



*National Institute for  
Health Research*

# PROSPERO: an international prospective register of systematic review protocols

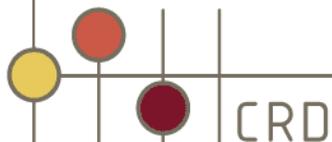
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THE UNIVERSITY *of York*

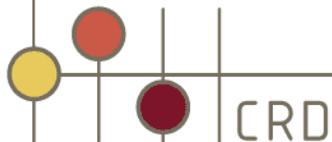
# Prospective registration of systematic review protocols

- PRISMA 2009 advocated registration
- CRD initiated development of PROSPERO
- PROSPERO launched 2011
- Until then no open access facility to formally register systematic review protocols
- Although publication of protocols is integral to Cochrane and Campbell Collaborations this is limited to their own organisations



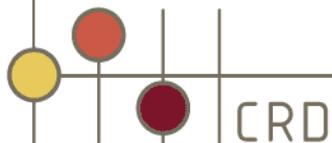
# Why register systematic reviews

- Widely accepted (& promoted) that systematic reviews provide best evidence for decision making
- Have the potential to impact on decisions that affect the care of many people and to have significant budgetary impact
- Associated responsibility to ensure best methods and conduct to ensure systematic reviews are robust and free from bias



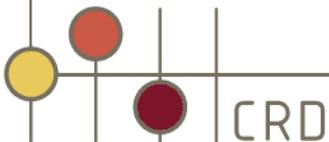
## Avoiding bias

- Detecting and mitigating bias in included studies is central to systematic review. Influences and pressures on reporting are the same for systematic reviews as for clinical trials
- Systematic review protocols ensure review methods are transparent and reproducible. Adherence to the protocol should help avoid bias
- Changes in emphasis between protocol and completed review have potential to bias review findings
- Evidence that reviews change between protocol and final report (*Silagy et al JAMA 2002*) and of outcome reporting biases (*Kirkham et al PLoS ONE 2010*)



## Registration can help

- Permanent public record of key elements of planned review including inclusion criteria and outcomes
- Allows amendments and maintains audit trail of changes (not unreasonable to make changes, but need to know why)
- Allows published results to be compared with what was planned at protocol registration and judgement of whether any discrepancies might have introduced bias



# Avoiding bias

- Registration in PROSPERO takes place when the protocol is finalised but ideally before eligibility screening has started
- Reduces opportunity for post-hoc 'tweaking'
- Recognise that it will not stop deliberate 'cheating'
  - PROSPERO openly displays dates and amendments
  - Does not in itself prevent overt misuse
  - Falsification would be deliberate act of scientific misconduct with potentially serious and damaging consequences

# Avoiding unintended duplication

- Systematic reviews can be time consuming and costly
- Often duplicate or very similar reviews are undertaken
- Unintended duplication is economically wasteful
- Commissioners and researchers may be unaware of ongoing reviews and/or unpublished reviews

## How registration can help

- Registration should allow those planning reviews to check whether there are any reviews already in the 'pipeline' or completed but unpublished that address their topic of interest
- They can then decide whether or not to proceed

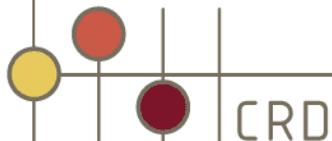
# Benefits to stakeholders

## Researchers

- Comply with PRISMA
- Provide a public record of their planned methods
- Raise awareness of their review
- Unique registration number may help track subsequent use of their review and monitor impact

## Commissioners and funders

- Identify ongoing and unpublished reviews
- Avoid unplanned duplication and economic wastefulness



# Benefits to stakeholders

## Guideline developers

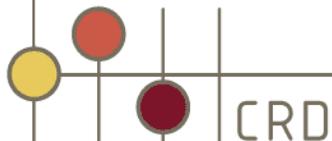
- Information about forthcoming reviews may assist in planning and timing of guideline development

## Journal Editors

- Safeguard against reporting biases
- Access to key protocol features to utilise in peer review

## Peer reviewers

- Comparison of manuscript findings with the review protocol



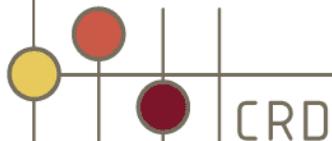
# Benefits to stakeholders

## Methodologists

- Provides opportunity for methods research

## The public

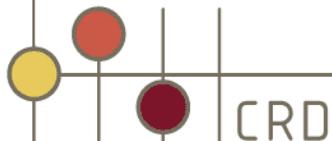
- Helps ensure that health and social care decisions that may affect them are known to be based on good quality systematic review evidence
- Open access information about ongoing systematic reviews
- Encourages transparency in the systematic review process
- Helping to avoid wasting money on unintended duplication



# PROSPERO implementation

Aimed to make registration as straightforward as possible:

- Web based
- Free to register, free to search
- Researchers create and **update** their own records
- Record content is responsibility of researcher/ review author
- Administrators check for “sense” **not** peer review
- Issues unique registration number
- An audit trail of amendments is maintained
- Registration record indexed by the PROSPERO team
- Based on data set agreed by international consultation:  
22 required fields 18 optional fields





PROSPERO

International prospective register of systematic reviews



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Home

Welcome: Alison Booth

Sign out

#### PROSPERO latest news

Over 500 records now available on PROSPERO giving details of systematic reviews being undertaken in 33 different countries.

Training materials now available to download from the About PROSPERO pages:

- [Postcard for training packs](#)
- [Overview of PROSPERO \(Powerpoint slides\)](#)
- [How to register a review \(Powerpoint slides\)](#)

#### Register your review protocol details

Registration is free and open to anyone undertaking systematic reviews of the effects of interventions and strategies to prevent, diagnose, treat, and monitor health conditions, for which there is a health related outcome.

Register your review when the protocol (or equivalent) has been completed but before screening studies for inclusion begins. Simply:

- [Sign in](#)
- Click on 'Register a review'
- Complete the required fields
- Click submit

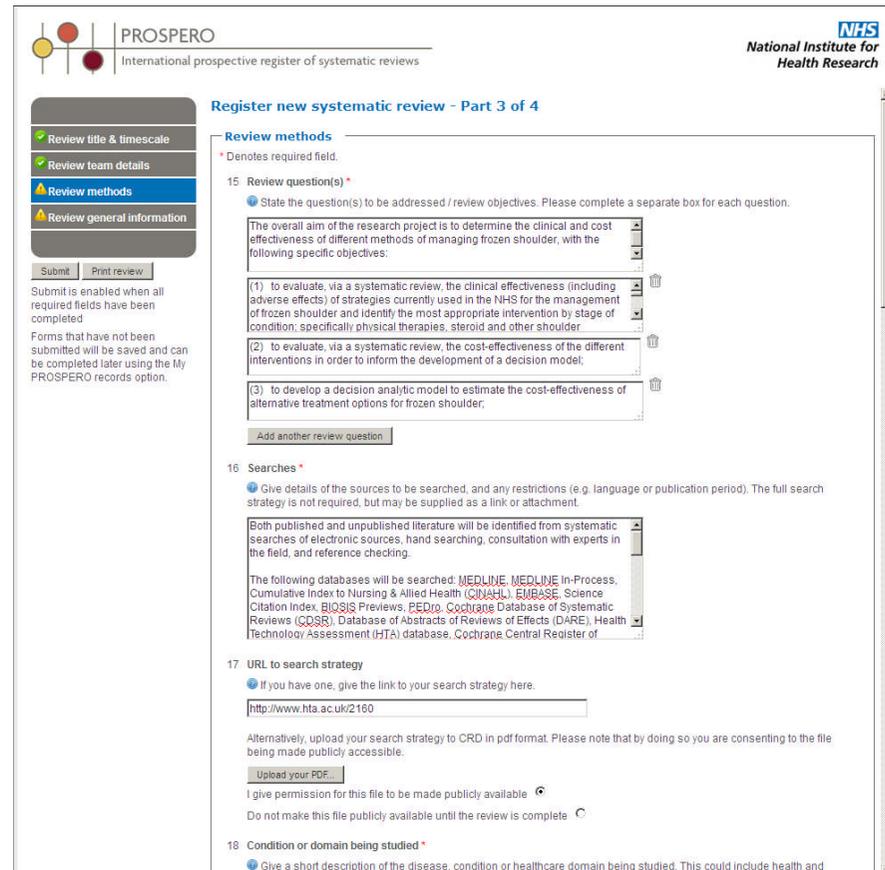


CRD

# Registering a review [www.crd.york.ac.uk/PROSPERO](http://www.crd.york.ac.uk/PROSPERO)

## Current scope

Systematic reviews of the effects of interventions and strategies to prevent, diagnose, treat, and monitor health conditions, for which there is a health related outcome



**PROSPERO**  
International prospective register of systematic reviews

**NHS**  
National Institute for Health Research

### Register new systematic review - Part 3 of 4

**Review methods**

\* Denotes required field.

15 **Review question(s) \***

State the question(s) to be addressed / review objectives. Please complete a separate box for each question.

The overall aim of the research project is to determine the clinical and cost effectiveness of different methods of managing frozen shoulder, with the following specific objectives:

(1) to evaluate, via a systematic review, the clinical effectiveness (including adverse effects) of strategies currently used in the NHS for the management of frozen shoulder and identify the most appropriate intervention by stage of condition, specifically physical therapies, steroid and other shoulder

(2) to evaluate, via a systematic review, the cost-effectiveness of the different interventions in order to inform the development of a decision model;

(3) to develop a decision analytic model to estimate the cost-effectiveness of alternative treatment options for frozen shoulder;

Add another review question

16 **Searches \***

Give details of the sources to be searched, 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.

Both published and unpublished literature will be identified from systematic searches of electronic sources, hand searching, consultation with experts in the field, and reference checking.

The following databases will be searched: MEDLINE, MEDLINE In-Process, Cumulative Index to Nursing & Allied Health (CINAHL), EMBASE, Science Citation Index, BIOSIS Previews, PEDro, Cochrane Database of Systematic Reviews (CDRS), Database of Abstracts of Reviews of Effects (DARE), Health Technology Assessment (HTA) database, Cochrane Central Register of

17 **URL to search strategy**

If you have one, give the link to your search strategy here.

<http://www.hta.ac.uk/2160>

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.

Upload your PDF

I give permission for this file to be made publicly available

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



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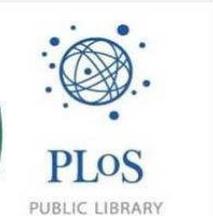
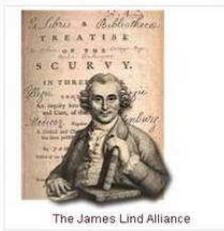
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### Support for prospective registration of systematic reviews

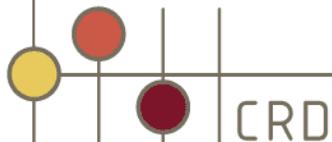
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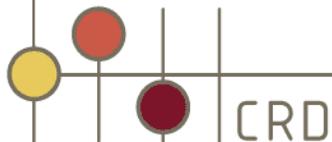
# PROSPERO

- Since launch almost 600 reviews registered undertaken in 34 different countries
- Over 15,000 visitors and over a million page views in first year



# Registration makes sense

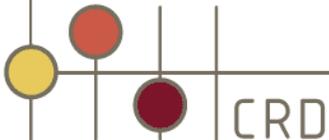
- Promotes transparency and helps identify and reduce risk of reporting bias
- Helps avoid unintended duplication and supports research funding to be used wisely and to best effect
- Requires modest additional effort and early success of PROSPERO indicates researchers are ready and willing to register their systematic review protocols
- Prospective registration should become standard best practice for those who commission, fund and conduct systematic reviews



# Thank you

The development and ongoing management of PROSPERO is supported by CRD's core work programme which is funded by the National Institute for Health Research, England; the Department of Health, Public Health Agency, Northern Ireland and the National Institute for Social Care and Health Research, Welsh Government.

**[www.crd.york.ac.uk/PROSPERO](http://www.crd.york.ac.uk/PROSPERO)**  
**[crd-register@york.ac.uk](mailto:crd-register@york.ac.uk)**



## Registration minimum dataset 22 required fields:

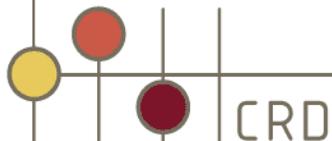
### Administrative

- Review title
- Named contact(s)
- Contact e-mail
- Organisational affiliation
- Funding source/sponsors
- Conflict of interests
- Anticipated or actual start date
- *Stage of review<sup>†</sup>*
- Anticipated completion date
- *Review status<sup>†</sup>*

<sup>†</sup> these fields are updated as the review progresses

### Review design

- Review question/objective
- Condition/domain studied
- Search details
- Participants/population
- Intervention/exposure
- Comparator/control
- Study types
- Primary outcomes
- Secondary outcomes
- Risk of bias/quality assessment
- Strategy for data synthesis
- Planned subgroup analyses



## Registration dataset 18 optional fields:

### Administrative

- Contact postal address
- Contact phone number
- Review team members & affiliations
- Collaborators
- Other registration details
- Organisational reference number
- Language
- Country
- Key words
- Any other information
- Existing review by same authors

### Review design

- *Type of review*
- URL to search strategy
- *URL to full protocol*
- Context
- Data extraction methods
- Dissemination plan
- *Link to final report/publication (added over time)*

*Italics denote functional fields not decided by consultation exercise*

