

# Registering a Systematic Review

*Systematic Review Training*

*Center for Knowledge Management*

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VANDERBILT  UNIVERSITY  
MEDICAL CENTER



## **Objectives:**

- ✓ *Compare features of common databases for registering a systematic review protocol*

# Why are systematic review protocols registered?

- Provides researchers an opportunity to “stake a claim” in the research and methodology
- Reduce resource and financial waste in research by preventing duplicate studies
- Decrease research bias
- Transparency in methods and outcomes selection



Photo by [Marc Schulte](#) on [Unsplash](#)

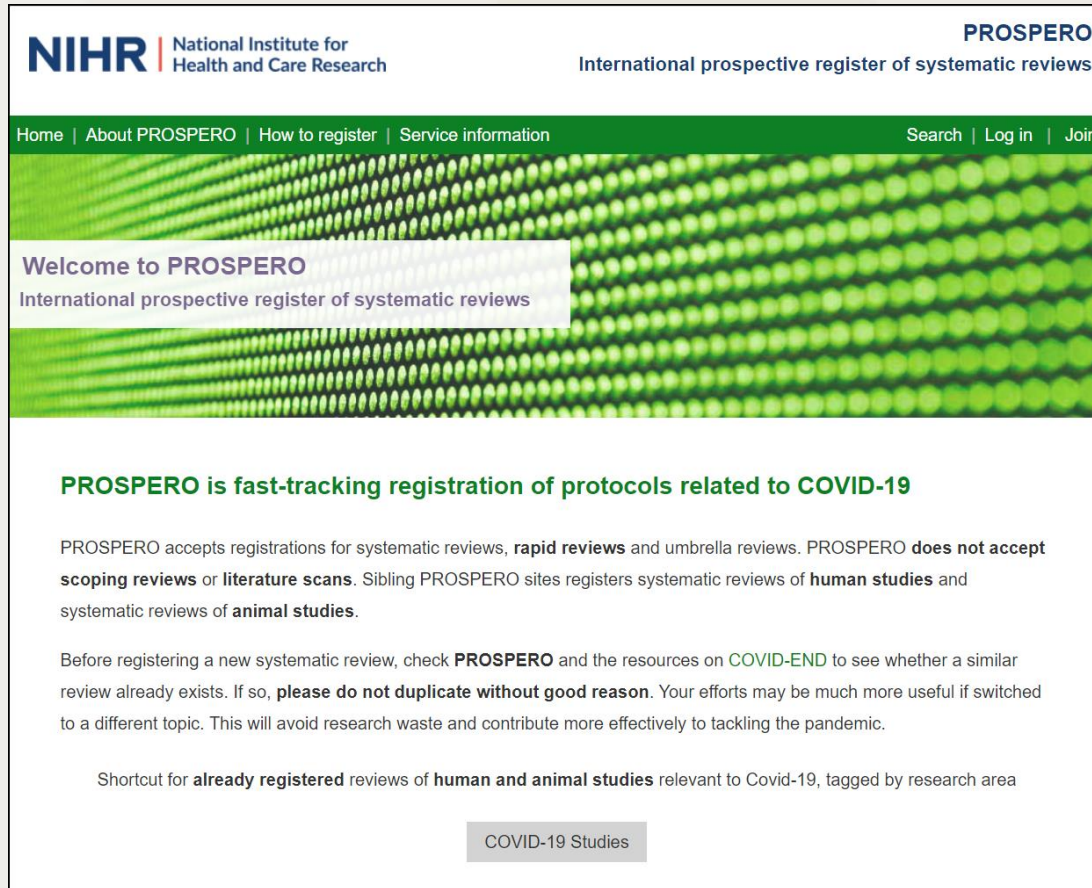
Pieper D, Rombey T. Where to prospectively register a systematic review. *Syst Rev.* 2022 Jan 8;11(1):8. doi: 10.1186/s13643-021-01877-1. [PMID: 34998432](#); [PMCID: PMC8742923](#)

Straus S, Moher D. Registering systematic reviews. *CMAJ.* 2010 Jan 12;182(1):13-4. doi: 10.1503/cmaj.081849. Epub 2009 Jul 20. [PMID: 19620270](#); [PMCID: PMC2802597](#).

Dos Santos MBF, Agostini BA, Bassani R, Pereira GKR, Sarkis-Onofre R. Protocol registration improves reporting quality of systematic reviews in dentistry. *BMC Med Res Methodol.* 2020 Mar 11;20(1):57. doi: 10.1186/s12874-020-00939-7. [PMID: 32160871](#); [PMCID: PMC7065343](#).

Sahni V. Early Career Professionals Network: Registering Protocols of Systematic Reviews [Internet]. London (UK): Cochrane Community; 2023 [cited 2023 Oct 2]. Available from: <https://community.cochrane.org/news/early-career-professionals-network-registering-protocols-systematic-reviews>

# International Prospective Register of Systematic Reviews (PROSPERO)



**NIHR** | National Institute for Health and Care Research

**PROSPERO**  
International prospective register of systematic reviews

Home | About PROSPERO | How to register | Service information | Search | Log in | Join

Welcome to **PROSPERO**  
International prospective register of systematic reviews

**PROSPERO is fast-tracking registration of protocols related to COVID-19**

PROSPERO accepts registrations for systematic reviews, **rapid reviews** and umbrella reviews. PROSPERO **does not accept scoping reviews** or **literature scans**. Sibling PROSPERO sites registers systematic reviews of **human studies** and systematic reviews of **animal studies**.

Before registering a new systematic review, check **PROSPERO** and the resources on **COVID-END** to see whether a similar review already exists. If so, **please do not duplicate without good reason**. Your efforts may be much more useful if switched to a different topic. This will avoid research waste and contribute more effectively to tackling the pandemic.

Shortcut for **already registered** reviews of **human and animal studies** relevant to Covid-19, tagged by research area

COVID-19 Studies

- Created in 2011
- Funded by the National Institute of Health and Care Research
- No cost to register
- Accepts rapid and umbrella reviews with a health-related outcome
- Submissions undergo quality review; processing can take 3-6 months
- The *largest and longest-running* database for systematic review protocol registration (more than 100,000 protocols)



# PROSPERO provides researchers with detailed instructions for protocol structure.


**NIHR** | National Institute for Health and Care Research

PROSPERO  
International prospective register of systematic reviews


Home | About PROSPERO | How to register | Service information Search | My PROSPERO | Logout: Taneya Koonce

Registering a review is easy. Please read the guidance notes for registering a **systematic review of human studies** or a **systematic review of animal studies relevant to human health**, then just follow the five step process below.

- Step 1** Check the **inclusion criteria** to make sure that your review is eligible for inclusion in PROSPERO
- Step 2** Ensure that your review protocol is in its (near) final form and that no major changes are anticipated at this stage - e.g. if your protocol will be peer reviewed it will usually be sensible to wait until this is complete before registering.
- Step 3** Search PROSPERO to ensure that your review has not already been registered by another member of your team
- Step 4** Search PROSPERO to ensure that you are not unnecessarily duplicating a review that is being done by another team or has been registered previously
- Step 5** Start registering your review



Register a systematic review of health research studies (**study participants are people**)



Register a systematic review of animal research studies (**study subjects are animals**) that is of direct relevance to human health

## Systematic review

Please complete all mandatory fields below (marked with an asterisk \*) and as many of the non-mandatory fields as you can then click *Submit* to submit your registration. You don't need to complete everything in one go, this record will appear in your *My PROSPERO* section of the web site and you can continue to edit it until you are ready to submit. Click *Show help* below or click on the icon to see guidance on completing each section.

- 1. \* Review title.**

Give the working title of the review, for example the interventions or exposures being reviewed. The title should use the PI(E)COS structure to contain the Population, Interventions, Comparisons, Outcomes to be measured and Study design.

Acronyms may be included in titles, but should be explained in the text. The preferred form is the usual form (e.g. HIV).

The title in this field must be in English. If the title is in another language, the non-English version should be entered in this field, with the non-English version entered in the 'Original language title' field.

If the final title of the review differs, this can be entered in the 'Original language title' field.

**Example:** Systematic review and meta-analysis of the effect of localized, resectable soft-tissue sarcoma.
- 2. Original language title.**

For reviews in languages other than English the title in this field will be displayed together with the English title.

**Example:** Revisión sistemática y meta-análisis de la comparación con post-operatorio en el sarcoma de tejidos blandos localizados.
- 26. \* Data extraction (selection and coding).**

Describe how studies will be selected for inclusion. State what data will be extracted or obtained. State how this will be done and recorded.

Data extraction methods reported in systematic review protocols should include:

Study selection

  - The number of reviewers applying eligibility criteria and selecting studies for inclusion in the systematic review (good practice suggests more than one individual) and how this will be done (e.g. whether two people will independently screen records for inclusion or whether one will screen and another check decisions) and whether researchers will be blinded to each other's' decisions.
  - How disagreements between individual judgements will be resolved
  - The software system or mechanism for recording decisions

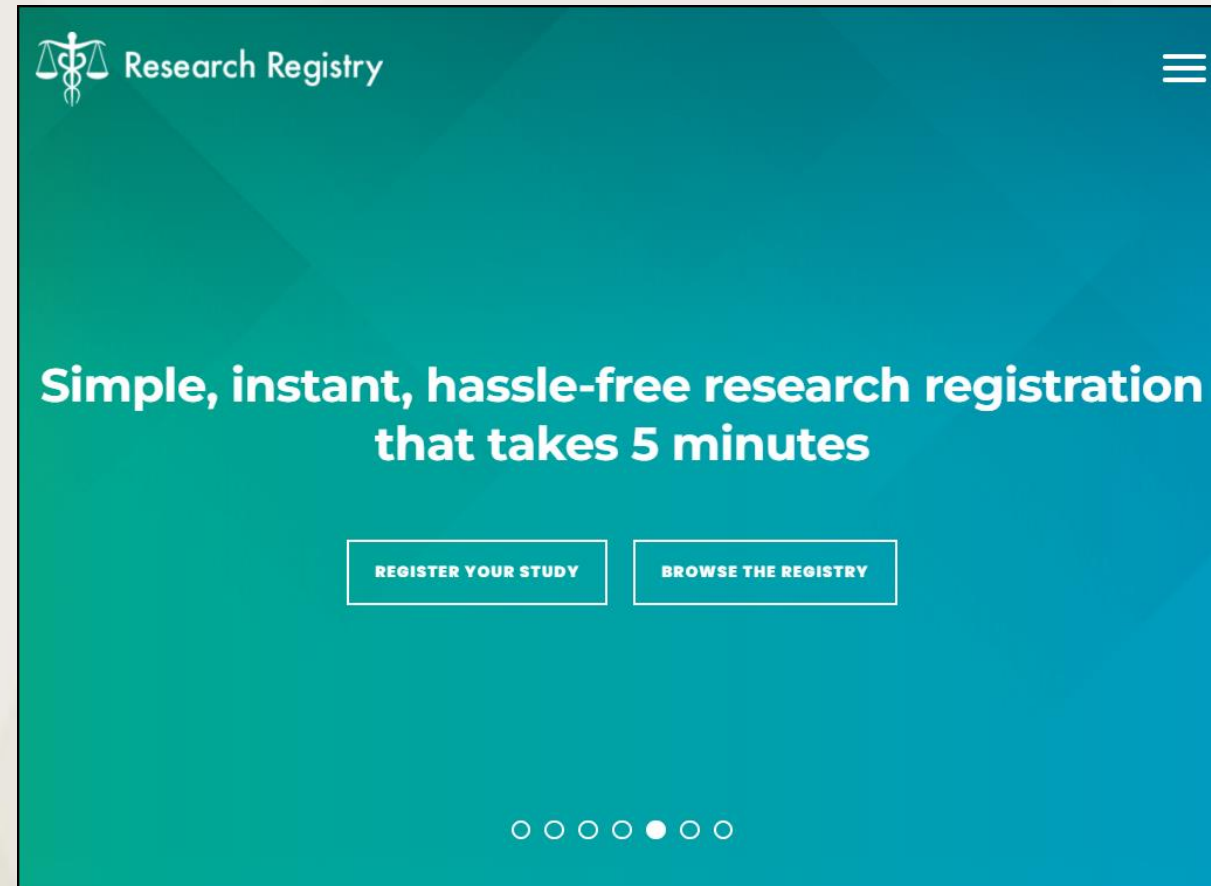
Data extraction

  - List which data will be extracted from study documents, including information about study design and methodology, participant demographics and baseline characteristics, numbers of events or measures of effect (where applicable). Alternatively, state how this information will be obtained from study investigators.
  - The number of people extracting or checking received data (good practice suggests more than one individual) and how this will be done (e.g. whether two people will independently extract data or whether one will extract data and another person check the extracted data).
  - How disagreements between individual judgements will be resolved
  - How missing data will be handled including whether study investigators will be contacted for unreported data or additional details.
  - The means of recording data (e.g. in an excel spreadsheet, in a software system such as Eppi Reviewer)
  - Another relevant detail that should be included is the software or tool, if any, that will be used for data extraction and management. An example of such a software tool is the Systematic Review Data Repository-Plus
- 27. \* Risk of bias (quality) assessment.**

Describe the method of assessing risk of bias or quality assessment. State which characteristics of the studies will be assessed and any formal risk of bias tools that will be used.

# Research Registry – Registry of Systematic Reviews/Meta Analyses

- Started in 2015
- Operated by the International Journal of Surgery Publishing Group and the IDEAL consortium
- Current registration cost: 99£
- Accepts any kind of research protocol; special section for systematic reviews and meta-analyses
- Data curators perform basic submission criteria checks (e.g., check for duplicates, eliminate animal studies); protocols are published immediately
- Contains around 9,000 protocols; of which approximately 1,600 are systematic reviews (as of October 2023)



# Registration is structured, though no field-by-field guide is provided.

The screenshot shows the 'Browse the Registry' page of the Research Registry. The header includes the Research Registry logo and navigation links: WHY REGISTER, ABOUT, BROWSE THE REGISTRY, REGISTER NOW, and HELP. Below the header, there are two tabs: 'Research Registry' and 'Registry of Systematic Reviews/Meta-Analyses'. A button labeled 'REGISTER A NEW Systematic Review/Meta-Analysis' and a 'Reports' button are visible. The main heading is 'REGISTRY OF SYSTEMATIC REVIEW/META-ANALYSIS'. There is a search bar with the placeholder 'search by keyword' and a 'search' button. Below the search bar, it says 'Showing 1-50 of 1587' with an 'Add filters' button. A table displays the search results with columns for Registration Date, Details, Review Registry UIN, Primary Investigator, and Title.

| Registration Date        | Details              | Review Registry UIN | Primary Investigator | Title  |
|--------------------------|----------------------|---------------------|----------------------|--|
| September 22, 2023 08:03 | <a href="#">view</a> | reviewregistry1704  | Mr Aws Almkhtar      | Barriers and facilitators to sustainable operating theatres: a systematic review using the Theoretical Domains Framework |
| September 18, 2023 01:40 | <a href="#">view</a> | reviewregistry1703  | Philip Norris        | Metabolic Syndrome and surgical complications: A systematic review and meta-analysis of 13 million individuals           |

The screenshot shows the 'Registry of Systematic Reviews/Meta-Analyses Details' page. The header includes the Research Registry logo and navigation links: WHY REGISTER, ABOUT, BROWSE THE REGISTRY, REGISTER NOW, and HELP. Below the header, there are three tabs: 'Research Registry', 'User - Research Registry', and 'Registry of Systematic Reviews/Meta-Analyses'. A button labeled 'User - Systematic Review/Meta-Analyses Registry' is visible. The main heading is 'REGISTRY OF SYSTEMATIC REVIEWS/META-ANALYSES DETAILS'. The page displays details for a specific registration, including the Registration Date (September 18, 2023 01:40), Review Registry Unique Identifying Number (reviewregistry1703), Title (Metabolic Syndrome and surgical complications: A systematic review and meta-analysis of 13 million individuals), and Key Review Question and Objectives (Metabolic syndrome (MetS) is a condition characterized by the clustering of multiple risk factors, including cardiovascular disease, diabetes, chronic high blood pressure, obesity, and hypercholesterolemia. Recent evidence suggests that individuals with MetS who undergo surgery experience notably poorer postoperative outcomes compared to those without MetS. Despite the high prevalence of MetS in surgical populations, there is a lack of comprehensive evidence on the risks and interventions related to surgical complications in these patients. Our paper aims to address this knowledge gap by conducting a systematic review and meta-analysis of existing literature on the risks of surgical complications in individuals with MetS compared to those without MetS. Outcomes of interest were the risk of complications within 30 days of surgery, length of stay (LOS), and hospital readmission.). The page also includes a 'Lay Summary (please do not just paste your abstract. Please summarise your research, written in a way the public can understand)' section.

**Registration Date** September 18, 2023 01:40

**Review Registry Unique Identifying Number** reviewregistry1703

**Title** Metabolic Syndrome and surgical complications: A systematic review and meta-analysis of 13 million individuals

**Key Review Question and Objectives** Metabolic syndrome (MetS) is a condition characterized by the clustering of multiple risk factors, including cardiovascular disease, diabetes, chronic high blood pressure, obesity, and hypercholesterolemia. Recent evidence suggests that individuals with MetS who undergo surgery experience notably poorer postoperative outcomes compared to those without MetS. Despite the high prevalence of MetS in surgical populations, there is a lack of comprehensive evidence on the risks and interventions related to surgical complications in these patients. Our paper aims to address this knowledge gap by conducting a systematic review and meta-analysis of existing literature on the risks of surgical complications in individuals with MetS compared to those without MetS. Outcomes of interest were the risk of complications within 30 days of surgery, length of stay (LOS), and hospital readmission.

**Lay Summary (please do not just paste your abstract. Please summarise your research, written in a way the public can understand)** Recent evidence suggests that individuals with MetS who undergo surgery experience notably poorer postoperative outcomes compared to those without MetS. Despite the high prevalence of MetS in surgical populations, there is a lack of comprehensive evidence on the risks and interventions related to surgical complications in these patients. Our paper aims to address this knowledge gap by conducting a systematic review and meta-analysis of existing literature on the risks of surgical complications in individuals with MetS compared to those without MetS.

# International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY)



- Launched in 2020; site operated by author submission fees
- Registration cost: \$20 with fees for protocol updates (\$9)
- Accepts systematic, rapid, scoping, and mapping reviews
- Submissions undergo basic quality review; protocols are published within 48 hours.
- Unique digital object identifiers (DOIs) are assigned to each protocol
- Crossref integration with ORCID for updating author research profiles
- Site contains ~5,500 systematic review protocols (as of October 2023)



INPLASY  
PROTOCOL

To cite: Li et al. Effect of SGLT2 inhibitors on cardiovascular and renal outcomes in patients with eGFR less than 30 ml/min per 1.73 m<sup>2</sup>. Inplasy protocol 202170099. doi: 10.37766/inplasy2021.7.0099

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**Support:** JPHOTCM.

**Review Stage at time of this submission:** The review has not yet started.

**Conflicts of interest:**  
None declared.

## Effect of SGLT2 inhibitors on cardiovascular and renal outcomes in patients with eGFR less than 30 ml/min per 1.73 m<sup>2</sup>

Li, X<sup>1</sup>; Zheng, YW<sup>2</sup>; Zhang, L<sup>3</sup>.

**Review question / Objective:** The effects of sodium-glucose cotransporter-2 (SGLT2) inhibitors on cardiovascular and renal outcomes in patients with eGFR <30 ml/min per 1.73 m<sup>2</sup> remain questionable.

**Condition being studied:** Integrate the studies which explore the effects of SGLT2 inhibitors in patients with eGFR <30 ml/min per 1.73 m<sup>2</sup>.

**Information sources:** Two authors searched for relevant randomized controlled trials that investigated the efficacy of SGLT2 inhibitors in patients with eGFR <30ml/min per 1.73 m<sup>2</sup>. The following electronic databases were searched: PubMed, Web of Science, Sciencedirect, Embase, and Clinical trialsEmbase, PubMed, Web of Science, and Cochrane library databases, we performed several exhaustive searches of major international conference proceedings, grey literature (the noncommercial bibliography of doctors' and masters', technical documents (including government reports)) and clinical trials that may be ongoing or not yet published to minimize loss or omission of suitable articles that met our inclusion criterion.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 31 July 2021 and was last updated on 31 July 2021 (registration number INPLASY202170099).

### INTRODUCTION

**Review question / Objective:** The effects of sodium-glucose cotransporter-2 (SGLT2) inhibitors on cardiovascular and renal

outcomes in patients with eGFR <30 ml/min per 1.73 m<sup>2</sup> remain questionable.

**Condition being studied:** Integrate the studies which explore the effects of SGLT2

# Protocols are formatted as PDF documents, and each follows PRISMA-P recommendations.

INPLASY protocol includes recommended items

**PRISMA-P**  
recommendations

**25**

Section/topics

**15**

Items

**17**

Potential benefits

***The International Platform of Registered Systematic Review and Meta-analysis Protocols (INPLASY®) at two years: an analysis of 3,082 registered protocols on inplasy.com, platform features, and website statistics (2023 preprint)***

- Submissions from 45 countries
- 80% of registrations were systematic reviews or meta-analyses
- 21.2% of registrations subsequently published in scientific journals

# Open Science Framework Registry

- Started in 2013
- OSF Registries is part of open science network (i.e., OSF, OSF Preprints, OSF Meetings, OSF Institutions)
- No cost to register protocols
- Accepts any kind of protocol submission
- Submissions published within a few days; no quality review provided
- Approximately 15,000 systematic and scoping reviews (as of October 2023)



## Registered protocols are:

- Well-structured
- Contain multiple metadata fields
- Links can be made with data files, associated study materials, published articles

van den Akker OR, Peters GY, Bakker CJ, Carlsson R, Coles NA, Corker KS, Feldman G, Moreau D, Nordström T, Pickering JS, Riegelman A, Topor MK, van Veggel N, Yeung SK, Call M, Mellor DT, Pfeiffer N. Increasing the transparency of systematic reviews: presenting a generalized registration form. *Syst Rev.* 2023 Sep 22;12(1):170. doi: 10.1186/s13643-023-02281-7. PMID: 37736736; PMCID: PMC10514995.

The screenshot shows the OSF Registries interface. At the top, there is a navigation bar with the OSF logo and 'OSF REGISTRIES' followed by a dropdown arrow. To the right are links for 'Add New', 'My Registrations', 'Help', 'Donate', 'Join', and 'Login'. Below the navigation bar is a dark header area with the title 'Management of children with intellectual and/or developmental disabilities in the emergency department: parents' self-reported experiences and information needs'. Underneath the title are two dropdown menus: 'Public registration' and 'Updates'. On the right side of this header are icons for sharing, bookmarking, and a refresh symbol.

The main content area is divided into three columns. The left column is a sidebar with a menu of options: 'Overview' (selected), 'Metadata', 'Files', 'Resources', 'Wiki', 'Components' (0), 'Links' (0), 'Analytics', and 'Comments' (0). Below this menu is a section titled 'Open practice resources' with a question mark icon, containing links for 'Data', 'Analytic code', 'Materials', 'Papers', and 'Supplements'. The middle column is the 'Landing Page' with a hamburger menu icon. It contains three sections: 'Intended use' (describing the form's purpose), 'Specialized registration platforms' (listing PROSPERO and others), and 'Specialized guidance' (providing registration guidelines and links to NIRO, MECIR, and MECCIR). The right column is a 'Contributors' sidebar listing 'Sarah Elliott' and providing details for 'Description', 'Registration type', 'Date registered', 'Date created', 'Associated project', 'Internet Archive link', 'Category', and 'Registration DOI'.

# Selecting a protocol registration platform depends on your study team's goals and needs.

- **PROSPERO** - is largest and most established registry; not all types of reviews accepted; time delays are significant
- **Open Science Framework** - is second largest repository; provides structured registration form, quick publication turnaround time
- **INPLASY & Research Registry** – both have fees; smaller repositories



Image by [Arek Socha](#) from [Pixabay](#)





## **Objectives:**

- ✓ *Compare features of common databases for registering a systematic review protocol*

Presented by  
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