

# Reviews on Long COVID

A scope of the literature: Final update

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April 2025

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# **Reviews on Long COVID: A scope of the literature.**

## **Final update April 2025**

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April 2025

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## Summary

- In this update, we identified 49 published reviews and 51 protocols for reviews on Long COVID.
- The number of reviews (n=49) is the largest since January 2023 (n=50).
- Across updates (with the same search strategy), the number of reviews has ranged from 29 in October 2022 to 50 in January 2023.
- The largest categories of reviews were the prevalence of symptoms or effects only (15/48); treatment or rehabilitation only (12/48); and risk factors only with or without prevalence (11/48).
- The number of protocols (n=51) identified is the largest since April 2024 (n=63).
- The largest categories of protocols were the prevalence of symptoms or effects only (18/51), and treatment or rehabilitation only (13/51).

## Introduction

This is the thirteenth and last update (fourteenth report) in a series of quarterly evidence scans, for published and ongoing systematic reviews related to Long COVID, requested by the Department of Health and Social Care. These evidence scans cover the period from November 2021 to April 2025. The previous update covered the period from October 2024 to January 2025.<sup>1</sup>

For the current update, we identified systematic reviews and review protocols focused on Long COVID that were published, or added to the databases, between early January and early April 2025. Long COVID was conceptualised broadly as any symptoms or effects that persist or develop after acute COVID-19 infection.

## Methods

### Identification of reviews

The Cochrane Database of Systematic Reviews (CDSR; via Wiley) and Epistemonikos were searched to identify reviews about Long COVID. In addition, MEDLINE (via Ovid) and CINAHL (via EBSCO) were searched with retrieval limited to systematic reviews.<sup>2,3</sup> The searches took place on 7<sup>th</sup> April, 2025 and were limited by date to capture those records that were added to the databases since the last searches in January 2025. No language restrictions were applied. A further search of PROSPERO was undertaken, by the review team, and limited to the 7<sup>th</sup> April, 2025, to identify any new ongoing reviews. The strategy that was used last quarter had to be revised for the new PROSPERO interface. Due to the rapid nature of the project, the database searches were designed to balance the need to retrieve as many relevant systematic reviews as possible against the limited time available for screening. The search strategies can be found in Appendix 1 (page 27).<sup>4</sup>

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<sup>1</sup> Khouja C, Raine G, Harden M, Sutcliffe K, Sowden A (2024) Reviews on Long COVID: A scope of the literature. Update January 2025. London: EPPI Centre, UCL Social Research Institute, UCL Institute of Education, University College London.

<sup>2</sup> Navarro-Ruan T, Haynes RB. Preliminary comparison of the performance of the National Library of Medicine's systematic review publication type and the sensitive clinical queries filter for systematic reviews in PubMed. *J Med Libr Assoc.* 2022;110:43-46.

<sup>3</sup> Booth A. Chapter 3: Searching for Studies. In: Noyes J, Booth A, Hannes K, Harden A, Harris J, Lewin S, Lockwood C (editors), *Supplementary Guidance for Inclusion of Qualitative Research in Cochrane Systematic Reviews of Interventions*. Version 1 (updated August 2011). Cochrane Collaboration Qualitative Methods Group, 2011.

<sup>4</sup> Due to resource limitations and speed of the review, we have not searched the [Long COVID living map](#) which may include further relevant systematic reviews.

## Study selection

To be included, reviews needed to have a primary focus on Long COVID (however conceptualised and defined) and be systematic in nature. A review was considered systematic if it reported some search terms and inclusion criteria, as well as the number of references found and studies included, and identified or referenced the included studies. Reviews could focus on adults and/or children and include primary studies of any design or other reviews (i.e., reviews of reviews). We did not apply criteria relating to the length of time after infection owing to variation in how Long COVID has been defined in the literature. Reviews were only included if the full text was readily available, and we excluded pre-prints. Titles and abstracts were screened by one reviewer; two reviewers screened the full text of each retrieved paper. As the aim was to identify recent research, anything published online prior to 2024 was excluded.

## Key findings

From the database searches, 1,083 records were identified in total, and after duplicates were removed, 468 records were screened in EPPI-reviewer.<sup>5</sup> From PROSPERO, we identified 151 records, one of which was a duplicate. We included **49 published reviews, three protocols for completed reviews, and 48 protocols for ongoing reviews**. The flowchart of studies is shown in Appendix 2, page 34. One excluded living review was an update to a review that was included in our October 2023 report.<sup>6</sup> Table 1 provides a summary of reviews identified for this update by focus. The full reference and aim or research questions for each included review are provided on pages 11 to 18, and for the protocols on pages 18 to 26. Table 2 (Appendix 3, page 35) provides a summary of the reviews identified across all [14 reports](#) we have produced to date, by focus. Figure 1 summarises the numbers of reviews and protocols across reports.

Table 1: Summary of reviews (January to April 2025)

| Review status                                         | Systematic review | Review of reviews | Evidence map |
|-------------------------------------------------------|-------------------|-------------------|--------------|
| <b>Primary focus</b>                                  |                   |                   |              |
| <b>Published reviews (n=49)</b>                       |                   |                   |              |
| Treatment or rehabilitation                           | 10                |                   | 2            |
| Treatment and Pathobiology                            | 1                 |                   |              |
| Prevention                                            | 1                 |                   |              |
| Prevalence of symptoms or effects                     | 15                |                   |              |
| Prevalence and Treatment <sup>2</sup>                 | 1                 |                   |              |
| Prevalence and Pathobiology                           | 2                 |                   |              |
| Prevalence, Treatment <sup>2</sup> , and Pathobiology | 1                 |                   |              |
| Risk factors +/- prevalence                           | 10                |                   | 1            |
| Pathobiology or mechanisms                            | 1                 |                   |              |
| Risk factors <sup>1</sup> and Pathobiology            | 1                 |                   |              |
| Diagnosis or monitoring tools                         | 3                 |                   |              |
| <b>Completed not published reviews (n=3)</b>          |                   |                   |              |
| Treatment or rehabilitation                           | 1                 |                   |              |
| Prevalence of symptoms or effects                     | 1                 |                   |              |
| Risk factors +/- prevalence                           | 1                 |                   |              |

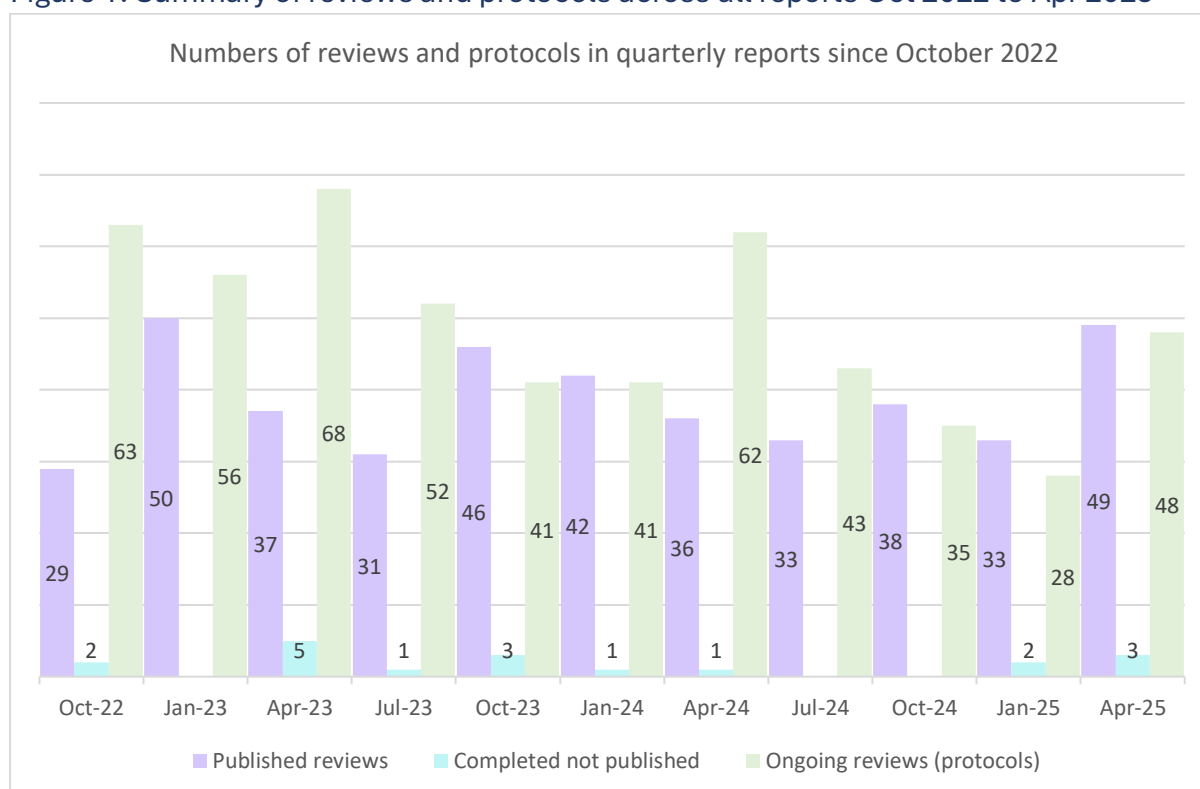
<sup>5</sup> Thomas, J., Graziosi, S., Brunton, J., Ghouze, Z., O'Driscoll, P., Bond, M. & Koryakina, A. (2023) EPPI-Reviewer: advanced software for systematic reviews, maps and evidence synthesis. EPPI Centre, UCL Social Research Institute, University College London.

<sup>6</sup> Sterian M, Naganathan T, Corrin T, Waddell L. Evidence on the associations and safety of COVID-19 vaccination and post COVID-19 condition: an updated living systematic review. *Epidemiology and Infection*. 2025;153:e62. doi:10.1017/S0950268825000378 Linked to: Jennings S, Corrin T, Waddell L. A systematic review of the evidence on the associations and safety of COVID-19 vaccination and post COVID-19 condition. *Epidemiology and Infection*. 2023;151:e145. doi:10.1017/S0950268823001279

| Protocols - ongoing reviews (n=48)      |    |   |  |
|-----------------------------------------|----|---|--|
| Treatment or rehabilitation             | 11 | 1 |  |
| Treatment <sup>2</sup> and Prevention   | 1  |   |  |
| Prevention                              | 1  |   |  |
| Prevalence of symptoms or effects       | 17 |   |  |
| Prevalence and Pathobiology             | 1  |   |  |
| Risk factors +/- prevalence             | 7  |   |  |
| Pathobiology or mechanisms              | 7  |   |  |
| Pathobiology and Treatment <sup>2</sup> | 1  |   |  |
| Health and social or economics          | 1  |   |  |

<sup>1</sup>with or without prevalence; <sup>2</sup>or rehabilitation

Figure 1: Summary of reviews and protocols across all reports Oct 2022 to Apr 2025



### Published reviews

For this update, we identified 49 published reviews, which was more than in each of our previous updates since October 2022, except Jan 2023 (n=50). All these updates used the same databases and had the same search strategy. Most of the 49 reviews focused only on the prevalence of symptoms or effects (n=15); treatment or rehabilitation (n=12); or risk factors with or without prevalence (n=11). Three reviews focused on diagnosis or monitoring tools; and two were on pathobiology or mechanisms and prevalence. Two reviews were on prevention (n=1); or solely pathobiology or mechanisms (n=1). The remaining four reviews were on treatment and pathobiology (n=1), prevalence, treatment and pathobiology (n=1), risk factors and treatment (n=1), or risk factors and pathobiology (n=1).

### *Treatment or rehabilitation (n=12)*

Twelve reviews focused only on treatment or rehabilitation. This is a similar number to those in our previous three reports (January 2025, n=12; October 2024, n=11; July 2024, n=13), but more

than in our April 2024 (n=5) report. Two of these 12 reviews were evidence maps. One described all identified rehabilitation interventions for Long COVID and the outcome measures used to evaluate them (#1 Saunders, et al., 2025); and the other mapped studies on occupational therapists as an intervention to help people with Long COVID return to work (#2 Sy, et al., 2025).

Three of the other 10 reviews focused on treatments, rather than rehabilitation, for Long COVID patients. These were on Balneotherapy, a form of hydrotherapy using warm water with minerals (#4 Ferrara, et al., 2025), psychotherapy (#10 Schurr, et al., 2025), and Chinese herbal medicine (#11 Tsang, et al., 2025, et al., 2025).

Six reviews were on rehabilitation for Long COVID. Two were on exercise interventions: one was on any exercise intervention (#7 McDowell, et al., 2025), and the other focussed on drop-out rates (#8 Monte, et al., 2025). Two reviews were on physiotherapy for working-age adults (#6 Mass, et al., 2024) or physical rehabilitation for both COVID and Long COVID (#9 Neto, et al., 2025). The remaining two reviews were on pulmonary rehabilitation (#5 Li, et al., 2025), or telerehabilitation (#3 Estela-Zape, et al., 2025).

One review covered both treatment and rehabilitation interventions for Long COVID, focusing on cognitive outcomes, such as brain fog (#12 Whitaker-Hardin, et al., 2025).

#### *Treatment or rehabilitation and Pathobiology (n=1)*

One review focused on understanding the mechanisms and treatments for new-onset refractory status epilepticus (new seizures without a clear cause and with no response to two or more treatments) after COVID-19 (#13 Stavropoulos and Filippou, 2024).

#### *Prevention (n=1)*

One review focused on prevention; specifically, the associations between vaccination and Long COVID (#14 Rudolph, et al., 2025).

#### *Prevalence of symptoms or effects (n=15)*

Fifteen reviews had a primary focus on the prevalence of symptoms or effects. This is a similar number to our October 2024 report (n=14); more than in our January 2025 (n=10) and July 2024 (n=7) reports; and fewer than the April 2024 report (n=21).

One review was on any symptoms, in any population, globally (#25 Taher, et al., 2025).

Six reviews were on any symptoms in a specific population. These were on the prevalence of Long COVID in Africa (#15 Ahsah, et al., 2025), in Latin America (#16 Bachelet, et al., 2025), in elderly patients (#17 Brich, et al., 2024i), in any workplace (#22 Mohd, et al., 2025), in children or adolescents in low- or middle-income countries (LMIC; #23 Putri, et al., 2025), or in adults after discharge from the intensive care unit (ICU; #21 Mazzochi, et al., 2025).

Seven reviews were on specific symptoms in any population. Two of these were on cardiovascular symptoms (#19 Huang, et al., 2025; and #29 Zhang, et al., 2025). The other five were on musculoskeletal symptoms (#18 de Souza Vilar, 2025); dysautonomia symptoms, such as postural orthostatic tachycardia syndrome (#24 Quezada-Pineda and Mendoza-Nunez, 2024); cognitive symptoms (#26 Tudorache, et al., 2025); quality of life, comparing Long COVID with myalgic encephalitis (ME) and chronic fatigue syndrome (CFS; #27 Weigel, et al., 2025); or new-onset dementia following COVID-19 infection (#28 Zhang, et al., 2025).

The fifteenth review was on a specific symptom in a specific population: aerobic fitness in athletes (#20 Lopes, et al., 2025).



#### *Prevalence of symptoms or effects and Treatment or rehabilitation (n=1)*

One review focused on the prevalence of post-exertional malaise, and changes after rehabilitation interventions, in people with post-COVID condition (#30 Pouliopoulou, et al., 2025).

#### *Prevalence of symptoms or effects and Pathobiology or mechanisms (n=2)*

Two reviews were on both prevalence and pathobiology. One focused on cognitive symptoms, specifically executive function deficits, and brain alterations in patients with Long COVID (#31 Nasir, et al., 2025). The other focused on fertility, specifically ovarian function and the molecular pathways that link COVID-19 to premature ovarian insufficiency (#32 Voros, et al., 2025).

#### *Prevalence of symptoms or effects, Treatment or rehabilitation, and Pathobiology or mechanisms (n=1)*

One review covered the prevalence, treatment and pathobiology of small fibre neuropathy after COVID-19 (#33 Bandinelli, et al., 2025).

#### *Risk factors with or without prevalence of symptoms or effects (n=11)*

Eleven reviews focused on risk factors for Long COVID and its prevalence, or just risk factors. This is more than in any of our previous reports. For example, the numbers in our last four reports were: January 2025, n=3; October 2024, n=8; July 2024, n=4; and April 2024, n=5.

One review was a map of evidence on Long COVID and demographic risk factors (#34 Prediger, et al., 2025).

Two reviews concentrated on prevalence and risk factors for Long COVID in specific locations, which were sub-Saharan Africa (#35 Alie, et al., 2025), or China (#39 Hu, et al., 2025).

Three reviews were on any Long COVID symptoms in people with specific conditions. Two investigated the condition as a risk factor for Long COVID: one on adults with asthma or chronic obstructive pulmonary disorder (COPD; #43 Terry, et al., 2025); and the other on adults with HIV (#42 Pouliopoulou, et al., 2025). The other review was on any risk factors for Long COVID in people with cancer (#44 Xu, et al., 2024).

One review was on any risk factors, including underlying conditions, for Long COVID symptoms six months or more after infection (#38 Hill, et al., 2024).

Four reviews were on risk factors for, and the prevalence of, specific Long COVID symptoms, including cardiac conditions (#40 Maria, et al., 2025); dyspnoea (#41 Morgan, et al., 2025); depression, anxiety, stress and suicide (#36 Bidhendi-Yarandi, et al., 2025); and an individual patient data (IPD) meta-analysis of cognition, with cognitive reserve as a risk factor (#37 Foreman, et al., 2025).

#### *Pathobiology or mechanisms (n=1)*

One review was on pathobiology or the mechanisms of Long COVID. This is two or one fewer than in each of the previous four reports (January 2025, n=2; October 2024, n=3; July 2024, n=3; and April 2024, n=2). This review explored the pathophysiological mechanisms underlying Long COVID to identify potential treatments (#45 Baalbaki, et al., 2025).

#### *Risk factors with or without prevalence and Pathobiology or mechanisms (n=1)*

One review covered both risk factors and pathobiology, specifically focusing on antibodies as markers of protection or risk (#46 Mink, et al., 2025).



### *Diagnosis or monitoring tools (n=3)*

Three reviews were on tools for assessing Long COVID symptoms. These tools were the measures used to assess the outcomes of physical therapy (#49 Sauers, et al., 2024); wearable physiological sensors in managing Long COVID symptoms (#48 Kukreti, et al., 2025); and patient-reported outcome measures and their properties (#47 Baalman, et al., 2024).

### *Protocols for completed reviews not yet published (n=3)*

Three PROSPERO protocols had the status of completed but not published. The first one was on the treatment of Long COVID using low-dose oral naltrexone (#50 Du and Nguyen, 2025). The second one was on the prevalence of cardiovascular symptoms (arterial stiffness and vascular endothelial function) over the first 18 months after COVID infection (#51 Loboda, et al., 2025). The third one was on the risk factors and prevalence of cognitive impairments or brain fog in Long COVID patients (#52 Miah and Cadar, 2025).

### *Protocols - ongoing reviews (n=48)*

We identified 48 protocols for ongoing reviews, which is fewer than last year's April report (April 2024, n=62), but more than in each of the intervening three reports (January 2025, n=28; October 2024, n=35; July 2024, n=43). For this report, we had to adapt the search strategy, because the search function in PROSPERO has been updated. The search was as similar as possible to previous reports, but it may have identified more or fewer relevant protocols.

As in most of the previous reports, the largest category of protocols in this update focused on the prevalence of symptoms or effects (n=17). Twelve protocols were only on treatment or rehabilitation; seven were on risk factors with or without prevalence; and seven were on pathobiology or mechanisms. The remaining five protocols were on prevention alone (n=1), treatment and prevention (n=1), prevalence and pathobiology (n=1), pathobiology and treatment (n=1), or societal effects or economics (n=1).

### *Treatment or rehabilitation (n=12)*

Twelve protocols were only on treatment or rehabilitation. This is more than in the last three reports (January 2025, n=5; October 2024, n=10; and July 2024, n=11), but fewer than the report from April last year (April 2024, n=20).

One protocol was for a review of reviews (umbrella review) on exercise interventions for adults aged 60 years or older with Long COVID (#53 Wang, et al., 2025).

Five of the remaining 11 protocols were on treatments. These were on the effects of systemic medications on oral health (#59 Garcia and Regis, 2024); nutrition interventions (#61 Lei and Yang, 2024); traditional Chinese medicines (#64 Wang, et al., 2025); taurine supplements (#63 Wang, et al., 2025); and acupuncture for insomnia (#62 Li, et al., 2025), in Long COVID patients.

Three protocols were on exercise interventions: any exercise intervention (#55 Bernardi and Schratz, 2025); comparing modes of exercise (#58 Ferrari, et al., 2025); and resistance training (#57 Dutra and Olinto, 2024). One protocol was on any in-person rehabilitation versus telemonitored or virtual rehabilitation (#54 Alves and Souza, 2025).

Two protocols were on any intervention (treatment or rehabilitation) for neurological symptoms (#56 D'Arc Lyra Batista, et al., 2024) or on any digital intervention for health and wellbeing (#60 Hotopf, et al., 2025).

### *Treatment or rehabilitation and Prevention (n=1)*

One protocol was on both prevention and treatment, specifically on medicinal plants for both COVID-19 and Long COVID (#65 Senthil and Toshniwal, 2025), with a section on each condition.

### *Prevention (n=1)*

One protocol was only on prevention. This was a similar number to previous reports, with one in January 2025, none in October 2024, four in July 2024, and three in April 2024. The protocol in this update was on vaccination in the prevention of cognitive deficits in Long COVID patients (#66 Silva, et al., 2024). Across all updates, most prevention protocols (20/33) focused at least in part on vaccination to prevent Long COVID.

### *Prevalence of symptoms or effects (n=17)*

Seventeen protocols were for reviews only of the prevalence of symptoms or effects. This was more than in the last three reports (January 2025, n=10; October 2024, n=13; and July 2024, n=16) but fewer than in the same period last year (April 2024, n=24).

Four protocols were on complications in pregnancy or children. One was on fatigue after COVID in pregnancy (#72 Georgakopoulou and Diamanti, 2024); and another was on the effects of maternal infection on childhood development (#81 Primdal, et al., 2024). The other two were on multi-system inflammatory syndrome in children after COVID-19 (MISC). One compared MISC with Kawasaki disease (#77 Kinak de Almeida and Dalla Rosa, 2025); and the other was on posterior reversible encephalopathy syndrome in children with MISC (#82 Sterline Octavius, et al., 2025).

Two protocols were on symptoms associated with insulin. One was on insulin resistance (#68 Almulla and Maes, 2024); and the other was on new diabetes diagnoses after COVID-19 (#69 Dufrenne, et al., 2025). One protocol was on physiological responses and whether these differed when measured by two different tests: the head-up tilt test and the active standing test (#80 Olarinde, et al., 2024).

The remaining ten protocols were on immunological and autoimmune complications (#67 Almadani, et al., 2024); otological complications (#74 Graves, et al., 2024); laryngeal complications (#75 Graves, et al., 2024); subacute thyroiditis (#73 Ghafourian, et al., 2024); cardiovascular complications (#71 Ferreira Porto, et al., 2024); macular and retinal vascular conditions (#78 Krishnan, et al., 2024); respiratory symptoms (#79 Modena and Baltieri, 2025); anxiety, depression, post-traumatic stress disorder, and sleep difficulties (#76 He, et al., 2025); liver injury (#70 Ferreira, et al., 2025); or cognitive dysfunction (#83 Zhong and Ngai, 2024).

### *Prevalence of symptoms or effects and Pathobiology or mechanisms (n=1)*

One protocol was on electroencephalography (EEG) findings in patients with Long COVID and the symptoms that were assessed (#84 Samudio Cruz, et al., 2025).

### *Risk factors with or without prevalence of symptoms or effects (n=7)*

Seven protocols were for reviews of risk factors, with or without the prevalence of symptoms, for Long COVID. This is more than in the last report (January 2025, n=2), but a similar number to those in the previous three reports (October 2024, n=6; July 2024, n=6; and April 2024, n=8).

Four protocols were for reviews on any Long COVID symptoms and risk factors: in any location and at any time (#90 Otake, et al., 2024); over six months (#87 Mishra, et al., 2025) or over 12 months (#88 Mishra, et al., 2025) after infection; or in India (#86 Jain, et al., 2025).

The other three protocols were specifically on the risk factors and prevalence of mental health conditions in Nigeria (#91 Pelagie Okorie, et al., 2025), cardiovascular symptoms in low-, middle- or high-income countries (#85 Hilles, et al., 2024), or cognitive symptoms in adults (#89 Niemeier, et al., 2024) after COVID-19 infection.

#### *Pathobiology or mechanisms (n=7)*

Seven protocols for ongoing reviews were on the pathobiology or mechanisms of Long COVID. This is more than in any of the previous reports: ranging from none in October 2023, October 2022 and our first two reports, to five in October 2024.

Two protocols were on biomarkers (#98 Vasconcelos, et al., 2024), or immunological biomarkers (#95 Kachaner, et al., 2025) for Long COVID. Two were on the neuroinflammatory mechanisms underlying cognitive symptoms (#94 de Brito Toscano, et al., 2024), or the functional and anatomical changes in the brain (#96 Mohammed, et al., 2024) in Long COVID patients.

The remaining three protocols were on the mechanisms and biomarkers of cardiac stem cell compartment damage (#97 Unar and Qureshi, 2025), the metabolic changes in diabetes in Long COVID (#92 Bukola Titilope, et al., 2024), or the pathophysiology of MISC in children (#93 Cavenague dos Reis, et al., 2024).

#### *Pathobiology or mechanisms and Treatment or rehabilitation (n=1)*

One protocol was on psychotherapy for Long COVID and other post-acute infection syndromes, and the mechanisms underlying the effectiveness of these interventions. This review will have a subsection on Long COVID (#99 Kalinowski, et al., 2024).

#### *Health and social or economics (n=1)*

One protocol was on societal effects and economics, assessing the factors influencing work ability and return to work in people with Long COVID (#100 Ottiger, et al., 2025).

## Published reviews (n=49)

### Treatment or rehabilitation (n=12)

#### Evidence maps

1. Saunders EG, Pouliopoulou DV, Miller E, et al. Rehabilitation interventions and outcomes for post-COVID condition: a scoping review. *BMJ Public Health* 2025;3:e001827. doi: <https://dx.doi.org/10.1136/bmjph-2024-001827>

Review aim: *To identify the available rehabilitation interventions for post-COVID condition and the outcome measures used to evaluate them, to facilitate the development of multifaceted interventions and improve patient care.*

2. Sy MP, Frey S, Baldissera A, et al. The role of occupational therapists in return-to-work practice for people with post-COVID condition: a scoping review. *Work* 2025;80:498-513. doi: <https://dx.doi.org/10.1177/10519815241289658>

Review aim: *To map the extant literature on the role of occupational therapists for people with post-COVID condition returning to work.*

#### Standard systematic reviews

3. Estela-Zape JL, Sanclemente-Cardoza V, Ordonez-Mora LT. Efficacy of telerehabilitation protocols for improving functionality in post-COVID-19 patients. *Life* 2025;15:01. doi: <https://dx.doi.org/10.3390/life15010044>

Review aim: *To describe telerehabilitation protocols specifically designed for individuals with post-COVID-19 sequelae.*

4. Ferrara E, Scaramuzzino M, Murmura G, et al. Emerging evidence on balneotherapy and thermal interventions in post-COVID-19 syndrome: a systematic review. *Healthcare* 2025;13:07. doi: <https://dx.doi.org/10.3390/healthcare13020096>

Review aim: *To systematically evaluate the efficacy and safety of balneotherapy and thermal treatment interventions in treating post-COVID-19 syndrome.*

5. Li S, Dai B, Hou Y, et al. Effect of pulmonary rehabilitation for patients with Long COVID-19: a systematic review and meta-analysis of randomized controlled trials. *Therapeutic Advances in Respiratory Disease* 2025;19:17534666251323482. doi: <https://dx.doi.org/10.1177/17534666251323482>

Review aim: *To evaluate the impact of pulmonary rehabilitation (PR) on patients with Long COVID-19 and to compare the efficacy of different types and durations of PR interventions.*

6. Mass K, Zoe, Crowe M, et al. The impact of physiotherapy on symptoms and quality of life in working aged adults with Long COVID: a systematic review. *Physical Therapy Reviews* 2024;29:252-65. doi: <https://dx.doi.org/10.1080/10833196.2024.2421126>

Review aim: *To assess the impact of physiotherapy, either group or individualised, on symptoms and quality of life (QoL) in working aged adults with Long COVID symptoms following mild COVID-19.*

7. McDowell CP, Tyner B, Shrestha S, et al. Effectiveness and tolerance of exercise interventions for Long COVID: a systematic review of randomised controlled trials. *BMJ Open* 2025;15:e082441. doi: <https://dx.doi.org/10.1136/bmjopen-2023-082441>

Review aim: *To examine the effectiveness of exercise interventions to improve Long COVID symptoms and the tolerance of exercise interventions among people with Long COVID.*

8. Monte AL, do Nascimento Faustino da Silva JKT, de Oliveira MD, et al. Dropouts in exercise rehabilitation program in patients with Long COVID: a systematic review. *American Journal of Physical Medicine & Rehabilitation* 2025;25:25. doi: <https://dx.doi.org/10.1097/PHM.0000000000002719>

Review aim: *To describe dropout rates, reasons, and factors associated with dropout during rehabilitation programmes for patients with Long COVID.*

9. Neto MG, Suzart Coutinho de Araujo W, Pinto A, et al. Effects of physical rehabilitation interventions on exercise performance, dyspnea, and health-related quality of life in acute and post-acute COVID-19 patients: systematic review and meta-analysis. *Chronic Illness* 2025;17423953241306275. doi: <https://dx.doi.org/10.1177/17423953241306275>

Review aim: *To analyse the published randomised controlled trials (RCTs) that investigated the effects of physical rehabilitation interventions provided directly (face to face) and by telerehabilitation on exercise performance, dyspnoea, and health-related quality of life (HRQoL) in acute and post-acute COVID-19 patients.*

NB a section of the review is on Long COVID

10. Schurr M, Graf J, Junne F, et al. Psychotherapy in patients with Long/post-COVID - a systematic review on the feasibility, acceptability, safety, and efficacy of available and emerging interventions. *Journal of Psychosomatic Research* 2025;190:112048. doi: <https://dx.doi.org/10.1016/j.jpsychores.2025.112048>

Review aim: *To synthesise psychotherapeutic interventions that currently target Long/post-COVID complaints and summarise data on the feasibility, acceptability, safety, and efficacy of psychotherapy for patients with Long/post-COVID.*

11. Tsang MS, Zhou IW, Zhang AL, et al. Chinese herbal medicine for dyspnea and persistent symptoms of Long COVID: a systematic review and meta-analysis of randomized controlled trials. *The Journal of Integrative Medicine* 2025;04:04. doi: <https://dx.doi.org/10.1016/j.joim.2025.01.001>

Review aim: *To examine the effects and safety of Chinese herbal medicine (CHM) in alleviating the severity of dyspnoea, fatigue, exercise intolerance, depression, anxiety and insomnia in Long COVID adults based on registered randomized clinical trials (RCTs).*

12. Whitaker-Hardin B, McGregor KM, Uswatte G, et al. A narrative review of the efficacy of Long COVID interventions on brain fog, processing speed, and other related cognitive outcomes. *Biomedicines* 2025;13:10. doi: <https://dx.doi.org/10.3390/biomedicines13020421>

Review aim: *To provide a comprehensive overview of currently published Long COVID interventions to inform a cohesive strategy for future treatment interventions.*

## Treatment or rehabilitation and Pathobiology (n=1)

### *Standard systematic reviews*

13. Stavropoulos A, Filippou D. New-onset refractory status epilepticus after SARS-CoV-2 infection: a review of literature. *Croatian Medical Journal* 2024;65:510-17.

Review aim: *To enhance physicians' understanding of COVID-19's pathogenesis and increase the awareness of new-onset refractory status epilepticus (NORSE).*

## Prevention (n=1)

### Standard systematic reviews

14. Rudolph AE, Al Akoury N, Bogdanenko N, et al. Factors affecting the impact of COVID-19 vaccination on post COVID-19 conditions among adults: a systematic literature review. *Human vaccines & Immunotherapeutics* 2025;21:2474772. doi: <https://dx.doi.org/10.1080/21645515.2025.2474772>

Review aim: *To summarise the evidence from studies on predominately adults that report adjusted measures of association for the relationship between COVID-19 vaccination and post-COVID condition (PCC), by timing of vaccination relative to infection or PCC-onset and across different study design features.*

## Prevalence of symptoms or effects (n=15)

### Standard systematic reviews

15. Ansah EW, Salu PK, Daanko MS, et al. Post-COVID-19 conditions and health effects in Africa: a scoping review. *BMJ Open* 2025;15:e088983. doi: <https://dx.doi.org/10.1136/bmjopen-2024-088983>

Review aim: *To provide critical insights into the prevalence of post-COVID-19 conditions, health effects on patients and the implications for the health system in Africa.*

16. Bachelet VC, Carroza B, Morgado B, et al. A systematic analysis of the literature on the post-COVID-19 condition in Latin America focusing on epidemiology, clinical characteristics, and risk of bias. *Medwave* 2025;25:e3014. doi: <https://dx.doi.org/10.5867/medwave.2025.01.3014>

Review aim: *To identify and analyse all articles published on the post-COVID-19 condition in Latin America and the Caribbean, focusing on epidemiology, clinical characteristics, and risk of bias.*

17. Brichi P, Giovanna, Rocha C, et al. O envelhecimento como fator agravante da COVID Longa: uma revisão integrativa. *Journal of Nursing UFPE / Revista de Enfermagem UFPE* 2024;18:250-71. doi: <https://dx.doi.org/10.5205/1981-8963.2024.257702>

Review aim: *To identify, in the scientific literature, the main symptoms of Long COVID-19 in elderly individuals affected by the SARS-CoV-2 virus.*

18. de Souza Vilar Rafael Q. Persistent musculoskeletal symptoms in acute post-COVID-19 syndrome: an integrative review. *Brazilian Journal of Occupational Therapy / Cadernos Brasileiros de Terapia Ocupacional* 2024;32:1-15. doi: 10.1590/2526-8910.ctoAR392938042

Review aim: *To identify musculoskeletal symptoms in the literature as sequelae after SARS-CoV-2 infection, as well as to investigate the relationship between these variables.*

19. Huang LW, Li HM, He B, et al. Prevalence of cardiovascular symptoms in post-acute COVID-19 syndrome: a meta-analysis. *BMC Medicine* 2025;23:70. doi: <https://dx.doi.org/10.1186/s12916-025-03908-3>

Review aim: *To provide a comprehensive evaluation of the long-term cardiovascular effects of COVID-19.*



20. Lopes LR, Medeiros R, Tavares V, et al. A systematic review and meta-analysis on aerobic fitness dynamics in post-COVID-19 athletes: implications in the return-to-play performance. *Sports* 2025;13:05. doi: <https://dx.doi.org/10.3390/sports13020040>

Review aim: *To describe the dynamics of VO<sub>2</sub>max in post-COVID-19 athletes, depending on the symptoms of the disease; to assess athletic performance after 12 weeks of infection; and to discuss the pathways through which COVID-19 may influence VO<sub>2</sub>max dynamics in these athletes.*

21. Mazzochi KA, De Silva S, Chan NLM, et al. Long-term outcomes of patients with COVID-19 who are critically ill: a systematic review. *CHEST Critical Care* 2025;3 doi: <https://dx.doi.org/10.1016/j.chstcc.2024.100108>

Review aim: *To determine the long-term outcomes of adult patients admitted to the ICU for COVID-19.*

22. Mohd Y, Yew SQ, Mohammed N, et al. Prevalence and symptoms of Long COVID-19 in the workplace. *Occupational Medicine* 2025;11:11. doi: <https://dx.doi.org/10.1093/occmed/kqae128>

Review aim: *To identify the prevalence of Long COVID-19 in the workplace and to determine the various symptoms of Long COVID-19 experienced by the workers.*

23. Putri ND, Laksanawati IS, Husada D, et al. A systematic review of post COVID-19 condition in children and adolescents: gap in evidence from low- and middle-income countries and the impact of SARS-COV-2 variants. *PLoS ONE* 2025;20:e0315815. doi: <https://dx.doi.org/10.1371/journal.pone.0315815>

Review aim: *To conduct a systematic review of post-COVID-19 condition symptoms reported in children and adolescents (<18 years), identifying and including publications from low- or middle-income countries (LMICs).*

24. Quezada-Pineda L, Manuel Mendoza-Núñez V. Incidencia del síndrome de disautonomía secundario a COVID-19 largo: una revisión sistemática. *Casos & Revisiones de Salud* 2024;6:17-44. doi: <https://dx.doi.org/10.22201/fesz.26831422e.2024.6.2.3>

Review aim: *To present a synthesis of knowledge about the incidence of dysautonomia and the main signs and symptoms of the Long COVID-19-related syndrome.*

25. Taher MK, Salzman T, Banal A, et al. Global prevalence of post-COVID-19 condition: a systematic review and meta-analysis of prospective evidence. *Health Promotion and Chronic Disease Prevention in Canada* 2025;45:112-38. doi: <https://dx.doi.org/10.24095/hpcdp.45.3.02>

Review aim: *To investigate the prevalence of new or persistent manifestations experienced by COVID-19 survivors at three or more months after their initial infection, collectively known as post-COVID-19 condition (PCC).*

26. Tudorache P, M A, Gadea-Domenech M, et al. [Cognition and Long COVID: a PRISMA systematic review of longitudinal studies]. *Revista de Neurologia* 2025;79:37385. doi: <https://dx.doi.org/10.31083/RN37385>

Review aim: *To determine how long cognitive functions remain affected during Long COVID and to explore which cognitive functions are most affected beyond three months of follow-up in patients up to 65 years of age without previous neuropsychological or psychiatric complications.*



27. Weigel B, Inderyas M, Eaton-Fitch N, et al. Health-related quality of life in Myalgic Encephalomyelitis/Chronic Fatigue Syndrome and Post COVID-19 Condition: a systematic review. *Journal of Translational Medicine* 2025;23:318. doi: <https://dx.doi.org/10.1186/s12967-025-06131-z>

Review aim: *To summarise the health-related quality of life (HRQoL) of people with Myalgic Encephalomyelitis/Chronic Fatigue Syndrome and people with Post COVID-19 Condition compared with healthy controls to elucidate the impacts of these illnesses and guide healthcare policy reform.*

NB a section of this review is on Long COVID

28. Zhang Q, Botta R, Xu Y, et al. Risk of new-onset dementia following COVID-19 infection: a systematic review and meta-analysis. *Age & Ageing* 2025;54:03. doi: <https://dx.doi.org/10.1093/ageing/afaf046>

Review aim: *To synthesise the literature on the association between COVID-19 and the risk of new-onset dementia.*

29. Zhang T, Li Z, Mei Q, et al. Cardiovascular outcomes in Long COVID-19: a systematic review and meta-analysis. *Frontiers in Cardiovascular Medicine* 2025;12:1450470. doi: <https://dx.doi.org/10.3389/fcvm.2025.1450470>

Review aim: *To study the risk of cardiovascular outcomes in Long COVID-19.*

#### Prevalence of symptoms or effects and Treatment or rehabilitation (n=1)

##### *Standard systematic reviews*

30. Poulipoulou DV, Hawthorne M, MacDermid JC, et al. Prevalence and impact of postexertional malaise on recovery in adults with post-COVID-19 condition: a systematic review with meta-analysis. *Archives of Physical Medicine & Rehabilitation* 2025;05:05. doi: <https://dx.doi.org/10.1016/j.apmr.2025.01.471>

Review aim: *To assess the prevalence of post-exertional malaise (PEM) in people with post-COVID-19 condition (PCC); and the change in prevalence of PEM after rehabilitation interventions in people with PCC.*

#### Prevalence of symptoms or effects and Pathobiology or mechanisms (n=2)

##### *Standard systematic reviews*

31. Nasir SM, Yahya N, Yap KH, et al. Executive function deficit in patients with Long COVID syndrome: a systematic review. *Heliyon* 2025;11:e41987. doi: <https://dx.doi.org/10.1016/j.heliyon.2025.e41987>

Review aim: *To systematically review published articles assessing the neurocognitive profile of Long COVID patients, with a specific emphasis on executive function (EF), and to determine the correlation between EF deficits and brain alterations through the utilisation of neuroimaging modalities.*

32. Voros C, Mavrogianni D, Minaoglou A, et al. Unveiling the impact of COVID-19 on ovarian function and premature ovarian insufficiency: a systematic review. *Biomedicines* 2025;13 doi: 10.3390/biomedicines13020407

Review aim: *To investigate the molecular pathways that link SARS-CoV-2 infection to premature ovarian insufficiency and analyse their consequences for ovarian reserve and fertility.*

## Prevalence of symptoms or effects, Treatment or rehabilitation, and Pathobiology or mechanisms (n=1)

### Standard systematic reviews

33. Bandinelli F, Di Carlo M, Colantuono VA, et al. Post-COVID-19 small fiber neuropathy as a new emerging quality of life-threatening disease: a systematic review. *Microorganisms* 2025;13:02. doi: <https://dx.doi.org/10.3390/microorganisms13020328>

Review aim: *To provide a comprehensive overview of the clinical and diagnostic features of post-acute sequelae of COVID-19 small fibre neuropathy (PASC-SFN), including the accompanying disorders, disease evolution, and possible treatments.*

## Risk factors with or without prevalence of symptoms or effects (n=11)

### Evidence map

34. Prediger KM, Ribeiro AC, Uehara S. Prevalent symptoms and characteristics of the Long COVID-19 population: a scoping review. *Revista Latino-Americana de Enfermagem* 2025;33:e4479. doi: <https://dx.doi.org/10.1590/1518-8345.7353.4479>

Review aim: *To map the scientific literature on the clinical and demographic characteristics of Long COVID-19.*

### Standard systematic reviews

35. Alie MS, Tesema GA, Abebe GF, et al. The prolonged health sequelae “of the COVID-19 pandemic” in sub-Saharan Africa: a systematic review and meta-analysis. *Frontiers in Public Health* 2025;13:1415427. doi: <https://dx.doi.org/10.3389/fpubh.2025.1415427>

Review aim: *To systematically synthesise evidence on the persistent sequelae of COVID-19 and their predictors in sub-Saharan Africa.*

36. Bidhendi-Yarandi R, Biglarian A, Karlstad JL, et al. Prevalence of depression, anxiety, stress, and suicide tendency among individual with Long-COVID and determinants: a systematic review and meta-analysis. *PLoS ONE* 2025;20:e0312351. doi: <https://dx.doi.org/10.1371/journal.pone.0312351>

Review aim: *To determine the prevalence of mental health symptoms - depression, anxiety, stress, and suicidal tendencies - and to identify their trends and associated risk factors in individuals with Long COVID.*

37. Foreman L, Child B, Saywell I, et al. Cognitive reserve moderates the effect of COVID-19 on cognition: a systematic review and meta-analysis of individual participant data. *Neuroscience & Biobehavioral Reviews* 2025;171:106067. doi: <https://dx.doi.org/10.1016/j.neubiorev.2025.106067>

Review aim: *To conduct a systematic review and individual participant data (IPD) meta-analysis to assess cognitive reserve as a potential moderator of post-COVID-19 cognitive dysfunction (PCCD).*

38. Hill A, Morford M, Saydah S, et al. The association between underlying conditions, risk factors, risk markers, and post-COVID conditions  $\geq 6$  months after COVID-19: a systematic review. *Journal of Family Medicine & Primary Care* 2024;13:5868-84. doi: [https://dx.doi.org/10.4103/jfmprc.jfmprc\\_247\\_24](https://dx.doi.org/10.4103/jfmprc.jfmprc_247_24)

Review aim: *To determine the association between underlying conditions, other risk factors, health behaviour, and the presence of symptoms more than 6 months after COVID-19.*

39. Hu LY, Cai AQ, Li B, et al. Prevalence and risk factors for Long COVID in China: a systematic review and meta-analysis of observational studies. *Journal of Infection and Public Health* 2025;18:102652. doi: <https://dx.doi.org/10.1016/j.jiph.2025.102652>

Review aim: *To systematically review the existing clinical studies to understand the current prevalence and related risk factors of Long COVID in COVID-19 patients in China.*

40. Maria L, Batista JET, Wachira VK, et al. Factors associated with post-COVID cardiac conditions and potential prognostic factors: a systematic review. *Life* 2025;15:28. doi: <https://dx.doi.org/10.3390/life15030388>

Review aim: *To synthesise the evidence on the factors associated with the development of post-COVID cardiac conditions, the frequency of clinical outcomes in affected patients, and the potential prognostic factors.*

41. Morgan S, Smith JM, Thomas B, et al. Risk factors and predictors for persistent dyspnea post-COVID-19: a systematic review. *Clinical Nursing Research* 2025;10547738251314076. doi: <https://dx.doi.org/10.1177/10547738251314076>

Review aim: *To explore the risk factors and predictors that are associated with persistent dyspnoea in the post-COVID-19 population.*

42. Pouliopoulou DV, Billias N, MacDermid JC, et al. Prevalence of post-acute sequelae of SARS-CoV-2 infection in people living with HIV: a systematic review with meta-analysis. *EClinicalMedicine* 2025;79:102993. doi: <https://dx.doi.org/10.1016/j.eclinm.2024.102993>

Review aim: *To assess the prevalence of Long COVID in adults living with HIV; and investigate whether adults living with HIV were associated with increased chance of developing Long COVID compared to adults living without HIV.*

43. Terry P, Heidel RE, Wilson AQ, et al. Risk of Long COVID in patients with pre-existing chronic respiratory diseases: a systematic review and meta-analysis. *BMJ open respiratory research* 2025;12:30. doi: <https://dx.doi.org/10.1136/bmjresp-2024-002528>

Review aim: *To examine whether Long COVID risk was altered by pre-existing asthma or chronic obstructive pulmonary disease (COPD) in adults.*

44. Xu H, Lu T, Liu Y, et al. Prevalence and risk factors for Long COVID among cancer patients: a systematic review and meta-analysis. *Frontiers in Oncology* 2024;14:1506366. doi: <https://dx.doi.org/10.3389/fonc.2024.1506366>

Review aim: *To determine the prevalence of Long COVID and explore potential risk factors among cancer patients.*

## Pathobiology or mechanisms (n=1)

### Standard systematic reviews

45. Baalbaki N, Slob EMA, Kazer SW, et al. The omics landscape of Long COVID: a comprehensive systematic review to advance biomarker, target and drug discovery. *Allergy* 2025;80:932-48. doi: <https://dx.doi.org/10.1111/all.16526>

Review aim: *To explore the pathophysiological mechanisms underlying Long COVID and potential treatable traits across symptom-based phenotypes.*

## Risk factors with or without prevalence and Pathobiology or mechanisms (n=1)

### Standard systematic reviews

46. Mink S, Wilhelm F, Cadamuro J, et al. Anti-SARS-CoV-2 antibodies in Long-COVID- markers of protection or elevated risk? A systematic review. *Reviews in Medical Virology* 2025;35:e70027. doi: <https://dx.doi.org/10.1002/rmv.70027>

Review aim: *To synthesise and evaluate existing evidence on the association between anti-SARS-CoV-2 antibody titres and Long-COVID.*

## Diagnosis or monitoring tools (n=3)

### Standard systematic reviews

47. Baalman AK, Blome C, Stoletzki N, et al. Patient-reported outcome measures for post-COVID-19 condition: a systematic review of instruments and measurement properties. *BMJ Open* 2024;14:e084202. doi: <https://dx.doi.org/10.1136/bmjopen-2024-084202>

Review aim: *To systematically appraise the quality of existing PROMs for use in patients with post-COVID-19 conditions and to derive recommendations for their use in future research.*

48. Kukreti S, Lu MT, Yeh CY, et al. Physiological sensors equipped in wearable devices for management of Long COVID persisting symptoms: scoping review. *Journal of Medical Internet Research* 2025;27:e69506. doi: <https://dx.doi.org/10.2196/69506>

Review aim: *To assess the application and effectiveness of wearable devices in managing Long COVID symptoms, focusing on commonly used sensors and their potential for improving long-term patient care.*

49. Sauers AL, Johnson L, Mortensen M, et al. Physical therapy outcome measures used in persons with Long COVID: a systematic review of interventional studies up to 1-year postglobal health emergency. *Cardiopulm Phy Ther J* 2024 doi: <https://dx.doi.org/10.1097/cpt.0000000000000273>

Review aim: *To identify the most frequently used outcome measures in interventional studies for Long COVID in outpatient, home-based, and telerehabilitation physical therapy settings.*

## 2) Completed but not published reviews (n=3)

### Treatment or rehabilitation (n=1)

#### Standard systematic reviews

50. Du and Nguyen. Does low-dose oral naltrexone alleviate symptoms of Long COVID? A systematic review and meta-analysis. PROSPERO 2025 CRD42025630362. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025630362>

Review question: *Does low dose oral naltrexone impact symptoms of Long COVID?*

### Prevalence of symptoms or effects (n=1)

#### Standard systematic reviews

51. Loboda, et al. Variability in arterial stiffness assessed as carotid-femoral pulse wave velocity and vascular endothelial function assessed as brachial flow-mediated dilation in patients recovered from COVID-19 during 1.5 years of follow-up - systematic review

and meta-analysis. PROSPERO 2025 CRD42025642888. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025642888>

Review questions: *What are the variability of vascular endothelial function (assessed as brachial flow-mediated dilation) and arterial stiffness (assessed as carotid-femoral pulse wave velocity) in patients recovered from coronavirus disease 2019 (COVID-19) over time, and how long can vasculopathy persist after the acute phase of the disease compared to non-COVID-19 controls?*

Risk factors with or without prevalence of symptoms or effects (n=1)

#### *Standard systematic reviews*

52. Miah and Cadar. Brain fog unveiled: a systematic review of neurocognitive impairments in Long COVID in UK-based studies. PROSPERO 2025 CRD420251009127. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420251009127>

Review aims: *To assess the prevalence and severity of cognitive impairments in individuals with Long COVID in the UK. To evaluate whether cognitive function improves over time by synthesising data from longitudinal studies. To examine potential risk factors influencing cognitive decline, such as hospitalisation status, age, sex, and comorbidities.*

### 3) Protocols for ongoing reviews related to Long COVID (n=48)

Treatment or rehabilitation (n=12)

#### *Review of reviews*

53. Wang, et al. Effects of exercise interventions on Long COVID in adults aged 60 years and older: an umbrella review of systematic reviews and meta-analyses. PROSPERO 2025 CRD420251016642. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420251016642>

Review aim: *To evaluate and compare the effects of different types of exercise interventions on fatigue, dyspnoea, physical function, cognitive function, and quality of life among older adults (aged ≥60 years) with Long COVID, through an umbrella review of existing systematic reviews and meta-analyses.*

#### *Standard systematic reviews*

54. Alves and Souza. Telemonitoring and virtual rehabilitation vs. in-person rehabilitation in the treatment of post-COVID-19 patients: a systematic review. PROSPERO 2025 CRD420251003901. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420251003901>

Review aim: *To summarise evidence on the efficacy and safety of telemonitoring and virtual rehabilitation compared to in-person care in the context of post-COVID-19 patient treatment.*

55. Bernardi and Schratz. Exercise is medicine: effectiveness of exercise in the management of PASC. PROSPERO 2025 CRD420251016802. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420251016802>

Review questions: *What effect does exercise therapy have in patients with post-acute sequelae of COVID-19 (PASC) on quality of life, physical fitness, pulmonary parameters, etc. How effective is exercise therapy for managing the symptoms in patients with PASC? Are there well recognised and effective frequency, intensity, time and type (FITT) of exercise for this kind of patient?*



56. D'Arc Lyra Batista, et al. Treatment/interventions for people with post-COVID-19 neurological signs and symptoms: a systematic review. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025626072>

Review question: *What are the treatments/interventions used for post-COVID neurological signs and symptoms and their results?*

57. Dutra and Olinto. Resistance training and Long COVID rehabilitation: a systematic review. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025641962>

Review question: *Is resistance training effective to mitigate Long COVID-related symptoms?*

58. Ferrari, et al. Comparative effectiveness of exercise training modalities in Long COVID: a systematic review and network meta-analysis of randomized controlled trials. PROSPERO 2025 CRD420250655735. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420250655735>

Review question: *Which exercise training modality is most effective for enhancing cardiorespiratory fitness, building muscle strength, and improving quality of life in individuals suffering from Long COVID?*

59. Garcia and Regis. Impact of systemic medications used in the treatment of Long COVID on oral health: implications for healthcare practice – a literature review. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025648968>

Review questions: *What is the impact of systemic medications used to treat Long COVID on oral health and what are the implications for health practice?*

60. Hotopf, et al. The impact of digital interventions on the health and wellbeing of people living with Long COVID: a systematic review. PROSPERO 2025 CRD420250649316. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420250649316>

Review question: *What impact do digital interventions have on improving psychosocial wellbeing, economic, social inclusion, and health outcomes for people living with Long COVID?*

61. Lei and Yang. The effectiveness of nutritional interventions on Long COVID symptoms, inflammatory markers and physical function in Long COVID patients. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025639903>

Review questions: *What is the impact of nutritional interventions on primary outcomes such as fatigue, mental health disturbances, cognitive impairments, and quality of life in adults with Long COVID? How do nutritional interventions affect secondary outcomes, including inflammatory markers (e.g., IL-6, CRP) and physical performance, in this population? How do variations in intervention type, dosage, and participant vaccination status influence the effectiveness of nutritional strategies in managing Long COVID symptoms?*

62. Li Y, Zhou J, Wei Z, et al. Efficacy and safety of acupuncture for post-COVID-19 insomnia: protocol for a systematic review and meta-analysis. *JMIR Research Protocols* 2025;14:e69417. doi: <https://dx.doi.org/10.2196/69417>

Review aim: *To conduct a meta-analysis and systematic review to assess the efficacy and safety of acupuncture for the treatment of post-COVID insomnia.*

63. Wang, et al. Systematic review and meta-analysis of taurine supplementation for conditions associated with post-acute sequelae of COVID-19. PROSPERO 2025



CRD420251011508. Available from

<https://www.crd.york.ac.uk/PROSPERO/view/CRD420251011508>

Review aim: *To perform a systematic review of clinical trials that evaluate the efficacy of taurine supplementation in alleviating clinical outcomes associated with Long COVID-related conditions such as hypertension, metabolic disorders, viral infection, neurocognitive impairment, inflammation, and fatigue.*

64. Wang, et al. Efficacy and safety of Traditional Chinese Medicine in the treatment of post-COVID-19 syndrome: a systematic review and meta-analysis. PROSPERO 2025 CRD420251016442. Available from

<https://www.crd.york.ac.uk/PROSPERO/view/CRD420251016442>

Review aim: *To evaluate the clinical efficacy and safety of Traditional Chinese Medicine (TCM) in the treatment of Long COVID through meta-analysis, and to provide a scientific basis for the application of TCM in the rehabilitation of COVID.*

Treatment or rehabilitation and Prevention (n=1)

#### *Standard systematic reviews*

65. Senthil and Toshniwal. Efficacy of medicinal plants in the prevention and treatment of COVID-19 and Long COVID: a systematic review and meta-analysis. PROSPERO 2025 CRD420250651384. Available from

<https://www.crd.york.ac.uk/PROSPERO/view/CRD420250651384>

Review question: *What is the overall effectiveness of medicinal plants in preventing and treating COVID-19 and Long COVID, based on current clinical and preclinical evidence?*

NB a section of this review will be on Long COVID

Prevention (n=1)

#### *Standard systematic reviews*

66. Silva, et al. Effects of vaccination on the reduction of cognitive deficits associated with COVID-19 infection: a systematic review. PROSPERO 2024 Available from

<https://www.crd.york.ac.uk/PROSPERO/view/CRD42025636772>

Review question: *How does vaccination influence the cognitive profile and post-COVID-19 cognitive consequences, considering the number of vaccine doses and reinfections?*

Prevalence of symptoms or effects (n=17)

#### *Standard systematic reviews*

67. Almadani, et al. Immunological and autoimmune complications associated with COVID-19 infection/vaccination. PROSPERO 2024 Available from

<https://www.crd.york.ac.uk/PROSPERO/view/CRD42025621640>

Review question: *What long-term immunological and autoimmune complications develop post-COVID-19 infection?*

NB a section of this review will be on Long COVID

68. Almulla and Maes. Insulin resistance in Long COVID disease: a systematic review and meta-analysis. PROSPERO 2024 Available from

<https://www.crd.york.ac.uk/PROSPERO/view/CRD42025637597>

Review question: *Is there any increase in insulin resistance in post-COVID syndrome?*

69. Dufrenne, et al. Risk of de-novo diabetes mellitus after SARS-CoV-2 infection: a systematic review and meta-analysis. PROSPERO 2025 CRD420251026463. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420251026463>

Review aim: *To evaluate and quantify the potential link between SARS-CoV-2 infection and de-novo diabetes mellitus based on current data.*

70. Ferreira, et al. Liver injury in post-acute COVID-19 syndrome: a systematic review and meta-analysis. PROSPERO 2025 CRD420251003831. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420251003831>

Review question: *In individuals with post-acute COVID-19 syndrome (PACS/Long COVID), what are the odds of liver injury?*

71. Ferreira Porto, et al. Main cardiovascular implications resulting from Long COVID: a systematic review. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025631920>

Review question: *What are the main cardiovascular implications presented by patients with Long-COVID and their associated factors?*

72. Georgakopoulou and Diamanti. Long COVID-19 fatigue in pregnancy: a systematic review and meta-analysis. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025639337>

Review question: *Are women who contracted COVID-19 during pregnancy at an increased risk of developing fatigue — a hallmark symptom of Long COVID-19 — compared to the general population?*

73. Ghafourian, et al. Subacute thyroiditis as a post-COVID-19 complication: a systematic review. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025634469>

Review aim: *To conduct a comprehensive literature review and systematically recognise thyroid involvement post-COVID-19 recovery emphasising the need for vigilant monitoring of patients for potential endocrine complications during the convalescent phase.*

74. Graves, et al. Otological complications in COVID-19: a systematic review of symptoms and diagnoses. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025586661>

Review questions: *What are the short-term and long-term otological complications of COVID-19? Taking patient characteristics into account, when do symptoms generally present and how long do they normally last?*

75. Graves, et al. Laryngeal complications in COVID-19: a systematic review of symptoms and diagnoses. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025586671>

Review questions: *What are the short-term and long-term laryngeal complications of COVID-19? Taking patient characteristics into account, when do symptoms generally present and how long do they normally last?*

76. He, et al. Excess risks of post COVID-19 anxiety, depression, post-traumatic stress disorder, and sleep difficulties in COVID-19 patients: a systematic review and meta-analysis. PROSPERO 2025 CRD420250654957. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420250654957>

Review question: *As compared with healthy controls, what are the excess risks of post COVID-19 mental symptoms, including anxiety, depression, post-traumatic stress disorder (PTSD), and sleep difficulties, caused by COVID-19?*

77. Kinak de Almeida and Dalla Rosa. Comparison of multisystem inflammatory syndrome in children and Kawasaki Disease post COVID-19 infection. PROSPERO 2025 CRD420251026226. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420251026226>

Review aim: *To clinically compare multisystem inflammatory syndrome post COVID-19 (MIS-C) and Kawasaki disease (KD) in children.*

78. Krishnan, et al. Macular and retinal vascular conditions following COVID-19 infection or vaccination: a systematic review. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025639928>

Review question: *What macular and retinal vascular conditions present in patients post-COVID-19 infection or post-COVID-19 vaccination?*

NB a section of the review will be on Long COVID

79. Modena and Baltieri. Persistent respiratory symptoms in recovered COVID-19 patients: a systematic review. PROSPERO 2025 CRD420250648913. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420250648913>

Review question: *What are the most common persistent respiratory symptoms in recovered COVID-19 patients?*

80. Olarinde, et al. Physiological responses in individuals with Long COVID: a comparison of the head-up tilt and active stand tests - a systematic review. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025635422>

Review question: *Do physiological responses differ between individuals with Long COVID when assessed using the head-up tilt test versus the active standing test?*

81. Primdal, et al. Impact of maternal COVID-19 infections during pregnancy on early childhood developmental outcomes: a systematic review and meta-analysis. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025641913>

Review question: *Are there developmental impacts on infants born to mothers infected with SARS-CoV-2 during pregnancy?*

82. Sterling Octavius, et al. A systematic review of posterior reversible encephalopathy syndrome in multisystem inflammatory syndrome in children. PROSPERO 2025 CRD420251011869. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420251011869>

Review questions: *How often is Posterior Reversible Encephalopathy Syndrome (PRES) in Multisystem Inflammatory Syndrome in Children (MIS-C) and how does it present in children?*

83. Zhong and Ngai. Cognitive dysfunction in post-COVID-19 condition: a systematic review and meta-analysis. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025634175>

Review aim: *To provide a quantitative meta-analysis of cognitive dysfunction in people with post-COVID-19 condition.*

## Prevalence of symptoms or effects and Pathobiology (n=1)

### Standard systematic reviews

84. Samudio Cruz, et al. EEG findings in Long COVID: a systematic review. PROSPERO 2025 CRD420250655310. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420250655310>

Review questions: *What are the characteristics of EEG in Long COVID? What symptoms have been studied with EEG in Long COVID?*

## Risk factors with or without prevalence of symptoms or effects (n=7)

### Standard systematic reviews

85. Hilles, et al. Global disparities in long-term cardiovascular outcomes post-COVID-19: a systematic review and meta-analysis. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025642126>

Review questions: *What are the long-term cardiovascular outcomes in post-acute COVID-19 syndrome, and how do these outcomes differ across high-income, middle-income, and low-income countries?*

86. Jain N, Shah K, Chauhan R, et al. Mapping of Long COVID condition in India: a study protocol for systematic review and meta-analysis. *Frontiers in Rehabilitation Sciences* 2025;6:1419963. doi: <https://dx.doi.org/10.3389/fresc.2025.1419963>

Review aim: *To comprehensively assess the chronic effects of COVID-19 infection on the Indian population and determine the likely risk factors connected to the development and persistence of Long COVID.*

87. Mishra, et al. Incidence of long-term complications at 6 months in COVID-19 recovered patients: a systematic review and meta-analysis. PROSPERO 2025 CRD420250646198. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420250646198>

Review questions: *What are the most common long-term complications observed in COVID-19 recovered patients within the first six months? What is the overall incidence rate of long-term complications among post-COVID-19 individuals at 6 months? Are certain demographic factors (e.g., age, gender, comorbidities) associated with a higher risk of developing long-term complications after COVID-19 recovery? What are the most common types of respiratory, cardiovascular, neurological, and psychological complications reported at 6 months post-recovery? What role does the severity of the initial COVID-19 infection (mild, moderate, severe) play in determining the risk of long-term complications?*

88. Mishra, et al. One-year incidence of long-term complications in post-COVID-19 patients: a systematic review and meta-analysis. PROSPERO 2025 CRD420250646227. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420250646227>

Review questions: *What are the most common long-term complications observed in COVID-19 recovered patients within a year? What is the overall incidence rate of long-term complications among post-COVID-19 individuals at one year? Are certain demographic factors (e.g., age, gender, comorbidities) associated with a higher risk of developing long-term complications after COVID-19 recovery? What are the most common types of respiratory, cardiovascular, neurological, and psychological complications reported at one year post-recovery? What role does the severity of the initial COVID-19 infection (mild, moderate, severe) play in determining the risk of long-term complications?*

89. Niemeier, et al. Cognitive symptoms and risk factors for adults with a history of Long COVID or post-acute SARS COVID (PASC): a systematic review. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025636875>

Review questions: *What are the adverse effects of Long COVID or post acute SARS COVID on cognitive abilities in adults ages 18-90? What risk factors (e.g. demographics or pre-existing health conditions) predispose adults 18-90 to specific cognitive symptoms that are present after 12 weeks following acute onset of COVID infection?*

90. Otake, et al. Risk factors for Long COVID. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025626341>

Review question: *What are the risk factors for developing Long COVID?*

91. Pelagie Okorie, et al. Surviving COVID-19 in Nigeria: a systematic review of the lived experiences and psychological well-being of recovered patients. PROSPERO 2025 CRD420250611984. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420250611984>

Review aim: *To examine the prevalence, determinants, and experiences of mental health issues amongst Nigerian COVID-19 survivors using qualitative and quantitative methods.*

Pathobiology or mechanisms (n=7)

#### *Standard systematic reviews*

92. Bukola Titilope, et al. Metabolic changes in diabetes following COVID-19: a systematic review and meta-analysis. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025630971>

Review questions: *What changes occur in the metabolic profile of diabetic patients following COVID-19 infection, and what are the potential mechanisms underlying these changes?*

93. Cavenague dos Reis, et al. Pathophysiology of pediatric multisystem inflammatory syndrome (MIS-C) and its correlation with COVID-19. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025650033>

Review aim: *To investigate the pathophysiological mechanisms underlying paediatric Multisystem Inflammatory Syndrome (MIS-C) and its association with SARS-CoV-2 infection.*

94. de Brito Toscano, et al. Neuroinflammatory mechanisms underlying cognitive symptoms and neurodegeneration in Long COVID: a systematic review. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025632442>

Review question: *What is the association between neuroinflammatory mechanisms and cognitive symptoms in individuals post-COVID-19?*

95. Kachaner, et al. Studies evaluating immunological biomarkers in patients with post COVID-19 conditions: a systematic review. PROSPERO 2025 CRD420250634485. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420250634485>.

Review aim: *To assess the reliability of data related to the potential immunological aspects of post COVID-19 condition.*

96. Mohammed, et al. The impact of Long COVID on brain imaging in detecting functional and anatomical changes. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025638326>



Review questions: *What are the imaging features of functional and anatomical changes in the brain among Long COVID patients when using positron emission tomography (PET), computed tomography (CT), magnetic resonance imaging (MRI) and single photon emission computed tomography (SPECT)?*

97. Unar and Qureshi. Systematic review and meta-analysis of SARS-CoV-2-induced damage to cardiac stem cell compartments: mechanisms, biomarkers, and long-term cardiovascular sequelae. PROSPERO 2025 CRD420251010495. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420251010495>.

Review aim: *To clarify the relationship between SARS-CoV-2 infection and cardiac stem cell damage, contributing to better understanding of the mechanisms underlying post-viral cardiac dysfunction.*

98. Vasconcelos, et al. The impact of biomarkers in Long COVID: a systematic review protocol. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025626061>

Review question: *Which biomarkers are associated with the development of post-COVID-19 syndrome?*

## Pathobiology or mechanisms and Treatment or rehabilitation (n=1)

### Standard systematic reviews

99. Kalinowski, et al. Psychotherapeutic support for patients with post acute infectious syndromes: a systematic review. PROSPERO 2024 Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD42025641649>

Review questions: *What is the effectiveness of psychotherapeutic interventions in reducing symptoms of depression, anxiety, and other mental health disorders in patients with Post-Acute Infectious Syndrome (PAIS)? Do psychotherapeutic interventions improve the quality of life for individuals with PAIS, particularly in terms of physical function, work ability, and self-care? Which psychotherapeutic approaches (e.g., cognitive-behavioural therapy, mindfulness, psychodynamic therapy) are most effective for managing mental distress in patients with PAIS? What mechanisms underlie the effectiveness of psychotherapeutic interventions for patients with PAIS in reducing mental distress? Do patients with pre-existing psychiatric conditions (e.g., depression, anxiety) experience different outcomes from psychotherapeutic interventions compared to those without such conditions? How do environmental and sociocultural factors (such as quarantine, lockdowns, and sociodemographic variables) affect the efficacy of psychotherapeutic support for PAIS patients? What are the key gaps in the current evidence base regarding psychotherapeutic interventions for PAIS, and what future research is needed to address these gaps?*

NB a section of this review will be on Long COVID

## Health and social or economics (n=1)

### Standard systematic review

100. Ottiger, et al. Factors influencing work ability and return-to-work in individuals affected by post-COVID: a systematic review. PROSPERO 2025 CRD420251010826. Available from <https://www.crd.york.ac.uk/PROSPERO/view/CRD420251010826>

Review aim: *To identify biopsychosocial, workplace-related, and sociodemographic factors that facilitate or hinder the return-to-work (RTW) process in individuals with post-COVID.*



## Appendix 1: Search strategies

### MEDLINE ALL

(includes: Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE Daily and Ovid MEDLINE)

via Ovid <http://ovidsp.ovid.com/>

Date range: 1946 to April 04, 2025

Date searched: 7<sup>th</sup> April 2025

Records retrieved: 381

Two new publication types were added to MEDLINE in March 2025: scoping review and network meta-analysis. These were added in lines 41 and 42 below.

- 1 Post-Acute COVID-19 Syndrome/ (4302)
- 2 COVID-19 post-intensive care syndrome.mp. (6)
- 3 COVID-19/ or SARS-CoV-2/ (297021)
- 4 Syndrome/ (125082)
- 5 Survivors/ (32515)
- 6 4 or 5 (157472)
- 7 3 and 6 (1284)
- 8 1 or 2 or 7 (5478)
- 9 ((long adj (covid\$ or covid-19 or covid19 or coronavirus)) or longcovid\$).ti,ab,kf,ot,bt. (7163)
- 10 ((post adj (covid\$ or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)) or postcovid\$).ti,ab,kf,ot,bt. (13648)
- 11 ((post acute or postacute) adj2 (covid\$ or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)).ti,ab,kf,ot,bt. (1394)
- 12 PASC.ti,ab,kf,ot,bt. (1260)
- 13 (sequela\$ adj6 (covid\$ or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)).ti,ab,kf,ot,bt. (3678)
- 14 (chronic adj2 (covid\$ or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)).ti,ab,kf,ot,bt. (446)
- 15 ((long\$ term or longterm) adj3 (covid\$ or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)).ti,ab,kf,ot,bt. (2980)
- 16 (persist\$ adj6 (covid\$ or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)).ti,ab,kf,ot,bt. (5512)
- 17 ((post discharg\$ or postdischarg\$) adj5 (covid\$ or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)).ti,ab,kf,ot,bt. (155)
- 18 ((long haul\$ or longhaul\$) adj6 (covid\$ or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)).ti,ab,kf,ot,bt. (303)
- 19 (surviv\$ adj3 (covid\$ or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)).ti,ab,kf,ot,bt. (3765)
- 20 (after adj (covid\$ or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)).ti,ab,kf,ot,bt. (11849)
- 21 ((ongoing or lasting or prolonged or fluctuat\$ or residual\$ or continu\$ or linger\$) adj6 (symptom\$ or effect\$ or complication\$ or sequela\$ or syndrome or illness\$ or disorder\$ or dysfunction\$ or impair\$ or impact\$ or consequence\$) adj6 (covid\$ or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)).ti,ab,kf,ot,bt. (3675)
- 22 or/9-21 (39532)
- 23 8 or 22 (40090)
- 24 systematic review.mp,pt. (384946)
- 25 search:.tw. (756060)
- 26 meta analysis.mp,pt. (333307)

27 review.pt. (3456850)  
 28 24 or 25 or 26 or 27 (4073793)  
 29 23 and 28 (6337)  
 30 qualitative review\$.ti,ab,kf,ot,bt. (2043)  
 31 realist synthes\$.ti,ab,kf,ot,bt. (489)  
 32 realist review\$.ti,ab,kf,ot,bt. (857)  
 33 (meta-synthes\$ or metasyntes\$).ti,ab,kf,ot,bt. (2623)  
 34 (living adj2 (review\$ or map\$)).ti,ab,kf,ot,bt. (907)  
 35 pooled analysis.ti,ab,kf,ot,bt. (14678)  
 36 or/30-35 (21356)  
 37 23 and 36 (87)  
 38 29 or 37 (6349)  
 39 (202501\$ or 202502\$ or 202503\$ or 202504\$).dt. (442727)  
 40 38 and 39 (251)  
 41 "scoping review".pt. (24891)  
 42 network meta analysis.pt. (196)  
 43 41 or 42 (25087)  
 44 23 and 43 (137)  
 45 limit 44 to yr="2021 -Current" (132)  
 46 (2021\$ or 2022\$ or 2023\$ or 2024\$ or 2025\$).dt. (6717362)  
 47 44 and 46 (131)  
 48 40 or 45 or 47 (383)  
 49 exp animals/ not humans.sh. (5325094)  
 50 48 not 49 (383)  
 51 preprint.pt. (38474)  
 52 50 not 51 (381)

# CINAHL Plus

via Ebsco <https://www.ebsco.com/>

Date range: Inception to 20250408

Date searched: 7<sup>th</sup> April 2025

Records retrieved: 279

|    |                                                                                                                                                                                                                                                                                                                              |       |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| S1 | (MH "Post-Acute COVID-19 Syndrome")                                                                                                                                                                                                                                                                                          | 1,836 |
| S2 | TI ( long N1 (covid* or covid-19 or covid19 or coronavirus) or longcovid* )<br>OR AB ( long N1 (covid* or covid-19 or covid19 or coronavirus) or<br>longcovid* )                                                                                                                                                             | 2,187 |
| S3 | TI ( post N1 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or<br>SARS-CoV2 or SARSCoV2 or SARSCoV-2) or postcovid* ) OR AB ( post N1<br>(covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2<br>or SARSCoV2 or SARSCoV-2) or postcovid* )                                                  | 2,237 |
| S4 | TI ( ("post acute" or post-acute or postacute) N3 (covid* or covid-19 or<br>covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or<br>SARSCoV-2) ) OR AB ( ("post acute" or post-acute or postacute) N3 (covid*<br>or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or<br>SARSCoV2 or SARSCoV-2) ) | 475   |
| S5 | TI PASC OR AB PASC                                                                                                                                                                                                                                                                                                           | 143   |
| S6 | TI ( sequela* N6 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-<br>2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) ) OR AB ( sequela* N6 (covid*<br>or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or<br>SARSCoV2 or SARSCoV-2) )                                                                     | 746   |

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |         |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| S7  | TI ( chronic N2 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) ) OR AB ( chronic N2 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) )                                                                                                                                                                                                                                                                                                                                                                                                                                            | 325     |
| S8  | TI ( (long* N1 term or long-term or longterm) N3 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) ) OR AB ( (long* N1 term or long-term or longterm) N3 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) )                                                                                                                                                                                                                                                                                                                                                                          | 1,301   |
| S9  | TI ( persist* N6 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) ) OR AB ( persist* N6 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) )                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1,201   |
| S10 | TI ( (post N1 discharg* or post-discharg* or postdischarg*) N4 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) ) OR AB ( (post N1 discharg* or post-discharg* or postdischarg*) N4 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) )                                                                                                                                                                                                                                                                                                                                              | 59      |
| S11 | TI ( (long N1 haul* or long-haul* or longhaul*) N6 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) ) OR AB ( (long N1 haul* or long-haul* or longhaul*) N6 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) )                                                                                                                                                                                                                                                                                                                                                                      | 91      |
| S12 | TI ( surviv* N3 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) ) OR AB ( surviv* N3 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) )                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1,250   |
| S13 | TI ( after N1 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) ) OR AB ( after N1 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) )                                                                                                                                                                                                                                                                                                                                                                                                                                                | 5,289   |
| S14 | TI ( (ongoing or lasting or prolonged or fluctuat* or residual* or continu* or linger*) N6 (symptom* or effect* or complication* or sequela* or syndrome or illness* or dysfunction* or disorder* or impair* or impact* or consequence*) N6 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) ) OR AB ( (ongoing or lasting or prolonged or fluctuat* or residual* or continu* or linger*) N6 (symptom* or effect* or complication* or sequela* or syndrome or illness* or dysfunction* or impair* or impact* or consequence*) N6 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) ) | 1,073   |
| S15 | S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 13,477  |
| S16 | (MH "Systematic Review")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 143,445 |
| S17 | (ZT "systematic review")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 171,276 |
| S18 | (ZT "meta analysis")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 61,355  |
| S19 | (MH "Meta Analysis")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 77,530  |
| S20 | TI ( meta-analys* or metaanaly* ) OR AB ( meta-analys* or metaanaly* )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 127,285 |
| S21 | TI systematic* N1 review* OR AB systematic* N1 review*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 180,310 |
| S22 | S16 OR S17 OR S18 OR S19 OR S20 OR S21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 294,886 |

|     |                                                                                                                                      |           |
|-----|--------------------------------------------------------------------------------------------------------------------------------------|-----------|
| S23 | (ZT "review")                                                                                                                        | 378,880   |
| S24 | AB systematic* or AB methodologic* or AB quantitative* or AB research* or AB literature* or AB studies or AB trial* or AB effective* | 2,973,497 |
| S25 | (S23 AND S24)                                                                                                                        | 176,050   |
| S26 | S22 OR S25                                                                                                                           | 461,548   |
| S27 | S15 AND S26                                                                                                                          | 826       |
| S28 | (MH "Meta Synthesis")                                                                                                                | 2,487     |
| S29 | TI qualitative N1 review* OR AB qualitative N1 review*                                                                               | 4,544     |
| S30 | TI ( realist N1 (review* or synthes*) ) OR AB ( realist N1 (review* or synthes*) )                                                   | 690       |
| S31 | TI ( meta-synthes* or metasynthes* ) OR AB ( meta-synthes* or metasynthes* )                                                         | 2,166     |
| S32 | TI ( living N2 (review* or map*) ) AND ( living N2 (review* or map*) )                                                               | 254       |
| S33 | TI pooled N1 analys* OR AB pooled N1 analys*                                                                                         | 8,937     |
| S34 | S28 OR S29 OR S30 OR S31 OR S32 OR S33                                                                                               | 17,212    |
| S35 | S15 AND S34                                                                                                                          | 36        |
| S36 | S27 OR S35                                                                                                                           | 838       |
| S37 | EM 202412-                                                                                                                           | 82,235    |
| S38 | (ZD "in process")                                                                                                                    | 1,757,235 |
| S39 | S37 OR S38                                                                                                                           | 1,839,470 |
| S40 | S36 AND S39                                                                                                                          | 279       |

### Cochrane Database of Systematic Reviews (CDSR)

via Wiley <http://onlinelibrary.wiley.com/>

Issue: Issue 4 of 12, April 2025

Date searched: 7<sup>th</sup> April 2025

Records retrieved: 0

| ID  | Search                                                                                                                                         | Hits |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------|------|
| #1  | MeSH descriptor: [Post-Acute COVID-19 Syndrome] this term only                                                                                 | 326  |
| #2  | MeSH descriptor: [COVID-19] this term only                                                                                                     | 8302 |
| #3  | MeSH descriptor: [SARS-CoV-2] this term only                                                                                                   | 3600 |
| #4  | MeSH descriptor: [Syndrome] this term only                                                                                                     | 6947 |
| #5  | MeSH descriptor: [Survivors] this term only                                                                                                    | 1773 |
| #6  | #2 or #3                                                                                                                                       | 8537 |
| #7  | #4 or #5                                                                                                                                       | 8714 |
| #8  | #6 and #7                                                                                                                                      | 110  |
| #9  | #1 or #8                                                                                                                                       | 412  |
| #10 | (long next (covid* or covid-19 or covid19 or coronavirus) or longcovid*):ti,ab,kw                                                              | 653  |
| #11 | (post next (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) or postcovid*):ti,ab,kw          | 1009 |
| #12 | ((post acute or postacute) near/2 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)):ti,ab,kw | 1766 |
| #13 | PASC:ti,ab,kw                                                                                                                                  | 88   |
| #14 | (sequela* near/6 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)):ti,ab,kw                  | 213  |
| #15 | (chronic near/2 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)):ti,ab,kw                   | 47   |
| #16 | ((long* term or longterm) near/3 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)):ti,ab,kw  | 1079 |
| #17 | (persist* near/6 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)):ti,ab,kw                  | 351  |



SARSCoV 2" OR "post-SARSCoV 2" OR "postSARSCov 2" OR "post SARSCoV-2" OR "post-SARSCoV-2" OR "postSARSCoV-2" OR PASC) OR abstract:("post covid" OR post-covid OR postcovid OR "post covid 19" OR post-covid-19 OR postcovid19 OR "post covid19" OR post-covid19 OR "postcovid 19" OR postcovid-19 OR "post coronavirus" OR post-coronavirus OR postcoronavirus OR "post SARS CoV 2" OR post-SARS-CoV-2 OR postSARSCoV2 OR "post SARS CoV2" OR "post-SARS CoV2" OR "postSARS CoV2" OR "post SARS-CoV2" OR post-SARS-CoV2 OR postSARS-CoV2 OR "post SARSCoV 2" OR "post-SARSCoV 2" OR "postSARSCov 2" OR "post SARSCoV-2" OR "post-SARSCoV-2" OR "postSARSCoV-2" OR PASC))

Limits = added to database from 06/01/2025 onwards, broad synthesis = 6, SR = 107

2. (title:("post acute" OR post-acute OR postacute) OR abstract:("post acute" OR post-acute OR postacute)) AND (title:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2) OR abstract:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2))

Limits = added to database from 06/01/2025 onwards, broad synthesis = 1, SR = 19

3. (title:("long haul" OR "long hauler" OR "long haulers" OR long-haul\* OR longhaul\*) OR abstract:("long haul" OR "long hauler" OR "long haulers" OR long-haul\* OR longhaul\*)) AND (title:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2) OR abstract:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2))

Limits = added to database from 06/01/2025 onwards, broad synthesis = 0, SR = 0

4. (title:(sequela\*) OR abstract:(sequela\*)) AND (title:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2) OR abstract:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2))

Limits = added to database from 06/01/2025 onwards, broad synthesis = 0, SR = 22

5. (title:("chronic covid" OR "chronic covid-19" OR "chronic covid19" OR "chronic coronavirus" OR "chronic SARS CoV 2" OR "chronic SARS-CoV-2" OR "chronic SARSCoV2" OR "chronic SARS CoV2" OR "chronic SARS-CoV2" OR "chronic SARSCoV 2" OR "chronic SARSCoV-2") OR abstract:("chronic covid" OR "chronic covid-19" OR "chronic covid19" OR "chronic coronavirus" OR "chronic SARS CoV 2" OR "chronic SARS-CoV-2" OR "chronic SARSCoV2" OR "chronic SARS CoV2" OR "chronic SARS-CoV2" OR "chronic SARSCoV 2" OR "chronic SARSCoV-2"))

Limits = added to database from 06/01/2025 onwards, broad synthesis = 0, SR = 1

6. (title:("long term" OR "longer term" OR long-term OR longer-term) OR abstract:("long term" OR "longer term" OR long-term OR longer-term)) AND (title:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2) OR abstract:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2))

Limits = added to database from 06/01/2025 onwards, broad synthesis = 8, SR = 64

7. (title:(persist\*) OR abstract:(persist\*)) AND (title:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2) OR abstract:(covid OR covid-19 OR covid19 OR coronavirus



OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2))

Limits = added to database from 06/01/2025 onwards, broad synthesis = 2, SR = 57

8. (title:("post discharge" OR post-discharge OR postdischarge) OR abstract:("post discharge" OR post-discharge OR postdischarge)) AND (title:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2) OR abstract:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2))

Limits = added to database from 06/01/2025 onwards, broad synthesis = 0, SR = 1

9. (title:(survivor\* OR survived) OR abstract:(survivor\* OR survived)) AND (title:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2) OR abstract:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2))

Limits = added to database from 06/01/2025 onwards, broad synthesis = 2, SR = 21

10. (title:(ongoing OR lasting OR prolonged OR fluctuat\* OR residual\* OR continu\* OR linger\*) OR abstract:(ongoing OR lasting OR prolonged OR fluctuat\* OR residual\* OR continu\* OR linger\*)) AND (title:(symptom\* OR effect\* OR complication\* OR sequela\* OR syndrome OR illness\* OR disorder\* OR dysfunction\* OR impair\* OR impact\* OR consequence\* OR manifest\*) OR abstract:(symptom\* OR effect\* OR complication\* OR sequela\* OR syndrome OR illness\* OR disorder\* OR dysfunction\* OR impair\* OR impact\* OR consequence\* OR manifest\*)) AND (title:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2) OR abstract:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2))

Limits = added to database from 06/01/2025 onwards, broad synthesis = 9, SR = 103

# **PROSPERO search strategy**

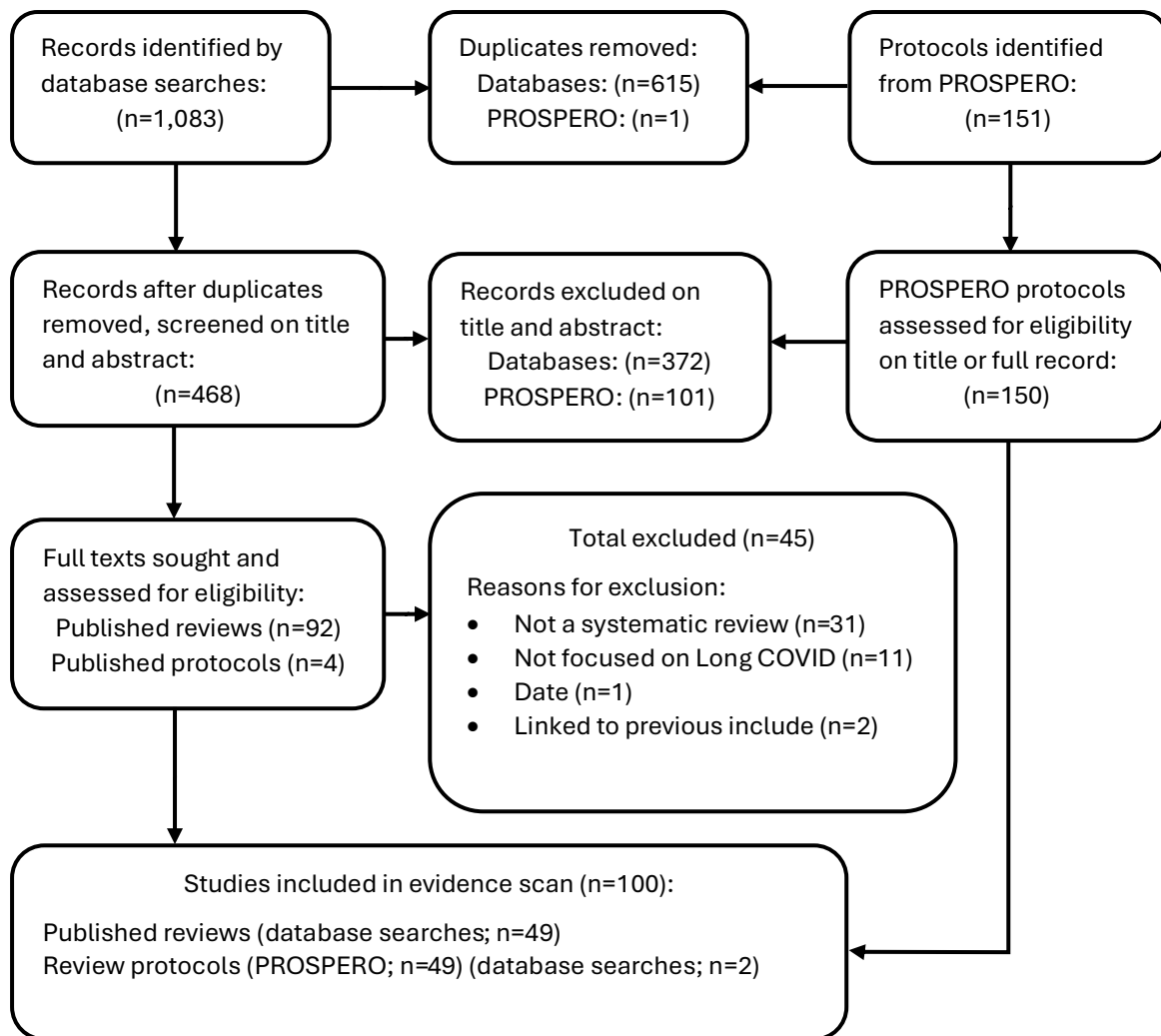
<https://www.crd.york.ac.uk/prospero/>

Searched on 9<sup>th</sup> April, 2025

Records identified: 151

|    |                                                                                                                                                                               |        |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| #1 | long COVID OR post COVID OR PASC                                                                                                                                              | 1236   |
| #2 | COVID-19-related or COVID-related                                                                                                                                             | 739    |
| #3 | coronavirus OR SARS-CoV-2 OR SARS-CoV2 OR SARSCoV2 OR SARSCoV-2 OR 2019-nCoV                                                                                                  | 8723   |
| #4 | Persist* OR long term OR prolonged OR lingering OR dysfunction OR recover* OR survivor* OR long haul* OR post discharge OR postdischarge OR sequela* OR chronic OR post acute | 111536 |
| #5 | #3 and #4                                                                                                                                                                     | 3051   |
| #6 | 1 or #2 or #5                                                                                                                                                                 | 4134   |
|    | Limit to Clinical and 6 <sup>th</sup> January to 7 <sup>th</sup> April                                                                                                        | 151    |

## Appendix 2: Flow of studies through the review



### Appendix 3: Summary of reports and updates

Table 2: Summary of reviews (November 2021 to January 2025)

| Report date                                                                                          | Apr 2025       | Jan 2025           | Oct 2024       | July 2024      | Apr 2024       | Jan 2024           | Oct 2023       | July 2023      | Apr 2023       | Jan 2023           | Oct 2022       | July 2022      | Apr 2022           | Nov 2021      |
|------------------------------------------------------------------------------------------------------|----------------|--------------------|----------------|----------------|----------------|--------------------|----------------|----------------|----------------|--------------------|----------------|----------------|--------------------|---------------|
| Period searched                                                                                      | Jan to Apr '25 | Oct '24 to Jan '25 | Jul to Oct '24 | Apr to Jul '24 | Jan to Apr '24 | Oct '23 to Jan '24 | Jul to Oct '23 | Apr to Jul '23 | Jan to Apr '23 | Oct '22 to Jan '23 | Jul to Oct '22 | Apr to Jul '22 | Nov '21 to Apr '22 | Up to Nov '21 |
| Main focus by review type                                                                            |                |                    |                |                |                |                    |                |                |                |                    |                |                |                    |               |
| Published reviews                                                                                    | 49             | 33                 | 38             | 33             | 36             | 42                 | 46             | 31             | 37             | 50                 | 29             | 28             | 54                 | 51            |
| Treatment <sup>1</sup>                                                                               | 12             | 12                 | 11             | 13             | 5              | 7                  | 11             | 5              | 5              | 5                  | 5              | 3              | 11                 | 3             |
| Treatment <sup>1</sup> and prevention                                                                |                | 1                  |                | 1              |                |                    | 1              | 1              | 2              |                    | 2              |                |                    |               |
| Treatment <sup>1</sup> and pathobiology <sup>4</sup>                                                 | 1              |                    |                |                |                |                    | 1              |                |                |                    |                |                |                    |               |
| Treatment, <sup>1</sup> prevention and prevalence <sup>2</sup>                                       |                |                    |                |                |                |                    | 1              |                |                |                    |                |                |                    |               |
| Prevention                                                                                           | 1              | 1                  | 1              | 2              | 1              | 3                  |                |                | 1              | 2                  | 1              |                |                    | 1             |
| Prevalence <sup>2</sup>                                                                              | 15             | 10                 | 14             | 7              | 21             | 18                 | 20             | 16             | 21             | 31                 | 19             | 22             | 38                 | 47            |
| Prevalence <sup>2</sup> and treatment <sup>1</sup>                                                   | 1              |                    |                | 2              | 1              | 2                  |                | 1              |                |                    |                |                |                    |               |
| Prevalence <sup>2</sup> and pathobiology <sup>4</sup>                                                | 2              | 1                  |                |                |                |                    |                | 1              | 1              |                    |                |                |                    |               |
| Prevalence, <sup>2</sup> treatment <sup>1</sup> and economics                                        |                |                    |                |                |                |                    | 1              |                |                |                    |                |                |                    |               |
| Prevalence, <sup>2</sup> treatment, <sup>1</sup> and pathobiology <sup>4</sup>                       | 1              |                    |                |                | 1              |                    |                |                |                |                    |                |                |                    |               |
| Risk factors <sup>3</sup>                                                                            | 11             | 3                  | 8              | 4              | 5              | 9                  | 1              | 6              | 3              | 8                  |                | 3              |                    |               |
| Risk factors <sup>3</sup> and treatment <sup>1</sup>                                                 |                | 2                  |                | 1              |                | 1                  |                |                |                | 1                  | 1              |                |                    |               |
| Risk factors <sup>3</sup> and prevention                                                             |                |                    |                |                |                |                    |                |                |                | 1                  |                |                |                    |               |
| Pathobiology <sup>4</sup>                                                                            | 1              | 2                  | 3              | 3              | 2              | 2                  | 6              | 1              | 3              | 2                  |                |                |                    |               |
| Risk factors <sup>3</sup> and pathobiology <sup>4</sup>                                              | 1              |                    |                |                |                |                    | 2              |                |                |                    |                |                | 5                  |               |
| Health and social or economics                                                                       |                |                    |                |                |                |                    | 1              |                |                |                    | 1              |                |                    |               |
| Experiences <sup>5</sup>                                                                             |                | 1                  |                |                |                |                    |                |                |                |                    |                |                |                    |               |
| Public, patient involvement                                                                          |                |                    |                |                |                |                    | 1              |                |                |                    |                |                |                    |               |
| Diagnosis or monitoring tools                                                                        | 3              |                    | 1              |                |                |                    |                |                |                |                    |                |                |                    |               |
| Treatment, <sup>1</sup> prevention, prevalence, <sup>2</sup> pathobiology <sup>4</sup> and diagnosis |                |                    |                |                |                |                    |                |                | 1              |                    |                |                |                    |               |

|                                                         |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
|---------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Completed not published</b>                          | <b>3</b>  | <b>2</b>  |           |           | <b>1</b>  | <b>1</b>  | <b>3</b>  | <b>1</b>  | <b>5</b>  |           | <b>2</b>  |           | <b>5</b>  | <b>9</b>  |
| Treatment <sup>1</sup>                                  | 1         |           |           |           | 1         |           |           | 1         | 2         |           |           |           | 1         | 1         |
| Prevalence <sup>2</sup>                                 | 1         |           |           |           |           | 1         | 2         |           | 3         |           | 2         |           | 4         | 7         |
| Risk factors <sup>3</sup>                               | 1         | 1         |           |           |           |           | 1         |           |           |           |           |           |           |           |
| Pathobiology <sup>4</sup>                               |           | 1         |           |           |           |           |           |           |           |           |           |           |           |           |
| Experiences <sup>5</sup>                                |           |           |           |           |           |           |           |           |           |           |           |           |           | 1         |
| <b>Ongoing reviews (protocols)</b>                      | <b>48</b> | <b>28</b> | <b>35</b> | <b>43</b> | <b>62</b> | <b>41</b> | <b>41</b> | <b>52</b> | <b>68</b> | <b>56</b> | <b>63</b> | <b>59</b> | <b>73</b> | <b>77</b> |
| Treatment <sup>1</sup>                                  | 12        | 5         | 10        | 11        | 20        | 13        | 8         | 26        | 27        | 33        | 24        | 12        | 17        | 15        |
| Treatment <sup>1</sup> and prevention                   | 1         |           |           |           |           |           | 1         |           | 1         |           | 4         |           |           |           |
| Prevention                                              | 1         | 1         |           | 4         | 3         | 2         | 2         | 2         |           | 1         |           | 2         | 4         |           |
| Prevalence <sup>2</sup>                                 | 17        | 10        | 13        | 16        | 24        | 14        | 22        | 12        | 18        | 13        | 30        | 31        | 47        | 59        |
| Prevalence <sup>2</sup> and treatment <sup>1</sup>      |           | 1         |           | 1         |           | 3         |           | 1         |           | 1         |           |           |           |           |
| Prevalence <sup>2</sup> and pathobiology <sup>4</sup>   | 1         |           |           |           |           |           | 1         |           |           |           |           |           |           |           |
| Prevalence <sup>2</sup> and prevention                  |           | 1         |           |           |           |           |           |           |           |           |           |           |           |           |
| Risk factors <sup>3</sup>                               | 7         | 2         | 6         | 6         | 8         | 7         | 6         | 6         | 13        | 4         |           | 10        |           |           |
| Risk factors <sup>3</sup> and treatment <sup>1</sup>    |           |           |           |           |           | 1         |           |           |           |           |           |           |           |           |
| Risk factors <sup>3</sup> and prevention                |           |           |           |           | 2         |           |           |           |           | 1         |           |           |           |           |
| Pathobiology <sup>4</sup>                               | 7         | 4         | 5         | 1         | 4         | 1         |           | 3         | 4         | 3         |           | 3         |           |           |
| Pathobiology <sup>4</sup> and treatment <sup>1</sup>    | 1         |           |           | 1         |           |           |           |           |           |           |           |           |           |           |
| Risk factors <sup>3</sup> and pathobiology <sup>4</sup> |           |           |           |           |           |           |           | 1         |           |           | 4         |           | 5         |           |
| Diagnosis or monitoring tools                           |           | 1         | 1         |           |           |           |           |           | 3         |           |           |           |           |           |
| Health and social or economics                          | 1         | 1         |           |           | 1         |           | 1         | 1         | 1         |           | 1         | 1         |           | 3         |
| Experiences <sup>5</sup>                                |           | 2         |           | 3         |           |           |           |           | 1         |           |           |           |           |           |

1. Treatment = treatment or rehabilitation. 2. Prevalence = prevalence of symptoms or effects. 3. Risk factors = risk factors with or without prevalence of symptoms or effects. 4. Pathobiology = pathobiology or mechanisms. 5. Experiences = experiences with or without prevalence of symptoms or effects.

NB: Caution is required in drawing direct comparisons across time. Records for the October 2022 and subsequent updates were identified using a more comprehensive search strategy and a different combination of databases, compared with the April and July 2022 reports. Pre-prints and early online versions of reviews were also included in the April and July 2022 reports. The November report searched the COVID-19 living map, as the main source, and covered a longer period than other reports. Four reviews in the July 2022 report were included as preprints in the April 2022 report. One review in the April 2022 report was in the November 2021 report, along with all five completed but not published protocols.

The London-York Policy Research Programme Evidence Review Facility puts the evidence into development and implementation of health policy through:

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