

PROSPERO: an international prospective register of systematic reviews

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Introduction

Launched in February 2011, PROSPERO is an international online prospective register of health related systematic reviews, initiated by the Centre for Reviews and Dissemination (CRD) and developed in collaboration with an international advisory group. Although protocol development is integral to systematic reviews carried out or funded by many organizations, PROSPERO provides the first opportunity to publicly register the systematic review protocol. Registration is offered free of charge via a dedicated web-based interface that is electronically searchable and open to all (www.crd.york.ac.uk/PROSPERO/).

Purpose

PROSPERO captures key elements of a systematic review protocol in advance of the main reviewing activity to encourage transparency, provide a safeguard against reporting bias and reduce unplanned duplication of systematic reviews.

Helping to avoid bias

Registration can help guard against outcome and other reporting biases by maintaining a permanent public record of the key aspects of the planned review, including inclusion criteria and intended outcomes. When the review is completed, readers can compare published results with what was intended at registration and decide whether any discrepancies are likely to have introduced bias.

Registration will not prevent cheating by conducting repeated reviews and then selectively and retrospectively registering only those with favourable findings. PROSPERO openly displays dates of registration, amendment and publication, which should provide some deterrence. Although, this does not in itself prevent overt misuse, falsification of dates would be a deliberate act of scientific misconduct.

Helping to avoid unintended duplication

Prospective registration can help avoid unplanned duplication of effort by allowing those planning reviews to check whether any already in the 'pipeline' address their topic of interest. They can then decide whether to commission or undertake an additional review. Although there are sometimes good reasons for repeating reviews, avoiding unintended duplication is important in ensuring that finite research funds can be used effectively and efficiently.

Eligibility criteria

PROSPERO currently includes 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.

The long-term aim is to include details of all systematic reviews that have a health related outcome in the broadest sense (for example, reviews of risk factors and genetic associations). But these are not currently accepted.

Registration process

Registration is web based, it's free to register and free to search. Researchers create and update their own records and are responsible for the content. The records are permanent and an audit trail of amendments is maintained. A unique registration number is issued which is used as part of the review identity and quoted in subsequent publications. Readers can use this number to link back to the registration record on the PROSPERO website.

Benefits of registration

Registration provides advantages to many stakeholders:

- **Researchers:** allows compliance with PRISMA, provides a public record of planned methods and raises awareness of their review. Use of the unique registration number will also allow them to track subsequent use of their review and monitor impact.
- **Commissioners and funders:** allows identification of ongoing and unpublished reviews addressing their topic of interest, thereby helping avoid unplanned duplication.

- **Peer reviewers:** allows comparison of manuscript findings with the review protocol.
- **Journal Editors:** provides a safeguard against reporting biases and provides access to key protocol features that they can utilise in the peer review process, where appropriate.
- **Guideline developers:** information about forthcoming reviews may assist in planning and timing of guideline development.
- **The public:** provides free and open access to information about systematic reviews, encourages transparency in the systematic review process, helps ensure that health and social care decisions that may affect them are known to be based on good quality systematic review evidence, helps avoid wasting money on unintended duplication of effort.

PROSPERO will create opportunities for methodological research.

Registration dataset

Following an international consultation in 2011, registration requires provision of 22 data items with the option to provide details of a further 18. (Table I)

Table 1 Dataset

<p>Review title and timescale</p> <ul style="list-style-type: none"> • Review title* • Original language title • Anticipated or actual start date* • Anticipated completion date* • Stage of review at time of this submission* 	<p>Review team details</p> <ul style="list-style-type: none"> • Named contact* • Named contact email* • Named contact address • Named contact phone number • Review team members and their organisational affiliations • Organisational affiliation of the review* • Funding sources/ sponsors* • Conflicts of interest* • Collaborators
<p>Review methods</p> <ul style="list-style-type: none"> • Review question(s)* • Searches* • URL to search strategy • Condition or domain being studied* • Participants/ population* • Intervention(s), exposure(s)* • Comparator(s)/ control* • Types of study to be included initially* • Context • Primary outcome(s)* • Secondary outcomes* • Data extraction (selection and coding) • Risk of bias (quality) assessment* • Strategy for data synthesis* • Analysis of subgroups or subsets* 	<p>General information</p> <ul style="list-style-type: none"> • Type of review • Language • Country • Other registration details • Reference and/or URL for published protocol • Dissemination plans • Keywords • Details of any existing review of the same topic by the same authors • Review status* • Any other information • Link to publication of final report

* denotes a mandatory field

Conclusion

Prospective registration supports the efficient use of funding and timely updating of systematic reviews, provides a way of helping to identify and reduce the risk of reporting bias, and should in time contribute to improving the quality of reviews and the decisions that rely upon them. Registration offers advantages to many stakeholders in return for modest additional effort from the researchers registering their review. We therefore believe that prospective registration should become standard best practice for those who commission, fund and conduct systematic reviews.