Reviewer’s report

Title: Registration of systematic reviews in PROSPERO: 30,000 records and counting

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Reviewer: Chris Winchester

Reviewer’s report:

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Associate Editor
Systematic Reviews
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Dear Dr Fedorowicz,

Registration of systematic reviews in PROSPERO: 30,000 records and counting

Thank you for the chance to review this interesting article, which describes uptake of the PROSPERO database of protocols of health-related systematic reviews. It is great to see that both registration and access of protocols is increasing rapidly, even without a clear requirement from journal editors. The conclusions are supported by the methodology used, and I recommend the article for publication in Systematic Reviews. The following minor comments are provided for the authors’ consideration.

Abstract:

The first sentence of the Background could be more positive (e.g. 'to improve transparency') and the second sentence could be omitted. In the third sentence, the authors could possibly consider replacing the word 'rate' with 'number' as covering both 'per year' and 'cumulative' registrations. Elsewhere in the manuscript, 'registration rate' of SRs could be taken to mean the proportion of systematic reviews that were registered, so perhaps the word 'rate' could be avoided. In the Methods (and throughout), it would be best to use nouns (e.g. therapy, diagnosis) or adjectives (e.g. therapeutic, diagnostic) throughout. The Results could talk about 26,535 systematic reviews being registered, rather than records. For the random sample of records, the past tense should be used.

Background
The final sentence of the Introduction should be referenced or deleted. Paragraph 2 would tell a clearer story if it started with evidence that a database is needed to minimize publication bias (or at least be able to judge publication rates) and closed with the PRISMA recommendation for such a database to be set up and used. Assuming my understanding is correct, paragraph 3 could begin 'The world's first prospective registry of SRs was launched in February 2011. Called PROSPERO, it…'. It would make sense for the scope to be described before the required fields.

Methods and Results

The Methods should describe both periods over which the number of SRs registered was collected: 10 Oct 2015-10 Oct 2016, and 10 Oct 2016-10 Oct 2017. Currently, 10 Oct 2016 appears in both periods. Health area appears to have been classified according to chapter of ICD-10, rather than by individual code as stated in the text. For the benefit of the general reader, please could page views and visits (and sessions in Figure 2) be defined in the Methods. Can the statistical method used to calculate risk ratios be specified? The method for extrapolating the number of SRs registered on PROSPERO by the end of 2017 should be described. How was country in Table 1 of the Results defined? It give similar but not identical results to Country of Corresponding Author for the subset of 150 records in Table 2. It would be interesting to match location with languages covered by the literature searches. Data labels on Figure 1 would be helpful. In the 150 records studied in detail, was there any evidence of duplicates? If not, is it possible to conclude that PROSPERO is doing its job in reducing duplication, or is (as I suspect) the sample too small?

Discussion

Can the authors comment on how the geographical or other scope of SRs registered in PROSPERO have changed over time (e.g. by comparing the current data with reference 12)? The uptake of PROSPERO is extremely encouraging, and may be driven in part by journals, many of which endorse the PRISMA Statement which encourages SR registration. The results certainly show a strong level of support for the principles of Open Science.

The authors might like to comment on the possibility that registration of systematic reviews could take place after the review has started (or even been completed). More onerous requirements for pre-specification of outcomes could potentially encourage this. The fact that 30,000 systematic reviews have been registered is impressive. Can the authors compare the number of systematic reviews registered each year with the number published, to give an indication of what proportion is registered? Does PROSPERO give an indication of status? The authors state in the Discussion that all 30,000 systematic reviews are still underway. Does PROSPERO have a field for inclusion of the published systematic review and, if so, is it possible to populate this automatically from PubMed in the same way as ClinicalTrials.gov (based on registration numbers in the abstract)? As all authors have interests, I recommend replacing 'are free of conflicts of interest' with 'unbiased'. The lack of SRs registered by industry is surprising, and it would be interesting to study (e.g. in a survey) what the reasons for non-registration of systematic reviews by a range of investigators might be.
The creation of PROSPERO was a landmark in evidence-based medicine, and all involved should perhaps be acknowledged in this celebration of its achievements. Perhaps the greatest mark of success is that the world's first pan-institutional registry of systematic reviews is still its largest and most widely used.

Yours sincerely,

Chris Winchester

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Honorary Associate, School of Medicine, Pharmacy and Health, Durham University

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