
Monograph:
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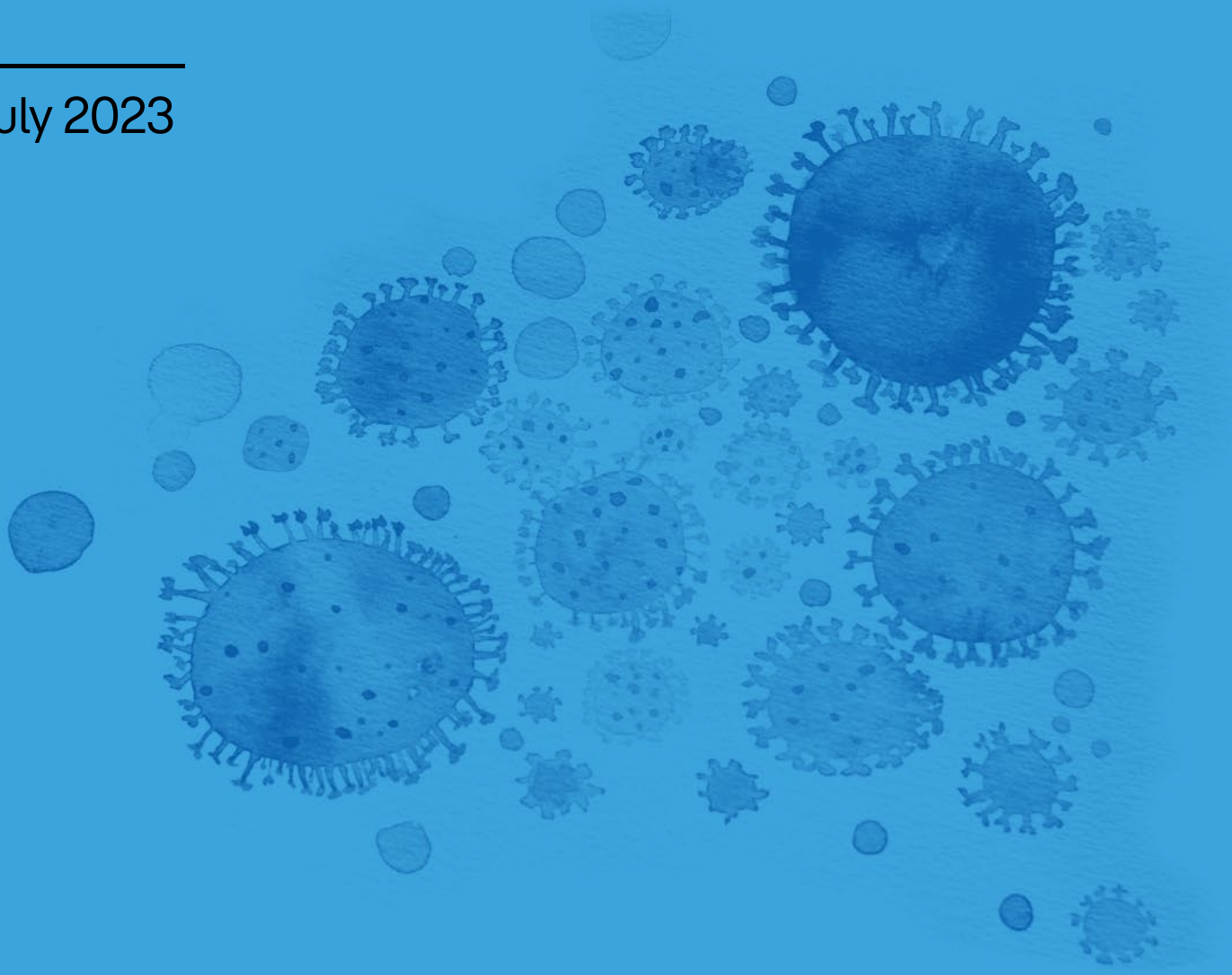
NIHR Policy Research Programme Reviews Facility

To support national policy development and implementation

Reviews on Long COVID

A scope of the literature: update

July 2023



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Reviews on Long COVID: A scope of the literature. Update July 2023

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Summary

- For this update, we identified 31 published reviews and 53 protocols for reviews on Long COVID. The number of published reviews is less than the number in our last quarterly report in April (n=37).
- Most published reviews were focused on the prevalence of symptoms or effects (16/31), which is consistent with the earlier reports.
- We identified more published reviews with a primary focus on Long COVID risk factors (6/31) than in April (3/37), and the same number on treatment or rehabilitation (n=5) for both reports.
- Most of the protocols focused on Long COVID treatment or rehabilitation (26/53), as was the case in the last two reports (29/73 and 33/56).
- Most of the other protocols focused on the prevalence of symptoms or effects (12/53), or risk factors with or without symptom prevalence (6/53).

Introduction

This is the sixth update (seventh report) in an ongoing series of quarterly evidence scans, for published systematic and ongoing reviews related to Long COVID, requested by the Department of Health and Social Care. The last update covered the period from January 2023 to April 2023.[1]

For the current update, we identified systematic reviews and review protocols focused on Long COVID that were published between early April 2023 and the start of July 2023. 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.[2,3] The searches took place on 7th July 2023 and were limited by date to capture those records added to the databases since the last update searches in April 2023. No language restrictions were applied. A further search of PROSPERO was undertaken, by the review team, up to the 7th July 2023 to identify any new ongoing reviews. 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 for MEDLINE, CINAHL, CDSR and Epistemonikos can be found in Appendix 1 (page 20).

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

[1] Khouja C, Khatwa M, Raine G, Harden M, Sutcliffe K, Sowden A (2023) Reviews on Long COVID: A scope of the literature. Update April 2023. London: EPPI Centre, UCL Social Research Institute, UCL Institute of Education, University College London.

[2] 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.

[3] 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.

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 paper that was not excluded on title and abstract.

Key findings

We screened 851 records and identified **31 published reviews, one protocol for a completed but not published review, and 52 protocols for ongoing reviews**. The flow of studies through the review is shown in Appendix 2 (page 27). Table 1 provides a summary of all reviews identified for this update by focus. The full reference and aim/research questions for each included review are provided on pages 6 to 19. Table 2 (Appendix 3, page 28) provides a summary of the reviews identified across all seven reports we have produced to date (July 2023, April 2023, January 2023, October 2022, July 2022, April 2022, and November 2021).

Table 1: Summary of reviews (April to July 2023)

Review status Primary focus	Systematic review	Review of reviews	Evidence map
Published reviews (n=31)			
Treatment or rehabilitation	5		
Treatment or rehabilitation, and prevention	1		
Prevalence of symptoms or effects	15	1	
Prevalence of symptoms or effects, and treatment	1		
Prevalence of symptoms or effects, and mechanisms	1		
Risk factors +/- prevalence of symptoms or effects	6		
Pathobiology or mechanisms	1		
Protocols - completed not published reviews (n=1)			
Treatment or rehabilitation	1		
Protocols - ongoing reviews (n=52)			
Treatment or rehabilitation	26		
Prevention	2		
Prevalence of symptoms or effects	12		
Prevalence of symptoms or effects, and treatment	1		
Risk factors +/- prevalence of symptoms or effects	6		
Pathobiology or mechanisms	3		
Risk factors +/- prevalence, and pathobiology	1		
Health and economics	1		

Published reviews

The number of systematic reviews identified for this update (n=31) was less than in April 2023 (n=37) and January 2023 (n=50), but more than in October 2022 (n=29). All these updates used the same databases and search strategy.

Treatment or rehabilitation (n=5)

The number of reviews in the current update that focused solely on treatment or rehabilitation was the same as in the previous three reports (n=5). These five reviews focused on platelet-rich plasma (#1 Aaraj et al., 2023), mental health interventions (#2 Al-Jabr et al., 2023), nutritional interventions (#3 Bradbury et al., 2023), rehabilitation (#4 Dillen et al., 2023), and ongoing trials of anosmia treatments (#5 Riccardi et al., 2023).

Prevention, and Treatment or rehabilitation, and prevention (n=1)

No reviews, in this update, focused solely on prevention. One review focused on respiratory rehabilitation as both treatment and prevention for Long COVID (#6 Tamburlani et al., 2023). There were two reviews on treatment and prevention in the April 2023 update, both of which focused on vaccination. As none of the reviews in this update focused on vaccination, there are still seven published reviews that include vaccination to prevent Long COVID.

Prevalence of symptoms or effects (n=16); with treatment (n=1); with mechanisms (n=1)

Just over half of the reviews focused on the prevalence of symptoms or effects of Long COVID (16/31), and one of these was a review of reviews (#7 SeyedAlinaghi et al., 2023). Two more reviews focused on symptom prevalence as well as treatment (#23 Hassan and Khalifa, 2023) or mechanisms (#24 Bocchino et al., 2023). The symptom prevalence and treatment review focused on femoral head avascular necrosis in post-COVID-19 patients.

Risk factors with or without prevalence of symptoms or effects (n=6)

Six reviews, in this update, focused on risk factors, with or without symptom prevalence, for Long COVID (#25 Gaudet et al., 2023; #26 Lin et al., 2023; #27 Poole-Wright et al., 2023; #28 Rahmati et al., 2023; #29 Yin et al., 2023; #30 Zakia et al., 2023), while there were three in the April report and 10 investigating risk factors in the January 2023 report.

Pathobiology or mechanisms (n=1)

One review focused on the pathobiology or mechanisms of Long COVID (#31 Espin et al., 2023); two fewer than in the April 2023 report.

Protocols – completed not published reviews

In this update, we identified one protocol for a completed but not yet published review (#32 Kokolevich et al., 2023). This focused on physiotherapy for adults of working age after mild COVID-19 infection. In the previous update (April 2023), there were five protocols for completed but not published reviews; three were on symptom prevalence, one was on treatment, and one was on rehabilitation.

Protocols - ongoing reviews

We identified 52 protocols for ongoing reviews, in this update, which is less than in the last three reports (April 2023, n=68; January 2023, n=56; and October 2022, n=63). As in the April report, most of the reviews for this update were on one of three topics: treatment or rehabilitation (n=26); prevalence of symptoms or effects (n=12); or risk factors with or without prevalence of symptoms or effects (n=6).

Treatment or rehabilitation (n=26)

One of the 26 treatment or rehabilitation protocols was a living review on hyperbaric oxygen therapy (#33 Boet et al., 2023). Of the remaining 25 protocols, 16 were on physiotherapy, muscle training or rehabilitation (#34 Castro et al., 2023; #36 Çırak et al., 2023; #38 da Silva Vieira et al., 2023; #39 Estela Zape et al., 2023; #41 Han and Wang, 2023; #42 Kalfas and Chalder, 2023; #43 Law et al., 2023; #46 Martin-Valero et al., 2023; #47 Martin-Valero et al., 2023; #48 Morgan et al., 2023; #50 Rocco et al., 2023; #51 Rodríguez Corredor et al., 2023; #52 Schär et al., 2023; #53 Shu-Yu et al., 2023; #54 Wang et al., 2023; #56 Wu et al., 2023). Two were on general non-pharmacological treatments (#35 Cheng and Cheung, 2023; #58 Zhang et al., 2023), one was on self-management (#55 Watts et al., 2023), and one was on models of care (#40 Fernando et al., 2023). One protocol was on Chinese medicine (#37 Chua et al., 2023) and another was on acupuncture (#57 Yang and Li, 2023). One was for a (non-living) systematic review on hyperbaric oxygen therapy (#45 Liu et al.,

2023), and the remaining two protocols were on any intervention for Long COVD (#49 Motilal et al., 2023; and #44 Li et al., 2023).

Prevention (n=2)

Two protocols focused on prevention. One was on the effects of COVID-19 treatments in preventing Long COVID (#59 Gbinigie et al., 2023), and the other was on vaccination to prevent Long COVID (#60 Marra et al., 2023).

Prevalence of symptoms or effects (n=12)

Twelve protocols were for reviews of the prevalence of symptoms or effects, including diabetes (#61 Awad et al., 2023), dysphagia (#62 Banari et al., 2023), otoneurological effects (#63 Barros Sa Barretto et al., 2023), thromboembolism (#64 Escudero et al., 2023), neurological or cognitive effects (#65 Gandhi and Ibrahim, 2023; #66 Kerley et al., 2023; #67 Lopez et al., 2023), psychological effects (#68 Nainu et al., 2023), deconditioning (#69 Navarra and Barnay, 2023), irritable bowel syndrome (#71 Wu et al., 2023), postural orthostatic tachycardia syndrome (#72 Yong et al., 2023), or general symptoms (#70 Xu et al., 2023).

Prevalence of symptoms or effects, and treatment (n=1)

One protocol focused on treatment and the prevalence of symptoms or effects. This was for a mixed-methods review on mental health experiences of Long COVID and mental health outcomes after psychological and exercise-based interventions (#73 Russell et al., 2023).

Remaining protocols (n=11)

Six protocols were for reviews on risk factors with or without prevalence of symptoms for Long COVID (#74 Bessaguet et al., 2023; #75 Engelmann et al., 2023; #76 Gao et al., 2023; #77 Hu et al., 2023; #78 Ramos et al., 2023; and #79 Ronca et al., 2023). Three protocols were for reviews on the pathobiology or mechanisms of Long COVID (#80 Khatami et al., 2023; #81 Udeh et al., 2023; and #82 Weerasekara et al., 2023). One protocol was for a review on risk factors, prevalence of symptoms, and pathobiology (#83 Lukenze Jacques et al., 2023), and one was for a review on resource use and costs of Long COVID (#84 Benedetto et al., 2023).

1) Published Reviews

Treatment or rehabilitation (n=5)

Standard systematic reviews

1. Aaraj MA, Boorinie M, Salfity L, et al. The use of platelet rich plasma in COVID-19 Induced olfactory dysfunction: systematic review. *Indian Journal of Otolaryngology & Head & Neck Surgery* 2023:1-5. doi: https://dx.doi.org/10.1007/s12070-023-03938-4

Aim: To investigate novel intervention using platelet-rich plasma injection into the nasal cleft for the treatment of post COVID-19 infection olfactory dysfunction.

2. Al-Jabr H, Hawke LD, Thompson DR, et al. Interventions to support mental health in people with Long COVID: a scoping review. *BMC Public Health* 2023;23:1186. doi: https://dx.doi.org/10.1186/s12889-023-16079-8

Aim: To identify interventions being tested to support the mental health of people with Long COVID.

3. Bradbury J, Wilkinson S, Schloss J. Nutritional support during Long COVID: a systematic scoping review. *Journal of Integrative and Complementary Medicine* 2023 doi: https://dx.doi.org/10.1089/jicm.2022.0821

Aim: To scope the available literature to identify potential nutritional interventions to support people with symptoms associated with Long COVID.

4. Dillen H, Bekkering G, Gijsbers S, et al. Clinical effectiveness of rehabilitation in ambulatory care for patients with persisting symptoms after COVID-19: a systematic review. *BMC Infectious Diseases* 2023;23:419. doi: https://dx.doi.org/10.1186/s12879-023-08374-x

Aim: To collate all available evidence on the effects of rehabilitation treatments, applicable in ambulatory care, for patients with persisting symptoms after COVID-19.

5. Riccardi G, Niccolini GF, Bellizzi MG, et al. Post-COVID-19 anosmia and therapies: stay tuned for new drugs to sniff out. *Diseases* 2023;11(2):79. doi: https://dx.doi.org/10.3390/diseases11020079

Aim: To highlight active clinical trials on the medical therapy of anosmia, focusing on those in an advanced and more promising stage, to explore which drugs to focus on in the management of olfactory impairment.

Treatment or rehabilitation, and prevention (n=1)

Standard systematic reviews

6. Tamburlani M, Cuscito R, Servadio A, et al. Effectiveness of respiratory rehabilitation in COVID-19's post-acute phase: a systematic review. *Healthcare* 2023;11(8):1071. doi: https://dx.doi.org/10.3390/healthcare11081071

Aim: To evaluate the effectiveness and benefits produced by the adoption of pulmonary rehabilitation programmes in COVID-19's post-acute phase, to improve respiratory functions, autonomy and quality of life, and reduce the incidence and severity of lung complications.

Prevalence of symptoms or effects (n=16)

Review of reviews

7. SeyedAlinaghi S, Bagheri A, Razi A, et al. Late complications of COVID-19: an umbrella review on current systematic reviews. *Archives of Academic Emergency Medicine* 2023;11:e28. doi: https://dx.doi.org/10.22037/aaem.v11i1.1907

Aim: To comprehensively review the available evidence on late complications related to COVID-19.

Standard systematic reviews

8. Ciaffi J, Vanni E, Mancarella L, et al. Post-acute COVID-19 joint pain and new onset of rheumatic musculoskeletal diseases: a systematic review. *Diagnostics* 2023;13(11):1850. doi: https://dx.doi.org/10.3390/diagnostics13111850

Aim: To provide an updated picture of post-acute COVID-19 musculoskeletal manifestations of potential rheumatological interest, with a particular focus on joint pain, new onset of rheumatic musculoskeletal diseases and presence of autoantibodies related to inflammatory arthritis.

9. Hovagemyan F, Dugerdil A, Braggion A, et al. Psychiatric consequences and issues of Long COVID on patients with prior psychiatric comorbidities: a scoping review. *Frontiers in Psychiatry* 2023;14:1181767. doi: https://dx.doi.org/10.3389/fpsyt.2023.1181767

Aim: To evaluate the present state of research of the possible effect of Long COVID on the mental health of patients with prior psychiatric comorbidities or a previous history of psychiatric illness.

10. Kazantzis D, Machairoudia G, Theodossiadis G, et al. Retinal microvascular changes in patients recovered from COVID-19 compared to healthy controls: a meta-analysis. *Photodiagnosis and Photodynamic Therapy* 2023;42:103556. doi: https://dx.doi.org/10.1016/j.pdpdt.2023.103556

Aim: To investigate changes in retinal microcirculation in patients recovered from COVID-19 infection compared to healthy controls, using optical coherence tomography-angiography.

11. Kuodi P, Gorelik Y, Gausi B, et al. Characterization of post-COVID syndromes by symptom cluster and time period up to 12 months post-infection: a systematic review and meta-analysis. *International Journal of Infectious Diseases* 2023;134:1-7. doi: https://dx.doi.org/10.1016/j.ijid.2023.05.003

Aim: To characterise post-COVID condition symptoms and symptom clusters, their duration, and prevalence.

12. Marasco G, Maida M, Cremon C, et al. Meta-analysis: post-COVID-19 functional dyspepsia and irritable bowel syndrome. *Alimentary Pharmacology & Therapeutics* 2023;58:6-15. doi: https://dx.doi.org/10.1111/apt.17513

Aim: To estimate the rate of post-COVID-19 functional dyspepsia and irritable bowel syndrome.

13. Mat Hassan N, Salim HS, Amaran S, et al. Prevalence of mental health problems among children with Long COVID: a systematic review and meta-analysis. *PLoS ONE* 2023;18(5):e0282538. doi: https://dx.doi.org/10.1371/journal.pone.0282538

Aim: To determine the proportion of mental health problems post-COVID-19 infection in children and adolescents, and to compare them with the population with no previous COVID-19 infection.

14. Mudgal SK, Gaur R, Rulaniya S, et al. Pooled prevalence of Long COVID-19 symptoms at 12 months and above follow-up period: a systematic review and meta-analysis. *Cureus* 2023;15:e36325. doi: https://dx.doi.org/10.7759/cureus.36325

Aim: To compile all the available data to evaluate COVID-19's long-term effects at 12 months and above.

15. Natarajan A, Shetty A, Delanerolle G, et al. A systematic review and meta-analysis of Long COVID symptoms. *Systematic Reviews* 2023;12:88. doi: https://dx.doi.org/10.1186/s13643-023-02250-0

Aim: To better understand Long COVID from a neurological and neuropsychiatry perspective.

16. Rahmati M, Yon DK, Lee SW, et al. New-onset neurodegenerative diseases as long-term sequelae of SARS-CoV-2 infection: a systematic review and meta-analysis. *Journal of Medical Virology* 2023;95:e28909. doi: https://dx.doi.org/10.1002/jmv.28909

Aim: To elucidate whether new-onset neurodegenerative diseases are long-term sequelae of SARS-CoV-2 infection.

17. Rahmati M, Yon DK, Lee SW, et al. New-onset type 1 diabetes in children and adolescents as postacute sequelae of SARS-CoV-2 infection: a systematic review and meta-analysis of

cohort studies. *Journal of Medical Virology* 2023;95:e28833. doi: https://dx.doi.org/10.1002/jmv.28833

Aim: To estimate the risk of developing new-onset type 1 diabetes in children and adolescents as post-acute sequelae of SARS-CoV-2 infection.

18. Simadibrata DM, Lesmana E, Gunawan J, et al. A systematic review of gut microbiota profile in COVID-19 patients and among those who have recovered from COVID-19. *Journal of Digestive Diseases* 2023;24(4):244. doi: https://dx.doi.org/10.1111/1751-2980.13195

Aim: To comprehensively assess the gut microbiota composition in patients infected with COVID-19 and those recovered from COVID-19 in comparison to healthy controls.

19. Sobrino-Relano S, Balboa-Bandeira Y, Pena J, et al. Neuropsychological deficits in patients with persistent COVID-19 symptoms: a systematic review and meta-analysis. *Scientific Reports* 2023;13:10309. doi: https://dx.doi.org/10.1038/s41598-023-37420-6

Aim: To objectify the persistent COVID-19 cognitive deficits after acute phase of infection and to summarise the existing evidence.

20. Suh HW, Kwon CY, Lee B. Long-term impact of COVID-19 on heart rate variability: a systematic review of observational studies. *Healthcare* 2023;11(8):1095. doi: https://dx.doi.org/10.3390/healthcare11081095

Aim: To investigate the long-term association between COVID-19 and heart rate variability parameters.

21. Woodrow M, Carey C, Ziauddeen N, et al. Systematic review of the prevalence of Long COVID. *Open Forum Infectious Diseases* 2023;10:ofad233. doi: https://dx.doi.org/10.1093/ofid/ofad233

Aim: To determine the prevalence of persistent symptoms, functional disability, or pathological changes in adults or children at least 12 weeks post infection.

22. Zuin M, Rigatelli G, Bilato C, et al. Risk of incident new-onset arterial hypertension after COVID-19 recovery: a systematic review and meta-analysis. *High Blood Pressure & Cardiovascular Prevention* 2023;30:227-33. doi: https://dx.doi.org/10.1007/s40292-023-00574-5

Aim: To assess the risk of new-onset arterial hypertension in COVID-19 survivors within one year from the index infection.

Prevalence of symptoms or effects, and treatment (n=1)

Standard systematic reviews

23. Hassan AAA, Khalifa AA. Femoral head avascular necrosis in COVID-19 survivors: a systematic review. *Rheumatology International* 2023;43:1583. doi: https://dx.doi.org/10.1007/s00296-023-05373-8

Aim: To document published cases of femoral head avascular necrosis (FHAVN) post-COVID-19, to report the COVID-19 disease characteristics and management patients received, and to evaluate how the FHAVN was diagnosed and treated.

Prevalence of symptoms or effects, and mechanisms (n=1)

Standard systematic review

24. Bocchino M, Rea G, Capitelli L, et al. Chest CT lung abnormalities 1 year after COVID-19: a systematic review and meta-analysis. *Radiology* 2023;308:e230535. doi: https://dx.doi.org/10.1148/radiol.230535

Aim: To assess the prevalence and type of residual lung alterations in individuals previously affected by COVID-19 pneumonia (with post-COVID-19) with a 1-year chest computed tomography (CT) follow-up.

Risk factors with or without prevalence of symptoms or effects (n=6)

Standard systematic reviews

25. Gaudet LA, Pillay J, Saba S, et al. Associations between SARS-CoV-2 infection and incidence of new chronic condition diagnoses: a systematic review. *Emerging Microbes & Infections* 2023;12:2204166. doi: https://dx.doi.org/10.1080/22221751.2023.2204166

Aim: To examine the associations between SARS-CoV-2 infection and the incidence of new diagnoses or exacerbations of chronic conditions in groups based on age and severity of infection.

26. Lin CW, Wang YH, Li YE, et al. COVID-related dysphonia and persistent Long-COVID voice sequelae: a systematic review and meta-analysis. *American Journal of Otolaryngology* 2023;44:103950. doi: https://dx.doi.org/10.1016/j.amjoto.2023.103950

Aim: To investigate the global prevalence of COVID-related dysphonia as well as related clinical factors during acute COVID-19 infection, and after a mid- to long-term follow-up past recovery.

27. Poole-Wright K, Guennouni I, Sterry O, et al. Fatigue outcomes following COVID-19: a systematic review and meta-analysis. *BMJ Open* 2023;13:e063969. doi: https://dx.doi.org/10.1136/bmjopen-2022-063969

Aim: To incorporate the current evidence for postinfection fatigue among survivors of SARS-CoV-2 and investigate associated factors.

28. Rahmati M, Udeh R, Yon DK, et al. A systematic review and meta-analysis of long-term sequelae of COVID-19 2-year after SARS-CoV-2 infection: a call to action for neurological, physical, and psychological sciences. *Journal of Medical Virology* 2023;95:e28852. doi: https://dx.doi.org/10.1002/jmv.28852

Aim: To conduct a comprehensive meta-analysis of survivors' health-related consequences and sequelae at two years following SARS-CoV-2 infection.

29. Yin JX, Agbana YL, Sun ZS, et al. Increased interleukin-6 is associated with Long COVID-19: a systematic review and meta-analysis. *Infectious Diseases of Poverty* 2023;12:43. doi: https://dx.doi.org/10.1186/s40249-023-01086-z

Aim: To assess the relationship between interleukin-6 levels and Long COVID-19.

30. Zakia H, Pradana K, Iskandar S. Risk factors for psychiatric symptoms in patients with Long COVID: a systematic review. *PLoS ONE* 2023;18(4):e0284075. doi: https://dx.doi.org/10.1371/journal.pone.0284075

Aim: To provide an overview of psychiatric symptoms in Long COVID patients and risk factors associated with the development of those symptoms.

Pathobiology or mechanisms (n=1)

Standard systematic reviews

31. Espin E, Yang C, Shannon CP, et al. Cellular and molecular biomarkers of Long COVID: a scoping review. *EBioMedicine* 2023;91:104552. doi: https://dx.doi.org/10.1016/j.ebiom.2023.104552

Aim: To describe the molecular and cellular biomarkers that have been identified to date with potential use for diagnosis or prediction of Long COVID.

2) Protocols for completed but not published reviews related to Long COVID (n=1)

Treatment or rehabilitation (n=1)

32. Kokolevich et al. Effectiveness and acceptability of physiotherapy interventions for improved function in Long COVID working-aged adult patients who had a mild acute COVID-19 infection. PROSPERO 2023 CRD42023392999 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023392999

Review question(s): To establish if physiotherapy/ physical therapy is an effective and patient-acceptable intervention for the improvement of the physical symptoms of Long COVID.

3) Protocols for ongoing reviews related to Long COVID (n=52)

Treatment or rehabilitation (n=26)

Living review

33. Boet et al. Efficacy and safety of hyperbaric oxygen therapy to treat Long-COVID: a living systematic review. PROSPERO 2023 CRD42023438320 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023438320

Review question(s): An up-to-date synthesis of evidence on the efficacy and safety of hyperbaric oxygen therapy for Long COVID patients.

Standard systematic reviews

34. Castro et al. Respiratory rehabilitation in patients with Long COVID: systematic review. PROSPERO 2023 CRD42023410135 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023410135

Review question(s): Does respiratory rehabilitation improve the quality of life, sleep quality, cognitive capacity, cardiorespiratory condition, and respiratory musculature of patients with Long COVID?

35. Cheng and Cheung. The effect of non-pharmacological interventions for Long COVID symptoms: a systematic review study. PROSPERO 2023 CRD42023434400 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023434400

Review question(s): Do non-pharmacological interventions have benefits for patients with Long COVID symptoms?

36. Çırak et al. Effects of respiratory muscle training on fatigue and physical fitness in patients with Long COVID-19 syndrome. PROSPERO 2023 CRD42023424908 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023424908

Review question(s): What is the effect of inspiratory muscle training on fatigue and physical fitness in patients with Long COVID-19 syndrome?

37. Chua et al. Systematic review and meta-analysis of Chinese medicine in treating Long COVID. PROSPERO 2023 CRD42023433278 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023433278

Review question(s): What is the efficacy and safety of traditional Chinese medicine in treating Long COVID conditions?

38. da Silva Vieira et al. The effectiveness and safety of telerehabilitation in people with COVID-19 and post-COVID-19: a systematic review. PROSPERO 2023 CRD42023431982 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023431982

Review question(s): 1. What is the effect of exercise-based telerehabilitation versus no intervention? 2. What is the effect of breathing exercises via telerehabilitation versus no intervention? 3. What is the effect of exercise-based telerehabilitation versus face-to-face rehabilitation? 4. What is the effect of breathing exercises via telerehabilitation versus face-to-face breathing exercises? 5. What is the effect of exercise-based telerehabilitation versus usual care? 6. What is the effect of breathing exercises via telerehabilitation versus usual care?

39. Estela Zape et al. Effectiveness of telerehabilitation protocols for functionality in post-COVID-19 patients: a systematic review. PROSPERO 2023 CRD42023423678 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023423678

Review question(s): What is the efficacy of a telerehabilitation programme compared to any programme or no intervention for measures of functionality in patients with sequelae of COVID?

40. Fernando et al. Models of care for Long COVID: a systematic review. PROSPERO 2023 CRD42023409794 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023409794

Review question(s): 1) What are the models of care for people with Long COVID? 2) What is the impact of models of care for Long COVID on patient and health system outcomes?

41. Han and Wang. Inspiratory muscle training in post-COVID-19 patients: a systematic review and meta-analysis of randomized controlled trials. PROSPERO 2023 CRD42023442067 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023442067

Review question(s): To perform a meta-analysis of randomised controlled trials to determine the efficacy of inspiratory muscle training in patients with post-COVID-19.

42. Kalfas and Chalder. Rehabilitation interventions for fatigue in Long COVID: a systematic review and meta-analysis. PROSPERO 2023 CRD42023433106 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023433106

Review question(s): Are non-pharmacological rehabilitation interventions effective in improving fatigue in Long COVID?

43. Law et al. Meditative movement for COVID and Long-COVID patients: systematic review on physical and mental health benefits. PROSPERO 2023 CRD42023425034 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023425034

Review question(s): 1. What are the effects of meditative movement on physical and mental health for COVID positive and convalescent patients? 2. Are there any adverse effects associated with the use of meditative movement for COVID-positive and post-COVID patients? 3. What are patients' experiences of using meditative movement during their COVID or post-COVID stage?

44. Li et al. Comparative effectiveness and safety of interventions for Long COVID: a network meta-analysis. PROSPERO 2023 CRD42023425704 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023425704

Review question(s): How effective and safe are interventions for Long COVID?

45. Liu et al. To assess the efficacy and safety of hyperbaric oxygen therapy (HBOT) in patients with Long COVID-19: a systematic review and meta-analysis study. PROSPERO 2023 CRD42023417647 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023417647

Review question(s): To assess the efficacy and safety of hyperbaric oxygen therapy (HBOT) in patients with Long COVID-19.

46. Martin-Valero et al. Efficacy of respiratory muscle training in people with Long COVID-19 condition: a systematic review. PROSPERO 2023 CRD42023410838 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023410838

Review question(s): To analyse the effects of respiratory muscle training in people with Long COVID-19 condition and to study the best treatment guidelines.

47. Martin-Valero et al. Efficacy and effectiveness of pulmonary rehabilitation programs and/or respiratory muscle training in patients with post-COVID condition: a systematic review. PROSPERO 2023 CRD42023433843 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023433843

Review question(s): To evaluate the effects produced by a pulmonary rehabilitation programme and/or respiratory muscle training on the different variables in patients with post-COVID condition.

48. Morgan et al. The impact of breathing exercises on anxiety and stress in adults with or without post-COVID-19 sequelae: a systematic review. PROSPERO 2023 CRD42023439627 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023439627

Review question(s): What is the impact of breathing exercises on anxiety and stress in the post-COVID-19 population. What is the impact of breathing exercises on anxiety and stress in adults who are non-COVID.

49. Motilal et al. Systematic Review of trials of interventions for the post COVID-19 condition. PROSPERO 2023 CRD42023415835 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023415835

Review question(s): In persons who have post-COVID-19 conditions what are the interventions that have been tested in trials, the quality of evidence and their conclusions?

50. Rocco et al. Effect of muscle respiratory training on respiratory muscle strength, pulmonary parameters, and exercise capacity in individuals with Long COVID: a systematic review and meta-analysis. PROSPERO 2023 CRD42023415136 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023415136

Review question(s): To assess the effects of respiratory muscle training (RMT) on respiratory muscle strength, pulmonary parameters, and exercise capacity in patients with Long COVID.

51. Rodríguez Corredor et al. Impact of pulmonary rehabilitation on respiratory functionality in post-COVID-19 patients. Systematic review. PROSPERO 2023 CRD42023417311 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023417311

Review question(s): What is the impact of pulmonary rehabilitation on respiratory functionality in patients who suffered from COVID-19?

52. Schär et al. Effectiveness of rehabilitation on sleep and depression among patients diagnosed with post COVID-19 condition: a systematic review and meta-analysis. PROSPERO 2023 CRD42023425578 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023425578

Review question(s): Do rehabilitation programs affect sleep and depression among patients diagnosed with post COVID-19 condition? If yes, which training modalities are recommended?

53. Shu-Yu et al. Respiratory and motor physiotherapy on post-COVID symptoms: a meta-analysis and systematic review. PROSPERO 2023 CRD42023424787 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023424787

Review question(s): This study aims to evaluate the effect of respiratory and motor physiotherapy on physical and mental health, and quality of life of post-COVID patients.

54. Wang et al. Effect of inspiratory muscle training (IMT) in patients with post-COVID-19 conditions: a systematic review and meta-analysis. PROSPERO 2023 CRD42023421308 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023421308

Review question(s): To evaluate the effect of inspiratory muscle training in patients with post-COVID-19 conditions.

55. Watts et al. Self-management interventions for fatigue and quality of life in Long COVID: a systematic review. PROSPERO 2023 CRD42023428083 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023428083

Review question(s): Can self-management strategies help with fatigue and quality of life in Long COVID?

56. Wu et al. Would exercise improve post-COVID 19 patients fatigue syndrome? PROSPERO 2023 CRD42023423400 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023423400

Review question(s): Does exercise improve post-COVID 19 patients fatigue syndrome?

57. Yang and Li. Acupuncture for anorexia after recovery from COVID-19: a protocol for systematic review and meta-analysis. PROSPERO 2023 CRD42023415187 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023415187

Review question(s): To determine the effect of acupuncture on anorexia after recovery from COVID-19.

58. Zhang et al. Non-pharmacological interventions for cognition in post-COVID-19 syndrome: a systematic review. PROSPERO 2023 CRD42023428484 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023428484

Review question(s): In adults aged ≥18 years, with cognitive impairments in post-COVID-19 syndrome (PCS), which pharmacological and non-pharmacological interventions are effective for improving cognitive function compared to no intervention?

Prevention (n=2)

Standard systematic reviews

59. Gbinigie et al. What is the effect of acute COVID-19 treatments on long–term outcomes? A systematic review and meta-analysis of randomised clinical trials. PROSPERO 2023 CRD42023421378 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023421378

Review question(s): To synthesise the evidence for the effectiveness of pharmacological treatments administered to participants in outpatient and inpatient settings with clinically diagnosed/suspected acute COVID-19 illness on longer-term outcomes (beyond 4 weeks from the index illness).

60. Marra et al. The effectiveness of COVID-19 vaccines in preventing post-COVID conditions: a systematic literature review and meta-analysis of the latest research. PROSPERO 2023 CRD42023429149 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023429149

Review question(s): To evaluate COVID-19 vaccine effectiveness among fully vaccinated individuals in the general population studying post-COVID-19 conditions.

Prevalence of symptoms or effects (n=12)

Standard systematic reviews

61. Awad et al. Long COVID's relation to the rise of type 2 Diabetes Mellitus II diagnosis, a systematic review. PROSPERO 2023 CRD42023414096 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023414096

Review question(s): Has the incidence of diabetes mellitus II increased in the adult population as a consequence of Long COVID?

62. Banari et al. The prevalence of dysphagia in patients with COVID-19: a systematic review and meta-analysis. PROSPERO 2023 CRD42023405377 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023405377

Review question(s): What is the prevalence of dysphagia in patients with COVID-19 at the time of admission; at the time of discharge; at 3-6 months after discharge; and the total prevalence?

63. Barros Sá Barretto et al. Otoneurological findings in post-COVID-19 patients: systematic review. PROSPERO 2023 CRD42023320732 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023320732

Review question(s): What are the findings of otoneurologic exams in post-COVID-19 patients when compared to non-infected ones?

64. Escudero et al. Thromboembolic events in patients with post-COVID acute syndrome: a systematic review and meta-analysis. PROSPERO 2023 CRD42023441556 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023441556

Review question(s): What is the risk of thromboembolic events appearing in patients with post-COVID acute syndrome?

65. Gandhi and Ibrahim. Neuroimaging in recovered COVID-19 patients: a systematic review and meta-analysis. PROSPERO 2023 CRD42023420242 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023420242

Review question(s): 1. What are the neuroimaging findings found from recovered COVID-19 patients in MRI, CT and radionuclide imaging? 2. Are there any changes in the neuroimaging findings of recovered COVID-19 patients at different time spans?

66. Kerley et al. Cognitive impairment in previously healthy elderly post COVID-19 infection: a systematic review and meta-analysis. PROSPERO 2023 CRD42023417566 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023417566

Review question(s): Does COVID-19 infection cause significant cognitive impairment in previously healthy elderly individuals?

67. Lopez et al. Cognitive performance on traditional neuropsychological tests in adults with Long COVID: a systematic review. PROSPERO 2023 CRD42023410833 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023410833

Review question(s): In adults with Long COVID, is performance-based neuropsychological assessment different from demographically similar healthy adults within specific domains of cognition?

68. Nainu et al. Understanding the psychological burden of Long COVID. PROSPERO 2023 CRD42023410035. Available from: Https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023410035

Review question(s): What are the psychological consequences of Long COVID? What are the lived psychological experiences? What contributes to the psychological experiences of Long COVID? What are the implications for clinical psychology?

69. Navarra and Barnay. Systematic review of physical deconditioning in Long COVID. PROSPERO 2023 CRD42023418909 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023418909

Review question(s): What does physical deconditioning mean in Long COVID in terms of physio-pathological aspects in patients with persistent symptoms after 3 months from acute COVID-19 infection?

70. Xu et al. Long COVID symptoms: a meta-analysis of studies with control groups. PROSPERO 2023 CRD42023409847 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023409847

Review question(s): Which Long COVID symptoms are actually caused by COVID-19?

71. Wu et al. Post COVID-19 irritable bowel syndrome: a systematic review and meta-analysis. PROSPERO 2023 CRD42023418709 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023418709

Review question(s): The objective of this meta-analysis is to determine the incidence rate and predictive factors associated with post-COVID-19 irritable bowel syndrome.

72. Yong et al. Postural orthostatic tachycardia syndrome (POTS) following SARSCoV-2 infection and COVID-19 vaccination: systematic review and meta-analysis of pooled prevalence and individual participant data. PROSPERO 2023 CRD42023431663 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023431663

Review question(s): To understand what is currently known about postural orthostatic tachycardia syndrome (POTS) occurring following SARS-CoV-2 infection and COVID-19 vaccination, in terms of prevalence and patient demographics.

Prevalence of symptoms or effects, and treatment (n=1)

Standard systematic reviews

73. Russell et al. A mixed-methods systematic review of the mental health experience of post-COVID fatigue and the mental health outcomes of psychological and exercise-based interventions. PROSPERO 2023 CRD42023434712 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023434712

Review question(s): What is the mental health experience of individuals with post-COVID fatigue, and what is the severity of their mental health difficulties? What are the techniques and content used in interventions which are effective in improving mental health outcomes for individuals experiencing post-COVID fatigue?

Risk factors with or without prevalence of symptoms or effects (n=6)

Standard systematic reviews

74. Bessaguet et al. Link between psychiatric history and Long COVID: a systematic review. PROSPERO 2023 CRD42023391720 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023391720

Review question(s): Does a psychiatric history favour the development of a post-COVID syndrome?

75. Engelmann et al. Psychological factors with prognostic validity in Long COVID: a systematic review. PROSPERO 2023 CRD42023408320 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023408320

Review question(s): The aim of this project is to provide a systematic review to evaluate the empirical evidence on psychological variables with prognostic validity for the presence of Long COVID or for Long COVID-associated symptom severity, impairment, quality of life, or health care utilisation.

76. Gao et al. Prevalence and risk factors of fatigue in children and adolescents after SARS-CoV-2 infection: a systematic review and meta-analysis. PROSPERO 2023 CRD42023424377 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023424377

Review question(s): To systematically review and meta-analyse the prevalence of fatigue in children and adolescents with SARS-CoV-2 infection. Participants are children and adolescents with previous SARS-CoV-2 infection.

77. Hu et al. The prevalence and associated factors of fatigue in post-COVID-19 syndrome: a systematic review and meta-analysis. PROSPERO 2023 CRD42023416527 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023416527

Review question(s): What is the prevalence of fatigue in the population suffering from post-COVID-19 syndrome? Which factors are associated with fatigue in the population suffering from post-COVID-19 syndrome?

78. Ramos et al. Risk factors for the development of post-COVID-19 syndrome in hospitalized patients for severe acute respiratory syndrome (SARS). PROSPERO 2023 CRD42023413515 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023413515

Review question(s): What are the risk factors for the development of post-COVID-19 syndrome in patients discharged from hospitalisation due to severe acute respiratory syndrome (SARS)

79. Ronca et al. Long COVID symptoms associated with excess of weight: a systematic review. PROSPERO 2023 CRD42023433234 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023433234

Review question(s): Which are the main Long COVID symptoms among individuals with excess of weight compared to eutrophics?

Pathobiology or mechanisms (n=3)

Standard systematic reviews

80. Khatami et al. Putative pathomechanisms of post COVID syndrome: systematic review and meta-analysis. PROSPERO 2023 CRD42023421974 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023421974

Review question(s): 1) What are the putative pathophysiologies underlying the post COVID sequelae? 2) Are the existing measurements enough to decode the pathophysiologies?

81. Udeh et al. Lactate dehydrogenase contribution to symptom persistence in Long COVID: A pooled analysis. PROSPERO 2023 CRD42023431873 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023431873

Review question(s): What is the relationship between plasma lactate dehydrogenase and 1). Long COVID, and 2). distinct post-acute sequelae of COVID-19 (PASC) domains?

82. Weerasekara et al. Cerebral magnetic resonance spectroscopy analysis of post-COVID-19 biochemical changes in the brain: a systematic review. PROSPERO 2023 CRD42023422015 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023422015

Review question(s): What are the biochemical changes that occur in the brain of post-COVID-19 patients as identified by magnetic resonance spectroscopy?

Risk factors with or without prevalence, and pathobiology (n=1)

Standard systematic review

83. Lukenze Jacques et al. Burden, causation, and particularities of Long-COVID in African populations: a rapid systematic review. PROSPERO 2023 CRD42023430024 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023430024

Review question(s): How prevalent is Long COVID in African populations? What are the most prevalent Long COVID symptoms in African populations? What factors and comorbidities are associated with Long COVID in African populations? What are the particularities of pathophysiological mechanisms of Long COVID-19 in African populations?

Health and economics (n=1)

Standard systematic review

84. Benedetto et al. Healthcare resource use and costs associated with Long COVID: a systematic review. PROSPERO 2023 CRD42023418083 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023418083

Review question(s): This review aims to systematically identify, assess and synthesise studies which reported data on healthcare resource use and costs associated with Long 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 July 06, 2023

Date searched: 7th July 2023

Records retrieved: 557

1 Post-Acute COVID-19 Syndrome/ (2198)
2 COVID-19 post-intensive care syndrome.mp. (5)
3 COVID-19/ or SARS-CoV-2/ (236542)
4 Syndrome/ (122634)
5 Survivors/ (30406)
6 4 or 5 (152920)
7 3 and 6 (997)
8 1 or 2 or 7 (3115)
9 ((long adj (covid$ or covid-19 or covid19 or coronavirus)) or longcovid$).ti,ab,kf,ot,bt. (3506)
10 ((post adj (covid$ or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)) or postcovid$).ti,ab,kf,ot,bt. (8117)
11 ((post acute or postacute) adj2 (covid$ or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)).ti,ab,kf,ot,bt. (786)
12 PASC.ti,ab,kf,ot,bt. (672)
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. (2324)
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. (297)
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. (1987)
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. (3611)
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. (124)
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. (238)
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. (2812)
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. (8244)
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. (2596)
22 or/9-21 (26257)
23 8 or 22 (26712)
24 systematic review.mp,pt. (306756)
25 search:.tw. (642737)
26 meta analysis.mp,pt. (278768)
27 review.pt. (3176379)
28 24 or 25 or 26 or 27 (3693965)
29 23 and 28 (4278)

30 qualitative review$.ti,ab,kf,ot,bt. (1749)
31 realist synthes$.ti,ab,kf,ot,bt. (371)
32 realist review$.ti,ab,kf,ot,bt. (655)
33 (meta-synthes$ or metasynthes$).ti,ab,kf,ot,bt. (2074)
34 (living adj2 (review$ or map$)).ti,ab,kf,ot,bt. (718)
35 pooled analysis.ti,ab,kf,ot,bt. (12495)
36 or/30-35 (17888)
37 23 and 36 (62)
38 29 or 37 (4284)
39 (202303$ or 202304$ or 202305$ or 202306$ or 202307$).dt. (565684)
40 38 and 39 (558)
41 exp animals/ not humans.sh. (5137154)
42 40 not 41 (558)
43 preprint.pt. (10568)
44 42 not 43 (557)

CINAHL Plus
via EBSCO https://www.ebsco.com/
Date range: Inception to 20230706
Date searched: 7th July 2023
Records retrieved: 133

S1 (MH "Post-Acute COVID-19 Syndrome") 814
S2 TI (long N1 (covid* or covid-19 or covid19 or coronavirus) or longcovid*) OR AB (long N1 (covid* or covid-19 or covid19 or coronavirus) or longcovid*) 1,208
S3 TI (post N1 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) or postcovid*) OR AB (post N1 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2) or postcovid*) 1,496
S4 TI (("post acute" or post-acute or postacute) N3 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)) OR AB (("post acute" or post-acute or postacute) N3 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)) 312
S5 TI PASC OR AB PASC 96
S6 TI (sequela* N6 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)) OR AB (sequela* N6 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)) 537
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)) 261
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)) 979
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)) 875
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)) 51

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)) 94
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)) 1,029
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)) 3,908
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)) 864
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 9,571
S16 (MH "Systematic Review") 123,569
S17 (ZT "systematic review") 144,071
S18 (ZT "meta analysis") 53,062
S19 (MH "Meta Analysis") 70,241
S20 TI (meta-analys* or metaanaly*) OR AB (meta-analys* or metaanaly*) 107,825
S21 TI systematic* N1 review* OR AB systematic* N1 review* 152,235
S22 S16 OR S17 OR S18 OR S19 OR S20 OR S21 255,339
S23 (ZT "review") 372,440
S24 AB systematic* or AB methodologic* or AB quantitative* or AB research* or AB literature* or AB studies or AB trial* or AB effective* 2,936,912
S25 (S23 AND S24) 169,095
S26 S22 OR S25 415,637
S27 S15 AND S26 568
S28 (MH "Meta Synthesis") 2,178
S29 TI qualitative N1 review* OR AB qualitative N1 review* 3,856
S30 TI (realist N1 (review* or synthes*)) OR AB (realist N1 (review* or synthes*)) 547
S31 TI (meta-synthes* or metasynthes*) OR AB (meta-synthes* or metasynthes*) 1,805
S32 TI (living N2 (review* or map*)) AND (living N2 (review* or map*)) 218
S33 TI pooled N1 analys* OR AB pooled N1 analys* 8,224
S34 S28 OR S29 OR S30 OR S31 OR S32 OR S33 15,312
S35 S15 AND S34 28
S36 S27 OR S35 579
S37 EM 202303- 93,185
S38 (ZD "in process") 924,562
S39 S37 OR S38 1,017,747
S40 S36 AND S39 133

Cochrane Database of Systematic Reviews (CDSR)
via Wiley http://onlinelibrary.wiley.com/
Issue: 7 of 12, July 2023
Date searched: 7th July 2023

Records retrieved: 0

#1 MeSH descriptor: [Post-Acute COVID-19 Syndrome] this term only 41
#2 MeSH descriptor: [COVID-19] this term only 4516
#3 MeSH descriptor: [SARS-CoV-2] this term only 2319
#4 MeSH descriptor: [Syndrome] this term only 6187
#5 MeSH descriptor: [Survivors] this term only 1534
#6 #2 or #3 4729
#7 #4 or #5 7716
#8 #6 and #7 48
#9 #1 or #8 88
#10 (long next (covid* or covid-19 or covid19 or coronavirus) or longcovid*):ti,ab,kw 280
#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 556
#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 998
#13 PASC:ti,ab,kw 50
#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 128
#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 30
#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 630
#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 203
#18 ((post discharg* or postdischarg*) near/5 (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)):ti,ab,kw 999
#19 ((long haul* or longhaul*) 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 445
#20 (surviv* 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 172
#21 (after next (covid* or covid-19 or covid19 or coronavirus or SARS-CoV-2 or SARS-CoV2 or SARSCoV2 or SARSCoV-2)):ti,ab,kw 249
#22 ((ongoing or lasting or prolonged or fluctuat* or residual* or continu* or linger*) near/6 (symptom* or effect* or complication* or sequela* or syndrome or illness* or dysfunction* or disorder* or impair* or impact* or consequence*) 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 140
#23 {OR #10-#22} 2208
#24 #9 or #23 with Cochrane Library publication date Between Mar 2023 and Jul 2023, in Cochrane Reviews, Cochrane Protocols 0

Epistemonikos
https://www.epistemonikos.org/
Date searched: 7th July 2023
Records retrieved: 367

1. (title:((title:("long covid" OR long-covid OR longcovid OR "long covid 19" OR long-covid-19 OR longcovid19 OR "long covid19" OR long-covid19 OR "longcovid 19" OR longcovid-19 OR "long coronavirus" OR long-coronavirus OR longcoronavirus) OR abstract:("long covid" OR long-covid OR

longcovid OR "long covid 19" OR long-covid-19 OR longcovid19 OR "long covid19" OR long-covid19 OR "longcovid 19" OR longcovid-19 OR "long coronavirus" OR long-coronavirus OR longcoronavirus)) OR (title:("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) 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))) OR abstract:((title:("long covid" OR long-covid OR longcovid OR "long covid 19" OR long-covid-19 OR longcovid19 OR "long covid19" OR long-covid19 OR "longcovid 19" OR longcovid-19 OR "long coronavirus" OR long-coronavirus OR longcoronavirus) OR abstract:("long covid" OR long-covid OR longcovid OR "long covid 19" OR long-covid-19 OR longcovid19 OR "long covid19" OR long-covid19 OR "longcovid 19" OR longcovid-19 OR "long coronavirus" OR long-coronavirus OR longcoronavirus)) OR (title:("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) 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 03/04/2023 onwards, broad synthesis = 3, SR = 58

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 03/04/2023 onwards, broad synthesis = 2, SR = 10

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 03/04/2023 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 03/04/2023 onwards, broad synthesis = 1, SR = 25

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 03/04/2023 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 03/04/2023 onwards, broad synthesis = 12, SR = 65

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 03/04/2023 onwards, broad synthesis = 5, SR = 34

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 03/04/2023 onwards, broad synthesis = 0, SR = 1

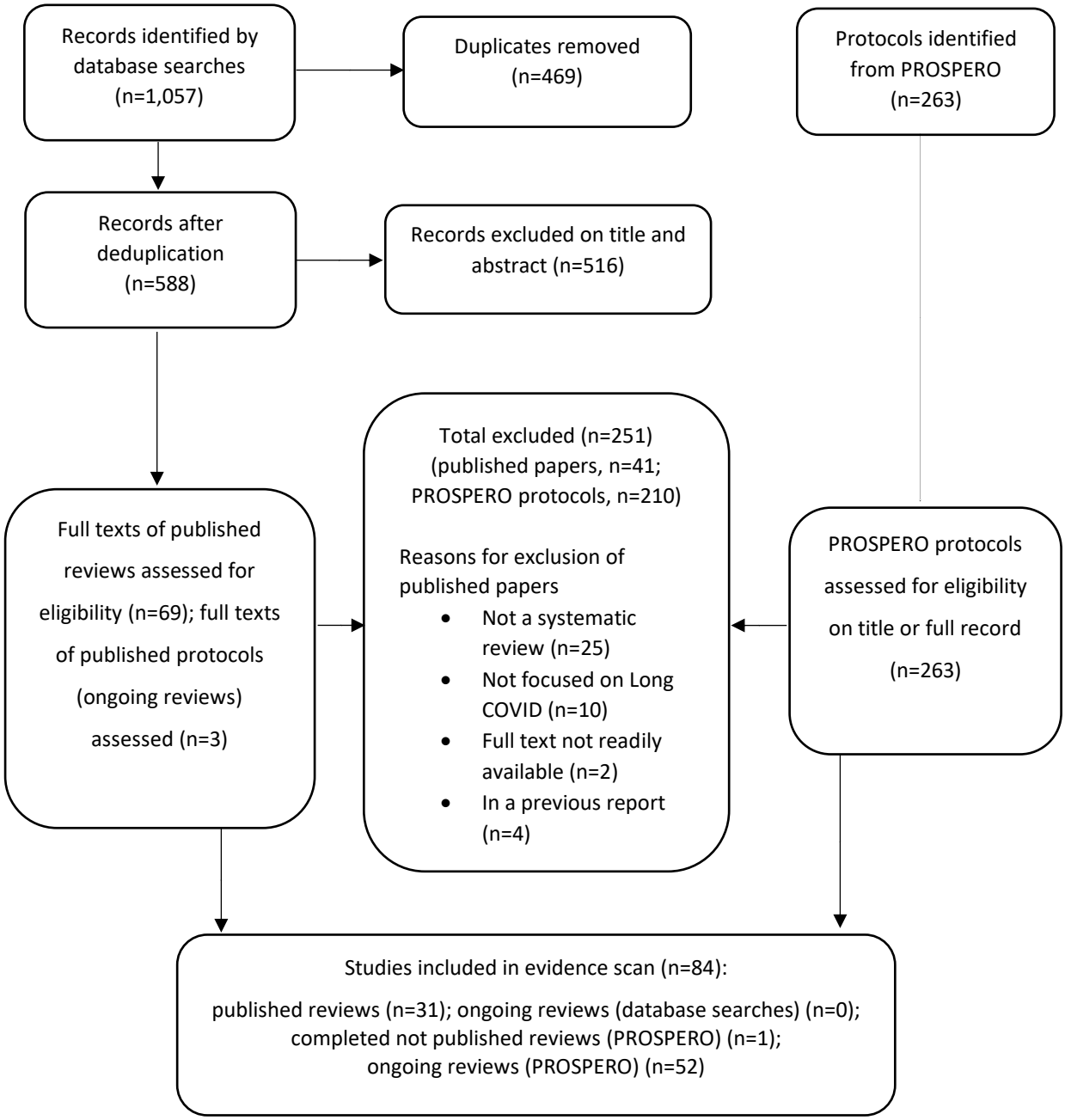
9. (title:(survivor* OR survived) OR abstract:(survivor* OR survived)) AND (title:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2) OR abstract:(covid OR covid-19 OR covid19 OR coronavirus OR "SARS CoV 2" OR SARS-CoV-2 OR SARSCoV2 OR "SARS CoV2" OR SARS-CoV2 OR "SARSCoV 2" OR SARSCoV-2))
Limits = added to database from 03/04/2023 onwards, broad synthesis = 3, SR = 15

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 03/04/2023 onwards, broad synthesis = 21, SR = 110

PROSPERO search strategy
https://www.crd.york.ac.uk/prospero/
Searched from 4th April to 7th July, 2023
Records identified: 263

#1	long COVID OR post COVID OR PASC	(917)
#2	persisting OR persistent OR long term OR ongoing OR prolonged OR lingering OR dysfunction OR recovered OR survivors OR long haul OR long hauler OR long haulers OR post discharge OR postdischarge OR sequela OR sequelae OR chronic OR post-acute	(68689)
#3	COVID OR COVID-19 OR COVID19 OR coronavirus OR SARS-CoV-2 OR SARS-CoV2 OR SARSCoV2 OR SARSCoV-2 OR 2019-nCoV	(10353)
#4	#3 AND #2	(3320)
#5	#1 OR #4	(3636)
#6	* Where CD FROM 04/04/2023 TO 07/07/2023	(14370)
#7	#6 AND #5	(263)

Appendix 2: Flow of studies through the review



Appendix 3: Summary of reports and updates

Table 2: Summary of reviews (November 2021 to July 2023)

Report date	July 2023	April 2023	January 2023	October 2022	July 2022	April 2022	Nov'r 2021
Period searched	Apr to Jul '23	Jan to Apr '23	Oct '22 to Jan '23	Jul '22 to Oct '22	Apr '22 to Jun '22	Nov '21 to Mar '22	Up to Nov '21
Primary focus by review type							
Published reviews	**31**	**37**	**50**	**29**	**28**	**54**	**51**
Treatment	5	5	5	5	3	11	3
Treatment and prevention	1	2		2			
Prevention		1	2	1			1
Health and Social				1			
Prevalence	16	21	31	19	22	38	47
Prevalence and treatment	1						
Prevalence and mechanisms	1	1					
Risk factors	6	3	8		3		
Risk factors and treatment			1	1			
Risk factors and prevention			1				
Pathobiology	1	3	2				
Risk factors and pathobiology						5	
Treatment, prevention, prevalence, pathobiology, and diagnosis		1					
Completed not published	**1**	**5**		**2**		**5**	**9**
Lived experience							1
Treatment	1	2				1	1
Prevalence		3		2		4	7
Ongoing reviews (new protocols)	**52**	**68**	**56**	**63**	**59**	**73**	**77**
Treatment	26	27	33	24	12	17	15
Treatment and prevention		1		4			
Prevention	2		1		2	4	
Health and Social				1	1		
Prevalence	12	18	13	30	31	47	59
Prevalence and treatment	1		1				
Risk factors	6	13	4		10		
Risk Factors and prevention			1				
Pathobiology	3	4	3		3		
Risk factors and pathobiology	1			4		5	
Diagnosis or monitoring tools		3					
Health and economics	1	1					3
Experiences		1					

Treatment = treatment or rehabilitation; prevalence = prevalence of symptoms or effects; Risk factors = risk factors with or without prevalence of symptoms or effects; pathobiology = pathobiology or mechanisms

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.

The NIHR Policy Research Programme Reviews Facility aims to put the evidence into development and implementation of health policy through:

- Undertaking policy-relevant systematic reviews of health and social care research
- Developing capacity for undertaking and using reviews
- Producing new and improved methods for undertaking reviews
- Promoting global awareness and use of systematic reviews in decision-making

The Reviews Facility is a collaboration between the following centres:
EPPI Centre (Evidence for Policy and Practice Information Centre),
UCL Institute of Education, University College London;
CRD (Centre for Reviews and Dissemination), University of York;
and the London School of Hygiene and Tropical Medicine.

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