

Advancing the science of literature reviewing in social research: the focused mapping review and synthesis

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1 **Advancing the Science of Literature Reviewing in Social Research: The**
2 **Focused Mapping Review and Synthesis**

3 **Abstract**

4 Literature reviews are an important and popular part of synthesising evidence across
5 a range of disciplines. There are numerous approaches, each with their distinctive
6 features and purposes. The aim of this article is to advance the science of literature
7 reviewing by describing a new form of review: The ‘Focused Mapping Review and
8 Synthesis’ (FMRS). We critique the approach and highlight its similarities and
9 differences in relation to existing review methodologies. There are four key features
10 of a FMRS. It: 1) focuses on a defined field of knowledge rather than a body of
11 evidence; 2) creates a descriptive map or topography of key features of research
12 within the field rather than a synthesis of findings; 3) comments on the overall
13 approach to knowledge production rather than the state of the evidence; 4) examines
14 this within a broader epistemological context. The FMRS can be used to answer
15 questions that might not be appropriate for other review types and potentially offers a
16 useful addition to the methodological toolkit of social researchers from multiple
17 disciplines.

18 **Keywords**

19 Evidence, literature review, synthesis, scientific inquiry, knowledge synthesis,
20 methodology, social research, mapping review

21 Introduction

22 In the mid-18th century, the Scottish naval surgeon James Lind was confronted with
23 a wealth of reports about scurvy which required him to 'remove a great deal of
24 rubbish' before he could publish the first landmark review entitled *A treatise of the*
25 *scurvy* (Lind 1753, p.viii). Two decades later, the first medical review journal was
26 published in the UK: *Medical and Philosophical Commentaries*. In the first edition,
27 Andrew Duncan (1773, pp. 6-7) observed that evidence was 'scattered through a
28 great number of volumes' and much of it was too expensive to be purchased. Now,
29 more than two centuries later, overload of information and lack of open access to
30 information continue to pose problems for researchers and clinicians; with 75 trials
31 and 11 systematic reviews being published every day (Bastian, Glasziou & Chalmers
32 2010). Knowledge synthesis has thus become increasingly important, particularly
33 since the advent of the evidence based practice movement (Chalmers, Hedges &
34 Cooper 2002; Naylor 2001; Sackett, Straus, Richardson, Rosenberg & Haynes 2000)
35 and the formation of the Cochrane Collaboration in the 1990s, a body which
36 summarises the best quantitative research evidence to inform the most effective and
37 efficient treatment choices.

38 As qualitative research approaches, originating first in anthropology and sociology,
39 have gained popularity within other disciplines, the number of qualitative studies
40 arising from fields such as education, management, medicine, nursing, allied health
41 has proliferated (Noblit 2018). Vast quantities of qualitative research studies are
42 published daily and the need to synthesise learning from these studies has grown, in
43 order to: contain the information explosion; advance theory; abstract higher-order

44 conclusions from qualitative data; and inform evidence-based practice and policy
45 (Major & Savin-Baden 2012). As a result, several literature review types have been
46 developed during - and since - the 1990s. . Noblit and Hare's (1998) meta-
47 ethnography was one of the first, leading the way for subsequent descriptions on the
48 synthesising of qualitative research. The meta-synthesis of Walsh and Downe (2005)
49 and the thematic synthesis of Thomas and Harden (2008) followed; building yet
50 further the frameworks through which qualitative studies could be reviewed. Adding
51 to these seminal papers, Whitemore and Knafli's (2005) integrative review, provided
52 new insights into the combining of quantitative and qualitative research, which at the
53 time helped quell the pervasive paradigm wars.

54 In 2005, Arksey and O'Malley (2005) detailed the nature of scoping studies and in so
55 doing, referred to the plethora of available review types and their associated
56 nomenclature at that time. A review of evidence synthesis methodologies by Grant
57 and Booth in 2009 identified no less than 14 different approaches to reviewing the
58 literature. More recently, Booth and colleagues (2016) laid out the critical
59 requirements of 19 different review types, indicating that there is a proliferation of
60 review types. However, as Grant and Booth (2009) suggest, there is still room for
61 emerging precedent within the reviewing sphere, particularly as new review types
62 are developed in response to changing needs, priorities and pressing global issues.

63 In this paper, we describe and name a new review type: the Focused Mapping
64 Review and Synthesis (FMRS). As authors working in different disciplinary areas
65 within health and social care, at times we have found ourselves trying to answer
66 questions that have not lent themselves to empirical study or 'traditional' forms of
67 review. These have tended to be questions about what is happening

68 methodologically or theoretically within our field, rather than questions about
69 evidence of effectiveness. We sought a novel and pragmatic path to developing and
70 describing new methods that would meet the demands of such review questions.

71 The process began with a project in which we sought to investigate the child
72 protection research landscape in the UK (Jones, Taylor, MacKay, Soliman, Clayton,
73 Gadda & Anderson 2010). Given the expanse of literature in this area (both
74 academic and grey) and the wealth of literature stored outside the usual academic
75 databases (websites and niche databases), a conventional mapping review to cover
76 the entire field was impractical and unfeasible. Instead, we developed a highly
77 focused and deliberately selective approach to literature reviewing, which we
78 subsequently refined. Examples of its application are presented in Table 1. For the
79 purpose of cross-reference these examples are presented as FMRS # 1-4.

80 [Insert Table 1]

81 Our aim in this paper is to present the FMRS as a new addition to the review tool
82 bag detailing its unique approach to searching, appraisal, synthesis and analysis. In
83 the paper we outline the aims, focus and limitations associated with a FMRS and
84 draw on illustrative examples from our own work. To aid contextualisation, we make
85 comparisons to other forms of review, providing illustrative examples where relevant.
86 In the discussion section we utilise the SALSA (Search, Appraisal, Synthesis and
87 Analysis) framework developed by Grant and Booth (2009) to differentiate FMRS
88 from other types of review.

89

90 **Overview of the FMRS approach**

91 Literature reviews aim to provide an overview of the state of science concerning a
92 certain topic and identify gaps in existing knowledge (Fawcett 2013). Similarly, the
93 aim of the FMRS is to address epistemological questions that relate to a particular
94 research field. This requires attention within the review process to not only
95 theoretical and methodological issues, but often ethical and political issues (Soares
96 & Yonekura 2011). There are four key features of a FMRS. It: (1) Focuses on a
97 defined field of knowledge rather than a body of evidence; (2) Creates a descriptive
98 map or topography of key features of research within the field rather than a synthesis
99 of findings; (3) Comments on the overall approach to knowledge production rather
100 than the state of the evidence; and (4) Examines this within a broader
101 epistemological context. While, individually, each of these four defining features of
102 FMRS share some similarities with other review types, when combined, we argue
103 that they take on sufficient difference to warrant a new description and naming.

104 FMRS does not aim to synthesise the evidence of 'what works' in the way that
105 systematic reviews might aim to do, but rather it seeks to identify the assumptions,
106 boundaries and contours (its shape and form) within a body of research (theoretical,
107 methodological, epistemological), and to develop a critical commentary on these
108 assumptions, their application and their limitations. Assumptions, boundaries and
109 contours form the mnemonic 'ABC' that helps capture an important feature of the
110 FMRS.

111 The focus within a FMRS is on specific journals within a predetermined timeframe.
112 The retrieved information is then mapped to create a contemporary synthesis of
113 information within that field. The processes of identifying a focus, mapping and
114 synthesising form the architecture of this approach, as shown in Table 2. These are

115 discussed further in the next section of the paper. Calibration is also an important
116 feature at each step in the process and will be explored later.

117 [Insert Table 2]

118 As discussed, the FMRS shares some characteristics with other forms of review. It
119 has similarities too with critical interpretive synthesis and meta-narrative approaches
120 that examine a body of literature, rather than the details of individual studies. Like a
121 scoping review, it provides an overview of what is out there on a particular topic
122 (Perryman 2016). In the same vein as mapping reviews, it identifies linkages
123 (Cooper 2016) and patterns (Perryman 2016) and it can be used to collate, describe
124 and catalogue in the similar way to a systematic map (James, Randall & Haddaway
125 2016). It is also similar to Paterson and colleagues' (2001) description of Meta-
126 Method and Meta-Theory that are concerned respectively with how methods and
127 theories are utilised within a body of studies. With all this in mind, what is it that
128 makes the FMRS sufficiently different to propose it as a new approach?

129 **FMRS key steps: focus, mapping and synthesis**

130 As the name suggests, a distinct feature of the FMRS is its focus, which is different
131 to many other forms of review where a wide-casting net attempts to retrieve all
132 relevant information on a subject. For example, unlike a critical review, it does not
133 aim to demonstrate that the reviewer has 'extensively researched literature and
134 critically evaluated its quality' (Grant & Booth 2009, p. 94). The types of questions
135 that lend themselves to be answered by the FMRS require what we have described
136 as the production of a 'snapshot' (FMRS #1& 2) or a 'profile picture' (FMRS #3).

137 The FMRS focus relates to two areas: timeframe and sources of information. The
138 design and method are process-oriented and offer a panoramic view afforded by
139 multiple sources. Developing clear assessment criteria for searching the literature is
140 crucial. From the outset, the research objectives are set in alignment to search
141 criteria. Critical questioning by all team members provides the collaborative means to
142 peer-review and cross-disciplinary reflection.

143 Imposing time limits on searches is common practice in literature reviews (Aveyard
144 2014). Similarly, in our previous FMRS projects the timeframe has varied from three
145 months (FMRS #1) to six years (FMRS #2), with the main criterion being the ability to
146 answer the review question. For example, in FMRS #3 we had to restrict the
147 timeframe to three months because the total number of articles became otherwise
148 unwieldy to manage. A pragmatic approach is important. In review FMRS #4 we
149 described the processes that help to define the timeframe. In that review, the lead
150 reviewer accessed each journal to determine the likely numbers of relevant articles
151 within a given timeframe (FMRS #4). We had initially set a six-month timeframe, but
152 the scoping identified that this was likely to yield insufficient data. Extending the
153 timeframe to several years would have overcome this, but was beyond the time
154 resources of the small review team and may have compromised depth and quality.
155 Ultimately, we decided on a time-period of one year for that particular review (FMRS
156 #4).

157 Most forms of review search for evidence from multiple sources, facilitated by
158 systematic database searches (Cooper, Booth Varley-Campbell, Britten & Garside
159 2018). A feature of the FMRS is to identify journals in advance according to their
160 likelihood to contain the required information. This selectivity also allows the
161 introduction of some quality assessment. One criterion that we have tended to use is

162 to select highest ranking journals in a particular field (FMRS #1, FMRS #2 & FMRS
163 #4) as reported by Thompson Reuters InCites™ Journal Citation Reports
164 (<https://jcr.incites.thomsonreuters.com/>). This has ranged from five journals (FMRS
165 #1) to 13 (FMRS #4). While there are inherent biases in selecting journals according
166 to this criterion, the justification is that we can gain insight into the nature of
167 publications at the higher end of the field. It may be that some FMRSs demand
168 different criteria on which to base journal selection, with the decision based on the
169 review aim.

170 Undertaking an initial scoping of potential journals can assist in establishing the
171 amount of relevant material contained within those journals in a given timeframe.
172 This can inform the parameters of the FMRS in terms of focus and allow for some
173 elasticity in the process. In our experience these early processes take some time.
174 Regarding organisation, each team member has been responsible for three (or in
175 some cases four) specific journals (FMRS #1).

176 Retrieval of articles involves a stepped process. This begins with chronological
177 scrutiny of every journal issue within the specified timeframe. Titles, abstracts and
178 key words are examined in order to identify articles that match the inclusion criteria.
179 For example in one FMRS we included all papers (children and adults) that reported
180 primary empirical research dealing with abuse, violence, death or dying, published in
181 the six-year period from 1st January 2009 until 31st December 2014 (FMRS #2). As
182 with all forms of review, full text download of eligible articles is then undertaken. We
183 have also found it necessary to obtain full text articles where the inclusion eligibility is
184 unclear. Through these processes our FMRS projects have included 32 (FMRS #4)
185 to 102 (FMRS #3) and 104 (FMRS #2) articles. The initial scoping described earlier
186 is a mechanism to ensure that the included articles meet the needs of the review,

187 balancing manageability with ability to answer the question. As with other forms of
188 review, flowcharts can sometimes be useful in capturing the filtering of information
189 involved in the process (Jones et al 2016).

190 Table 2 shows the need for ‘calibration’ as part of the focused stage, particularly
191 around retrieval of articles. By this we refer to the need for frequent points of contact
192 and deliberation among the review team in agreeing the parameters of the review.
193 We have found it particularly important to calibrate for shared understandings about
194 definitions and concepts. For example, in the review that investigated the scope of
195 gender-based violence research in Europe (FMRS #4), although we had an agreed
196 definition of what ‘gender-based violence’ means, further discussions were required
197 to operationalise this as the review proceeded. This called for critical decisions (and
198 agreement) about whether this was to mean all people (given that we all have a
199 gender) or whether this was to be interpreted as violence against women. We
200 decided on the latter, but it took multiple discussions to be confident that we were
201 sufficiently calibrated to ensure reliability in retrieval processes. This example is an
202 illustration of how the calibration exercise led to a refinement of a definition, i.e.
203 rather than retrieving literature on “gender-based violence” it became apparent that
204 the focus should be more specifically on “violence against women”. Hence, the
205 calibration exercise forces the review team at an early stage to reflect on *a priori*
206 knowledge and make assumptions explicit which would otherwise remain tacit.

207 We have already explored the difference between FMRS and other forms of review,
208 particularly mapping reviews. Furthering our critique of mapping within a FMRS, the
209 analogy with geographical patterns and landscapes is useful and aligns well with its
210 ABC processes. In explaining how to deal with big data qualitatively, Davidson and

211 colleagues (2018, p.8) refer to the process of thematic mapping, likening it to
212 geophysical surveying, whereby:

213 *Geophysical surveying is an approach used by archaeologists to gain insight*
214 *into a field of study without disturbing the landscape. The patterning of*
215 *landscape features can be recorded, mapped and visualised from the surface*
216 *to detect areas of interest for further investigation.*

217 Conceptually, we see much of this in the FMRS and in terms of practical application,
218 we have standardised our approach to the mapping process. Articles meeting the
219 inclusion criteria are read in full and the assigned reviewer extracts data according to
220 an abstraction pro forma that is produced specifically for the project. Table 3 shows
221 the example from one of our reviews (FMRS #2). These are designed around the
222 review question.

223

224 Calibration is important here again. Once the assigned reviewer has completed the
225 abstraction from their selected source, the overall lead reviewer must appraise all
226 articles against the inclusion criteria to agree those for final inclusion. This is an
227 important way of ensuring reliability and a step we have completed for all the
228 reviews. Additionally, as a form of reliability check, more than 10% of papers in the
229 reviews were double-checked (distributed across the team). It is sometimes
230 important to hold another calibration meeting at this point to agree any anomalies. In
231 the language of Booth and colleagues (2013), at this stage it is important to turn
232 attention to dissonance or the disconfirming case. For example, in one review where
233 we were only interested in articles reporting qualitative studies (FMRS #3), we
234 engaged in considerable debate about one particular article that was described by

235 the authors as qualitative, but included considerable quantitative data. Hence the
236 need to calibrate our viewpoints on what constitutes 'qualitative research'.

237 Whether the extracted features are subject to quantitative and/or qualitative analysis
238 will be dictated by the individual review. We have found that the snapshot profile that
239 we have achieved in our reviews has lent itself more to qualitative description than
240 statistical analysis, with the exception of some straightforward tabulation in some
241 projects (FMRS #3). In reporting the team's earliest FMRS, the iterative nature of
242 analysis was captured:

243 *[A] typology of substantive topics was developed initially through a thematic*
244 *analysis of 30 of the most recent child protection research papers. This was*
245 *then tested and further developed through an iterative process whereby*
246 *existing categories were refined and new categories added as research*
247 *outputs were reviewed (Jones et al. 2016, p. 12).*

248 Intertwined with analytic processes is mapping: the process of identifying and
249 displaying the contours and boundaries within that particular body of literature.
250 Mapping occurs across journals and we have displayed the results of mapping in
251 various ways, most often in tabular form or through diagrammatic representation.

252 All our reviews have led to a synthesis of information that addresses the review
253 questions and contributes new knowledge within our focused area of interest. As
254 examples, in FMRS #1 as a result of the FMRS we were able to develop a typology
255 of how theory is used in qualitative research and make inference about which
256 approaches could be construed as more rigorous. In FMRS #3 we looked at the
257 types of qualitative approaches that were being applied in health and social care
258 research and arrived at a conceptual model for debate and education. To date we

259 have not appraised the included studies for quality because our purpose has been to
260 profile what was happening in the field in each review, rather than to draw
261 conclusions from the included studies' findings. However, we would not rule out the
262 appropriateness of critical appraisal for future FMRS projects if it were appropriate to
263 the specific review questions agreed at the outset.

264 **Discussion**

265 We present a description of the FMRS as a new addition to the methodological menu
266 of literature review approaches outlined by Grant and Booth (2009). To demonstrate
267 the features of the FMRS approach and ascertain its strengths and limitations, we
268 use the SALSA (Search, Appraisal, Synthesis and Analysis) framework of Grant &
269 Booth (2009), who argue that:

270 *Clearer understanding of the distinguishing features of each review type can*
271 *be built up within the systematic review community through both direct*
272 *comparison and emerging precedent. (2009, p.104)*

273 We will now consider each of the four elements of reviewing (Search, Appraisal, S
274 Synthesis and Analysis) in relation to the FMRS, making comparisons to other forms
275 of review, to explore the opportunities and challenges presented by our new
276 methodological approach. The distinct elements of the FMRS are summarised in
277 Table 4.

278

279 [Insert Table 4]

280

281 Regarding the ‘Search’ component of the SALSA framework, we recognise that other
282 researchers have used similar approaches, adopting a focused stance, with targeted
283 journals. For example, in their extensive analysis of nursing literature, Richards and
284 colleagues described the process that they labelled as a systematic literature review
285 (Richards, Coulthard & Borglin 2014). However, from their description, although their
286 review was indeed systematic in the way it was conducted, we suggest that it looks
287 more like a FMRS than a conventional systematic review because eligible papers
288 were obtained from *all* issues published in the top 20 rated nursing journals using
289 impact factors reported in Journal Citation Reports for 2010. In a similar vein,
290 Barbour and colleagues (2016) described their analysis of trial documentation as a
291 descriptive study. On closer examination, however, it became apparent that reports
292 of randomised controlled trials that were examined were published in 2011 in the six
293 top rated general medical journals, based on impact factor. Polit’s (2017) descriptive
294 analysis of clinical significance in nursing research included primary research articles
295 published during 2016 in three non-speciality nursing journals with the highest 2015
296 impact factor. Following a process that mirrors that of a FMRS, Polit describes how a
297 total of 362 articles were electronically searched for terms relating to statistical and
298 clinical significance.

299 The list of reviews that share characteristics with the FMRS (in the sense that eligible
300 papers were obtained by targeting specific journals) could be extended further to
301 include the work of Carlsen and Glenton (2011) who focused on sample-size
302 reporting, Lau and Trausen’s (2016) critique of contemporary qualitative health
303 research and Tutarel (1999) who investigated the composition of board membership
304 across countries. Ultimately, what this shows is that the features of the FMRS, exist
305 already in the realm of qualitative synthesis. However, our paper offers a

306 technological advance within the methodological field of literature reviewing not so
307 much in the use of the FMRS *per se*, but rather in naming it and detailing its
308 architecture.

309 Regarding the 'Appraisal' component of the SALSA framework, the FMRS cannot
310 be a sole endeavour because of the need for calibration. With consensus at the
311 heart of the FMRS approach, it is essential that the review team embrace
312 collaboration. It is important also, that they are willing to engage in debates when
313 dissonance and discrepancies arise within the review process (Booth, Carroll, Ilott,
314 Low & Cooper 2013). As Richards, Coulthard and Borglin (2014 p. 148) describe, in
315 cases of 'uncertainty or disagreement' consensus can be achieved through the
316 involvement of a third reviewer. Like other forms of review then, FMRS does not
317 allow one or two individuals to undertake all of the review work, with additional
318 authors on the periphery, and is thus an equaliser, requiring mutual respect,
319 accountability and commitment from all reviewers. Its success hinges upon team co-
320 operation and the individual and collective willingness to remain open and engage in
321 debate during the appraisal process. This can of course be time consuming, but the
322 multiple perspectives are invaluable and wholly necessary when grappling with high-
323 level ideas and the ABC features of the FMRS.

324

325 Depending on the focus, mapping can bring together a disparate and diverse set of
326 papers. For instance, a FMRS that focuses on mapping methodological approaches
327 can bring together papers with similar methods, but from completely different
328 substantive topic areas. These may also be spread across journals from different
329 disciplines and it is therefore useful to engage a multi-disciplinary review team who

330 are knowledgeable about the disciplinary and methodological conventions within
331 different fields, in order to ensure papers are interpreted and appraised in the right
332 context. Multi-disciplinary teams composed of individuals from different disciplines
333 contribute their disciplinary perspectives in an attempt to solving complex problems
334 that homogenous teams cannot (Younglove-Webb, Gray, Abdalla & Ap 1999).

335

336 Unlike an exhaustive search strategy where it is not entirely possible to predict
337 where papers will be retrieved from outside of the broad parameters of online search
338 databases, the focused nature of the FMRS from the outset is conducive towards
339 ensuring – rather than hoping – that the review team have the relevant backgrounds
340 and expertise to extract, analyse and synthesise review data appropriately and with
341 rigour. In this way, reviewers' skills can be matched more closely to support the
342 focus of the review. It would be logical to assume that such close working and in-
343 depth calibration meetings would necessitate face-to-face contact. However, in our
344 team experience – at times working across four universities and three countries – we
345 were able to connect successfully via regular email, teleconference and skype
346 communications, without hampering the quality of our discussions. Trust within the
347 review team is important, and so, having worked together previously can help to
348 create a strong foundation for the review process. However, the highly co-operative
349 nature of the FMRS approach itself means that trust can also be established quickly
350 along the way; whilst some of our team had worked together before, others were
351 brought together for the first time into new configurations.

352

353 Regarding the ‘Synthesis’ component of the SALSA framework, the FMRS has the
354 benefit of taking a phenomenon and drawing ‘attention to its completeness within the
355 literature’ (Taylor, Bradbury-Jones, Breckenridge, Jones & Herber 2016, p.3). It is
356 not better than other forms of review; it simply forms a different purpose (FMRS #4).
357 In terms of contribution to knowledge, our reviews have led to the synthesis of
358 information either into a typology (FMRS #1) which has been presented in a tabular
359 format with narrative commentary or a conceptual or theoretical model (FMRS #2 &
360 FMRS #3) displayed in the form of a coordinate system consisting of four quadrants.
361 One of our reviews has led to a thematic description (#4) typically described in
362 narrative form. To aid the synthesis process, the scoping pro forma presented in
363 Table 3 is useful. It allows the review team to systematically collect information
364 relevant to the questions to be answered by the FMRS.

365 In relation to the ‘Analysis’ component of the SALSA framework, depending on
366 FMRS review question, the analysis might seek to characterise the quality and/or
367 quantity of the literature under review or to describe the current status of a field of
368 enquiry. For example, in one project (FMRS #3) the aim of our study was to profile
369 the alignment between researchers’ reported orientation (methodological or
370 philosophical positioning) and the actual techniques used (methods) in order to
371 determine the *quality* of qualitative research in health and social science literature.
372 Another project (FMRS #2) sought to provide a snapshot of the extent (*quantity*) to
373 which the issue of vicarious trauma was considered within the published literature.

374 ***Challenges and limitations of the FMRS***

375 While having potential to advance the science of literature reviewing, the FMRS does
376 have a number of challenges and limitations. Reviewers conducting a FMRS require

377 sound reasoning and decision-making skills to select the most appropriate search
378 parameters to answer the review question. Because the FMRS focuses on a
379 relatively narrow pool of literature sources, and does not include an exhaustive
380 retrieval of abstracts, it is unlikely that reviewers will pick-up on missed items of
381 relevance at a later stage. The review team must therefore have a strong justification
382 for their focus that is closely aligned with the purpose of the review, whether
383 narrowed according to, for example, journal, methodology, subject or date. This
384 requires a strong conceptualisation of the review topic from the outset and a clear
385 consensus and shared understanding amongst the review team right from the
386 beginning of the review process. It also requires familiarity with the existing literature
387 landscape and an awareness of the aims and scope of multiple potentially relevant
388 journals to choose from, and how these differ. This is where a multi-disciplinary team
389 is particularly useful in a FMRS; where different team members bring knowledge of,
390 and familiarity with the scope, range and nature of literature within different
391 disciplinary areas.

392 While we appreciate the diversity of review approaches that add value to
393 constructing knowledge in a field, it could be argued that FMRS methodology is too
394 narrow, at least in comparison to wider exhaustive searches of the literature.

395 Defining the *limits* of the focus has sometimes been a challenge. Well-defined
396 search parameters have been required to constitute the focus and this has
397 demanded reflexive whole team agreement. Collaborative, adaptive leadership is
398 crucial. Incorporating multi-disciplinary perspectives on the limits of data collection
399 and analysis set the boundaries of inquiry and enabled us to flexibly extend or
400 collapse the scope of research.

401 In all our FMRS projects we have acknowledged the limitations of working with a
402 limited amount of journals and a restricted time period. For example:

403 *'It is the ability to answer the research question that is important. However,*
404 *including more journals would almost certainly have revealed further*
405 *interesting patterning than our review was able to provide. It is acknowledged*
406 *that choice of journal introduces inherent bias.'* (FMRS #4)

407 *'The snap-shot is contextual and temporal and it could be argued that findings*
408 *from this form of review are an artefact of the included journals: another*
409 *timeframe with other journals would likely create a different profile.'* (FMRS
410 #3)

411 As noted in this last quotation, different journals using a different timeframe would
412 create a different map. However, this is not a limitation *per se* and it is no more
413 problematic than accepting that asking different questions of different participants in
414 different contexts (either qualitatively or quantitatively) will yield different data.

415 Moreover, as an extension and development of the FMRS, there is potential for
416 citations to, and reference of included articles to be considered for inclusion. This
417 retains the bounded nature of the review, yet offers a wider coverage. Overall,
418 despite inherent limitations as acknowledged, we can argue from an experiential
419 position, that the FMRS holds many benefits. Also, as an emergent review type, it is
420 ripe for expansion and modification, as review teams deem appropriate.

421

422 In summary, the FMRS is useful for investigating complex research landscapes in
423 the field of social research. It can be regarded as a methodological development that

424 responds to the need for focused, timely reviews that address a range of questions.
425 The FMRS is helpful in exploring professional issues of multi-disciplinary concern, as
426 shown in the reviews reported in Table 1. Because it is a collaborative endeavour,
427 FMRS researchers must be open to flexible re-setting of search parameters in light
428 of multiple perspectives. We hope other researchers will consider adopting FMRS
429 and claim the method as a useful adjunct or alternative literature review method.

430

431 **Conclusions**

432 Kastner and colleagues (2012, p.1) posed the question: 'what is the most
433 appropriate knowledge synthesis method to conduct a review?' The answer is that it
434 depends on the questions being asked, but for some projects, the questions will lend
435 themselves towards being answered by a FMRS. This will particularly be the case
436 where the question being posed relates to epistemological concerns within a field of
437 knowledge production. The FMRS can be used to investigate diverse issues relevant
438 to, for example, medicine, nursing and health and social care, which gives it wide
439 applicability.

440 We have begun to present details of the FMRS at conferences and the approach has
441 been received with great enthusiasm among academic colleagues, who have asked
442 when they can expect a paper to be published that details the approach. In naming
443 and describing it in this article, we hope that the FMRS can be established as an
444 identifiable form of review. In turn, it might become a useful and legitimate addition to
445 the reviewing toolkit and the vocabulary of researchers from many disciplines who
446 engage with social research methodologies.

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Table 1: Four reviews using FMRS

FMRS #	Article title	Timeframe	Number of journals	Number of papers included	Output
#1	Bradbury-Jones C., Taylor J. & Herber O. (2014) How theory is used and articulated in qualitative research: Development of a new typology. <i>Social Science & Medicine</i> , 120, 135-141.	3 months (2013)	Five	55	Typology
#2	Taylor, J., Bradbury-Jones, C., Breckenridge, J., Jones, C. & Herber, O.R. (2016) Risk of vicarious trauma in nursing research: A focused mapping review and synthesis. <i>Journal of Clinical Nursing</i> . 25(19-20), 2768-77.	Six years (2009-2014)	Six	104	Theoretical model
#3	Bradbury-Jones, C., Breckenridge, J., Clark, M.T., Herber, O.R., Wagstaff, C. & Taylor, J. (2017) The State of Qualitative Research in Health and Social Science Literature: A Focused Mapping Review and Synthesis. <i>International Journal of Social Research Methodology</i> . DOI:10.1080/13645579.2016.1270583	3 months (2015)	Six	102	Conceptual model

#4	Bradbury-Jones, C., Clark, M., Paavilainen, E. & Appleton, J. (2017) A Profile of Gender-based Violence Research in Europe: Findings from a Focused Mapping Review and Synthesis. <i>Trauma, Violence, & Abuse</i> . DOI: 10.1177/1524838017719234	12 months (2015)	Thirteen	32	Thematic description
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Table 2: Key steps of the FMRS

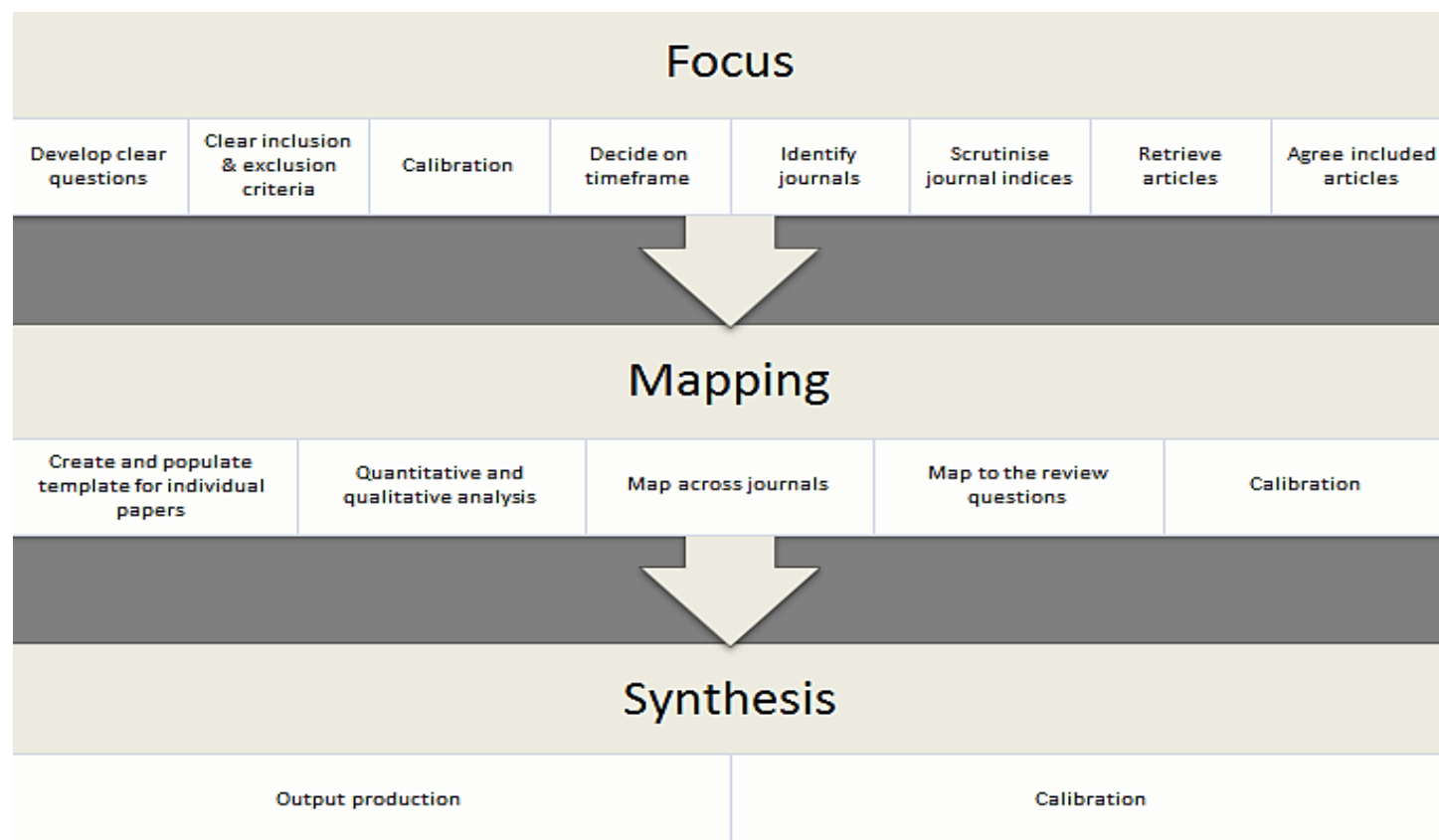


Table 3: Example pro forma for data extraction (adapted from Taylor et al. 2016)

Year of Journal	Total papers published during review period	Total papers meeting inclusion criteria	Number of papers dealing with abuse/violence (specify)	Number of papers dealing with dying/death (specify)	Number of papers involving children (0-18)	Number of papers involving adults (19+)	Number of papers that discuss vicarious trauma	Study design/methods used (name)	Method of analysis
Total									

Table 4: Key characteristics of the FMRS using the SALSA framework

Label	Description	Search	Appraisal	Synthesis	Analysis
Focused Mapping Review and Synthesis (FMRS)	Focuses on: 1) a defined field of knowledge rather than a body of evidence; 2) creates a descriptive map or topography of key features of research within the field rather than a synthesis of findings; 3) comments on the overall approach to knowledge production rather than the state of the evidence; and 4) examines this within a broader epistemological context.	Completeness of searching determined by chronological scrutiny of every issue within each target journal. Involves a stepped process: First, title, abstract and key words are examined, followed by retrieval of full-texts of eligible articles that match the inclusion criteria.	No formal quality assessment but critical appraisal may be considered in certain circumstances. Collaborative endeavour of a multi-disciplinary review team (with consensus at the heart of the FMRS approach). Need for calibration exercise.	Synthesises information about topics, designs and methodologies. Typically narrative; synthesis of information leads to a typology, a conceptual or theoretical model or a thematic description. Need for calibration exercise.	Iterative nature of analysis. Characterizes quantity and quality of literature, perhaps by study design and other key features or describes the current status of a field of enquiry.