

## Exploring the contribution of case study research to the evidence base for occupational therapy practice

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1 **Exploring the contribution of case study research to the evidence**  
2 **base for occupational therapy practice: a scoping review protocol**

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21 **Exploring the contribution of case study research to the evidence**  
22 **base for occupational therapy: a scoping review protocol**

23 **Abstract**

24 **Objective:** This scoping review will explore the range and characteristics of case study research  
25 within the occupational therapy evidence base. It will examine how case study research is defined,  
26 the methodologies adopted and the context in which it is applied. Most importantly, it will consider the  
27 viability of case study research for contributing to the evidence base for occupation and health.

28 **Introduction:** Occupational therapists report barriers to conducting research due to the complexities  
29 of clinical practice, lack of knowledge, time and resources. Case study research is generating interest  
30 as a potentially manageable and practical solution to increase research engagement. However, it is  
31 not clear how this is being utilized by occupational therapists or how feasible it is to contribute to the  
32 evidence base.

33 **Inclusion criteria:** Opinion, text and empirical studies which explicitly use or discuss case study  
34 research methodology within an occupational therapy context will be included. Studies will be  
35 excluded where the occupational therapy context cannot be clearly defined, for example, multi-  
36 disciplinary focused, or where a case study research design is not explicit, for example, a descriptive  
37 case report without data collection. All countries and practice settings will be included.

38 **Methods:** A three step extensive search following JBI methodology will be conducted across  
39 databases and websites for English language, published, peer reviewed and gray literature from  
40 1990. Study selection will be completed by two independent reviewers. A data extraction table  
41 developed and piloted by the authors will be used and data charted to align with the research  
42 questions.

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45 **Keywords:** Case study research; Evidence based practice, Occupational therapy; Single-case;

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47 **Abstract word count:** 250

48 **Total manuscript word count:** 2331

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## 51 **Introduction**

52 Evidence based practice is essential to contemporary healthcare and engaging with it is an ethical  
53 requirement for occupational therapists.<sup>1</sup> Healthcare delivery must be informed by accurate, up to  
54 date research to achieve the best outcomes for those accessing services.<sup>2,3</sup> It is disquieting then, that  
55 in occupational therapy, the literature highlights a gap between practice and evidence base.<sup>4-6</sup>  
56 Standardized assessments and outcome measures are not routinely used in practice and the  
57 evidence base for effectiveness of many interventions is low.<sup>6-8</sup> This is not solely an issue of research  
58 implementation, but also one of research capacity, production and dissemination. The American  
59 Journal of Occupational Therapy, the highest ranking and internationally recognized of occupational  
60 therapy journals, saw a reduction in manuscript submissions in 2018 and fewer effectiveness studies  
61 published in 2019.<sup>9</sup> To meet the requirement of policy drivers, and to ultimately improve clinical  
62 outcomes for service users, occupational therapists must increase their evidence base and research  
63 engagement.<sup>5</sup> Supporting this, the Occupational Therapy Australia Research Foundation aims to  
64 increase the health and wellbeing of communities through increasing practitioner research capacity  
65 and increasing the production of new knowledge.<sup>10</sup> This is mirrored in the Royal College of  
66 Occupational Therapists (RCOT) research and development strategy. Its strategic aims focus on  
67 expanding the evidence base, enhancing knowledge and supporting implementation of research into  
68 practice to improve the experience of individuals, groups and communities accessing occupational  
69 therapy.<sup>11</sup>

70 Reported barriers to conducting research, include lack of research knowledge, time, resources, and  
71 organizational support.<sup>12,13</sup> In addition, implementation of findings from a research setting into the  
72 reality of clinical practice, with its varying cultural, psychosocial and economic contexts has been cited  
73 as a barrier to research engagement.<sup>5</sup> As a result, in practice settings, service evaluation and audit is  
74 often prioritized over empirical research or policy making activity.<sup>14</sup> The case study research method  
75 however—which focuses on one case, with potential to pool data across cases—may be a feasible  
76 way to overcome such barriers for practitioners due to its emphasis on real world clinical contexts.  
77 This research method has become increasingly popular within social sciences to address complex  
78 phenomena and is beginning to generate greater interest in occupational therapy.<sup>15,16</sup> It is advocated  
79 for answering 'how' and 'why' questions and allows for deep understanding of complex situations or  
80 phenomenon considering the context in which they are situated.<sup>17</sup> Drawing on several seminal  
81 authors definition of 'case', a case under study could be an individual, group, population, organization  
82 or process.<sup>17-19</sup>

83 Case study research however, is not without its critics. Variations in approach between authors has  
84 led to the method becoming somewhat elusive and difficult to define, often confused with 'non-  
85 research' case histories or educational case studies which do not include data collection or analysis.<sup>20</sup>

86 It has also been criticised for lack of rigour and external validity<sup>20–22</sup> Whilst data from a single case  
87 study may not be generalizable, Yin<sup>17</sup> argues the accumulation of case studies may offer greater  
88 rigour, reliability and external validity of findings. He suggests collating qualitative and quantitative  
89 data in a database and viewing a single case similar to a single experiment. This allows for case  
90 replication to create a larger data set and enhances the understanding of the phenomena through  
91 pooling multiple cases. Using this approach, case study research may provide an achievable and  
92 practical means of—and therefore an important role in—engaging practitioners in research.

93 Case study research is not a new phenomenon in occupational therapy. Colborn<sup>22</sup> presented a  
94 rationale for case study research in 1996, in response to pressures to provide evidence of clinical  
95 impact and the challenge of achieving this with other research designs in occupational therapy.  
96 Almost a decade later, Fisher and Ziviani<sup>23</sup> suggested explanatory case studies provide a rigorous  
97 methodology for investigating complex multifactorial phenomena in clinical settings, including  
98 occupational therapy. They proposed a model for approaching explanatory case study research in an  
99 attempt to support practitioners in understanding how to implement this method in practice. Later,  
100 Salminen et al.<sup>15</sup> advocated for case study research to be used more extensively in the profession.  
101 They concluded that case study research offers an appropriate scientific methodology that can be  
102 used to understand and develop occupational therapy practice but is potentially underutilised.  
103 However, their literature review was based on only one journal published in the occupational therapy  
104 field and so does not provide a comprehensive overview of its use in the profession. Whilst these  
105 studies offer a justification for the use of case study research in occupational therapy and call for  
106 greater uptake of the method, they present a narrow view of its use by focusing on a specific case  
107 study methodology or a limited literature search. To date, no extensive review of all the empirical case  
108 study research in occupational therapy practice has been conducted. It therefore remains unclear if  
109 this call for case study research has been taken up in practice, how the methodology is being utilized,  
110 or how feasible it is to use this methodology to contribute to the evidence base. A scoping review was  
111 deemed the most appropriate methodology for this review as it has recognized value for researching  
112 broader topics. It will bring together and chart key information from the literature to answer the  
113 research questions and identify any gaps in the knowledge base.<sup>24</sup>

114 A preliminary search of PROSPERO, MEDLINE, the Open Science Framework and the Joanna  
115 Briggs Institute Database of Systematic Reviews and Implementation Reports was conducted and a  
116 similar scoping review was published in 2019 but this focused solely on the use of qualitative case  
117 studies in occupational therapy, therefore providing a restricted view of case study methodologies.<sup>16</sup>  
118 Equally, the literature search was completed in 2017 and interest in this methodology has grown in  
119 the social science field since, hence there may have been a change in the use of qualitative case  
120 study research methods within occupational therapy in the recent years.<sup>15,16</sup>

121 To address this knowledge gap, the proposed scoping review aims to explore the range and  
122 characteristics of case study research methodologies to understand how they are used within the  
123 context of occupational therapy practice. It will examine how case study research is defined, the  
124 methodologies adopted and the professional context in which it is applied. By reviewing all case study  
125 research within the field, it will be possible to assess the viability of case study research for  
126 contributing to the evidence base for occupation and health. The enriched understanding of case  
127 study research within occupational therapy could identify areas for future research and strategies to  
128 improve evidence based clinical outcomes for those accessing services.

## 129 **Review questions**

130 This review question is 'How are case study research methodologies used to contribute to the  
131 evidence base for occupational therapy?'. Specifically, it will collect and chart data to address the  
132 following sub-questions:

- 133 1. How is 'case study' defined as a research methodology in occupational therapy literature?
- 134 2. What are the methodological characteristics of case studies used in occupational therapy?
- 135 3. In what context is case study research applied in occupational therapy?

136

## 137 **Inclusion criteria**

### 138 **Participants**

139 This review will consider studies where occupational therapy input is provided as the object of study  
140 or to the 'case' within the case study. This will not be limited to an individual, but can include groups  
141 and populations which an occupational therapist works with, and the processes and organizations  
142 they work within.<sup>25</sup>

### 143 **Concept**

144 This review will consider empirical studies using case study research methodology. Papers will be  
145 excluded where a case study research design is not explicit, for example, a descriptive case report  
146 without data collection and analysis. Literature reviews, text or opinion pieces which discuss the value  
147 of case study research will also be included to ascertain how others have conceptualized the use of  
148 case study research to achieve evidence based practice.

### 149 **Context**

150 This review will consider studies in any area of occupational therapy practice which is wide ranging  
151 across health and social care, criminal justice and education.<sup>25</sup> All geographical locations will be

152 considered, however, as only English articles will be included, this may create a geographical  
153 restriction through language limitations. Studies will be excluded where the occupational therapy  
154 context cannot be clearly defined, for example, multi-disciplinary focused contexts.

### 155 **Types of sources**

156 This scoping review will only include studies if they have involved empirical quantitative, qualitative  
157 and mixed method case study designs. This could include single or multiple case study designs but  
158 case studies that are descriptive with no data collection and analysis will be excluded. Opinion, text or  
159 articles which discuss the use of case study research will be included.

160 Only studies published in English will be included as the resources for translation are not available  
161 within the scope of this review. Articles published from 1990 to the present will be included as the  
162 emergence of evidence based practice in healthcare is recognized internationally from the early  
163 1990's.<sup>26</sup> As this review will explore the contribution of case study research methods to evidence  
164 based practice in occupational therapy, it is appropriate to align the search strategy to the  
165 understanding and emergence of evidence based practice to ensure a relevant and comprehensive  
166 review.

167

## 168 **Methods**

169 The proposed scoping review will be conducted in accordance with the Joanna Briggs Institute  
170 methodology for scoping reviews employing a three step search strategy.<sup>27</sup>

### 171 **Search strategy**

172 The search strategy will aim to locate both published and unpublished primary studies and reviews.  
173 As per the JBI recommended three-step approach, an initial limited search of MEDLINE and CINAHL  
174 was undertaken to identify articles on the topic. The text words contained in the titles and abstracts of  
175 relevant articles, and the index terms used to describe the articles were used to develop a full search  
176 strategy for MEDLINE (See Appendix 1). It is accepted that that the scoping review process may be  
177 iterative and the search strategy, including identified keywords and index terms, may need to be  
178 adapted as the review evolves and for each included source.<sup>27</sup> The reference lists of articles selected  
179 for full text review, will be screened to source additional relevant studies.

### 180 **Information sources**

181 The databases to be searched include MEDLINE, CINAHL, AMED, EMBASE, PsychInfo, Scopus and  
182 OTSeeker. The search of grey literature will include the SIGLE database and additionally the first 50  
183 hits of Google and Google Scholar will be screened for eligible studies. As case study research may

184 form the methodology of relevant PhD theses, a search for unpublished dissertations will be  
185 conducted on EthOS and ProQuest Dissertations and Theses.

186 To identify occupational therapy specific grey literature, a search will be conducted of the Royal  
187 College of Occupational Therapists Library which includes OTDBASE, an index of over 20  
188 international occupational therapy focused journals. The contents pages of practice publications  
189 Occupational Therapy News (UK), Occupational Therapy Now (Canada), and Occupational Therapy  
190 Practice (USA) will be also screened to ensure a broad scope of relevant literature is included. If key  
191 authors within occupational therapy emerge an additional author search will be conducted.

## 192 **Study selection**

193 Following the search, all identified records will be collated and uploaded into Mendeley V1.19.4  
194 (Mendeley Ltd., Elsevier, Netherlands) and duplicates removed. Studies will then be transferred to  
195 Rayyan QCRI, a systematic review web application to manage the independent review process.<sup>28</sup>  
196 Titles and abstracts will be screened by two independent reviewers for assessment against the  
197 inclusion criteria. Potentially relevant studies will be retrieved in full and their citation details imported  
198 into the Joanna Briggs Institute's System for the Unified Management, Assessment and Review of  
199 Information (JBI SUMARI).<sup>24,27</sup> The full text of selected citations will then be assessed in detail against  
200 the inclusion criteria by two independent reviewers. Reasons for exclusion of full text papers that do  
201 not meet the inclusion criteria will be recorded and reported in the scoping review. Any disagreements  
202 that arise between the reviewers at any stage of the selection process will be resolved through  
203 discussion, or with a third reviewer. Studies will not be excluded based on quality, as the purpose of  
204 this scoping review is to present an overview of the available existing evidence. The results of the  
205 search will be reported in full in the final scoping review and presented in a Preferred Reporting Items  
206 for Systematic Reviews and Meta-analyses (PRISMA-ScR) flow diagram.<sup>29</sup>

## 207 **Data extraction**

208 Data will be extracted from included studies using a tool developed by the reviewers to align with the  
209 objectives of this review (See Appendix II). The data extracted will include specific details about the:

- 210 • Author
- 211 • Year of publication
- 212 • Country of origin
- 213 • Information source (Journal title)
- 214 • Study aim/ purpose
- 215 • Context
- 216 • Case(s) (Population and number)



- 217 • Type of case study research (stated or conjectured)
- 218 • Description of case study research definition
- 219 • Method(s) of data gathering
- 220 • Method(s) of data analysis
- 221 • Outcome measure(s) used (where applicable)
- 222 • Findings (where applicable)
- 223 • Implications for practice

224 The data extraction tool will be piloted by two independent reviewers initially on three papers and  
225 subsequently modified and revised. However, it is noted that further modifications may be required as  
226 the data extraction process progresses, to ensure all relevant data is captured. If modifications are  
227 required after initial piloting, this will be cross checked with a second reviewer to ensure consistency.  
228 Modifications will be detailed in the full scoping review. Where required, authors of papers will be  
229 contacted a maximum of three times to request missing or additional data.

## 230 **Data presentation**

231 As per the JBI methodology for scoping reviews, the extracted data will be presented in diagrammatic  
232 or tabular form to align with the objective of this scoping review.<sup>27</sup> Data will be summarized and  
233 reported based on emerging patterns from the results of the review, for example studies of a similar  
234 case study type may be charted together. A narrative summary will accompany the charted results  
235 and will describe how the results relate to the review questions. This will inform the discussion of the  
236 viability of case study research in occupational therapy and provide insight into whether case studies  
237 can be used to increase the evidence base for occupation and health.

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## 240 **Conflicts of interest**

241 The authors declare no conflict of interest.

## 242 **References**

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314 **Appendix I: Search strategy**

315 MEDLINE (EBSCO)

316 Searched conducted May 2020

Search	Query	Records retrieved
S1	(MH "Occupational Therapy Department, Hospital")	115
S2	(MH "Occupational Therapists")	281
S3	(MH Occupational Therapy")	13,120
S4	"occupational therap**"	31,714
S5	S1 OR S2 OR S3 OR S4	44,079
S6	(MH "Single-case studies as topic")	22
S7	(MH "case reports")	0
S8	"case study research"	309
S9	"single-case"	9,342
S10	"single case"	9,342
S11	"case-report**"	372, 010
S12	"case report**"	372, 010
S13	"case stud**"	103,572
S14	"case-stud**"	103,572
S15	"single-subject"	3,156
S16	"single subject"	3,156
S17	"N-of-1"	429
S18	"Qualitative case study method"	15
S19	"QCSM"	1
S20	S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19	481,385
S21	S20 AND S5	1083
S22	S20 with limiters applied: English language, published after 1990.	973

317

318 **Appendix II: Data extraction instrument**

Author	
Year of publication	
Country of origin	
Information source (Journal title)	
Study aim/ purpose	
Context	
Case(s) (Population and number)	
Type of case study research (stated or conjectured)	
Description of case study definition	
Method(s) of data gathering	
Method(s) of data analysis	
Outcome measure(s) used (where applicable)	
Findings (where applicable)	
Implications for practice	

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