

## The incomplete scope of scoping reviews

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## **The incomplete scope of scoping reviews: A framework for improving the quality of reporting**

Over the past two decades, scoping reviews have risen in popularity among nurse researchers as a means to draw together literature and evidence on a particular subject, with the intention of informing nursing practice, policy and education. Arksey and O'Malley (2005) were at the forefront of describing and formalising the scoping review and they put forward the purposes for undertaking one: to examine the extent and reach of research activity in a particular field; as a pre-cursor to a full systematic review; to summarise and disseminate research findings and to identify gaps in the literature. In what has now become a seminal piece of work, they lay out its six core stages:

1. Identification of research questions;
2. Identification of relevant studies;
3. Study selection;
4. Charting the data;
5. Collating, summarising and reporting results;
6. An optional final step to consult with stakeholders about the results (Arksey & O'Malley 2005).

Most authors report their scoping reviews according to the first five stages, omitting the optional sixth step. In our work as an editor for this journal (CB-J) and guest editor for a special issue on literature reviews (HA) we have reviewed numerous, probably hundreds of submitted scoping reviews. We reviewed data for manuscripts submitted to *JCN* for the period July 2020-July 2021. Within this twelve-month timeframe, 27 out of the 45 submitted scoping reviews (60%) were rejected. Some were referred to one of our sister journals *Nursing Open* for consideration there, but the others fell by the wayside, mostly due to poor quality reporting. A significant area of weakness that we have discerned is in the collating, summarising and reporting of results (the fifth of Arksey and O'Malley's stages). We are

inspired to write this editorial to highlight this problematic area and to suggest a simple framework for improvement. Before we do, let's consider the problem.

The verb 'to scope', means to examine something carefully and completely. In our view however, many scoping reviews do not collate, summarise and report their findings in a careful and complete manner. Frequently, this stage of the review is nothing more than a superficial overview of themes. The opportunity to present a comprehensive scope, that is careful and complete is rarely achieved. In some sense the scope of the scope is incomplete and this is in spite of the availability of robust and guidelines for reporting. For example, the PRISMA checklist (Preferred Reporting Items for Systematic Reviews and Meta Analysis); a 27-item checklist that authors, reviewers and editors use to evaluate the rigor of a systematic review, now has an extension for scoping reviews. This extension was introduced in 2018 and it contains 20 essential reporting items including data charting, data items, and synthesis of results (items 10, 11 and 13 respectively) (Tricco et al 2018). As stated, it is in spite of such guidance that there appears to be an enduring problem in reporting.

We are not the first to critically review the state of scoping reviews. There have been two, large scoping reviews on the conduct and reporting of scoping reviews (Pham et al. 2014; Tricco et al. 2016). They both found that most scoping reviews result in identifying evidence gaps (77% and 85% respectively) and recommendations for future research (77% and 84% respectively), rather than actually providing a scope of the literature. Additionally, Peters and colleagues (2015) provided guidance on reporting scoping reviews, advising that depending on the objective of the review, results may be classified under conceptual categories such as 'key findings' and 'gaps in the research' based on a logical and descriptive summary of the results ('charting the results'). Such guidance is important and helpful, but in our view there is an enduring problem of poor reporting. Targeting Arksey and O'Malley's stage 5 as the problematic hotspot, in this editorial we offer a framework for how better reporting and enhanced clarity can be achieved.

Following the PAGER acronym, the framework that we advocate consists of five domains: **P**atterns, **A**dvances, **G**aps, **E**vidence for Practice and **R**esearch recommendations. For each domain there are questions that authors can use when developing their PAGER report as part of the scoping review. The full version and origins to the framework are published elsewhere (Bradbury-Jones et al. 2021). We encourage readers to access full version because it provides far greater detail than we can provide here. Unsurprisingly, given the focus of this editorial, the PAGER framework is intended as a tool to help researchers achieve a comprehensive description and critique of the literature included in their scoping review, to strengthen the stage 5 process of Arksey and O'Malley (2005). The description of PAGER that follows, is a highly edited and truncated version of the original framework, with only the questions under each domain retaining some degree of similarity.

The starting point of the detailed description of the framework constitutes the domain 'Patterns'. A useful starting point in developing the PAGER framework is to produce what we have named a 'Patterning Chart'. This is essentially a table of key themes and we guide you to the full publication for details (Bradbury-Jones et al. 2021). It displays the included articles on one axis and the themes on the other. The intention is to show how the review themes are distributed across the included articles. It is an extremely useful way of capturing the prominence of certain themes within the included literature and it provides a visual representation of its gaps.

Once the patterns have been established, the Advances are identified and reported. This is the opportunity to capture how the field of study has developed over time. At this stage reviewers are prompted to interrogate the literature to assess how new knowledge in the field has developed over time. Critical reflection is required in terms of the types of insights or advances made within the body of work and the areas that need to be expanded upon. This helps to inform that latter stages of PAGER in terms of recommendations.

As already discussed, many scoping reviews are undertaken as the precursor to an empirical phase of a study, whereby the review identifies the Gaps that justify further study. The PAGER framework however, helps to ensure that identified gaps are focused, well-contextualised and written for the purpose of those who use research (e.g. for the purposes of practitioners, service users, policy-makers, etc.) as well as people who carry out research. Using the patterning chart as a point of reference, authors can consider what has been left out of research and what opportunities exist for further enquiry.

It is the place of systematic reviews, rather than scoping reviews to report on the quality of evidence, but that does not mean that scoping reviews should ignore the issue of Evidence for Practice altogether. In a journal such as *JCN*, the primary purpose is to focus on nursing practice and dissemination of empirical or review findings to multiple stakeholders, including clinicians, policy makers and commissioners. As the penultimate aspect of the PAGER framework, this is where the evidence for is proposed. This is a point to consider who the stakeholders are, and who might benefit most from knowing about the scoping review findings. Crucially - and something that is not always given sufficient attention - is how the key messages can best be conveyed and what the most appropriate means are, for dissemination. Clearly one size does not fit all and special time and consideration is required to content, pitch, tone, language, format and accessibility, especially when engaging with stakeholders who risk being excluded from research, including children, young people, disabled people and those who do not speak or read English.

We have already discussed how many scoping reviews lead to highlighting opportunities for further research and similarly, the PAGER framework has Research Recommendations as its final stage. The concrete recommendations for further research arise from a well-grounded reporting of the four domains, making them relevant and contextual to the other elements of the scoping review findings. This stage calls upon authors to suggest how the findings of the review might inform further research; but it actually does more than that. The

patterning chart means that authors can make a clear statement about where the specific focus should be and importantly, what *does not* require further research.

In summary, we want and need, robust, rigorous scoping reviews to be published because they have considerable potential to inform nursing practice, policy and education.

Unfortunately, too many are rejected because they do not meet the quality threshold for publication in *JCN*. We encourage authors to utilise the PAGER framework outlined in this editorial and in the fuller, published article, in order to ensure that the full scope of the scoping review is achieved.

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