Scoping reviews

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Introduction

The purpose of a literature review is to analyse and synthesise work that has been undertaken in a particular area and to identify what we know and do not know about the question being asked. A literature review generally involves identifying one or more questions which are then answered using a comprehensive and systematic approach (Preston & Aveyard 2020). Literature reviews are frequently undertaken in health and social research and the emergence of the Campbell Collaboration (which produces systematic reviews and other forms of evidence synthesis), is testament to this (see https://www.campbellcollaboration.org/). Given the vast amount of published research on most topics, a literature review is a practical response to managing this volume of publications, presenting a summary and analysis so that the reader does not have to access and read each individual research report. Instead, these are collated and synthesised into one review. There are different types of literature reviews, each with a distinct purpose. For example, the purpose of a Cochrane systematic review with meta-analysis is to determine the effectiveness of an intervention or treatment (Higgins & Green 2019). The systematic review's specific methodology is such that robust conclusions can be drawn regarding what is and is not known (Denyer & Tranfield 2009). The purpose of a meta-ethnography is to interpret qualitative research which focuses on a single issue (Noblet & Hare 1988), while the purpose of a realist review is to determine what works, how and in what circumstances (Wong et al 2012).

Aveyard and Bradbury-Jones (2019) have argued that the influence of the Cochrane Collaboration has led to a renewed interest in methods for doing different types of literature reviews, resulting in an expansion of approaches. In an early analysis of the proliferation of review methods, Grant and Booth (2009) identified fourteen different 'types' of reviews. We have already referred to some of them, but additionally the range of review types include for example, the mapping review, literature (or narrative) review and the scoping review. Definitional clarity around the use, method and outcome of many reviews continues, despite

efforts to present best practice around when and how, specific review methods are most appropriate (Munn et al 2018). The most useful distinctions are those that draw attention to the different purpose and aims of reviews, since these are likely to aid researchers in identifying the most appropriate review to undertake. Overall, there are multiple review types, each with its own purpose and techniques. This article is concerned with one, prominent type of literature review: the scoping review. Later in the article we focus on the development of a new framework for analysing and reporting of scoping reviews. It is known as the PAGER (Patterns, Advances, Gaps, Evidence for practice and Research recommendations) framework. To date we have published a number of scoping reviews, which have culminated in the development of the PAGER framework. We use these as examples in this article so that others can use the framework too. Before focusing on the specifics of the PAGER framework, we provide an overview of scoping reviews.

Scoping reviews

Scoping reviews are distinctive from many other forms of review - and systematic reviews in particular - by virtue of the breadth of literature they can include and, consequently, the range of methods they might include and the analysis they undertake (see for example Pham et al 2014). At the same time, scoping reviews offer a more systematised and transparent method to identify and analyse all the relevant literature than narrative reviews where the selection and analysis of literature is often less systematic and comprehensive (Grant & Booth, 2009). To this extent, we might position scoping reviews in the centre of a continuum of review methods that offers opportunities for researchers to map, describe and analyse a wider body of literature than a systematic review might attempt whilst following a method more rigorous than traditional narrative literature reviews generally achieve. However, the flexibility offered by scoping reviews leaves it open to criticism that it lacks the kind of rigour in reporting guidelines that are provided for authors of systematic reviews. The Preferred Reporting Items for Systematic Reviews and Meta Analysis (PRISMA) is a 27-item checklist of reporting requirements that give authors, reviewers and commissioners of

research a standard benchmark for assessing systematic reviews. An extension to PRISMA was introduced in 2018 for scoping reviews that contains 20 essential reporting items including data charting, data items, and synthesis of results (items 10, 11 and 13 respectively) (Tricco et al 2018). Whilst the PRISMA extension for scoping reviews offers a framework for methodological issues to be described, it falls short of offering any consistent approach to the specifics of charting and synthesis – an omission the PAGER framework seeks to address.

Scoping reviews have been used extensively in health research for some time (Tricco et al 2016). Their use in the wider social sciences has been less prolific, although it is possible to find examples in social care research (O'Malley and Croucher, 2005; Ryan et al 2021); housing (O'Malley and Croucher, 2005a); education (O'Flaherty and Phillips 2015); and comparative research (Hamadeh et al 2021). The reasons for this variance across disciplines is unclear, although it is possible that a lack of methodological and definitional clarity is partly to blame. It is certainly the case that the main methodological advances in scoping reviews has been generated from within the health research community (Tricco et al 21018; Levac et al 2010; Davis et al 2009; Anderson 2008). This is despite the obvious benefits such an approach offers a social science academic community. For example, scoping reviews are particularly good at synthesising studies and information from different methodologies and disciplines, and they are well suited to exploring areas where a temporal and critical understanding of knowledge development is valuable.

In general terms, scoping reviews can be conceived as a method of reviewing research evidence for specific reasons: 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 (particularly for non-academic audiences) and to identify gaps in the evidence base (Arksey & O'Malley 2005). The most widely used framework for scoping

reviews by the aforementioned Arksey and O'Malley describes an iterative process across 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 regarding findings

Wide-ranging research questions are recommended (stage 1) that can be refined if necessary once relevant studies have been identified across a broad range of sources encompassing academic and grey literature (stage 2). Study selection (stage 3) is facilitated through the use of relevant and justifiable 'inclusion' and 'exclusion' criteria that can be developed and informed as familiarity with the literature increases. It is recommended that a descriptive-analytic approach to charting the data (stage 4) is used to ensure that issues of context and process can be captured, understood and explained. Data are then collated, summarised and reported (stage 5) with the intention of providing a thematic narrative report of findings that also includes a numerical analysis of the overall extent and distribution of studies. An optional final step (stage 6) involves consultation with stakeholders regarding the review findings.

It is important to recognise that the choice of themes in reporting is open to researcher bias and (Arksey & O'Malley 2005, p.19) stop short in recommending any specific method for analysing findings, beyond a call for "clarity in reporting strategy". However, this is often hard to achieve in practice (Levac et al 2010) and many reports are unclear about the analytic approach taken. Additionally, many scoping review articles fall short of laying out the profile of the included literature, the inherent gaps within it, and how the review findings can

resonate with and inform future direction for both practice and research. The value of this current article therefore, lies in its attempts to address such problems with the state of reporting scoping reviews.

Background

A framework for reporting scoping reviews

The PAGER framework was initially conceived as part of a scoping review study on the oral health needs of children who had experienced abuse and neglect (Bradbury-Jones et al, 2019) carried out by three of the authors of this article (CB-J, LI and JT). We briefly set out the context of this initial study and the iterative process that led to the development of the PAGER framework.

Study context

Over the past decade, there has been increasing recognition across the global dentistry community that the profession can (and should) play a greater role in identifying and responding to child (and adult) protection and welfare issues (Harris & Whittington, 2010). Concomitantly, there has been a rapid upsurge in publications, practice guidance and professional discussion articles about the intersection between child protection and oral health. As a group of practitioner-academics working across dentistry, nursing and social work, we considered it timely to carry out a review of this emerging work, mapping patterns and gaps in the growing empirical and practice-orientated literature. We anticipated drawing on an interdisciplinary literature that would likely encompass a range of methodological approaches in terms of study design. Thus, a scoping review was an appropriate way of beginning to map and critically engage with the diverse research landscape (Arksey &

O'Malley, 2005). We also wanted to ensure that the review spoke to the needs of practitioners working at the interface of child welfare and oral health. Scoping reviews are particularly well suited to exploring a wide-ranging body of literature with the purpose of addressing a specific, often practice-orientated research question (Levac, Colquhoun, & O'Brien, 2010; Arksey & O'Malley, 2005).

Developing the PAGER framework

At the stage of synthesising our initial findings, we were struck by the seemingly uneven nature of the research landscape. For example, the proliferation of studies about dentists' self-reported skills and worries in dealing with child protection issues, compared to the paucity of studies exploring allied professionals' (e.g. nurses and social workers) skills and confidence responding to child oral health concerns. This raised questions about what was driving and inhibiting research and practice innovation across the different fields. These observations highlighted the need to report the review findings in a clear and accessible way to different professional audiences, amongst whom knowledge of this issue may vary considerably. With this in mind, we started to create reflective memos for each of the principal thematic findings, identifying where there were significant bodies of knowledge or innovation (particularly over the past five years), as well as gaps and limitations in understanding. It soon became evident that the implications of these 'Patterns', 'Advances' and 'Gaps' was likely to differ for people in research and practice-orientated roles and we started to create linked memos, entitled 'implications for practice' and 'implications for research'. The separating out of research and practice implications seemed a little crude; however, we reasoned, these summaries were intended as an aid to, rather than substitute for, more detailed engagement with the study data and narrative analysis. To assist with the development of a simple acronym, these titles were later amended to 'Evidence for practice' and 'Research recommendations'. From this point, the draft outline of the PAGER framework was traced.

The matrix proved to be a valuable orientating point for discussions amongst the research team about the study's key findings and how they 'translated' into messages for and across different audiences. It helped us to work through the implications of our findings in a methodical way, without losing sight of the wider thematic context and purpose of the review. In the latter stages of the study, we presented the PAGER framework to the study stakeholder group, which included representatives from various practice disciplines. This proved a helpful exercise and sparked interesting conversations that in turn sharpened our key study messages. Thus, although the PAGER framework was used initially as a reflective tool amongst the study team, it became invaluable for analysing and reporting the review findings to a wider audience. Such was its use, that we published it as part of that original review (see Table 1). We will use this as a reference point to explain the framework in the discussion that follows.

[Insert Table 1 here]

The PAGER framework offers the opportunity to address weaknesses in Arksey and O'Malley's scoping study method, by providing a consistent approach to the analysing and reporting of review findings. Previous studies have similarly sought to clarify and enhance stages of the original framework (see Levac et al 2010), arguing that greater clarity and consistency around the analysis stage of scoping studies could improve the method overall. However, it is fair to say that there remains a lack of clarity or consistency around how scoping study findings might be reported in ways that enhance methodological rigour. The PAGER framework goes some way to overcome these challenges.

Critical discussion of the PAGER framework

The aim of this article is to describe and critique a framework that some of the author team have developed in previous scoping reviews. It is an attempt to lay out the methodological processes associated with the framework and to explore how it might be used to improve the reporting of scoping review findings in health and social research. Although Arksey and O'Malley (2005) published the first framework for scoping reviews in 2005, this type of literature review is still relatively new (Peters et al. 2015). To further advance the field of scoping review methodology, several articles have been published to date on the guidance for the reporting of scoping reviews. For example, the guidance by Peters et al. (2015) states that – depending upon the objective or focus of the review – extracted results may be classified under main conceptual categories such as 'key findings' and 'gaps in the research' based on a logical and descriptive summary of the results ('charting the results'). Depending on the gaps in knowledge identified from the results, authors may then deduce clear and specific recommendations for future research or the future conduct of systematic reviews needed in the area. Finally, contingent on the aim of the scoping review, recommendations for practice may or may not be developed. A comprehensive scoping review on the conduct and reporting of scoping reviews by Tricco et al. (2016) found that among the 494 reviews included, 85% identified evidence gaps, 84% future research opportunities, 69% strengths and limitations and 54% implications for policy or practice. Noteworthy, none of the reviews identified guidelines for reporting scoping reviews. Finally, pertaining to the reporting of results another scoping review of scoping reviews found that out of 344 reviews included, 77% identified gaps in research, 77% recommended topics or questions for future research, 18% policy implications or recommendations for policy or practice, 19% recommended a systematic review to be conducted and only 3% provided information to inform design or scope of future research (Pham et al. 2014).

The scrutiny of available guidance for the reporting of scoping reviews as well as scoping reviews of scoping reviews has provided clear evidence of inconsistent approaches of reporting scoping review findings. The above described examples have demonstrated the

absence of standardised instructions on how to classify the findings. Our observations echo the commentary on clarity in definition, methods and reporting of scoping reviews by Colquhoun et al. (2014), who call for reporting guidance of scoping reviews. Hence, a framework for the standardised reporting of scoping review results and recommendations is timely and valuable. To further contribute to the ongoing enhancement of the scoping review methodology, the PAGER framework has been developed to improve analysis and reporting in a scoping review. It complements, rather than replaces, current guidelines for reporting. Following the PAGER acronym, the framework consists of five domains: **P**atterns, **A**dvances, **G**aps, **E**vidence for Practice and **R**esearch recommendations. We will refer to these domains of the PAGER framework in more detail in the subsequent paragraphs of this discussion section. For each domain we suggest some questions that authors might use when developing their PAGER report as part of the scoping review. The starting point of the detailed description of the framework constitutes the domain 'Patterns'.

Patterns

In most forms of review, it is standard practice to visually represent the flow of literature through the review, from the initial database results to details of the included studies. This is most typically in the form of the well-utilised PRISMA Flow Diagram (Moher et al 2009). As regards an accompanying narrative, it is usual to begin the presentation of findings with a **descriptive summary/characteristics of the included studies** (e.g. 35 studies were quantitative in nature, six were qualitative and two used mixed methods). Depending on the specific focus of the review, it is likely that authors will want to report on the geographical spread of the literature and how the literature is patterned across countries. These are as likely to feature as part of a scoping review, as with any other review types. However, scoping reviews are an ideal means of discerning the patterns in a current body of literature to a degree perhaps that is not always appropriate for other forms of review. It is placed first in the process because it encourages a macro view of the corpus, reporting on the overall

patterning. It calls upon researchers to consider what the literature tells them about, for example, the nature of the included articles (often from a methodological viewpoint as already discussed) and the prominent thematic findings.

In our own reviews (that have included many forms of review, including scoping reviews), we have found that 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 as illustrated in Table 2 (From Waigwa et al. 2018). The themes will arise from what is typically an inductive, thematic analysis of the key findings from each included article in the review. The themes will necessarily be unique to each particular scoping review. The tabulation of themes in the form of the patterning chart is congruent with the charting stage of the scoping review (Arksey & O'Malley 2005). As shown in Table 2, it displays the review themes and how these are distributed across the included articles. It is not intended as a way of assigning numerical value *per se*, but rather a way of showing the prominence and/or absence of the themes. The patterning chart can stand-alone as a representation in its own right. Importantly though, it forms an important component of the PAGER framework, as each pattern is reported in the left hand column. Then working across each row, the patterns form part of a coherent overview of the advances, gaps, evidence for practice and research recommendations associated with each pattern.

The patterning chart is advocated as a way of presenting themes in a format that can readily inform the identification of patterns and gaps in the included literature. In the example shown, the sociodemographic themes of Age, Gender and Residential Status, were reported in only one or two of the included articles in comparison to Marital Status, which was reported as a theme in five articles. While these types of patterns might be limited in terms of what might be extrapolated from them, they are useful in informing subsequent stages of reporting and the development of the framework.

Key reflective questions to ask at this stage are:

- What are the main groupings/themes arising from the analysis?
- What has not been written about and where are the gaps?
- What patterns exist within and across the groupings and themes?

[Insert Table 2 here]

Advances

Once the patterns have been established, it is helpful to report on the advances that are held within the body of literature. In other words, theoretical and methodological advances over time: how the field of study has developed. Discerning and describing such patterns is important as it reflects the dynamic state of knowledge and its growth within a body of literature. Reporting these advances provides a preliminary justification for how gaps and recommendations for research are framed in the conclusion of a scoping review. There might be a number of ways to report advances, depending on the focus of the scoping review, and we offer some thoughts on this here. The key feature in this stage of reporting is placing the body of work used in the scoping review within a wider context (Anderson et al 2008; Kastner et al 2012).

Locating the body of work under discussion within a wider historical context allows the reader to determine the validity of findings in relation to the current state of knowledge. Demonstrating where this specific set of papers 'sits' within a broader historical context allows us to consider the time frame within which advances have occurred and reflect on why this might be the case. Whilst it is unusual for scoping reviews to be exclusively focussed on theoretical debates, reporting where advances have occurred can support claims relating to research gaps, through the application of alternative theoretical models for example; and recommendations for research where these are rooted more firmly within a theoretical framework. Consideration of methodological advances is also critical for informing research recommendations. This is especially useful where scoping reviews are not normally

associated with quality appraisal. Studies have frequently identified the need for qualitative or quantitative approaches to underpin the existing evidence base, and reporting a sense of the overall methodological advances in the field will support these claims more thoroughly.

The patterning chart can be used to inform the identification of advances in the field. Advances might be conceived as a means of establishing a chronology of the topic. Taking the example in Table 2, we can see how there has been an expansion in interest in sociodemographic characteristics since the first published study. If we combine this observation with consideration of geographic spread, it allows us to reflect on where and when issues have been prioritised in empirical studies. This has practical and theoretical relevance because if the major advances in knowledge are rooted in particular national institutional contexts, the relevance of these for any other place might be limited. In so doing, a focus on advances allows reporting of findings to be more nuanced, taking into account the chronological development of ideas, identification of those jurisdictions where research has been most prolific, and how different national institutional contexts influence practice developments. This story is important to consider when we are seeking to influence future research directions, but even more so if we are concerned with offering practice recommendations (Anderson et al 2008).

This stage of the framework is most akin to a traditional or narrative literature review, where the basis for claims is made clear. It goes further than simply charting the data by seeking to explain how and why some ideas have gained traction in a particular field. However, there are important limitations that researchers need to be aware of: the advances are only pertinent to the literature that has been identified. Therefore, advances that are identified will be influenced by search strategies and the overall 'age' of a body of work. In Bradbury-Jones et al (2019) for example, the search strategy avoided specifying any time period for publication, and was thus able to report advances with some authority since there was unlikely to be any extant literature that was missed by the original search. In other topics, we

find more arbitrary decisions made regarding the time-period and in these instances reporting the findings with reference to some appropriate context increases the overall validity of the findings.

Key reflective questions to ask at this stage are:

- How has new knowledge/findings developed over time?
- Is there anything new within the most recent findings?
- What types of insights or advances have been made in this body of work?
- What needs to be expanded upon?

Gaps

Many scoping reviews are undertaken as the precursor to an empirical phase of a study and justification for reviews is often based on addressing the limitations and under-development of a certain aspect of the literature (Tricco et al, 2016). However, within the scoping review process, the identification of gaps emerges from an analytical process that is shaped by the context in which the research is carried out. Clearly, it is also influenced by the people carrying out the analysis and their methodological and (implicit or explicit) epistemological positioning (Thomas et al, 2019). These necessarily subjective dimensions are infrequently identified and reflected upon in scoping review articles. This in turn can lead to questions about the rigour and transferability of scoping review findings (Pham et al, 2014), in addition to fatigue with the now ubiquitous finding that ‘more research is needed’- a common conclusion drawn from scoping reviews (Tricco et al, 2016).

The PAGER framework does not negate the need for reflexivity in scoping review reporting and we would encourage anyone interested in using the framework to adopt a critical approach (echoing Thomas et al, 2019). However, a strength of the framework is that it offers a structured, tabular prompt for researchers to consider the inter-connections between

their review findings (often presented as themes), the nature of the research landscape and recommendations for future work and/ or use of the research findings. This 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. This is particularly pertinent given that to date scoping reviews are often used in the context of health and social care research and carried out by people in practice and policy-orientated roles (Peterson et al, 2016).

By way of example, in the child oral health study (Bradbury-Jones et al 2019) we identified a gap in knowledge about how dentists identify and respond to ethical dilemmas when they have concerns about a child's safety or welfare (see Table 1). Although this is not a priority area for research in the extant literature, we identified it as important given our findings about the limited levels of training many dentists receive and the difficulties some dentists experience when working in this potentially emotive area. Thus, the purpose of drawing attention to this gap was to highlight an area of practice development and to identify the potential contribution of research to this work. Other identified gaps in this review spoke to broader themes in the research landscape. For example, the paucity of research from a medical, nursing, social work or counselling perspective and the lack of research carried out with and by children and parents.

Key reflective questions to ask at this stage are:

- What has been left out of research to date that really needs to be addressed?
- Are there avenues for further enquiry? If so, how should these areas by prioritised and how might these prioritise differ between stakeholders?
- What has been done extensively, to the extent that we do not need to explore it further?
- What is my/ our team's methodological and epistemological standpoint and how does this shape our findings and framing of the reviews' recommendations?

Evidence for practice

Given that scoping reviews do not seek to report on the quality of evidence, this may appear to be a misplaced aspect of the PAGER framework. Moreover, not all scoping reviews focus on a 'practice' issue per se. However, we argue that many scoping reviews fall short in terms of providing useful messages for practice, whatever that practice might be. We support a broad interpretation of practice as being the practical messages that can be extracted from the literature in the form of implications for patients and carers, clinicians, academics and policymakers. This is important in demonstrating the utility of the review, as opposed to remaining at a descriptive level of themes.

There are a number of ways to interpret the idea of 'evidence for practice' although producing an overview of the "types and sources of evidence to inform practice, policymaking and research" (Daudt et al 2013) features in more recent definitions of scoping reviews. As such, there are similarities between some types of scoping review and knowledge synthesis approaches that can "improve the understanding of inconsistencies in diverse evidence, and define future research agendas" (Kastner et al 2012). In considering how to report evidence for practice, the audience is critical (Levac et al 2010) and this is a feature of scoping reviews that we would recommend forming part of the initial study design. How we report our messages, and to whom, will affect the overall impact of scoping review findings. To date there is limited consideration of how the audience of a scoping review will affect findings and reporting, and in studies commissioned by policy makers we might anticipate these to be driven by organisational priorities (see for example Anderson et al 2008).

A framework for reporting evidence for practice might include consideration of some or all of the following stakeholder groups: Policy Makers; Research Commissioners; Service Providers. There is some evidence that policy makers can make use of evidence that explain or highlight inconsistencies in the evidence base for particular interventions (Anderson et al

2008; Kastner et al 2012). For research commissioners, there are benefits in having access to evidence that can inform priorities for research particularly where these reflect the interpretations arising from inter-professional and inter-disciplinary research teams (Daudt et al 2013). Clearly, scoping reviews can offer researchers and academics useful overviews of the research base – providing important levers for developing new research agendas that are relevant and worthwhile. Similarly, advocacy groups can make practical use of scoping reviews that reveal the breadth of service provision and implications for best practice, including reporting on services available for dispersed and vulnerable groups (Anderson et al 2008). The selection of 'audience' for reporting needs to be considered by researchers, and where possible, extend beyond the commissioning body.

However, the reporting mechanism for evidence for practice requires some consideration of the most appropriate method for dissemination of findings. Scoping review researchers need to pay attention to the most effective way to reach these different audiences, including the production of briefing papers, lay summaries or peer reviewed journal articles. Evidence for practice has meaning only if it has impact.

Key reflective questions to ask at this stage are:

- Who are the key stakeholders in this area who might benefit from the findings?
- What are the key messages for these stakeholders?
- What are the implications for my discipline or field of knowledge?
- What are the most appropriate means for disseminating this evidence?

Research recommendations

The research recommendations domain builds on the identification of gaps and complements the reporting of the evidence for practice. As the final element of the PAGER framework it completes the overall profile of the literature. As discussed, there is some criticism that too many reviews and empirical research have relatively little to contribute,

other than stating the need for further research. In the context of the PAGER framework however, the concrete recommendations for further research arises from a well-grounded reporting of the four domains, making them relevant and contextual to the other elements of the scoping review findings.

Using the child oral health study (Bradbury-Jones et al 2019) as a reference point, under points 2 and 3 of the PAGER Framework, we highlighted important patterns regarding dentists' and non-dentists' responses to child neglect. This led to the recommendations for further qualitative research exploring both groups' experiences and understandings in identifying and responding to oral health and injury when working with children. The important point is that these recommendations as presented in the right-hand column of Table 1 were contextualised by their juxtaposition to the Advances, Gaps etc. of the entire PAGER Framework.

Key reflective questions to ask at this stage are:

- How can the findings of the review inform further research?
- Where should that research be focused?
- What are the research questions that have not been answered yet?
- What does not require further research?

<u>Bringing it all together in a PAGER framework</u>

We have used this article as an opportunity to share our development and use of the PAGER framework, anticipating that it will be useful for colleagues undertaking their own reviews. We advocate its integration into the core stages for scoping reviews (Arksey & O'Malley 2005). We see the patterning chart as an important part of the process, in some ways, linking the review findings and main themes with the production of a tabulated PAGER framework. It is important not to squeeze elements into the framework, merely for the sake of completeness. Beginning with a blank framework ready to be populated, researchers may

find that there are natural gaps that cannot be filled, at least not without compromising congruence. For example, Table 3 is taken from a current study (led by JT) on the experiences of women and girls with cerebral palsy, focusing particularly on their healthcare. The study includes a scoping review. As shown, the review did not highlight any clear Evidence for Practice. In that case, rather than shoehorn findings into those aspects of the framework, the PAGER framework captures that such evidence will emerge from future research. Similarly, no Advances are identified on the third row, so this part of the framework is simply left blank. In our view this reflects a flexible use of the PAGER framework, which is crucial in meeting the specific needs of different reviews.

[Insert Table 3 here]

In our own scoping reviews, we have found the use of the PAGER framework to be highly iterative and creative and we hope that other researchers experience it the same way. The authors are from a range of disciplinary backgrounds and although the PAGER framework has its roots in health research, we see its appeal for researchers across a range of disciplines, particularly in the social sciences. We are not fixed about how it should be used and we regard the publication of this article as an invitation to the further development and critique of the PAGER framework. We are particularly excited by the potential to use and develop the PAGER framework for reviews in qualitative social research and approaches to systematic reviews within, for example, management and organizational studies.

Conclusions

Scoping reviews make a valuable contribution to the assessment of evidence and scope of work on a particular topic. However, the research landscape in many areas is patchy and uneven and different audiences will require different summaries of this. The PAGER framework is a helpful orientation to analyse, report and translate messages for and across different audiences. Its utility lies in its use as a reflective tool within the study team, as a

valuable tool for analysing and reporting scoping reviews, and in extending the rigour of scoping reviews by providing a consistent approach to the presentation of review findings.

Declaration of interest statement

One of the authors (CB-J) is on the editorial board of IJSRM.

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