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ABSTRACT

Introduction: Chronic respiratory diseases (CRD) have a high prevalence, morbidity, and mortality worldwide. After the COVID-19 pandemic, the number of patients readmitted after hospital discharge increased. For some populations, early hospital discharge and home health care may reduce health costs in patients treated at home when compared to those hospitalized. This study aims to systematically review the effectiveness of home health care for patients with chronic respiratory diseases and post-COVID-19 syndrome.

Methods and analysis: We will search on MEDLINE, CENTRAL, Embase, and PsycINFO. We will include randomized controlled trials (RCT) and non-randomized controlled trials (non-RCT) studies reported in full text or abstract, and no language restriction will be applied. We will include studies related to adults with a diagnosis of CRD and/or post-COVID syndrome that compared in-patient hospital care with any home health care. We will exclude studies with participants with neurological, mental diseases, cancer, or pregnant women. Two review authors will screen abstracts and select the eligible studies. To investigate the risk of bias, we will use the Cochrane 'Risk of Bias' tool (RoB 2) for RCT, and the ROBINS-I (Risk of Bias In Non-randomized Studies–of Interventions) for non-RCT. We will use the five GRADE considerations to assess the quality of the evidence. Patients and the public will be involved in the preparation, execution, and implementation phases of the review.

Ethics and dissemination: No ethical approval is required because only published data will be analyzed. The publication of the results in peer-reviewed journals and at relevant conferences will guide the direction of future research in the field and healthcare practice. The results will also be disseminated in plain language on social media to disseminate the knowledge to society and the public interested in the topic.

Keywords: Post-Acute COVID-19 Syndrome; Respiration Disorders; Home Care Services, Hospital-Based; Inpatients; Length of Stay.

Article summary - Strengths and limitations of this study

- This study aims to compare the forms of delivery of effective interventions concerning relevant outcomes for people with chronic respiratory diseases;
- We will use a rigorous, guideline-based methodology to support the systematic review;
- The search strategy was developed by an experienced librarian; the search will be performed in notable databases, and no language restrictions will be applied in the search for primary studies;
- The certainty of systematic review evidence may be limited depending on the availability and quality of evidence found.

INTRODUCTION

Chronic respiratory diseases (CRD) are among the most common non-communicable diseases worldwide,[1] and present a high prevalence, morbidity, and mortality. Chronic obstructive pulmonary disease (COPD) and asthma are notable examples of CRD that contribute to worldwide mortality rates and healthcare costs,[2] which affect millions of people and represent the majority of treatment costs related to exacerbations and hospitalizations.[3] Since the coronavirus pandemic arise, post-COVID-19 syndrome became another common cause of hospitalization.[4]

The National Institute for Clinical Excellence[4] (NICE) clinical practice guideline defines post-COVID-19 syndrome as a heterogeneous condition that includes severe hospitalization, and it is characterized by persistent clinical signs and symptoms that appear while or after suffering COVID-19, persist for more than 12 weeks, and cannot be explained by an alternative diagnosis. Evidence shows that one-third of patients who were discharged from the hospital after COVID-19 acute treatment were readmitted and more than one patient in 10 died.[5]

For patients with CRD who need special care, early hospital discharge associated with home health care may reduce health costs when compared to those hospitalized.[6] For some populations, home health care seems to be safe, and feasible,[7,8] and may improve clinical outcomes such as reducing hospital readmission and improving communication between patients and healthcare workers.[9] Despite increasing interest in early hospital discharge, evidence comparing the hospital- and home-based treatment is lacking.[10]

Thus, this study aims to systematically review the literature to assess the effectiveness of home health care for patients with chronic respiratory diseases and post-COVID-19 syndrome, compared with hospital-based care. We will consider relevant outcomes for the implementation and consolidation of public healthcare policies.

OBJECTIVES

To determine the effectiveness of managing chronic respiratory disease and post-COVID syndrome patients with home health care compared with in-patient hospital care.

METHODS AND ANALYSIS

Registration

This study was registered in the PROSPERO international prospective register of systematic reviews (CRD42022342917). This systematic review protocol will follow the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols Statement (PRISMA-P),[11] the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) 2020 statement,[12] and the Cochrane Handbook for Systematic Reviews of Interventions.[13]

Eligibility criteria

Types of studies

We will include randomized controlled trials (RCTs) and non-randomized controlled trials (non-RCT). We will include studies reported in full text or abstract and we will exclude unpublished data.

Types of participants

We will include adults (older than 18 years) with a diagnosis of CRD and/or post-COVID syndrome. We will exclude participants with neurological, mental diseases, cancer, or pregnant women.

Types of interventions

Intervention: adults with CRD and/or post-COVID syndrome who have been assigned to treatment comprising home health care

Comparison: control group receiving in-patient hospital care, health education or alternatively, no active control group.

We will include studies comparing any home health care (e.g., interdisciplinary home rehabilitation, home-based maintenance telerehabilitation, medication administration at home) with in-patient hospital care.

Types of outcome measures

Primary outcomes

1. Mortality
2. Length of stay in hospital and home health care
3. Health-related quality of life

Secondary outcomes

1. Self-efficacy (e.g., General Self-Efficacy Scale)
2. Adherence
3. Functional status (e.g., Functional Status Score for the Intensive Care Unit; Six Minute Walk Test)
4. Re-admissions to the hospital (e.g., exacerbations rates, hospitalization rates)
5. Patient satisfaction
6. Costs
7. Adverse events

We will report outcomes using the following time points:

1. immediate;
2. short-term (up to three months);
3. long-term (more than three months).

Information sources

Search strategy

We will identify studies by searching the following databases and trial registries:

1. Cochrane Central Register of Controlled Trials (CENTRAL), via the Cochrane Register of Studies, all years to date;
2. MEDLINE Ovid SP 1946 to date;
3. Embase Ovid SP 1974 to date;
4. CINAHL;
5. US National Institutes of Health Ongoing Trials Register ClinicalTrials.gov (www.clinicaltrials.gov);
6. World Health Organization International Clinical Trials Registry Platform (apps.who.int/trialsearch).

The proposed MEDLINE search strategy is listed in Supplementary.

File 1. This will be adapted for use in the other databases.

All databases and trial registries will be searched from their inception to the present, and restrictions on language or year of publication. Hand-searched conference abstracts and gray literature will be identified.

Searching other resources

We will check reference lists of all primary studies and review articles for additional references. We will search for errata or retractions from included studies published in full text and report the respective date.

Data collection and analysis

Selection of studies

Search results will be imported into the reference list management tool Mendeley (https://www.mendeley.com). Any duplicates will be identified and removed using Mendeley. Then, the reference list will be exported to the Rayyan QCRI systematic review web-based application (https://rayyan.qcri.org).[14] We will record the selection process in sufficient detail to complete a PRISMA flow diagram.[12]

Two review authors (SL and JB) will screen the titles and abstracts of the remaining search results independently and code them as 'retrieve' (eligible or potentially eligible/unclear) or 'do not retrieve'. We will retrieve the full-text study reports of all potentially eligible studies and two review authors (SL and JB) will independently screen them for inclusion, recording the reasons for the exclusion of ineligible studies. We will resolve any disagreement through discussion or, if required, we will consult a third person/review author (KM). We will identify and exclude duplicates and collate multiple reports of the same study so that each study, rather than each report, is the unit of interest in the review.

Data extraction and management

We will extract data for all included studies using a pre-piloted form. Two review authors (SL and JB) will extract the following study characteristics from included studies:

1. Methods: study design, total duration of the study, details of any 'run-in' period, number of study centers and location, study setting, withdrawals, and date of the study.

2. Participants: N, mean age, age range, gender, disease severity, diagnosis criteria, baseline lung function, smoking history, inclusion and exclusion criteria.
3. Interventions: intervention, comparison, duration of intervention, frequency of intervention, method of delivery.
4. Outcomes: primary and secondary outcomes specified and collected, and time points reported.
5. Notes: study funding and notable conflicts of interest of trial authors.

Two review authors (SL and JB) will independently extract outcome data from included studies. We will note in the 'Characteristics of included studies' table if outcome data were not reported in a usable way. We will resolve disagreements by consensus or involving a third person/review author (KM). One review author (SL) will transfer numerical outcome data to the Revman Review Manager (14). We will double-check that data are entered correctly by comparing the data presented in the systematic review with the study reports. A second review author (GC) will spot-check study characteristics for accuracy against the study report.

Assessment of risk of bias in included studies

Two review authors (TAS and KSM) will independently assess the risk of bias for each study using tools, outlined in the Cochrane Handbook for Systematic Reviews of Interventions,[15] for RCT, version two of the Cochrane 'Risk of Bias' tool (RoB 2) or the Risk of Bias In Non-randomized Studies–of Interventions (ROBINS-I), for non-randomized studies of interventions. We will resolve any disagreements by discussion or by involving another author (GC). We will assess the risk of bias according to the following domains:

For RCT:

1. Bias arising from the randomization process;
2. Bias due to deviations from intended interventions;
3. Bias due to missing outcome data;
4. Bias in measurement of the outcome;
5. Bias in the selection of the reported result.

For Non-RCT:

1. Pre-intervention (covering confounding and selection of participants in the study);
2. At intervention - (classification of the interventions themselves);
3. Post-intervention - (biases due to deviations from intended interventions, missing data, measurement of outcomes, and selection of the reported result).

We will judge each potential source of bias as “high”, “low”, or “some concerns” for RCT. For Non-RCT, we will classify as “low”, “moderate”, “serious”, “critical” and “no information”. We will provide a quote from the study report together with a justification for our judgment in the 'Risk of bias' table. We will summarize the risk of biased judgments across different studies for each of the domains listed. The overall risk of bias for each study is the least favorable assessment across the domains of bias. We will consider blinding separately for different key outcomes where necessary (e.g., for unblinded outcome assessment, the risk of bias for all-cause mortality may be very different than for patient-reported outcomes). When considering treatment effects, we will take into account the risk of bias for the studies that contribute to that outcome.

Assessment of bias in conducting the systematic review

We will conduct the review according to this published protocol and justify any deviations from it in the 'Differences between protocol and review' section of the systematic review.

Measures of treatment effect

We will analyze dichotomous data as odds ratios (OR) and continuous data as the mean difference (MD) or standardized mean difference (SMD). If data from rating scales are combined in a meta-analysis, we will ensure they are entered with a consistent direction of effect (e.g., lower scores always indicate improvement).

We will undertake meta-analyses only where this is meaningful; that is, if the treatments, participants, and the underlying clinical question are similar enough for pooling to make sense.

We will describe skewed data narratively (for example, as medians and interquartile ranges for each group).

Where multiple trial arms are reported in a single study, we will include only the relevant arms. If two comparisons are combined in the same meta-analysis, we will either combine the active arms or halve the control group to avoid double-counting.

If adjusted analyses are available (ANOVA or ANCOVA) we will use these as a preference in our meta-analyses. If both changes from baseline and endpoint scores are

available for continuous data, we will use change from baseline unless there is a low correlation between individual measurements. If a study reports outcomes at multiple time points, we will consider the immediate-, short- and long-term.

We will use intention-to-treat (ITT) or 'full analysis set' analyses when they are reported (i.e., those where data have been imputed for participants who were randomly assigned but did not complete the study) instead of complete or per-protocol analysis.

Unit of analysis issues

For dichotomous outcomes, we will use participants, rather than events, as the unit of analysis (i.e., the number of patients admitted to the hospital, rather than the number of admissions per patient). However, if rate ratios are reported in a study, we will analyze them on this basis.

Dealing with missing data

We will contact investigators or study sponsors in order to verify key study characteristics and obtain missing numerical outcome data where possible. Where this is not possible, and the missing data are thought to introduce serious bias, we will take this into consideration in the GRADE rating for affected outcomes.

Assessment of heterogeneity

We will use the I^2 statistic to measure heterogeneity among the studies in each analysis according to the guidance in the Cochrane Handbook for Systematic Reviews of Interventions.[13] We will apply the Chi2 test, with a P value of 0.10 indicating statistical significance, and the I2 statistic, with a value greater than 50% representing a substantial level of heterogeneity,[16] we will report it and explore the possible causes by pre-specified subgroup analysis.

Assessment of reporting biases

If we are able to pool more than 10 studies per outcome/analysis, we will create and examine a funnel plot to explore possible small studies and publication biases.

Data synthesis

We will use a random-effects model and perform a sensitivity analysis with a fixed-effect model.

Subgroup analysis and investigation of heterogeneity

- We plan to carry out the following subgroup analyses:

1. Degree of disease severity: mild versus moderate-to-severe, as defined by related clinical practice guidelines (e.g., GINA, GOLD)[17,18]
2. Duration of treatment (immediate - to short-term versus long-term).
3. Mode of intervention delivery (e.g., remote; face to face)

- We will use the following outcomes in subgroup analyses:

1. Mortality.
2. Length of stay in hospital and home health care.
3. Re-admissions to the hospital.

We will use the formal test for subgroup interactions in Review Manager 5 (Revman).[19]

Sensitivity analysis

We plan to carry out a sensitivity analysis in which we only include studies with an overall low risk of bias or some concerns, excluding studies at a high risk of bias.

Summary of findings and assessment of the certainty of the evidence

We will create a "Summary of findings" table using seven outcomes at a short-term point: mortality, length of stay in hospital and/or home care, health-related quality of life, functional status, re-admissions to hospital, patient satisfaction, and costs.[13] We will use the five GRADE considerations (risk of bias, consistency of effect, imprecision, indirectness, and publication bias) to assess the quality of a body of evidence as it relates to the studies that contribute data for the pre-specified outcomes. We will use the methods and recommendations described in Section 8.5 and Chapter 12 of the Cochrane Handbook for Systematic Reviews of Interventions,[20] using GRADEpro software (GRADEpro GDT).[21] We will justify all decisions to downgrade the quality of studies using footnotes and we will make comments to aid the reader's understanding of the review where necessary.

Patient and public involvement

We will perform patient and public involvement (PPI) to improve the quality, relevance, and outcomes of this review,[22] using the Guidance for Reporting Involvement of Patients and the Public (GRIPP2) (short form) for reporting PPI.[23]

Two patients (volunteer 1 diagnosed with the post-COVID syndrome, and volunteer 2 with cystic fibrosis) contributed to the judgment of outcomes and time points of this protocol. For the systematic review, patients and the public will support the interpretation of the findings and will plan strategies to disseminate the results.

Ethics and dissemination

This systematic review will assess and provide evidence for the effectiveness of managing chronic respiratory disease and post-COVID syndrome patients with home health care compared with in-patient hospital care. No ethical approval is required because only publicly available and published data will be analyzed.

The publication of the results in peer-reviewed journals and at relevant conferences may guide the direction of healthcare practice and research. The results will also be spread in plain language on social media to spread the knowledge to society and the public interested in the topic.

Author Statement - Contributions of authors

SL, KSM, TAS, JB, TS, CA, ZG, SA, and KM conceptualized and designed the protocol, drafted the initial manuscript, and reviewed the manuscript. SL and TAS developed the search strategy. SL, KSM, and GC defined the data extraction process and methodological appraisal of the studies. GC planned statistical analysis. All authors have approved and contributed to the final written manuscript.

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Declarations of interest

SL, KSM, TAS, GC, JB, TS, CA, SA, ZG, and KM: none declared.

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SEARCH STRATEGY

CENTRAL

#1 (hospital:ti,ab,kw NEAR/3 home:ti,ab,kw)
#2 [mh ^"home care services"] OR [mh ^"home care services, hospital-based"] OR [mh ^"home health nursing"] OR [mh ^"home infusion therapy"] OR [mh ^"home nursing"] OR [mh ^"homemaker services"] OR [mh ^"parenteral nutrition, home"]
#3 ((home* NEXT "versus" NEXT hospital*):ti,ab,kw OR ("home care versus" NEXT hospital*):ti,ab,kw OR (home* NEXT "vs" NEXT hospital*):ti,ab,kw OR ("home care vs" NEXT hospital*):ti,ab,kw OR (hospital* NEXT "versus" NEXT home*):ti,ab,kw OR (hospital* NEXT "vs" NEXT home*):ti,ab,kw OR (home* NEXT "or" NEXT hospital*):ti,ab,kw OR ("home care or" NEXT hospital*):ti,ab,kw OR (hospital* NEXT "or" NEXT home*):ti,ab,kw)
#4 "Home hospitali"((hospital*:ti,ab,kw OR "conventional care":ti,ab,kw OR "conventional management":ti,ab,kw OR ("conventional" NEXT therap*):ti,ab,kw OR ("conventional" NEXT treatment*):ti,ab,kw OR "usual care":ti,ab,kw) NEAR/2 alternative*:ti,ab,kw)
#5 (admission*:ti,ab,kw NEAR/2 avoid*:ti,ab,kw)
#6 ((Home-based:ti,ab,kw OR "at home":ti,ab,kw OR "home care":ti,ab,kw OR homecare:ti,ab,kw OR ("home" NEXT treatment*):ti,ab,kw OR ("home" NEXT therap*):ti,ab,kw OR ((early:ti,ab,kw OR earlier:ti,ab,kw OR home*:ti,ab,kw) NEAR/2 discharge*:ti,ab,kw) OR ((outpatient:ti,ab,kw OR "out patient":ti,ab,kw) NEXT (setting*:ti,ab,kw OR care:ti,ab,kw))) NEAR/15 (hospital-based:ti,ab,kw OR "hospital care":ti,ab,kw OR "in hospital":ti,ab,kw OR ((inpatient:ti,ab,kw OR "in patient":ti,ab,kw) NEXT (care:ti,ab,kw OR setting*:ti,ab,kw)) OR ("general" NEXT ward?1):ti,ab,kw OR hospitaliz*:ti,ab,kw OR hospitalis*:ti,ab,kw OR "usual care":ti,ab,kw OR "conventional care":ti,ab,kw OR "conventional management":ti,ab,kw OR ("conventional" NEXT hospital*):ti,ab,kw OR ("conventional" NEXT therap*):ti,ab,kw OR ("conventional" NEXT treatment*):ti,ab,kw))
#7 #1 OR #2 OR #3 OR #4 OR #5 OR #6
#8 [mh "lung diseases"]
#9 (chronic:ti,ab,kw NEXT (lung:ti,ab,kw OR pulmonary:ti,ab,kw OR respirat*:ti,ab,kw) NEXT (condition*:ti,ab,kw OR disease*:ti,ab,kw OR disorder*:ti,ab,kw OR illness*:ti,ab,kw))
#9 [mh "Pulmonary Disease, Chronic Obstructive"]
#10 (pulmonary:ti,ab,kw NEAR/2 disease*:ti,ab,kw)
#11 [mh asthma]
#12 asthma*:ti,ab,kw
#13 "Post-acute COVID-19 syndrome":ti,ab,kw
#14 (([mh SARS-CoV-2] OR [mh COVID-19]) AND sequela*:ti,ab) OR ("long Covid":ti,ab,kw OR ((Covid:ti,ab,kw OR Covid19:ti,ab,kw OR "corona virus 2019":ti,ab,kw OR "coronavirus 2019":ti,ab,kw OR SARS-CoV-2:ti,ab,kw OR B.1.1.7:ti,ab,kw OR B.1.351:ti,ab,kw OR B.1.1.28:ti,ab,kw OR B.1.617:ti,ab,kw OR BA.1:ti,ab,kw OR BA.2:ti,ab,kw OR BA.3:ti,ab,kw OR BA.4:ti,ab,kw OR BA.5:ti,ab,kw OR omicron:ti,ab,kw OR deltacron:ti,ab,kw OR "delta variant":ti,ab,kw OR "delta subvariant":ti,ab,kw) NEAR/3 (PASC:ti,ab,kw OR sequela*:ti,ab,kw OR "post acute":ti,ab,kw OR postacute:ti,ab,kw OR prolonged:ti,ab,kw OR ("long" NEXT haul*):ti,ab,kw OR chronic:ti,ab,kw OR

lingering:ti,ab,kw OR ongoing:ti,ab,kw OR persistent:ti,ab,kw OR "long term":ti,ab,kw OR "more than 12 weeks":ti,ab,kw OR "more than 24 weeks":ti,ab,kw)))
#15 "cystic fibrosis":ti,ab,kw
#16 (("pulmonary" NEXT fibros*):ti,ab,kw OR ("fibrosing" NEXT alveolit*):ti,ab,kw)
#17 [mh Bronchiectasis]
#18 Bronchiectas*:ti,ab,kw
#19 [mh ^"Pulmonary Heart Disease"]
#20 #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21
#21 #7 AND #20

EMBASE

Embase Classic <1947 to 1973>

1 (hospital adj3 home).mp.
2 "home care services"/ or "home care services, hospital-based"/ or "home health nursing"/ or "home infusion therapy"/ or "home nursing"/ or "homemaker services"/ or "parenteral nutrition, home"/
3 ("home* versus hospital*" or "home care versus hospital*" or "home* vs hospital*" or "home care vs hospital*" or "hospital* versus home*" or "hospital* vs home*" or "home* or hospital*" or "home care or hospital*" or "hospital* or home*").tw,kf.
4 ((hospital* or "conventional care" or "conventional management" or "conventional therap*" or "conventional treatment*" or "usual care") adj2 alternative*).tw,kf.
5 (admission* adj2 avoid*).tw,kf.
6 ((Home-based or "at home" or "home care" or homecare or "home treatment*" or "home therap*" or ((early or earlier or home*) adj2 discharge*) or ((outpatient or "out patient") adj (setting* or care))) adj15 (hospital-based or "hospital care" or "in hospital" or ((inpatient or "in patient") adj (care or setting*)) or "general ward$1" or hospitaliz* or hospitalis* or "usual care" or "conventional care" or "conventional management" or "conventional hospital*" or "conventional therap*" or "conventional treatment*")).tw,kf.
7 "Home hospitali".mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
8 1 or 2 or 3 or 4 or 5 or 6 or 7
9 exp "lung disease"/
10 (chronic adj (lung or pulmonary or respirat*) adj (condition* or disease* or disorder* or illness*)).mp.
11 exp "chronic obstructive lung disease"/
12 (pulmonary adj2 disease*).mp.
13 exp asthma/
14 asthma*.mp.
15 "Post-acute COVID-19 syndrome".mp.
16 "cystic fibrosis".mp.
17 ("pulmonary fibros*" or "fibrosing alveolit*").mp.
18 exp Bronchiectasis/
19 Bronchiectas*.mp.

20 "Pulmonary Heart Disease"/
21 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20
22 ("randomized controlled trial" or "controlled clinical trial").pt. or randomized.ab. or randomised.ab. or placebo.ab. or "Drug Therapy".fs. or randomly.ab. or trial.ab. or groups.ab.

23 exp "cohort analysis"/ or exp "epidemiology"/ or exp "clinical trial"/ or exp "evaluation study"/ or exp "statistics"/ or ((control and (group* or study)) or (time and factors) or program$3 or survey* or ci or cohort or "comparative stud*" or "evaluation studies" or follow-up*).mp.
24 22 or 23
25 8 and 21 and 24
26 (animals/ not humans/) or comment/ or editorial/ or consensus/ or exp guideline/ or "History".fs. or "case report".mp.
27 25 not 26

MEDLINE

Ovid MEDLINE(R) ALL <1946 to July 29, 2022>

1 (hospital adj3 home).mp.
2 home care services/ or home care services, hospital-based/ or home health nursing/ or home infusion therapy/ or home nursing/ or homemaker services/ or parenteral nutrition, home/

3 (home* versus hospital* or home care versus hospital* or home* vs hospital* or home care vs hospital* or hospital* versus home* or hospital* vs home* or "home* or hospital*" or "home care or hospital*" or "hospital* or home*").tw,kf.
4 Home hospitali#ation*.tw,kf.
5 ((hospital* or conventional care or conventional management or conventional therap* or conventional treatment* or usual care) adj2 alternative*).tw,kf.
6 (admission* adj2 avoid*).tw,kf.
7 ((Home-based or "at home" or home care or homecare or home treatment* or home therap* or ((early or earlier or home*) adj2 discharge*) or ((outpatient or out patient) adj (setting* or care))) adj15 (hospital-based or hospital care or in hospital or ((inpatient or in patient) adj (care or setting*)) or general ward$1 or hospitaliz* or hospitalis* or usual care or conventional care or conventional management or conventional hospital* or conventional therap* or conventional treatment*)).tw,kf.
8 or/1-7
9 exp lung diseases/
10 (chronic adj (lung or pulmonary or respirat*) adj (condition* or disease* or disorder* or illness*)).mp.
11 exp Pulmonary Disease, Chronic Obstructive/
12 (pulmonary adj2 disease*).mp.
13 exp asthma/
14 asthma*.mp.
15 Post-acute COVID-19 syndrome.mp.
16 ((exp SARS-CoV-2/ or exp COVID-19/) and sequela*.ti,ab.) or ("long Covid" or ((Covid or Covid19 or "corona virus 2019" or "coronavirus 2019" or SARS-CoV-2 or "B.1.1.7" or "B.1.351" or "B.1.1.28" or "B.1.617" or "BA.1" or "BA.2" or "BA.3" or "BA.4" or "BA.5"

or omicron or deltacron or "delta variant" or "delta subvariant") adj3 (PASC or sequela* or "post acute" or postacute or prolonged or "long haul*" or chronic or lingering or ongoing or persistent or "long term" or "more than 12 weeks" or "more than 24 weeks"))).mp.
17 cystic fibrosis.mp.
18 (pulmonary fibros* or fibrosing alveolit*).mp.
19 exp Bronchiectasis/
20 Bronchiectas*.mp.
21 Pulmonary Heart Disease/
22 or/9-21
23 (randomized controlled trial or controlled clinical trial).pt. or randomized.ab. or randomised.ab. or placebo.ab. or drug therapy.fs. or randomly.ab. or trial.ab. or groups.ab.

24 exp cohort studies/ or exp epidemiologic studies/ or exp clinical trial/ or exp evaluation studies as topic/ or exp statistics as topic/ or ((control and (group* or study)) or (time and factors) or program$3 or survey* or ci or cohort or comparative stud* or evaluation studies or follow-up*).mp.
25 23 or 24
26 8 and 22 and 25
27 (animals/ not humans/) or comment/ or editorial/ or consensus/ or exp guideline/ or hi.fs. or case report.mp.
28 26 not 27

CINAHL

#1 (hospital N3 home)
#2 (MH "Home Health Care") OR (MH "Home Visits") OR (MH "Psychiatric Home Care") OR (MH "Home Nutritional Support") OR (MH "Home Nursing, Professional") OR (MH "Home Intravenous Therapy") OR (MH "Home Rehabilitation+") OR (MH "Home Nursing") OR (MH "Homemaker Services") OR (MH "Hospital to Home Transition")
#3 ((TI "home* versus hospital*" OR AB "home* versus hospital*" OR SU "home* versus hospital*") OR (TI "home care versus hospital*" OR AB "home care versus hospital*" OR SU "home care versus hospital*") OR (TI "home* vs hospital*" OR AB "home* vs hospital*" OR SU "home* vs hospital*") OR (TI "home care vs hospital*" OR AB "home care vs hospital*" OR SU "home care vs hospital*") OR (TI "hospital* versus home*" OR AB "hospital* versus home*" OR SU "hospital* versus home*") OR (TI "hospital* vs home*" OR AB "hospital* vs home*" OR SU "hospital* vs home*") OR (TI "home* or "hospital* vs home*") OR (TI "home* or hospital*" OR AB "home* or hospital*" OR SU "home* or hospital*") OR (TI "home care or hospital*" OR AB "home care or hospital*" OR SU "home care or hospital*") OR (TI "hospital* or home*" OR AB "hospital* or home*" OR SU "hospital* or home*"))
#4 "Home hospitali*"
#5 (((TI hospital* OR AB hospital* OR SU hospital*) OR (TI "conventional care" OR AB "conventional care" OR SU "conventional care") OR (TI "conventional management" OR AB "conventional management" OR SU "conventional management") OR (TI "conventional therap*" OR AB "conventional therap*" OR SU "conventional therap*") OR (TI "conventional treatment*" OR AB "conventional treatment*" OR SU "conventional treatment*") OR (TI "usual care" OR AB "usual care" OR SU "usual care")) N2 (TI alternative* OR AB alternative* OR SU alternative*))

#6 ((TI admission* OR AB admission* OR SU admission*) N2 (TI avoid* OR AB avoid* OR SU avoid*))
#7 (((TI Home-based OR AB Home-based OR SU Home-based) OR (TI "at home" OR AB "at home" OR SU "at home") OR (TI "home care" OR AB "home care" OR SU "home care") OR (TI homecare OR AB homecare OR SU homecare) OR (TI "home treatment*" OR AB "home treatment*" OR SU "home treatment*") OR (TI "home therap*" OR AB "home therap*" OR SU "home therap*") OR (((TI early OR AB early OR SU early) OR (TI earlier OR AB earlier OR SU earlier) OR (TI home* OR AB home* OR SU home*)) N2 (TI discharge* OR AB discharge* OR SU discharge*)) OR (((TI outpatient OR AB outpatient OR SU outpatient) OR (TI "out patient" OR AB "out patient" OR SU "out patient")) W1 ((TI setting* OR AB setting* OR SU setting*) OR (TI care OR AB care OR SU care)))) N15 ((TI hospital-based OR AB hospital-based OR SU hospital-based) OR (TI "hospital care" OR AB "hospital care" OR SU "hospital care") OR (TI "in hospital" OR AB "in hospital" OR SU "in hospital") OR (((TI inpatient OR AB inpatient OR SU inpatient) OR (TI "in patient" OR AB "in patient" OR SU "in patient")) W1 ((TI care OR AB care OR SU care) OR (TI setting* OR AB setting* OR SU setting*))) OR (TI "general ward?" OR AB "general ward?" OR SU "general ward?") OR (TI hospitaliz* OR AB hospitaliz* OR SU hospitaliz*) OR (TI hospitalis* OR AB hospitalis* OR SU hospitalis*) OR (TI "usual care" OR AB "usual care" OR SU "usual care") OR (TI "conventional care" OR AB "conventional care" OR SU "conventional care") OR (TI "conventional management" OR AB "conventional management" OR SU "conventional management") OR (TI "conventional hospital*" OR AB "conventional hospital*" OR SU "conventional hospital*") OR (TI "conventional therap*" OR AB "conventional therap*" OR SU "conventional therap*") OR (TI "conventional treatment*" OR AB "conventional treatment*" OR SU "conventional treatment*")))
#8 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7
#9 (MH "Lung Diseases+")
#10 (chronic W1 (lung OR pulmonary OR respirat*) W1 (condition* OR disease* OR disorder* OR illness*))
#11 (pulmonary N2 disease*)
#12 (MH asthma+)
#13 asthma*
#14 (MH "Post-Acute COVID-19 Syndrome") OR ((MH "SARS-CoV-2") OR (MH "COVID-19+") AND (TI sequela* OR AB sequela*)) OR ("long Covid" OR ((Covid OR Covid19 OR "corona virus 2019" OR "coronavirus 2019" OR SARS-CoV-2 OR B.1.1.7 OR B.1.351 OR B.1.1.28 OR B.1.617 OR BA.1 OR BA.2 OR BA.3 OR BA.4 OR BA.5 OR omicron OR deltacron OR "delta variant" OR "delta subvariant") N3 (PASC OR sequela* OR "post acute" OR postacute OR prolonged OR "long haul*" OR chronic OR lingering OR ongoing OR persistent OR "long term" OR "more than 12 weeks" OR "more than 24 weeks")))
#15 (MH "critical care+")
#16 TI("cystic fibrosis") OR AB("cystic fibrosis") OR SU("cystic fibrosis")
#17 (MH "critical illness")
#18 TI("pulmonary fibros*" OR "fibrosing alveolit*") OR AB("pulmonary fibros*" OR "fibrosing alveolit*") OR SU("pulmonary fibros*" OR "fibrosing alveolit*")
#19 (MH Bronchiectasis)
#20 Bronchiectas*
#21 (MH "Pulmonary Heart Disease")
#22 S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21
#23 (randomized controlled trials OR MH double-blind studies OR MH single-blind studies OR MH random assignment OR MH pretest-posttest design OR MH cluster sample OR TI

(randomised OR randomized) OR AB (random*) OR TI (trial) OR (MH (sample size) AND AB (assigned OR allocated OR control)) OR MH (placebos) OR PT (randomized controlled trial) OR AB (control W5 group) OR MH (crossover design) OR MH (comparative studies) OR AB (cluster W3 RCT))

#24 (MH "prospective studies"+) OR (MH "epidemiological research") OR (MH "clinical research"+) OR (MH "evaluation research"+) OR (MH "statistics"+) OR ((control AND (group* OR study)) OR (time AND factors) OR program* OR survey* OR ci OR cohort OR "comparative stud*" OR "evaluation studies" OR follow-up*)

#25 S23 OR S24

#26 S8 AND S22 AND S25

#27 ((MH animals+ OR MH animal studies OR TI animal model*) NOT MH human) OR (PT commentary) OR (PT editorial) OR (MH practice guidelines) OR (MW HI) OR PT(case report)

#28 S26 NOT S27

7708920918073382

TERMO DE OUTORGA

Processo: 401981/2021-5
Vigência: início: 07/12/2021 **fim:** 31/12/2022
Título: EFEITOS DA ATENÇÃO DOMICILIAR PARA ADULTOS COM DOENÇAS RESPIRATÓRIAS CRÔNICAS E SÍNDROME PÓS COVID-19 NA ROTATIVIDADE HOSPITALAR: UMA REVISÃO SISTEMÁTICA COM METANÁLISE
Instituição de Execução: Universidade Federal do Rio Grande do Norte
CNPJ: 24365710000183
Ação: Chamada CNPq/Decit/SCTIE/MS para estudos de Revisões Sistemáticas, Revisões de Escopo e Sínteses de evidências para políticas com foco nas áreas de atenção domiciliar, saúde do adolescente e inquéritos de saúde. Nº 16/2021

Valor Global: R$ 49.992,00

Custeio: R$ 38.400,00

BOLSAS DE LONGA DURAÇÃO: R$ 11.592,00

Modalidade: Apoio à Difusão do Conhecimento - ADC - 2A
Duração:12 Meses
Quantidade:2

O outorgado,Karla Morganna Pereira Pinto de Mendonça, CPF número 722.988.634-15, sabedor de que a presente CONCESSÃO constitui aporte financeiro com encargos em prol do desenvolvimento científico, tecnológico e de inovação do País e, considerando a necessidade de prestar contas do dinheiro público utilizado, conforme legislação vigente, declara e se obriga a:

a) dedicar-se às atividades pertinentes à proposta aprovada;

b) conhecer, concordar e atender integralmente às exigências e às normas que regem a CONCESSÃO acima especificada;

c) ter ciência de que o não cumprimento do pactuado ensejará o ressarcimento parcial ou integral ao CNPq do investimento realizado com a CONCESSÃO, atualizado monetariamente de acordo com a correção dos débitos para com a Fazenda Nacional, acrescido de juros, sob pena de ter seu nome inscrito no Cadastro Informativo de Créditos Não Quitados do Setor Público Federal ¿ CADIN, de submeter-se a Processo Administrativo de Cobrança ou a Tomada de Contas Especial no Tribunal de Contas da União, à inscrição do débito decorrente na Dívida Ativa da União e eventual execução judicial;

d) ter ciência de que o apoio financeiro poderá ser cancelado ou suspenso em caso de ausência de repasse financeiro de eventual parceiro responsável pelo aporte; e

e) ter conhecimento de que a aceitação deste TERMO é feita sob pena da incidência nos artigos 297-299 do Código Penal Brasileiro sobre a falsificação de documento público e falsidade ideológica, respectivamente.

Anexo IB

CONDIÇÕES GERAIS PARA AUXÍLIOS

1. DA CONCESSÃO

1.1. Ao aceitar o apoio financeiro, o beneficiário declara formalmente:
a) observar o disposto na legislação pertinente e nas normas do CNPq;
b) conhecer o Acordo de Cooperação Técnica (colocar link para o respectivo acordo, se possível, ou

ao modelo se não for possível!) firmado entre a instituição de execução do Projeto / Plano de Trabalho e o CNPq, publicado no Diário Oficial da União;
c) possuir anuência formal da instituição de execução do Projeto / Plano de Trabalho, seja sob a forma de vínculo empregatício ou formal.
d) dispor das autorizações especiais de caráter ético, legal ou logístico, nos casos em que sejam exigidas, devido às características do projeto;
e) manter os documentos referidos nas alíneas ¿c¿ e ¿d¿ em seu poder até cinco anos após a aprovação final das contas do CNPq, não sendo necessária sua remessa ao CNPq;
f) estar ciente de que o prazo para utilização dos recursos financeiros começa a vigorar a partir da assinatura do Termo de Outorga e se encerra no término de sua vigência, devendo ser aplicados, tais recursos, exclusivamente para a execução da proposta aprovada;
g) conhecer e respeitar as diretrizes da Comissão de Integridade na Atividade Científica do CNPq (http://www.cnpq.br/web/guest/view/-/journal_content/56_INSTANCE_0oED/10157/106200).

1.2. O beneficiário compromete-se, ainda, a:
a) utilizar os recursos financeiros de acordo com os critérios e procedimentos estabelecidos no Manual de Utilização de Recursos Financeiros e Prestação de Contas (http://www.cnpq.br/web/guest/view/-/journal_content/56_INSTANCE_0oED/10157/6122070);
b) utilizar os recursos financeiros estritamente para o cumprimento do objeto do Projeto/ Plano de Trabalho e exclusivamente com itens financiáveis estabelecidos nas normas do CNPq, na Ação ou no instrumento jurídico de parceria que a ampare;
c) assumir todas as obrigações legais decorrentes de contratações eventuais necessárias à consecução do objeto, eximindo o CNPq de qualquer responsabilidade que possa advir de tais contratações;
d) apresentar, nos prazos que lhe forem determinados, informações ou documentos referentes tanto ao desenvolvimento quanto à conclusão do Projeto / Plano de Trabalho aprovado;
e) propor alterações ao Projeto / Plano de Trabalho para prévia análise e deliberação do CNPq e de entidade co-financiadora, quando for o caso, desde que não se altere o objeto do Projeto;
f) permitir e facilitar ao CNPq o acesso aos locais de execução do projeto para monitoramento e avaliação;
g) apresentar relatórios parciais de execução do objeto do Projeto / Plano de Trabalho, para o monitoramento e a avaliação, a cada 12 (doze) meses, via plataforma eletrônica do CNPq;
h) apresentar o Relatório de Execução do Objeto ¿ REO do Projeto / Plano de Trabalho, bem como o comprovante de devolução de eventual saldo remanescente, em até 60 (sessenta) dias após o término da vigência do processo, via plataforma eletrônica do CNPq, sob pena de instauração de processo administrativo de cobrança;
i) apresentar Relatório de Execução Financeira, quando exigido pelo CNPq, conforme disposto no Manual de Utilização de Recursos e Prestação de Contas;
j) solicitar autorização formal ao CNPq quando pretender remanejar recursos de capital para custeio, e vice-versa, em percentual superior a 20% do valor total do Projeto; e
k) solicitar prorrogação do projeto, quando necessário, via plataforma eletrônica do CNPq, no prazo mínimo de 30 (trinta) dias antes do término da vigência, acompanhada da devida justificativa.

2. DA PROPRIEDADE INTELECTUAL / CRIAÇÃO PROTEGIDA

Caso o projeto possa resultar em produto, processo ou serviço passível de proteção da Propriedade Intelectual ou que venha a ter valor comercial, a troca de informações e a reserva dos direitos, em cada caso, se darão de acordo com o estabelecido nas legislações específicas nacionais e internacionais, bem como nas normas internas do CNPq sobre propriedade intelectual.

3. DAS PUBLICAÇÕES E DIVULGAÇÃO

3.1. Trabalhos publicados e a divulgação, sob qualquer forma de comunicação ou por qualquer veículo, de resultados obtidos com recursos do Projeto / Plano de Trabalho, deverão, obrigatoriamente, no idioma da divulgação, fazer menção expressa ao apoio recebido do Conselho Nacional de Desenvolvimento Científico e Tecnológico ¿ CNPq ¿ Brasil, bem como mencionar quaisquer outras entidades/órgãos financiadores, especialmente aqueles que participaram no apoio do Projeto / Plano de Trabalho em conjunto com o CNPq.
3.2. Material de divulgação de eventos, publicações em geral e a publicidade relativa a eles, e de trabalhos e atividades apoiadas ou financiadas pelo CNPq, deverão trazer a logomarca deste em lugar visível, de fácil identificação em escala e tamanho proporcionais à área de leitura. Esclarecimentos a respeito e os padrões a observar devem ser objeto de consulta prévia junto à área de comunicação social do CNPq (comunicacao@cnpq.br).
3.2.1. Os itens anteriormente relacionados, bem como a publicidade relativa a eles, deverão trazer a logomarca de outras entidades/órgãos financiadores, em lugar visível, de fácil identificação, e em escala e tamanho proporcionais à área de leitura.

4. DA DESISTÊNCIA, DA SUSPENSÃO E DO CANCELAMENTO DO BENEFÍCIO

4.1. O beneficiário deverá comunicar, via plataforma eletrônica do CNPq, a desistência do projeto acompanhada da devida justificativa.

4.1.1. No prazo de 60 (sessenta) dias da comunicação da desistência, deverão ser apresentados o relatório de execução do objeto do Projeto / Plano de Trabalho e o relatório de execução financeira, como também deverá ser devolvido ao CNPq eventual saldo financeiro.
4.1.2. A não observância do disposto no item 4.1.1 implicará a devolução do valor devidamente atualizado monetariamente, acrescido de juros, na forma da legislação aplicável aos débitos da Fazenda Nacional.
4.2. A liberação dos recursos do apoio financeiro ao projeto será suspensa quando ocorrer uma ou mais das seguintes irregularidades, constatada(s) por procedimentos de monitoramento e controle realizados pelo CNPq, Ministério da Ciência, Tecnologia, Inovações e Comunicações ¿ MCTIC, Ministério da Transparência e Controladoria-Geral da União ¿ CGU ou Tribunal de Contas da União ¿ TCU:
a) não comprovação da utilização adequada de parcela anteriormente recebida, na forma da legislação pertinente, quando solicitada;
b) verificação de desvio de finalidade na utilização dos recursos ou dos bens patrimoniais gerados ou adquiridos no projeto;
c) atrasos não justificados no cumprimento das etapas do Projeto/Plano de Trabalho; e
d) quando for descumprida qualquer condição deste instrumento.

4.2.1. A(s) irregularidade(s) verificada(s) deverá(ão) ser corrigida(s) no prazo fixado pelo CNPq.
4.3. Ao término do prazo fixado, mantida uma ou mais irregularidades previstas no item 4.2 o auxílio será cancelado, aplicando-se, no que couber, o disposto nos itens 4.1.1 e 4.1.2.
4.4. Cancelada a concessão do auxílio o beneficiário será considerado inadimplente, terá suspenso o pagamento de todas as concessões vigentes e não poderá concorrer a novas modalidades de apoio financeiro até a regularização de sua situação perante o CNPq, sem prejuízo de outras medidas cabíveis.
4.4.1. O cancelamento do auxílio com fundamento no item 4.3 obrigará o BENEFICIÁRIO a ressarcir integralmente o CNPq de todas as despesas realizadas, atualizadas e acrescidas de juros nos termos da legislação.

5. DAS DISPOSIÇÕES FINAIS

5.1. As propostas financiadas com recursos de outras fontes obrigam, ainda, à observância de eventuais disposições específicas constantes na Ação ou no instrumento jurídico de parceria que a ampare.
5.1.1. Se financiada com recursos de outras fontes, poderão prevalecer ainda disposições específicas constantes na Ação ou no instrumento jurídico de parceria que a ampare.
5.2. Para assinatura do Termo de Outorga a instituição de execução do Projeto / Plano de Trabalho deverá ter Acordo de Cooperação Técnica vigente firmado com o CNPq.
5.3. O apoio financeiro aprovado pelo CNPq não gera vínculo de qualquer natureza ou relação de trabalho.
5.3.1. O pessoal envolvido na execução do projeto não possuirá vínculo de qualquer natureza com o CNPq e deste não poderá demandar quaisquer pagamentos, sendo estes de inteira responsabilidade do beneficiário / instituição de execução do Projeto / Plano de Trabalho que o tiver empregado na sua execução.
5.3.2 Ficam o beneficiário e a instituição de execução do Projeto / Plano de Trabalho responsáveis por ressarcir o CNPq por quaisquer despesas decorrentes de eventuais processos trabalhistas.
5.4. O processo somente será encerrado após as aprovações do relatório de execução do objeto do Projeto / Plano de Trabalho e da Prestação de Contas Financeira, quando exigida, e desde que cumpridas todas as condições previstas neste instrumento e nas normas aplicáveis.
5.5. A inobservância de dispositivos legais aplicáveis implicará no encerramento imediato do apoio financeiro aprovado e obrigará o beneficiário a ressarcir integralmente o CNPq de todas as despesas realizadas, atualizadas e acrescidas de juros nos termos da legislação, sem prejuízo da aplicação de penalidades cabíveis.
5.6. O beneficiário reconhece que ao CNPq compete exercer a autoridade normativa de monitoramento e controle sobre a execução do Projeto / Plano de Trabalho, bem como transferir a responsabilidade pelo projeto, no caso de paralisação ou de fato relevante que venha a ocorrer, de modo a evitar a descontinuidade das atividades.

Declara, ainda, que leu e aceitou integralmente os termos deste documento e as Condições Gerais em anexo, comprometendo-se a cumpri-los fielmente, não podendo, em nenhuma hipótese, deles alegar desconhecimento.

Termo de aceitação registrado eletronicamente por meio da internet junto ao CNPq, pelo agente receptor 10.0.10.19(srv-picc05.cnpq.br) , mediante uso de senha pessoal do Beneficiário em 07/12/2021, originário do número IP 200.130.33.73(200.130.33.73) e número de controle 2866463028664630:714596287-1837016124.

Para visualizar este documento novamente ou o PDF assinado digitalmente, acesse: http://efomento.cnpq.br/efomento/termo?numeroAcesso=7708920918073382.

PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol*

Section and topic	Item No	Checklist item
ADMINISTRATIVE INFORMATION		
Title:		
Identification	1a	Identify the report as a protocol of a systematic review (p1)
Update	1b	If the protocol is for an update of a previous systematic review, identify as such
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number (p4)
Authors:		
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author (p1)
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review (p11)
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments
Support:		
Sources	5a	Indicate sources of financial or other support for the review (p12)
Sponsor	5b	Provide name for the review funder and/or sponsor
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol
INTRODUCTION		
Rationale	6	Describe the rationale for the review in the context of what is already known (p3)
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO) (p3)
METHODS		
Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review (p4)
Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage (p5, p6)
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated (supplementary material)
Study records:		
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review (p6, p7)

Selection process	11b	State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis) (p6)
Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators (p6, p7)
Data items	12	List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications (p6, p7)
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale (p6, p7)
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis (p7, p8)
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised (p9, p10)
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2, Kendall's τ) (p9, p10)
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression) (p9, p10)
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned (p9, p10)
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies (p10)
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE) (p10)

*** It is strongly recommended that this checklist be read in conjunction with the PRISMA-P Explanation and Elaboration (cite when available) for important clarification on the items. Amendments to a review protocol should be tracked and dated. The copyright for PRISMA-P (including checklist) is held by the PRISMA-P Group and is distributed under a Creative Commons Attribution Licence 4.0.**

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EFFECTS OF HOME HEALTH CARE FOR ADULTS WITH CHRONIC RESPIRATORY DISEASES AND POST-COVID SYNDROME ON HOSPITAL BED TURNOVER RATE: A PROTOCOL OF SYSTEMATIC REVIEW WITH META-ANALYSIS

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ABSTRACT

Introduction: Chronic respiratory diseases (CRDs) have a high prevalence, morbidity, and mortality worldwide. After the COVID-19 pandemic, the number of patients readmitted after hospital discharge increased. For some populations, early hospital discharge and home health care may reduce health costs in patients treated at home when compared to those hospitalized. This study aims to systematically review the effectiveness of home health care for patients with chronic respiratory diseases and post-COVID-19 syndrome.

Methods and analysis: We will search on MEDLINE, CENTRAL, Embase, and PsycINFO. We will include randomized controlled trials (RCT) and non-randomized controlled trials (non-RCT) studies reported in full text and abstracts. No language restriction will be applied. We will include studies related to adults with a diagnosis of CRDs or post-COVID syndrome that compared in-patient hospital care with any home health care. We will exclude studies with participants with neurological, mental diseases, cancer, or pregnant women. Two review authors will screen abstracts and select the eligible studies. To investigate the risk of bias, we will use the Cochrane 'Risk of Bias' tool (RoB 2) for RCT, and the ROBINS-I (Risk of Bias In Non-randomized Studies–of Interventions) for non-RCT. We will use the five GRADE considerations to assess the quality of the evidence. Patients and the public will be involved in the preparation, execution, and implementation phases of the review.

Ethics and dissemination: No ethical approval is required because only published data will be analyzed. The publication of the results in peer-reviewed journals and at relevant conferences will guide the direction of future research in the field and healthcare practice. The

results will also be disseminated in plain language on social media to disseminate the knowledge to society and the public interested in the topic.

Keywords: Post-Acute COVID-19 Syndrome; Respiration Disorders; Home Care Services, Hospital-Based; Inpatients; Length of Stay

Article summary - Strengths and limitations of this study

- This study aims to compare the forms of delivery of effective interventions concerning relevant outcomes for people with chronic respiratory diseases;
- We will use a rigorous, guideline-based methodology to support the systematic review;
- The search strategy was developed by an experienced librarian; the search will be performed in notable databases, and no language restrictions will be applied in the search for primary studies;
- The certainty of systematic review evidence may be limited depending on the availability and quality of evidence found.

INTRODUCTION

Chronic respiratory diseases (CRDs) affect airways and other lung structures. Symptoms such as wheezing, shortness of breath, chest tightness, and cough are common in these conditions.[1] The CRDs are among the most common non-communicable diseases worldwide,[2] and present a high prevalence, morbidity, and mortality. Chronic obstructive pulmonary disease (COPD) and asthma are notable examples of CRDs that contribute to worldwide mortality rates and healthcare costs,[3] which affect millions of people and represent the majority of treatment costs related to exacerbations and hospitalizations.[4] Since the coronavirus pandemic arise, post-COVID-19 syndrome became another common cause of hospitalization.[5]

The National Institute for Clinical Excellence[5] (NICE) clinical practice guideline defines post-COVID-19 syndrome as a heterogeneous condition that includes severe hospitalization, and it is characterized by persistent clinical signs and symptoms that appear while or after suffering COVID-19, persist for more than 12 weeks, and cannot be explained by an alternative diagnosis. Evidence shows that one-third of patients who were discharged from the hospital after COVID-19 acute treatment were readmitted and more than one patient in 10 died.[6]

For patients with CRDs who need special care, early hospital discharge associated with home health care may reduce health costs when compared to those hospitalized.[7] For some populations, home health care seems to be safe, and feasible,[8,9] and may improve clinical outcomes such as reducing hospital readmission and improving communication between patients and healthcare workers.[10] Despite increasing interest in early hospital discharge, evidence comparing the hospital- and home-based treatment is lacking.[11]

Thus, this study aims to systematically review the literature to assess the effectiveness of home health care for patients with chronic respiratory diseases or post-COVID-19 syndrome, compared with hospital-based care.

OBJECTIVES

To determine the effectiveness of managing chronic respiratory disease and post-COVID syndrome patients with home health care compared with in-patient hospital care.

METHODS AND ANALYSIS

Registration

This study is registered in the PROSPERO international prospective register of systematic reviews (CRD42022342917). This systematic review protocol will follow the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols Statement (PRISMA-P),[12] the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) 2020 statement,[13] and the Cochrane Handbook for Systematic Reviews of Interventions.[14]

Eligibility criteria

Types of studies

We will include randomized controlled trials (RCTs) and non-randomized controlled trials (non-RCT). We will include studies reported in full text or abstract and we will exclude unpublished data.

Types of participants

We will include adults (older than 18 years) with a diagnosis of CRD (e.g., COPD, asthma, occupational lung diseases, pulmonary hypertension, cystic fibrosis, and bronchiectasis) or post-COVID syndrome. We will exclude participants with neurological, mental diseases, cancer, or pregnant women.

Types of interventions

Intervention: adults with CRD or post-COVID syndrome who have been assigned to treatment comprising home health care.

Comparison: control group receiving in-patient hospital care, health education, or alternatively, no active control group.

We will include studies comparing any home health care (e.g., interdisciplinary home rehabilitation, home-based maintenance telerehabilitation, medication administration at home) with in-patient hospital care.

Types of outcome measures

Primary outcomes

1. Mortality (e.g., measured by a health professional or researcher)
2. Length of stay in hospital and home health care (e.g., number of days)
3. Health-related quality of life (e.g., measured using any validated patient-reported outcome instrument such as Health-Related Quality of Life; Short form 36 health survey questionnaire;)

Secondary outcomes

1. Self-efficacy (e.g., measured using validated patient-reported outcome instrument such as General Self-Efficacy Scale; Self-efficacy for exercise scale;)
2. Adherence (e.g., measured using a validated patient-reported outcome instrument; measured by a health professional or as reported by trialists)
3. Functional status (e.g., measured using field exercise tests such as the Six-Minute Walk Test, or Shuttle Walk Test)
4. Re-admissions to the hospital (e.g., exacerbations rates, hospitalization rates)
5. Patient satisfaction (e.g., patient self-report; or measured using any validated patient-reported outcome instrument)
6. Costs (e.g., as reposted by trialists)
7. Adverse events (e.g., number of people with any undesired outcome due to the intervention)

We will report outcomes using the following time points:

1. immediate;
2. short-term (up to three months from);
3. long-term (more than three months).

We will report outcomes using the following time points:

1. immediate (immediately after the intervention;)
2. short-term (up to three months after intervention);
3. long-term (more than three months).

Information sources

Search strategy

We will identify studies by searching the following databases and trial registries:

1. MEDLINE Ovid SP 1946 to date;

2. Embase Ovid SP 1974 to date;

3. CINAHL;

4. Cochrane Central Register of Controlled Trials (CENTRAL), via the Cochrane Register of Studies, all years to date;

5. World Health Organization International Clinical Trials Registry Platform (apps.who.int/trialsearch).

6. US National Institutes of Health Ongoing Trials Register ClinicalTrials.gov (www.clinicaltrials.gov);

The proposed MEDLINE search strategy is listed in Supplementary.

File 1. This will be adapted for use in the other databases.

All the search sources will be explored from their inception to the present, without restricting due to year of publication or language. We will hand-search for conference abstracts and gray literature.

Searching other resources

We will search for retractions from included studies and list of references of primary studies.

Data collection and analysis

Selection of studies

We will use the Mendeley tool (https://www.mendeley.com) to import the results and remove the duplicates. We will export the reference list to the Rayyan QCRI systematic review web-based application (https://rayyan.qcri.org).[15] Two review authors (SL and JB) will screen the titles and abstracts of the search results and classify them as 'retrieve' (eligible or potentially eligible/unclear) or 'do not retrieve'. The authors (SL and JB) will independently screen the full-text of all eligible studies and report the reason for exclusion of all ineligible studies. Disagreements will be resolved by a third person (KM). Duplicate reports of the same study will be collated and considered as the unit of interest in the review.

Data extraction and management

Two review authors (SL and JB) will extract data for all included studies using a pre-piloted (piloted by GC) form which included the following study characteristics:

1. Methods: study design, total duration of the study, details of any 'run-in' period, number of study centers and location, study setting, withdrawals, and date of the study.
2. Participants: N, mean age, age range, gender, disease severity, diagnosis criteria, baseline lung function, smoking history, inclusion and exclusion criteria.
3. Interventions: intervention, comparison, duration of intervention, frequency of intervention, method of delivery.
4. Outcomes: primary and secondary outcomes specified and collected, and time points reported.
5. Notes: study funding and notable conflicts of interest of trial authors.

Extraction data from included studies will be done independently by two reviewers (SL and JB). The outcomes not reported will be signalized in the 'Characteristics of included studies'. A third author will solve the disagreements. The data will be tranfered to the Revman Review Manager.[14] We will double-check the data, and a second review author (GC) will spot-check study characteristics for accuracy against the study report.

Assessment of risk of bias in included studies

Two review authors (TAS and KSM) will independently assess the risk of bias for each study using tools, outlined in the Cochrane Handbook for Systematic Reviews of Interventions,[16] for RCT, version two of the Cochrane 'Risk of Bias' tool (RoB 2) or the Risk of Bias In Non-randomized Studies–of Interventions (ROBINS-I), for non-randomized studies of interventions. We will resolve any disagreements by discussion or by involving another author (GC). We will assess the risk of bias according to the following domains:

For RCT:

1. Bias arising from the randomization process;
2. Bias due to deviations from intended interventions;
3. Bias due to missing outcome data;
4. Bias in measurement of the outcome;
5. Bias in the selection of the reported result.

For Non-RCT:

1. Pre-intervention (covering confounding and selection of participants in the study);
2. At intervention - (classification of the interventions themselves);
3. Post-intervention - (biases due to deviations from intended interventions, missing data, measurement of outcomes, and selection of the reported result).

We will judge each potential source of bias as “high”, “low”, or “some concerns” for RCT. For Non-RCT, we will classify as “low”, “moderate”, “serious”, “critical” and “no information”. We will provide a quote from the study report together with a justification for our judgment in the 'Risk of bias' table. We will summarize the risk of biased judgments across different studies for each of the domains listed. For the risk will consider as blinding separately for different key outcomes where necessary (e.g., for unblinded outcome assessment, the risk of bias for all-cause mortality may be very different from for patient-reported outcomes). We will take into account the risk of bias for the studies that contribute to that outcome, when considering treatment effects.

Assessment of bias in conducting the systematic review

This review will be conducted according to the published protocol, and any differences between this protocol and the review will be justified and reported in the 'Differences between protocol and review'.

Measures of treatment effect

We will analyze dichotomous data as odds ratios (OR) and continuous data as the mean difference (MD) or standardized mean difference (SMD). If data from rating scales are combined in a meta-analysis, we will ensure they are entered with a consistent direction of effect (e.g., lower scores always indicate improvement).

We will undertake meta-analyses only where this is meaningful; that is, if the treatments, participants, and the underlying clinical question are similar enough for pooling to make sense.

We will describe biased data, as medians and interquartile ranges for each group). We will include only the relevant arms, where multiple trial arms are reported in a single study. To avoid double-couting when two comparisons are pooled in the same meta-analysis, active arms or halve the control group will be combined.

If adjusted analyses are available (ANOVA or ANCOVA) we will use these as a preference in our meta-analyses. If both changes from baseline and endpoint scores are available for continuous data, we will use change from baseline unless there is a low correlation between individual measurements. If a study reports outcomes at multiple time points, we will consider the immediate-, short- and long-term.

We will use intention-to-treat (ITT) or 'full analysis set' analyses when they are reported (i.e., those where data have been imputed for participants who were randomly assigned but did not complete the study) instead of complete or per-protocol analysis.

Unit of analysis issues

We will use participants rather than events for dichotomous outcomes, as the unit of analysis (i.e., the number of patients admitted to the hospital, rather than the number of admissions per patient). We will analyze them on this basis if rate ratios are reported in a study.

Dealing with missing data

If missing numerical outcome data exists, we will contact the trial authors or study sponsors to obtain information. When not obtainable, and the missing data is deemed to introduce serious bias, we will consider it when rating the certainty of evidence for affected outcomes.

Assessment of heterogeneity

In each analysis, we will employ the I^2 statistic to assess heterogeneity among the studies in accordance with the guidance provided in the Cochrane Handbook for Systematic Reviews of Interventions.[14] We will apply the Chi2 test, with a P value of 0.10 indicating statistical significance, and the I2 statistic, with a value greater than 50% representing a substantial level of heterogeneity,[17] we will report it and explore the possible causes by pre-specified subgroup analysis.

Assessment of reporting biases

If we include more than 10 studies per outcome/analysis, we will explore potential small studies and publication biases through funnel plots.

Data synthesis

We will use a random-effects model and perform a sensitivity analysis with a fixed-effect model.

Subgroup analysis and investigation of heterogeneity

If possible, we will consider subgroup analyses based on:

1. Degree of disease severity: mild versus moderate-to-severe, based on related clinical practice guidelines (e.g., GINA, GOLD)[18,19]

2. Mode of intervention delivery (e.g., remote; face-to-face)

- We will use the following outcomes in subgroup analyses:

1. Mortality.
2. Length of stay in hospital and home health care (length of stay > 9 days)
3. Re-admissions to the hospital.

We will use the formal test for subgroup interactions in Review Manager 5 (Revman).[20]

Sensitivity analysis

We plan to carry out a sensitivity analysis in which we only include studies with an overall low risk of bias, excluding studies with some concerns and a high risk of bias.

Summary of findings and assessment of the certainty of the evidence

We will create a "Summary of findings" table using seven outcomes at a short-term point: mortality, length of stay in hospital and/or home care, health-related quality of life, adverse events, re-admissions to hospital, patient satisfaction, and costs.[14] Two authors (GC and SL) will use the five GRADE considerations (risk of bias, consistency of effect, imprecision, indirectness, and publication bias) to assess the quality of a body of evidence as it relates to the studies that contribute data for the pre-specified outcomes. We will use the methods and recommendations described in Section 8.5 and Chapter 12 of the Cochrane Handbook for Systematic Reviews of Interventions,[21] using GRADEpro software (GRADEpro GDT).[22] We will justify all decisions to downgrade the quality of studies using footnotes and we will make comments to aid the reader's understanding of the review where necessary.

Patient and public involvement

We will perform patient and public involvement (PPI) to improve the quality, relevance, and outcomes of this review,[23] using the Guidance for Reporting Involvement of Patients and the Public (GRIPP2) (short form) for reporting PPI.[24]

Two patients (volunteer 1 diagnosed with the post-COVID syndrome, and volunteer 2 with cystic fibrosis) contributed to the judgment of outcomes and time points of this protocol. For the systematic review, patients and the public will support the interpretation of the findings and will plan strategies to disseminate the results.

Ethics and dissemination

This systematic review will assess and provide evidence for the effectiveness of managing chronic respiratory disease and post-COVID syndrome patients with home health care compared with in-patient hospital care. No ethical approval is required because only published data and publicly available will be analyzed.

The publication of the results in peer-reviewed journals and at relevant conferences may guide the direction of healthcare practice and research. The results will also be published in plain language on social media to disseminate the knowledge to society and the public interested in the topic.

Author Statement - Contributions of authors

SL, KSM, TAS, JB, TS, CA, ZG, SA, and KM conceptualized and designed the protocol, drafted the initial manuscript, and reviewed the manuscript. SL and TAS developed the search strategy. SL, KSM, and GC defined the data extraction process and methodological appraisal of the studies. GC planned statistical analysis. All authors have approved and contributed to the final written manuscript.

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Declarations of interest

SL, KSM, TAS, GC, JB, TS, CA, SA, ZG, and KM: none declared.

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SEARCH STRATEGY

CENTRAL

#1 (hospital:ti,ab,kw NEAR/3 home:ti,ab,kw)
#2 [mh ^"home care services"] OR [mh ^"home care services, hospital-based"] OR [mh ^"home health nursing"] OR [mh ^"home infusion therapy"] OR [mh ^"home nursing"] OR [mh ^"homemaker services"] OR [mh ^"parenteral nutrition, home"]
#3 ((home* NEXT "versus" NEXT hospital*):ti,ab,kw OR ("home care versus" NEXT hospital*):ti,ab,kw OR (home* NEXT "vs" NEXT hospital*):ti,ab,kw OR ("home care vs" NEXT hospital*):ti,ab,kw OR (hospital* NEXT "versus" NEXT home*):ti,ab,kw OR (hospital* NEXT "vs" NEXT home*):ti,ab,kw OR (home* NEXT "or" NEXT hospital*):ti,ab,kw OR ("home care or" NEXT hospital*):ti,ab,kw OR (hospital* NEXT "or" NEXT home*):ti,ab,kw)
#4 "Home hospitali"((hospital*:ti,ab,kw OR "conventional care":ti,ab,kw OR "conventional management":ti,ab,kw OR ("conventional" NEXT therap*):ti,ab,kw OR ("conventional" NEXT treatment*):ti,ab,kw OR "usual care":ti,ab,kw) NEAR/2 alternative*:ti,ab,kw)
#5 (admission*:ti,ab,kw NEAR/2 avoid*:ti,ab,kw)
#6 ((Home-based:ti,ab,kw OR "at home":ti,ab,kw OR "home care":ti,ab,kw OR homecare:ti,ab,kw OR ("home" NEXT treatment*):ti,ab,kw OR ("home" NEXT therap*):ti,ab,kw OR ((early:ti,ab,kw OR earlier:ti,ab,kw OR home*:ti,ab,kw) NEAR/2 discharge*:ti,ab,kw) OR ((outpatient:ti,ab,kw OR "out patient":ti,ab,kw) NEXT (setting*:ti,ab,kw OR care:ti,ab,kw))) NEAR/15 (hospital-based:ti,ab,kw OR "hospital care":ti,ab,kw OR "in hospital":ti,ab,kw OR ((inpatient:ti,ab,kw OR "in patient":ti,ab,kw) NEXT (care:ti,ab,kw OR setting*:ti,ab,kw)) OR ("general" NEXT ward?1):ti,ab,kw OR hospitaliz*:ti,ab,kw OR hospitalis*:ti,ab,kw OR "usual care":ti,ab,kw OR "conventional care":ti,ab,kw OR "conventional management":ti,ab,kw OR ("conventional" NEXT hospital*):ti,ab,kw OR ("conventional" NEXT therap*):ti,ab,kw OR ("conventional" NEXT treatment*):ti,ab,kw))
#7 #1 OR #2 OR #3 OR #4 OR #5 OR #6
#8 [mh "lung diseases"]
#9 (chronic:ti,ab,kw NEXT (lung:ti,ab,kw OR pulmonary:ti,ab,kw OR respirat*:ti,ab,kw) NEXT (condition*:ti,ab,kw OR disease*:ti,ab,kw OR disorder*:ti,ab,kw OR illness*:ti,ab,kw))
#9 [mh "Pulmonary Disease, Chronic Obstructive"]
#10 (pulmonary:ti,ab,kw NEAR/2 disease*:ti,ab,kw)
#11 [mh asthma]
#12 asthma*:ti,ab,kw
#13 "Post-acute COVID-19 syndrome":ti,ab,kw
#14 (([mh SARS-CoV-2] OR [mh COVID-19]) AND sequela*:ti,ab) OR ("long Covid":ti,ab,kw OR ((Covid:ti,ab,kw OR Covid19:ti,ab,kw OR "corona virus 2019":ti,ab,kw OR "coronavirus 2019":ti,ab,kw OR SARS-CoV-2:ti,ab,kw OR B.1.1.7:ti,ab,kw OR B.1.351:ti,ab,kw OR B.1.1.28:ti,ab,kw OR B.1.617:ti,ab,kw OR BA.1:ti,ab,kw OR BA.2:ti,ab,kw OR BA.3:ti,ab,kw OR BA.4:ti,ab,kw OR BA.5:ti,ab,kw OR omicron:ti,ab,kw OR deltacron:ti,ab,kw OR "delta variant":ti,ab,kw OR "delta subvariant":ti,ab,kw) NEAR/3 (PASC:ti,ab,kw OR sequela*:ti,ab,kw OR "post acute":ti,ab,kw OR postacute:ti,ab,kw OR prolonged:ti,ab,kw OR ("long" NEXT haul*):ti,ab,kw OR chronic:ti,ab,kw OR

lingering:ti,ab,kw OR ongoing:ti,ab,kw OR persistent:ti,ab,kw OR "long term":ti,ab,kw OR "more than 12 weeks":ti,ab,kw OR "more than 24 weeks":ti,ab,kw)))
#15 "cystic fibrosis":ti,ab,kw
#16 (("pulmonary" NEXT fibros*):ti,ab,kw OR ("fibrosing" NEXT alveolit*):ti,ab,kw)
#17 [mh Bronchiectasis]
#18 Bronchiectas*:ti,ab,kw
#19 [mh ^"Pulmonary Heart Disease"]
#20 #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21
#21 #7 AND #20

EMBASE

Embase Classic <1947 to 1973>

1 (hospital adj3 home).mp.
2 "home care services"/ or "home care services, hospital-based"/ or "home health nursing"/ or "home infusion therapy"/ or "home nursing"/ or "homemaker services"/ or "parenteral nutrition, home"/
3 ("home* versus hospital*" or "home care versus hospital*" or "home* vs hospital*" or "home care vs hospital*" or "hospital* versus home*" or "hospital* vs home*" or "home* or hospital*" or "home care or hospital*" or "hospital* or home*").tw,kf.
4 ((hospital* or "conventional care" or "conventional management" or "conventional therap*" or "conventional treatment*" or "usual care") adj2 alternative*).tw,kf.
5 (admission* adj2 avoid*).tw,kf.
6 ((Home-based or "at home" or "home care" or homecare or "home treatment*" or "home therap*" or ((early or earlier or home*) adj2 discharge*) or ((outpatient or "out patient") adj (setting* or care))) adj15 (hospital-based or "hospital care" or "in hospital" or ((inpatient or "in patient") adj (care or setting*)) or "general ward$1" or hospitaliz* or hospitalis* or "usual care" or "conventional care" or "conventional management" or "conventional hospital*" or "conventional therap*" or "conventional treatment*")).tw,kf.
7 "Home hospitali".mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
8 1 or 2 or 3 or 4 or 5 or 6 or 7
9 exp "lung disease"/
10 (chronic adj (lung or pulmonary or respirat*) adj (condition* or disease* or disorder* or illness*)).mp.
11 exp "chronic obstructive lung disease"/
12 (pulmonary adj2 disease*).mp.
13 exp asthma/
14 asthma*.mp.
15 "Post-acute COVID-19 syndrome".mp.
16 "cystic fibrosis".mp.
17 ("pulmonary fibros*" or "fibrosing alveolit*").mp.
18 exp Bronchiectasis/
19 Bronchiectas*.mp.

20 "Pulmonary Heart Disease"/
21 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20
22 ("randomized controlled trial" or "controlled clinical trial").pt. or randomized.ab. or randomised.ab. or placebo.ab. or "Drug Therapy".fs. or randomly.ab. or trial.ab. or groups.ab.

23 exp "cohort analysis"/ or exp "epidemiology"/ or exp "clinical trial"/ or exp "evaluation study"/ or exp "statistics"/ or ((control and (group* or study)) or (time and factors) or program$3 or survey* or ci or cohort or "comparative stud*" or "evaluation studies" or follow-up*).mp.
24 22 or 23
25 8 and 21 and 24
26 (animals/ not humans/) or comment/ or editorial/ or consensus/ or exp guideline/ or "History".fs. or "case report".mp.
27 25 not 26

MEDLINE

Ovid MEDLINE(R) ALL <1946 to July 29, 2022>

1 (hospital adj3 home).mp.
2 home care services/ or home care services, hospital-based/ or home health nursing/ or home infusion therapy/ or home nursing/ or homemaker services/ or parenteral nutrition, home/

3 (home* versus hospital* or home care versus hospital* or home* vs hospital* or home care vs hospital* or hospital* versus home* or hospital* vs home* or "home* or hospital*" or "home care or hospital*" or "hospital* or home*").tw,kf.
4 Home hospitali#ation*.tw,kf.
5 ((hospital* or conventional care or conventional management or conventional therap* or conventional treatment* or usual care) adj2 alternative*).tw,kf.
6 (admission* adj2 avoid*).tw,kf.
7 ((Home-based or "at home" or home care or homecare or home treatment* or home therap* or ((early or earlier or home*) adj2 discharge*) or ((outpatient or out patient) adj (setting* or care))) adj15 (hospital-based or hospital care or in hospital or ((inpatient or in patient) adj (care or setting*)) or general ward$1 or hospitaliz* or hospitalis* or usual care or conventional care or conventional management or conventional hospital* or conventional therap* or conventional treatment*)).tw,kf.
8 or/1-7
9 exp lung diseases/
10 (chronic adj (lung or pulmonary or respirat*) adj (condition* or disease* or disorder* or illness*)).mp.
11 exp Pulmonary Disease, Chronic Obstructive/
12 (pulmonary adj2 disease*).mp.
13 exp asthma/
14 asthma*.mp.
15 Post-acute COVID-19 syndrome.mp.
16 ((exp SARS-CoV-2/ or exp COVID-19/) and sequela*.ti,ab.) or ("long Covid" or ((Covid or Covid19 or "corona virus 2019" or "coronavirus 2019" or SARS-CoV-2 or "B.1.1.7" or "B.1.351" or "B.1.1.28" or "B.1.617" or "BA.1" or "BA.2" or "BA.3" or "BA.4" or "BA.5"

or omicron or deltacron or "delta variant" or "delta subvariant") adj3 (PASC or sequela* or "post acute" or postacute or prolonged or "long haul*" or chronic or lingering or ongoing or persistent or "long term" or "more than 12 weeks" or "more than 24 weeks"))).mp.
17 cystic fibrosis.mp.
18 (pulmonary fibros* or fibrosing alveolit*).mp.
19 exp Bronchiectasis/
20 Bronchiectas*.mp.
21 Pulmonary Heart Disease/
22 or/9-21
23 (randomized controlled trial or controlled clinical trial).pt. or randomized.ab. or randomised.ab. or placebo.ab. or drug therapy.fs. or randomly.ab. or trial.ab. or groups.ab.

24 exp cohort studies/ or exp epidemiologic studies/ or exp clinical trial/ or exp evaluation studies as topic/ or exp statistics as topic/ or ((control and (group* or study)) or (time and factors) or program$3 or survey* or ci or cohort or comparative stud* or evaluation studies or follow-up*).mp.
25 23 or 24
26 8 and 22 and 25
27 (animals/ not humans/) or comment/ or editorial/ or consensus/ or exp guideline/ or hi.fs. or case report.mp.
28 26 not 27

CINAHL

#1 (hospital N3 home)
#2 (MH "Home Health Care") OR (MH "Home Visits") OR (MH "Psychiatric Home Care") OR (MH "Home Nutritional Support") OR (MH "Home Nursing, Professional") OR (MH "Home Intravenous Therapy") OR (MH "Home Rehabilitation+") OR (MH "Home Nursing") OR (MH "Homemaker Services") OR (MH "Hospital to Home Transition")
#3 ((TI "home* versus hospital*" OR AB "home* versus hospital*" OR SU "home* versus hospital*") OR (TI "home care versus hospital*" OR AB "home care versus hospital*" OR SU "home care versus hospital*") OR (TI "home* vs hospital*" OR AB "home* vs hospital*" OR SU "home* vs hospital*") OR (TI "home care vs hospital*" OR AB "home care vs hospital*" OR SU "home care vs hospital*") OR (TI "hospital* versus home*" OR AB "hospital* versus home*" OR SU "hospital* versus home*") OR (TI "hospital* vs home*" OR AB "hospital* vs home*" OR SU "hospital* vs home*") OR (TI "home* or "hospital* vs home*") OR (TI "home* or hospital*" OR AB "home* or hospital*" OR SU "home* or hospital*") OR (TI "home care or hospital*" OR AB "home care or hospital*" OR SU "home care or hospital*") OR (TI "hospital* or home*" OR AB "hospital* or home*" OR SU "hospital* or home*"))
#4 "Home hospitali*"
#5 (((TI hospital* OR AB hospital* OR SU hospital*) OR (TI "conventional care" OR AB "conventional care" OR SU "conventional care") OR (TI "conventional management" OR AB "conventional management" OR SU "conventional management") OR (TI "conventional therap*" OR AB "conventional therap*" OR SU "conventional therap*") OR (TI "conventional treatment*" OR AB "conventional treatment*" OR SU "conventional treatment*") OR (TI "usual care" OR AB "usual care" OR SU "usual care")) N2 (TI alternative* OR AB alternative* OR SU alternative*))

#6 ((TI admission* OR AB admission* OR SU admission*) N2 (TI avoid* OR AB avoid* OR SU avoid*))
#7 (((TI Home-based OR AB Home-based OR SU Home-based) OR (TI "at home" OR AB "at home" OR SU "at home") OR (TI "home care" OR AB "home care" OR SU "home care") OR (TI homecare OR AB homecare OR SU homecare) OR (TI "home treatment*" OR AB "home treatment*" OR SU "home treatment*") OR (TI "home therap*" OR AB "home therap*" OR SU "home therap*") OR (((TI early OR AB early OR SU early) OR (TI earlier OR AB earlier OR SU earlier) OR (TI home* OR AB home* OR SU home*)) N2 (TI discharge* OR AB discharge* OR SU discharge*)) OR (((TI outpatient OR AB outpatient OR SU outpatient) OR (TI "out patient" OR AB "out patient" OR SU "out patient")) W1 ((TI setting* OR AB setting* OR SU setting*) OR (TI care OR AB care OR SU care)))) N15 ((TI hospital-based OR AB hospital-based OR SU hospital-based) OR (TI "hospital care" OR AB "hospital care" OR SU "hospital care") OR (TI "in hospital" OR AB "in hospital" OR SU "in hospital") OR (((TI inpatient OR AB inpatient OR SU inpatient) OR (TI "in patient" OR AB "in patient" OR SU "in patient")) W1 ((TI care OR AB care OR SU care) OR (TI setting* OR AB setting* OR SU setting*))) OR (TI "general ward?" OR AB "general ward?" OR SU "general ward?") OR (TI hospitaliz* OR AB hospitaliz* OR SU hospitaliz*) OR (TI hospitalis* OR AB hospitalis* OR SU hospitalis*) OR (TI "usual care" OR AB "usual care" OR SU "usual care") OR (TI "conventional care" OR AB "conventional care" OR SU "conventional care") OR (TI "conventional management" OR AB "conventional management" OR SU "conventional management") OR (TI "conventional hospital*" OR AB "conventional hospital*" OR SU "conventional hospital*") OR (TI "conventional therap*" OR AB "conventional therap*" OR SU "conventional therap*") OR (TI "conventional treatment*" OR AB "conventional treatment*" OR SU "conventional treatment*")))
#8 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7
#9 (MH "Lung Diseases+")
#10 (chronic W1 (lung OR pulmonary OR respirat*) W1 (condition* OR disease* OR disorder* OR illness*))
#11 (pulmonary N2 disease*)
#12 (MH asthma+)
#13 asthma*
#14 (MH "Post-Acute COVID-19 Syndrome") OR ((MH "SARS-CoV-2") OR (MH "COVID-19+") AND (TI sequela* OR AB sequela*)) OR ("long Covid" OR ((Covid OR Covid19 OR "corona virus 2019" OR "coronavirus 2019" OR SARS-CoV-2 OR B.1.1.7 OR B.1.351 OR B.1.1.28 OR B.1.617 OR BA.1 OR BA.2 OR BA.3 OR BA.4 OR BA.5 OR omicron OR deltacron OR "delta variant" OR "delta subvariant") N3 (PASC OR sequela* OR "post acute" OR postacute OR prolonged OR "long haul*" OR chronic OR lingering OR ongoing OR persistent OR "long term" OR "more than 12 weeks" OR "more than 24 weeks")))
#15 (MH "critical care+")
#16 TI("cystic fibrosis") OR AB("cystic fibrosis") OR SU("cystic fibrosis")
#17 (MH "critical illness")
#18 TI("pulmonary fibros*" OR "fibrosing alveolit*") OR AB("pulmonary fibros*" OR "fibrosing alveolit*") OR SU("pulmonary fibros*" OR "fibrosing alveolit*")
#19 (MH Bronchiectasis)
#20 Bronchiectas*
#21 (MH "Pulmonary Heart Disease")
#22 S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21
#23 (randomized controlled trials OR MH double-blind studies OR MH single-blind studies OR MH random assignment OR MH pretest-posttest design OR MH cluster sample OR TI

(randomised OR randomized) OR AB (random*) OR TI (trial) OR (MH (sample size) AND AB (assigned OR allocated OR control)) OR MH (placebos) OR PT (randomized controlled trial) OR AB (control W5 group) OR MH (crossover design) OR MH (comparative studies) OR AB (cluster W3 RCT))

#24 (MH "prospective studies"+) OR (MH "epidemiological research") OR (MH "clinical research"+) OR (MH "evaluation research"+) OR (MH "statistics"+) OR ((control AND (group* OR study)) OR (time AND factors) OR program* OR survey* OR ci OR cohort OR "comparative stud*" OR "evaluation studies" OR follow-up*)

#25 S23 OR S24

#26 S8 AND S22 AND S25

#27 ((MH animals+ OR MH animal studies OR TI animal model*) NOT MH human) OR (PT commentary) OR (PT editorial) OR (MH practice guidelines) OR (MW HI) OR PT(case report)

#28 S26 NOT S27

PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol*

Section and topic	Item No	Checklist item
ADMINISTRATIVE INFORMATION		
Title:		
Identification	1a	Identify the report as a protocol of a systematic review (p1)
Update	1b	If the protocol is for an update of a previous systematic review, identify as such
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number (p4)
Authors:		
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author (p1)
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review (p11)
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments
Support:		
Sources	5a	Indicate sources of financial or other support for the review (p12)
Sponsor	5b	Provide name for the review funder and/or sponsor
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol
INTRODUCTION		
Rationale	6	Describe the rationale for the review in the context of what is already known (p3)
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO) (p3)
METHODS		
Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review (p4)
Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage (p5, p6)
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated (supplementary material)
Study records:		
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review (p6, p7)

Selection process	11b	State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis) (p6)
Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators (p6, p7)
Data items	12	List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications (p6, p7)
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale (p6, p7)
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis (p7, p8)
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised (p9, p10)
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2, Kendall's τ) (p9, p10)
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression) (p9, p10)
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned (p9, p10)
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies (p10)
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE) (p10)

*** It is strongly recommended that this checklist be read in conjunction with the PRISMA-P Explanation and Elaboration (cite when available) for important clarification on the items. Amendments to a review protocol should be tracked and dated. The copyright for PRISMA-P (including checklist) is held by the PRISMA-P Group and is distributed under a Creative Commons Attribution Licence 4.0.**

From: Shamseer L, Moher D, Clarke M, Ghersi D, Liberati A, Petticrew M, Shekelle P, Stewart L, PRISMA-P Group. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. BMJ. 2015 Jan 2;349(jan02 1):g7647.