



A Comprehensive Guide to Conducting and Reporting

Systematic Reviews

Including SWiM Framework

From protocol registration through to publication – a step-by-step practitioner guide covering every methodological decision

PRISMA 2020

SWiM Framework

INPLASY / PROSPERO

Real Reviewer Feedback

Checklists Included



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HOW TO USE THIS GUIDE

Work through this guide sequentially for a new systematic review, or jump to the relevant section when you need specific methodological guidance. Each section is self-contained. Real reviewer feedback is integrated throughout – these are comments drawn from actual peer review responses to systematic reviews.



SCOPE LIMITATION

This guide covers systematic reviews with narrative synthesis and the SWiM framework. It does **not** cover meta-analysis, network meta-analysis, or umbrella reviews – these are addressed in separate companion guides.

1 Introduction and Purpose

Overview of the guide, scope, and synthesis pathways covered

This guide provides a comprehensive, step-by-step framework for planning, conducting, and reporting a systematic review, with or without a quantitative synthesis component. It is designed to support researchers at any stage — from those approaching their first systematic review to more experienced researchers seeking methodological rigour and consistency in reporting.

A systematic review is defined as a review of the literature that uses systematic and explicit methods to identify, select, critically appraise, and synthesise relevant research. It differs from a narrative review in that the methods are transparent, reproducible, and pre-specified. The strength of a systematic review lies not only in what it finds, but in the rigour with which it was conducted.

Two Synthesis Pathways Covered

PATHWAY 1

Traditional Systematic Review with Narrative Synthesis

Used when included studies are synthesised through structured narrative methods when statistical pooling is not appropriate.

PATHWAY 2

Systematic Review with SWiM Framework

A formally structured reporting framework for narrative synthesis — SWiM imposes the same rigour on narrative synthesis that PRISMA imposes on overall reporting.



KEY CONVENTION

Throughout this guide, **SWiM is not treated as a type of review** — it is a reporting framework for narrative synthesis within a systematic review. The decision to use SWiM should be stated in the protocol from the outset.

Conventions Used Throughout This Guide

-  **TIP** — Practical guidance from common practice
-  **WARNING** — Errors reviewers commonly identify
-  **KEY LESSON** — Critical methodological principles
-  **EXAMPLE** — Real-world application of a concept

MY NOTES

2 Understanding Review Types

Choose the right design before you start anything else

Researchers beginning a systematic review must make a foundational decision early in the process: what type of review is this project? This decision is not cosmetic — it determines the synthesis methodology, the statistical approach, the reporting framework, and ultimately what journals will find acceptable.

Table 2.1 — Systematic Review Design Decision Matrix

REVIEW TYPE	WHEN TO USE	SYNTHESIS METHOD	REPORTING STANDARD
SR + Narrative Synthesis	Studies too heterogeneous in population, intervention, or outcomes for statistical pooling	Thematic grouping, direction of effect, structured narrative	PRISMA 2020
SR + SWiM Framework	Pooling not appropriate AND a formal, reproducible narrative synthesis framework is needed (increasingly expected by journals)	SWiM nine-item framework (Campbell et al., 2020, BMJ)	PRISMA 2020 + SWiM checklist
SR + Meta-Analysis	Studies sufficiently homogeneous in design, population, and outcome measurement to pool statistically	Statistical pooling (SMD or MD; random or fixed effects)	PRISMA 2020 + forest plots
Network Meta-Analysis (NMA)	3 or more interventions; indirect comparisons required	Bayesian or frequentist NMA modelling	PRISMA-NMA extension
Umbrella Review	Multiple existing systematic reviews on a topic need to be synthesised	Synthesis of existing reviews, not primary studies	PRISMA 2020 + AMSTAR-2



KEY LESSON

Choose your review type **before the search** — this decision cannot be reversed without a protocol amendment. If the synthesis methodology changes after the protocol is registered, a formal amendment must be filed with the registry before implementing the change.

Changing Synthesis Methodology Mid-Review

It is not uncommon for the synthesis methodology to evolve during the review process. A review initially registered as a SR with meta-analysis may encounter data that makes pooling inappropriate. Conversely, a review planned as purely narrative may find sufficient homogeneity to pool.

This is acceptable — but every change must be handled transparently: **(1)** document the reason for the change (e.g., unexpected heterogeneity in outcomes), **(2)** file a formal amendment with the protocol registry before implementing the change, and **(3)** report the deviation clearly in the Methods section with transparent justification.

3 Protocol Registration

The step most researchers skip — and why they regret it

Protocol registration is the prospective, public documentation of your planned review methods before the search is conducted. It is not a formality — it is the mechanism that distinguishes a systematic review from a selective review, because it makes post-hoc changes to methods visible.

When a research protocol is registered before the search, reviewers and readers can verify that the research question was not changed after seeing what results were available, that outcomes were not switched to report only significant findings, and that inclusion/exclusion criteria were not adjusted post-hoc.



TIMING

The protocol must be registered **before the final database search** is conducted. Registration dates are publicly visible. A protocol registered after the search has started is a post-hoc registration — reviewers will check dates and will question this.

Table 3.1 — INPLASY vs PROSPERO: Registry Comparison

FEATURE	INPLASY	PROSPERO
Processing time	24–48 hours in most cases	Several weeks; can be considerably longer
Scope	All disciplines — sport science, nutrition, psychology, education, engineering	Health-related reviews only; scope restrictions apply
Cost	Registration fee applies	Free of charge
NMA support	Fully supported	Supported with scope and eligibility restrictions
Journal acceptance	Widely accepted across disciplines; increasingly recognised by high-impact journals	Gold standard for clinical and medical journals; Cochrane requirement
Best for	Sport science, exercise, nutrition, NMA, SWiM reviews, multidisciplinary	Clinical medicine, pharmacology, Cochrane-affiliated reviews



WARNING

Both INPLASY and PROSPERO update their submission guidelines periodically. Before preparing a registration, always visit the registry website and read the current guidance. Do not rely on descriptions in papers or guides as the definitive submission instruction.

MY NOTES
