

PROSPERO

International prospective register of systematic reviews: An expanding resource

Alison Booth¹, Marc Avey², Rob de Vries³, David Moher², Lesley Stewart¹

¹ Centre for Reviews and Dissemination, University of York, UK

² Ottawa Hospital Research Institute, University of Ottawa, Canada

³ SYRCLE, Central Animal Laboratory, Radboud University, The Netherlands

November 2014

The need for and aims of registration

- Systematic reviews usually provide the evidence base upon which health and social care decisions are made so they should be robust and free from bias
- Health research resources are finite so need to be allocated carefully: avoiding unnecessary duplication

Risk of bias

- Concern about and evidence of biases in systematic reviews
 - 2009 PRISMA checklist published
- Registration facilitates transparency
 - Provides permanent public record even if the completed review is never published
 - Enables comparison of what was planned with what is reported: can assess if any discrepancies likely to have introduced bias

Duplication of reviews

- Unplanned duplication of reviews is a waste of resource
 - 73 meta-analyses: two thirds had at least one overlapping meta-analysis (Siontis et al BMJ 2013)
 - 2009: options for registration limited to organisations producing reviews such as Cochrane and Campbell collaborations
- Registration allows those planning reviews to check whether there are any ongoing reviews that address their topic or specific question of interest
- Offers opportunities for collaboration

Requirements of a register

- Searchable and accessible to all
- Free to use
- Accept registrations from anyone
- Require provision of a minimum data set
- Validate entries (within scope and complete)
- Provide a unique identification number for each record
- Permanent entries

Criteria established by the WHO clinical trials registries platform

Developing PROSPERO

- International advisory group
- Establishing a minimum dataset
 - Should not be overly burdensome
 - Aim to collect sufficient information to
 - enable informed judgement about potential risk of bias
 - determine whether reviews already in ‘pipeline’ meet identified need without having undertake a new review
 - Not to capture wider information that should be included in a full protocol for a systematic review

International consultation

- Inform register design
- Reach consensus on data items required for registration
- Generate support for registration
- Raise awareness of the forthcoming register

Modified Delphi

- **Compiled comprehensive list of experts**
 - reviewers, commissioners, methodologists, guideline developers, medical journal editors and invited them to cascade link
- **Compiled list of **all** the components of systematic review protocols from established sources**
(e.g. PRISMA checklist, Cochrane Handbook, CRD Guidance)
- **Busy people so made participation as easy as possible**
 - On-line consultation using SurveyMonkey
 - Limited to two rounds
 - Report on each round compiled and circulated
 - Responses anonymous and not linked between rounds

Booth A, Clarke M, Gherzi D, Moher D, Petticrew M, Stewart L. Establishing a Minimum Dataset for Prospective Registration of Systematic Reviews: An International Consultation. *PLoS ONE* 2011; 6(11): e27319.

Registration minimum dataset 22 required fields

Administrative

- Review title
- Anticipated or actual start date
- Anticipated completion date
- Stage of review*
- Named contact
- Named contact email
- Organisational affiliation
- Funding sources/sponsors
- Conflict of interests
- Current review status*

** these fields are updated as the review progresses*

Review design

- Review question(s)
- Searches
- Condition or domain being studied
- Participants/population
- Intervention(s), exposure(s)
- Comparator(s)/control
- Types of study for inclusion
- Primary outcome(s)
- Secondary outcomes
- Risk of bias (quality) assessment
- Strategy for data synthesis
- Analysis of subgroups

Registration dataset 18 optional fields

Administrative

- Original language title
- Named contact address
- Named contact phone number
- Review team members and affiliations
- Collaborators
- Language
- Country
- Other registration details
- Key words
- Existing review by same authors
- Any other information

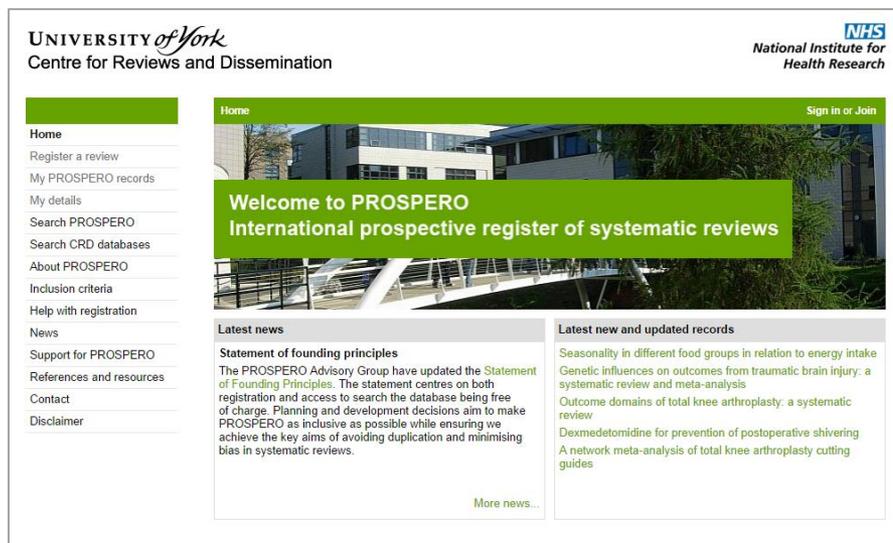
Review design

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

PROSPERO

Launched in Feb 2011

- Web based
- Free to search
- Free to register
- Minimum data set required
- Administrators check for “sense” **not** peer review
- Provide a unique identification number for each record
- Permanent entries
- Audit trail – including updates
- Registrants create, amend and update their own records
- Record content is responsibility of the named contact



Registering a review

- Form has four sections
 - 22 required fields*
- Text can be typed or pasted in
- Takes 30 to 60 minutes to complete
- Form can be saved as a word document
 - use as template
 - share with colleagues
- Brief and full guidance available
- Published protocol link or upload pdf
- Prospective register - registered before screening against eligibility criteria commences

THE UNIVERSITY of York
Centre for Reviews and Dissemination

NHS
National Institute for Health Research

PROSPERO International prospective register of systematic reviews

Register new systematic review - Part 2 of 4

Review methods
* Denotes request 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 field for the management of frozen shoulder and identify the most appropriate intervention by stage of condition, specifically physical therapies, steroid and other shoulder injections, manipulation under anaesthesia, arthrographic distension, capsular release, Watson's walking and combinations of these interventions.

(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.

16 Searches *
One 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, PEDr, Cochrane Database of Systematic Reviews (CDSR), Database of Abstracts of Reviews of Effects (DARE), Health Technology Assessment (HTA) Database, Cochrane Central Register of Controlled Trials (CENTRAL), PROSPERO, Manual, Alternative and Natural Therapy (MANTIS) and Latin American and Caribbean Health Sciences (LILACS). Searches of electronic databases will not be restricted by.

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

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

PROSPERO public interface

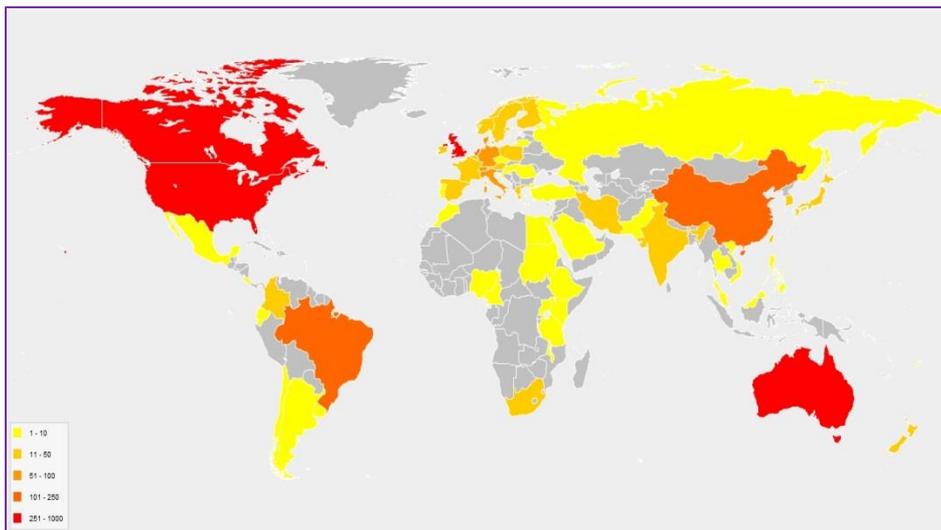
- Admin turn round time aim for 5 working days (achieving 1-2)
- Published records immediately available on the PROSPERO site
- Free text search:
 - all fields or limit by specific field (e.g. Intervention/exposure)
 - Combine terms (or / and / not)
 - Review status
 - Date registered
 - Registration number
- Named contact details available in records

The screenshot shows the PROSPERO search interface. At the top, it says 'THE UNIVERSITY of York Centre for Reviews and Dissemination' and 'National Institute for Health Research'. Below this is a search bar with 'Home > Search PROSPERO' and a 'Sign out' link. The search filters include: 'Combine these selections with' (AND), 'Search by registration number', 'All fields', 'Review title', 'Review question', 'Condition/Domain', 'Participants/Population', 'Review status', and 'Date registered'. A 'Search now' button is present. Below the filters, there is a 'Search Results (1507 records)' section with a table of results. The table has columns for 'Registration no.', 'Title', and 'Status'. The first few rows are: CRD4201305426 'A systematic review: the dietary intake of morbidly obese adults' (Ongoing), CRD4201305424 'Prevention of wrong site surgery, retained surgical items, and surgical fires: a systematic review' (Ongoing), CRD4201305422 'Strains for delaying progression of diabetic renal disease: a systematic review and meta-analysis of randomized controlled trials' (Ongoing), CRD4201305415 'Mindfulness as an intervention in multiple sclerosis' (Ongoing), CRD4201305413 'Pregnancy body mass index and the risk of pre-eclampsia: a meta-analysis' (Ongoing), CRD4201305405 'Efficacy and tolerability of antidepressants for minor depressive disorder (MnD) or major depressive disorder (MCD) with mild symptom severity: a systematic review and meta-analysis' (Ongoing), CRD4201305404 'Risk of incident type 2 diabetes, and incident coronary heart disease, associated with dietary glycaemic index by dose, for each disease, is there a dose-response relation and a dependence on macronutrient composition?' (Ongoing), CRD4201305449 'Efficacy and effectiveness of physical therapy in adults with rheumatoid arthritis: a systematic review and meta-analysis based on the system of the quantitative research approaches of the research protocol' (Ongoing), CRD4201305446 'Analgesia in the setting of enhanced recovery care following major abdominal surgery: a systematic review and meta-analysis' (Ongoing), and CRD4201305430 'Prevention of invasive Haemophilus influenzae type B disease by Hib conjugate vaccine' (Ongoing).

The screenshot shows the PROSPERO record page for 'Interventions to promote prescribing of generic drugs: a rapid evidence synthesis'. At the top, it says 'THE UNIVERSITY of York Centre for Reviews and Dissemination' and 'National Institute for Health Research'. Below this is the title 'PROSPERO International prospective register of systematic reviews' and the specific title 'Interventions to promote prescribing of generic drugs: a rapid evidence synthesis'. The authors are listed as 'Duncan Chambers, Melissa Harden, Catriona McDavid, Thimmon Moe-Byrne, Carl Thompson'. There is a 'Citation' section with the full citation: 'Chambers D, Harden M, McDavid C, Moe-Byrne T, Thompson C. Interventions to promote prescribing of generic drugs: a rapid evidence synthesis. PROSPERO 2013;CRD4201305443. Available from: <http://www.crd.york.ac.uk/PROSPERO/record.asp?ID=CRD4201305443>'. There is a 'Review question(s)' section with the question: 'To assess the evidence for the effects of interventions to increase prescribing or dispensing of generic alternatives to branded drugs'. There is a 'Searches' section with two paragraphs: 'First, we will search evidence from existing sources of synthesised evidence (systematic reviews, HTA reports and reviews of systematic reviews). The sources to be searched are Cochrane (including the Cochrane In-Process Review Database), the Cochrane Database of Systematic Reviews, the HTA database and Health Systems Evidence. Second, we will prepare a summary of the evidence from the first search to guide searching of the primary literature. We will restrict the search of the primary literature to literature published in English and we will decide the databases and publication dates to be searched based on the findings of synthesised evidence.' There is a 'Link to search strategy' section with the link: 'http://www.crd.york.ac.uk/PROSPERO/FILES/201305443_STRATEGY_20130402.pdf'. There is a 'Types of study to be included' section with the text: 'We will include randomised controlled trial (individual or cluster-randomised), quasi-randomised, interrupted time-series or controlled before-and-after design; studies of barriers and facilitators of generic drug utilisation if they are undertaken in a UK NHS setting and use relevant research methodology; e.g. analysis of interviews or questionnaires. We will also include economic evaluations of interventions to promote generic prescribing/dispensing if they meet best EED criteria and are conducted in the UK NHS or a similar healthcare system.' There is a 'Condition or domain being studied' section with the text: 'Generic drugs (prescribing or dispensing for any type of health condition)'. There is a 'Participant(s) population' section with the text: 'Health professionals involved in prescribing (e.g. physicians) or dispensing (e.g. pharmacists) of prescription drugs'. There is an 'Intervention(s), exposure(s)' section with the text: 'Included interventions: Interventions designed to promote prescribing and/or dispensing of generic equivalents of branded drugs and applied to individual prescribers or dispensers. Interventions applied to groups (e.g. general practices) will also be eligible. Excluded interventions: Interventions considered to be adequately covered by existing synthesised evidence, and interventions considered not applicable in NHS settings will be excluded. Generic substitution (allowing pharmacists and other dispensers to fulfil a prescription for a branded medicine by dispensing an equivalent generic medicine) will also be excluded.' There are 'Options' (Print, PDF), 'Share' (Facebook, Twitter, LinkedIn, Email), and 'Revision History' (There are no previous versions) sections.

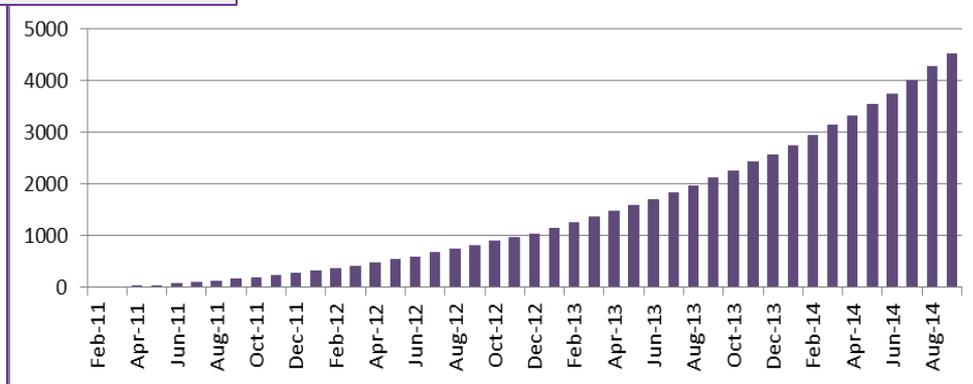
PROSPERO

International prospective register of systematic reviews



101 countries undertaking registered reviews (Feb 2011 – July 2014)

Cumulative new registrations on 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 in the broadest sense**.

- Include:
 - Systematic reviews of reviews*
 - Reviews of methodological issues need to contain at least one outcome of direct patient or clinical relevance to be included*
 - New Cochrane protocols are automatically uploaded from the Cochrane Library
 - *Working on inclusion of systematic reviews of laboratory studies*
- Excluded:
 - Literature reviews, scoping reviews, (languages other than English)
- If in doubt contact crd-register@york.ac.uk for advice.

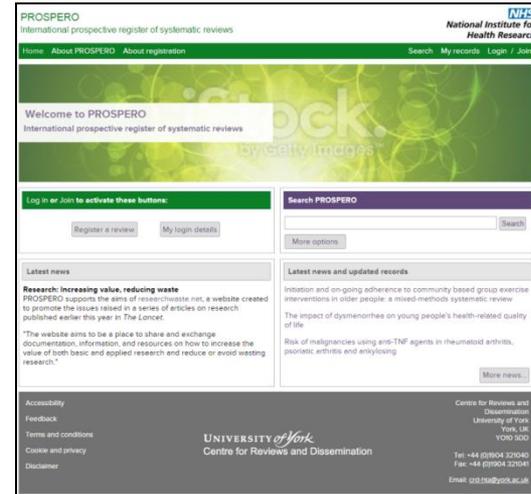
Expanding scope

- Approached by CAMARADES, SYRCLE and OHRI
- PROSPERO advisory group agreed to include protocols for systematic reviews of pre-clinical studies
- Development discussions underway
 - Scope
 - Dataset for registration
 - Timing of registration
 - Help pages/guidance
 - Access to separate template
 - Differentiating records in public interface
 - Administration function
 - Reports to facilitate research
 - Dissemination

PROSPERO

International prospective register of systematic reviews

The creation, ongoing development and management of PROSPERO 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