uploads/2022/01/Fast-Food-Frontline-Report-1-13-22.pdf
[99] https://environmentalhealth.ucdavis.edu/research/covid-19/domestic-workers-survey
[100] https://doi.org/10.1093/eurpub/ckae034
[101] https://doi.org/10.1016/j.lana.2024.100909
[102] https://www.health.mil/News/Articles/2025/10/01/MSMR-Long-COVID-Forecasting

g. Lost productivity of caretakers in the UK was estimated at £4.8 billion.[103]

15. Medical provider education about Long COVID is inadequate.

a. Only 7% of physicians are very confident diagnosing Long COVID and only 4% are very confident treating it.[104]
b. A majority of Long COVID patients report having had a negative experience with a healthcare provider.[105]
c. In a national survey of primary care physicians in the US, less than 1 in 3 feel prepared to recognize or evaluate Long COVID.[106]
d. In a US sample of 299 rehabilitation professionals, 70.2% reported awareness of Long COVID, but only 13% were aware of relevant Clinical Practice Guidelines, and only 7% used them.[107]
e. Long COVID is underdiagnosed:
    i. In an international cohort of people with Long COVID, only 49% had an official Long COVID diagnosis. 28% said their doctors suspected Long COVID, but didn't give them a diagnosis.[108]
    ii. In a cohort of people who were hospitalized for COVID in Brazil, 39% self-reported Long COVID but only 8% had received a Long COVID diagnosis.[109]

16. Lack of public awareness is causing crucial delays in care and support.

a. Over ⅓ of people have still not heard of Long COVID despite its wide impact.[110]
b. Lack of awareness about Long COVID particularly affects racial and ethnic marginalized communities, which have higher Long COVID risk but low awareness about Long COVID.[111] [112] [113]

17. Research studies have described hundreds of Long COVID-associated biological abnormalities.

a. Over 197,000 research papers on Long COVID are listed on Google Scholar, finding a wide range of biological abnormalities in Long COVID.[114]

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[103] https://doi.org/10.1007/s10198-023-01653-z
[104] https://debeaumont.org/wp-content/uploads/2023/03/Long-COVID-Brief.pdf
[105] https://doi.org/10.1038/s44220-023-00064-6
[106] https://doi.org/10.1007/s11606-025-09387-9
[107] https://doi.org/10.1097/CPT.0000000000000267
[108] https://doi.org/10.1093/ofid/ofag040
[109] https://doi.org/10.1186/s12939-025-02635-8
[110] https://doi.org/10.3389/fpubh.2024.1360341
[111] https://doi.org/10.3389/fpubh.2024.1360341
[112] https://doi.org/10.1007/s40615-024-02109-7
[113] https://doi.org/10.1016/j.annemergmed.2024.07.009
[114] https://scholar.google.com/scholar?as_vis=1&q=%22long+covid%22&hl=en&as_sdt=0,33&as_ylo=2020

b. Up-to-date review papers include the scope of mechanisms and possible therapeutics,[115] [116] viral persistence[117] [118] and mechanisms to target persisting reservoirs,[119] designing and optimizing clinical trials,[120] and roadmaps for Long COVID research and policy.[121]
c. An incredible breadth of biological mechanisms have been found in Long COVID, including reduced cerebral blood flow[122] [123] and disrupted neurovascular function,[124] fibrin microclots and their downstream impacts,[125] [126] tissue damage and skeletal muscle necrosis after exercise[127], changes to the brainstem[128] and hippocampus,[129] viral persistence[130] and persisting antigen,[131] induced Long COVID in mice by transferring IgG from Long COVID patients,[132] [133] auto antibodies[134] and innumerable more.

18. The vast majority of the public and physicians believe Long COVID needs more research funding.

a. In the US, 82% of physicians and 76% of the public believe it is important to increase research funding for Long COVID.[135]

[115] https://doi.org/10.1016/j.cell.2024.07.054
[116] https://doi.org/10.1038/s41579-022-00846-2
[117] https://doi.org/10.1016/S1473-3099(24)00769-2
[118] https://doi.org/10.1038/s41590-023-01601-2
[119] https://doi.org/10.1016/S1473-3099(24)00769-2
[120] https://doi.org/10.1016/j.lfs.2024.122970
[121] https://doi.org/10.1038/s41591-024-03173-6
[122] https://doi.org/10.1016/j.jns.2026.125794
[123] https://doi.org/10.3390/healthcare10102105
[124] https://doi.org/10.1177/10738584231194927
[125] https://doi.org/10.1038/s41586-024-07873-4
[126] https://doi.org/10.1016/j.rpth.2024.102566
[127] https://doi.org/10.1038/s41467-023-44432-3
[128] https://doi.org/10.1093/brain/awae332
[129] https://doi.org/10.1371/journal.pone.0316625
[130] https://doi.org/10.1126/scitranslmed.adk3295
[131] https://doi.org/10.1016/j.cmi.2024.09.001
[132] https://doi.org/10.1101/2024.06.18.24309100
[133] https://doi.org/10.1101/2024.05.30.596590
[134] https://doi.org/10.1016/S1473-3099(25)00411-6
[135] https://debeaumont.org/wp-content/uploads/2023/03/Long-COVID-Brief.pdf