PROSPERO
International prospective register of systematic reviews

NHS
National Institute for Health Research

UNIVERSITY of York
Centre for Reviews and Dissemination

Systematic review

1. * Review title.

Give the working title of the review, for example the one used for obtaining funding. Ideally the title should state succinctly the interventions or exposures being reviewed and the associated health or social problems. Where appropriate, the title should use the PI(E)COS structure to contain information on the Participants, Intervention (or Exposure) and Comparison groups, the Outcomes to be measured and Study designs to be included.

Patient, carer and staff perceptions of robotics in rehabilitation: systematic review and qualitative meta-synthesis

2. Original language title.

For reviews in languages other than English, this field should be used to enter the title in the language of the review. This will be displayed together with the English language title.

3. * Anticipated or actual start date.

Give the date when the systematic review commenced, or is expected to commence.

07/01/2019

4. * Anticipated completion date.

Give the date by which the review is expected to be completed.

01/02/2020

5. * Stage of review at time of this submission.

Indicate the stage of progress of the review by ticking the relevant Started and Completed boxes. Additional information may be added in the free text box provided.
Please note: Reviews that have progressed beyond the point of completing data extraction at the time of initial registration are not eligible for inclusion in PROSPERO. Should evidence of incorrect status and/or completion date being supplied at the time of submission come to light, the content of the PROSPERO record will be removed leaving only the title and named contact details and a statement that inaccuracies in the stage of the review date had been identified.
This field should be updated when any amendments are made to a published record and on completion and publication of the review. If this field was pre-populated from the initial screening questions then you are not able to edit it until the record is published.

The review has not yet started: No

Review stage	Started	Completed
Preliminary searches	Yes	No
Piloting of the study selection process	Yes	No
Formal screening of search results against eligibility criteria	Yes	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

Provide any other relevant information about the stage of the review here (e.g. Funded proposal, protocol not yet finalised).

6. * Named contact.

The named contact acts as the guarantor for the accuracy of the information presented in the register record.

Despina Laparidou

Email salutation (e.g. "Dr Smith" or "Joanne") for correspondence:

Ms Laparidou

7. * Named contact email.

Give the electronic mail address of the named contact.

dlaparidou@lincoln.ac.uk

8. Named contact address

Give the full postal address for the named contact.

School of Health and Social Care, Brayford Pool Campus, University of Lincoln, Lincoln, Lincolnshire, LN6

7TS

9. Named contact phone number.

Give the telephone number for the named contact, including international dialling code.

01522837407

10. * Organisational affiliation of the review.

Full title of the organisational affiliations for this review and website address if available. This field may be completed as 'None' if the review is not affiliated to any organisation.

University of Lincoln

Organisation web address:

11. * Review team members and their organisational affiliations.

Give the title, first name, last name and the organisational affiliations of each member of the review team. Affiliation refers to groups or organisations to which review team members belong.

Ms Despina Laparidou. University of Lincoln
Dr Ffion Curtis. University of Lincoln
Dr Khaled Goher. University of Lincoln
Dr Ayse Kucukyilmaz. University of Lincoln
Professor Marion Walker. University of Nottingham
Dr Joseph Akanuwe. University of Lincoln
Professor Aloysius Niroshan Siriwardena. University of Lincoln

12. * Funding sources/sponsors.

Give details of the individuals, organizations, groups or other legal entities who take responsibility for initiating, managing, sponsoring and/or financing the review. Include any unique identification numbers assigned to the review by the individuals or bodies listed.

None

13. * Conflicts of interest.

List any conditions that could lead to actual or perceived undue influence on judgements concerning the main topic investigated in the review.

None

14. Collaborators.

Give the name and affiliation of any individuals or organisations who are working on the review but who are not listed as review team members.

15. * Review question.

State the question(s) to be addressed by the review, clearly and precisely. Review questions may be specific or broad. It may be appropriate to break very broad questions down into a series of related more specific questions. Questions may be framed or refined using PI(E)COS where relevant.

What are patients', their carers' and healthcare professionals' perceptions of robotic and robotic-assisted

interventions in motor rehabilitation?

16. * Searches.

Give details of the sources to be searched, search dates (from and to), and any restrictions (e.g. language or publication period). The full search strategy is not required, but may be supplied as a link or attachment.

We will search the following electronic bibliographic databases: MEDLINE, CINAHL, Academic Search

Complete, The Cochrane Library (Cochrane Database of Systematic Reviews), PROSPERO, Scopus, IEEE

Xplore, Knovel, ACM Digital Library, and Web of Science. All databases will be searched from inception and

there will be no language restrictions. Database searches will be supplemented with internet searches (i.e.

Google Scholar), and forward and backward citation tracking from included studies and review articles.

17. URL to search strategy.

Give a link to a published pdf/word document detailing either the search strategy or an example of a search strategy for a specific database if available (including the keywords that will be used in the search strategies), or upload your search strategy.Do NOT provide links to your search results.

Alternatively, upload your search strategy to CRD in pdf format. Please note that by doing so you are consenting to the file being made publicly accessible.

Do not make this file publicly available until the review is complete

18. * Condition or domain being studied.

Give a short description of the disease, condition or healthcare domain being studied. This could include health and wellbeing outcomes.

Patients', their carers' and healthcare professionals' experiences and perceptions of robotic and robotic-

assisted interventions in delivery of motor rehabilitation.

19. * Participants/population.

Give summary criteria for the participants or populations being studied by the review. The preferred format includes details of both inclusion and exclusion criteria.

Patients who have undergone motor rehabilitation that involved a robotic or robotic-assisted intervention. The

views of the, family, carers of a patient will also be included professionals involved in the delivery of the

intervention (such as physiotherapists, neurologists, occupational therapists, etc.).

20. * Intervention(s), exposure(s).

Give full and clear descriptions or definitions of the nature of the interventions or the exposures to be reviewed.

Robotic interventions or robotic-assisted interventions in motor rehabilitation. The focus of the review and

meta-synthesis will be the patients', their carers', and healthcare professionals' views and perceptions of

such interventions.

21. * Comparator(s)/control.

Where relevant, give details of the alternatives against which the main subject/topic of the review will be compared (e.g. another intervention or a non-exposed control group). The preferred format includes details of both inclusion and exclusion criteria.

Not applicable.

22. * Types of study to be included.

Give details of the types of study (study designs) eligible for inclusion in the review. If there are no restrictions on the types of study design eligible for inclusion, or certain study types are excluded, this should be stated. The preferred format includes details of both inclusion and exclusion criteria.

Qualitative research, interviews, focus groups, ethnographic. Quantitative research studies will be excluded.

23. Context.

Give summary details of the setting and other relevant characteristics which help define the inclusion or exclusion criteria.

Participants (and their carers) and healthcare professionals involved in robotic and/or robotic-assisted

interventions for motor rehabilitation.

24. * Main outcome(s).

Give the pre-specified main (most important) outcomes of the review, including details of how the outcome is defined and measured and when these measurement are made, if these are part of the review inclusion criteria.

Patients', carers' and healthcare professionals' views, opinions and perceptions of robotic interventions in

delivery of motor rehabilitation.

Timing and effect measures

Not applicable.

25. * Additional outcome(s).

List the pre-specified additional outcomes of the review, with a similar level of detail to that required for main outcomes. Where there are no additional outcomes please state 'None' or 'Not applicable' as appropriate to the review

None.

Timing and effect measures

Not applicable.

26. * Data extraction (selection and coding).

Give the procedure for selecting studies for the review and extracting data, including the number of researchers involved and how discrepancies will be resolved. List the data to be extracted.

Titles and/or abstracts of studies retrieved using the search strategy and those from additional sources will

be screened independently by two review authors to identify studies that potentially meet the inclusion

criteria outlined above. The full text of these potentially eligible studies will be retrieved and independently

assessed for eligibility by two review team members. Any disagreement between reviewers over the eligibility

of particular studies will be resolved through discussion with a third reviewer. A standardised, pre-piloted form will be used to extract data from the included studies for assessment of

study quality and evidence synthesis. Extracted information will include: study details (title, authors, date),

methods (aims, objectives, research questions, study design, setting, data collection methods, outcomes,

data analysis, context in terms of findings and relevant theory), and participants (demographics,

inclusion/exclusion criteria, method of recruitment, sample selection and sample size). One review author will

extract data and a second author will check for accuracy. Any discrepancies will be identified and resolved

through discussion or in consultation with a third author, where necessary. Missing data will be requested

from study authors.

27. * Risk of bias (quality) assessment.

State whether and how risk of bias will be assessed (including the number of researchers involved and how discrepancies will be resolved), how the quality of individual studies will be assessed, and whether and how this will influence the planned synthesis.

Two reviewers will independently assess the quality of the included studies using the CASP Qualitative

Checklist (2018). Studies, however, will not be excluded on the basis of their quality. Any discrepancies will

be identified and resolved through discussion or in consultation with a third author, where necessary.

28. * Strategy for data synthesis.

Give the planned general approach to synthesis, e.g. whether aggregate or individual participant data will be used and whether a quantitative or narrative (descriptive) synthesis is planned. It is acceptable to state that a quantitative synthesis will be used if the included studies are sufficiently homogenous.

We will use thematic synthesis to synthesise the data, following the Thomas and Harden (2008) approach.

Initially two reviewers will independently code each line of text according to its meaning and content and,

consequently, these free codes of findings will be organised into 'descriptive' themes. Finally, based on the

codes and 'descriptive themes', 'analytical' themes will be developed.

29. * Analysis of subgroups or subsets.

Give details of any plans for the separate presentation, exploration or analysis of different types of participants (e.g. by age, disease status, ethnicity, socioeconomic status, presence or absence or co-morbidities); different types of intervention (e.g. drug dose, presence or absence of particular components of intervention); different settings (e.g. country, acute or primary care sector, professional or family care); or different types of study (e.g. randomised or non-randomised).

It is not possible to specify the groups in advance.

30. * Type and method of review.

Select the type of review and the review method from the lists below. Select the health area(s) of interest for your review.

Type of review
Cost effectiveness
No

Diagnostic
No

Epidemiologic
No

Individual patient data (IPD) meta-analysis
No

Intervention
No

Meta-analysis
No

Methodology
No

Narrative synthesis
No

Network meta-analysis
No

Pre-clinical
No

Prevention
No

Prognostic
No

Prospective meta-analysis (PMA)
No

Review of reviews
No

Service delivery
No

Synthesis of qualitative studies
Yes

Systematic review
Yes

Other
No

Health area of the review

Alcohol/substance misuse/abuse
No

Blood and immune system
No

Cancer
No

Cardiovascular
No

Care of the elderly
No

Child health
No

Complementary therapies
No

Crime and justice
No

Dental
No

Digestive system
No

Ear, nose and throat
No

Education
No

Endocrine and metabolic disorders
No

Eye disorders
No

General interest
No

Genetics
No

Health inequalities/health equity
No

Infections and infestations
No

International development

No

Mental health and behavioural conditions
No

Musculoskeletal
Yes

Neurological
Yes

Nursing
No

Obstetrics and gynaecology
No

Oral health
No

Palliative care
No

Perioperative care
No

Physiotherapy
No

Pregnancy and childbirth
No

Public health (including social determinants of health)
No

Rehabilitation
Yes

Respiratory disorders
No

Service delivery
No

Skin disorders
No

Social care
No

Surgery
No

Tropical Medicine
No

Urological
No

Wounds, injuries and accidents
No

Violence and abuse
No

31. Language.

Select each language individually to add it to the list below, use the bin icon to remove any added in error.
English

There is not an English language summary

32. Country.

Select the country in which the review is being carried out from the drop down list. For multi-national collaborations select all the countries involved.

England

33. Other registration details.

Give the name of any organisation where the systematic review title or protocol is registered (such as with The Campbell Collaboration, or The Joanna Briggs Institute) together with any unique identification number assigned. (N.B. Registration details for Cochrane protocols will be automatically entered). If extracted data will be stored and made available through a repository such as the Systematic Review Data Repository (SRDR), details and a link should be included here. If none, leave blank.

34. Reference and/or URL for published protocol.

Give the citation and link for the published protocol, if there is one

Give the link to the published protocol.

Alternatively, upload your published protocol to CRD in pdf format. Please note that by doing so you are consenting to the file being made publicly accessible.

No I do not make this file publicly available until the review is complete

Please note that the information required in the PROSPERO registration form must be completed in full even if access to a protocol is given.

35. Dissemination plans.

Give brief details of plans for communicating essential messages from the review to the appropriate audiences.

We will disseminate the findings of the study through peer reviewed conferences, public presentations, and a

peer reviewed journal article.

Do you intend to publish the review on completion?

Yes

36. Keywords.

Give words or phrases that best describe the review. Separate keywords with a semicolon or new line. Keywords will help users find the review in the Register (the words do not appear in the public record but are included in searches). Be as specific and precise as possible. Avoid acronyms and abbreviations unless these are in wide use.

Systematic review; meta-synthesis; robotic interventions; robotic-assisted interventions; motor rehabilitation;

patients' experiences; informal carers' views and experiences; healthcare professionals' views.

37. Details of any existing review of the same topic by the same authors.

Give details of earlier versions of the systematic review if an update of an existing review is being registered, including full bibliographic reference if possible.

38. * Current review status.

Review status should be updated when the review is completed and when it is published. For

newregistrations the review must be Ongoing.
Please provide anticipated publication date

Review_Ongoing

39. Any additional information.

Provide any other information the review team feel is relevant to the registration of the review.

40. Details of final report/publication(s).

This field should be left empty until details of the completed review are available.

Give the link to the published review.