

# **Developing a methodological framework for organisational case studies: a rapid review and consensus development process**

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## **Abstract**

### **Background**

Organisational case study proposals can be poorly articulated and methodologically weak, raising the possible need for publication standards in this area.

### **Objectives**

To develop reporting standards for organisational case study research, with particular application to the UK National Health Service (NHS).

### **Design**

Rapid evidence synthesis and Delphi consensus process.

### **Data sources**

Relevant case studies and methods texts were identified through searches of library catalogues, key text and author searches, focused searching of health and social science databases, and some targeted website searching.

### **Review methods**

The reporting standards were developed in three stages:

1. A rapid review of the existing literature to identify items;
2. A modified Delphi consensus process to develop and refine content and structure;
3. Application of the high-consensus Delphi items to two samples of organisational case studies to assess their feasibility as reporting standards.

Items for the Delphi were identified from published organisational case studies and related methodological texts.

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Identified items were sent to a Delphi expert panel for rating over two rounds. Participants were also asked whether the provisional framework in which items were presented was appropriate, and were given the opportunity to adapt this alongside the content. In both rounds, the “high consensus” threshold was set at 70% agreement among respondents for each item.

High-consensus items from the Delphi consultation were then applied to previously identified case study publications, to determine their relevance to the reporting of ‘real world’ organisational case studies, and to better understand how the results of the Delphi consultation might best be implemented as a reporting standard.

## **Results**

103 unique reporting items were identified from 25 methodological texts; eight example case studies and 12 exemplar case studies did not provide any additional unique items.

Thirteen items were ultimately rated as “Should be reported for all organisational case studies” by at least 70% of respondents, with the degree of consensus ranging from 73% to 100%.

As a whole, exemplar case studies (which had been provided by HS&DR as examples of methodologically strong projects) more consistently met the high-consensus Delphi items than did case studies drawn from the literature more broadly.

## **Limitations**

Time and resource constraints prevented an initial “item-generation” round in the Delphi consensus process. Items are therefore likely to have been influenced by the content, wording, and assumptions of available literature.

## **Conclusions**

The high-consensus items were translated into a set of 13 reporting standards that aim to improve the consistency and rigour and reporting of organisational case study research, thereby making it more accessible and useful to different audiences.

The reporting standards themselves are intended primarily as a tool for authors of organisational case studies. They briefly outline broad requirements for rigorous and consistent reporting, without constraining methodological freedom.

## **Future work**

These reporting standards should be included as part of the submission requirements for all organisational case studies seeking funding. Though these reporting standards do not mandate specific methods, if a reporting item is not met for legitimate methodological reasons, the onus is on the author to outline their rationale for the reader.

## **Funding details**

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## List of Abbreviations

HS&DR	Health Service & Delivery Research
NHS	National Health Service
NIHR	National Institute for Health Research
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
RAMESES	Realist And Meta-narrative Evidence Syntheses: Evolving Standards
UK	United Kingdom

## Glossary

Case study	A method of research that engages in the close, detailed examination of a single example or phenomenon.
Organisational case study	A case study relating to an organised body of people with a particular purpose, such as a business, government department, or charity group.
Paradigm	A general set of assumptions, questions, and methods that structures a field of inquiry at any given time.
Positivist	A philosophical and social scientific doctrine that upholds the primacy of sense experience and empirical evidence as the basis for knowledge and research.
Post-structuralist	Attributes subjectivity and meaning to systems of differential relations, such as language or power; beyond that, it seeks to explain the generation of those structures, either in terms of historical change or of deeper linguistic and experiential realities.
Relativism	A philosophical position that all points of view are equally valid, and that all truth is relative to the individual.

## Scientific summary

### Background

Case study is commonly understood to be a method of research that engages in the close, detailed examination of a single example or phenomenon, and is an approach commonly used to understand activity and behaviour within a real-life context. Organisational case studies are concerned with an organised body of people with a particular purpose, such as a business, government department, or charity group.

When conducted well, organisational case studies can provide insights into organisational change in health care that are not easily achieved through other study designs. They can be used to identify facilitators and barriers to the delivery of services and help understand the influence of context, and high-quality organisational case studies have been used to examine ways of working in acute care, primary care, mental health services, residential care, and across the NHS more broadly. While good quality studies will be funded and published, some organisational case study proposals submitted to the HS&DR programme can be poorly articulated and methodologically weak, raising the possible need for publication standards in this area.

Reporting standards already exist for a range of study designs, including randomised trials, observational studies, systematic reviews, clinical case reports, qualitative research, realist syntheses, meta-narrative reviews, diagnostic/prognostic studies, quality improvement studies, and economic evaluations. However, a search of the EQUATOR (Enhancing the QUALity and Transparency Of health Research) clearinghouse for reporting guidelines suggests that to date no such standards have been reported for organisational case studies.

### Objectives

To develop reporting standards for organisational case study research, with particular application to the UK National Health Service (NHS).

## Methods

The reporting standards were developed in three stages:

1. A rapid review of the existing literature to identify content;
2. A modified Delphi consensus process to develop and refine content and structure;
3. Application of the high-consensus Delphi items to two samples of organisational case studies to assess their feasibility as reporting standards.

### *Data sources*

Relevant case studies and methods texts were identified through searches of library catalogues, key author searches, focused searching of health and social science databases, and some targeted website searching.

### *Participants*

Experts and parties interested in the conduct of organisational case study research (methodologists, research funders, journal editors, interested policymakers and practitioners) were approached to participate. Individuals were identified through the rapid review, personal contacts, and by contacting the following organisations: Health Services Research Network, the Social Research Association, the UK Evaluation Society, and the National Centre for Research Methods.

### *Review methods*

Items for the Delphi were identified from the following texts:

- Organisational case studies relating to an organised body of people with a particular purpose, such as a business, government department, or charity group, identified from searches or from case study projects considered by HS&DR as being of high quality.
- Methodological texts providing practical advice specific to the conduct of organisational case study research

Two reviewers independently screened titles and abstracts, with disagreements resolved through discussion or consultation with a third reviewer. Data extraction was conducted by one reviewer and checked by a second.

Extracted items were de-duplicated and classified into a provisional framework:

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- Planning and study design
- Data collection
- Data analysis
- Reporting

### *Delphi consensus methods*

The provisional framework and its constituent items were sent to the Delphi expert panel for rating.

The Delphi consisted of two rounds:

- In the first round, participants were presented with all the unique items identified from the rapid review. They were asked to rate each item as being ‘Essential’, ‘Desirable’, or ‘Not necessary’ for the reporting of organisational case studies. Participants were also asked whether the provisional framework (grouping items into planning/design, data collection, analysis and reporting) in which items were presented was appropriate, and were given the opportunity to adapt this alongside the content.
- In the second round, participants received a restructured list of items incorporating feedback from the results of the first round. They were given the opportunity to identify the reporting items as being relevant to all, some, or no organisational case studies.

In both rounds, the “high consensus” threshold was set at 70% agreement among respondents for each item.

The list of items with high-consensus after the second round were applied to previously identified case study publications in order to: (1) determine the relevance of these items to the reporting of ‘real world’ organisational case studies; and (2) better understand how the results of the Delphi consultation might best be implemented as a reporting standard.

## Results

An initial pool of 103 unique reporting items were identified from 25 methodological texts; eight example case studies (17 publications) and 12 exemplar case studies, which had been provided by HS&DR as examples of methodologically strong projects (16 publications) did not provide any additional unique items.

Of 36 experts invited to take part in the Delphi consensus process, 19 (53%) responded to the first round invitation. Fifteen respondents completed the entire round two questionnaire; fourteen of whom had also taken part in the first round. The majority of respondents in round one were researchers (80%) with substantial experience of authoring or otherwise contributing to organisational case study research.

In the first round, ten items met the predefined minimum 70% agreement level for being “Essential”, with consensus ranging from 74% to 95%.

In the second round, a slightly greater proportion of respondents thought a reporting standard for reporting organisational case studies was desirable than did not, though several were uncertain. Others suggested that the usefulness of any standards would depend upon how and where they are applied. Respondents were similarly divided about whether a reporting standard would be feasible for organisational case studies.

Thirteen items were ultimately rated as “Should be reported for all organisational case studies” by at least 70% of respondents, with the degree of consensus ranging from 73% to 100%.

As a whole, exemplar case studies considered methodologically strong by HS&DR more consistently met the high-consensus Delphi items than did case studies drawn from literature more broadly. Of eleven exemplar publications, six (55%) met all 13 items, compared with just three out of 17 (18%) of the example organisational case study publications.

The high-consensus items were translated into a set of 13 reporting standards grouped into four sections:

- Describing the design
- Describing the data collection
- Describing the data analysis
- Interpreting the results



## Consensus standards for the reporting of organisational case studies

Reporting item	Reported on page no.	Justification for <i>not</i> reporting given on page no.
<b>Describing the design</b>		
1. Define the research as a case study		
2. State the broad aims of the study		
3. State the research question(s)/hypotheses		
4. Identify the specific case(s) and justify the selection		
<b>Describing the data collection</b>		
5. Describe how data were collected		
6. Describe the sources of evidence used		
7. Describe any ethical considerations and obtainment of relevant approvals, access and permissions		
<b>Describing the data analysis</b>		
8. Describe the analysis methods		
<b>Interpreting the results</b>		
9. Describe any inherent shortcomings in the design and analysis and how these might have influenced the findings		
10. Consider the appropriateness of methods used for the question and subject matter and why it was that qualitative methods were appropriate		
11. Discuss the data analysis		
12. Ensure that the assertions are sound, neither over- nor under-interpreting the data		
13. State any caveats about the study		

## Conclusions

These reporting standards aim to improve the consistency and rigour and reporting of organisational case study research, thereby making it more accessible and useful to different audiences. These audiences include: research sponsors who need to make decisions about whether to fund proposed case studies; ethics and research advisory groups who require clarity about the specific planned methods; peer-reviewers who need to be able to evaluate the robustness of a completed case study; and readers and policy-makers who need to understand how the findings of an organisational case study might be interpreted and implemented.

The reporting standards themselves are intended primarily as a tool for authors of organisational case studies. They briefly outline broad requirements for rigorous and consistent reporting, without constraining methodological freedom. Implemented properly, these should facilitate peer review of organisational case studies and give greater confidence to the readers of this kind of research.

### *Implications for research*

These reporting standards should be included as part of the submission requirements for all organisational case studies seeking funding. Though these reporting standards do not mandate specific methods, if a reporting item is not met for legitimate methodological reasons, the onus is on the author to outline their rationale for the reader.

Final report manuscripts should be accompanied by a version of the reporting standards completed by the study author(s), and both documents should be made available to peer reviewers. Funding boards may want to collect feedback from users (including commissioners, authors, peer reviewers) in order to build engagement with the concept of reporting standards for organisational case studies, and to collect evidence that could be used to evaluate and/or further refine these standards.

Word count: 1437

## Plain English summary

Organisational case studies typically involve the close, detailed examination of an organised body of people with a particular purpose, such as a business, government department, or charity group. This research method can be used to understand activity and behaviour within a real-life context. However, the actual methods proposed for organisational case study are often not clearly described.

This project aimed to develop a set of ‘reporting standards’ for organisational case study research, with particular application to the UK National Health Service (NHS). Reporting standards are a list of criteria that can be used to improve the consistency and rigour and reporting of research, making it more accessible and useful to different audiences.

The standards were developed by first collecting together practical information about reporting from published methods texts and relevant organisational case studies. This information was then presented to an online panel of experts as a list of ‘items’. These items were reduced and refined over two rounds, until only those considered by consensus to be essential for the reporting of organisational case studies remained.

Ultimately, there was consensus among experts on 13 items, which together formed the basis of the reporting standards. Application of these standards to existing organisational case studies suggested that they can be used to improve the consistency and rigour and reporting of future research. We suggest that the reporting standards be further tested (and possibly refined) for use by researchers seeking public funding.

Word count: 238

# 1 Background

Case study is commonly understood to be a method of research that engages in the close, detailed examination of a single example or phenomenon, and is an approach commonly used to understand activity and behaviour within a real-life context. When conducted well, organisational case studies can provide insights into organisational change in health care that are not easily achieved through other study designs. They can be used to identify facilitators and barriers to the delivery of services and help understand the influence of context, and high-quality organisational case studies have been used to examine ways of working in acute care,<sup>1</sup> primary care,<sup>2</sup> mental health services,<sup>3</sup> residential care,<sup>4</sup> and across the NHS more broadly.<sup>5-7</sup>

Yin<sup>8</sup> describes a case study to be the preferred research method when: (1) the main research questions are ‘how’ or ‘why’ questions; (2) a researcher has little or no control over behavioural events; and (3) the focus of the study is a contemporary (as opposed to historical) phenomenon. However, there is no set methodology for a case study and the term is often used loosely, but typically combines qualitative and quantitative data collection with a strong observational component. Case study research can be conducted from both relativist and positivist perspectives, and can be used to generate new theories, validate existing theories, or address both of these matters.<sup>9</sup> An individual case can be studied alone to understand something about the case itself and its contexts, or compared with other cases for illustrative explanatory or evaluative purposes.<sup>10</sup>

The case study has been proposed as an appropriate method for describing, explaining, predicting, or controlling processes associated with phenomena at the individual, group, or organisational level.<sup>11</sup> The majority of NIHR HS&DR funded case studies are specifically concerned with description or explanation at the organisational level.

In the past, many proposals for organisational case studies submitted to the HS&DR programme have been poorly articulated and methodologically weak and were therefore unlikely to deliver robust research findings. Specific areas of concern raised by HS&DR included:

- Absence of clear research questions that the case study method is intended to answer.

- Vagueness about sampling frame/strategy. Proposals where it is not clear how organisations or sites were selected or what was the basis for sampling.
- Insufficient theoretical basis. Many studies lack an organising theoretical framework; this can affect all stages, from sampling of sites through to analysis and how findings can add to the body of knowledge.
- Lack of clarity about the unit of analysis. Some weaker proposals will not identify the unit of interest, whereas good case studies may include datastreams around individual, team, organisation and wider system, and will be explicit about the overall study design and interest.
- Lack of any clear plans for analysis. Some proposals make no attempt to look actively for data which challenges emerging theories or findings or knowledge of systematic comparative case analyses. Many such studies are purely descriptive without any explanatory power.
- Lack of clarity about how data from a range of sources will be integrated.
- Proposals increasingly claim to use realist evaluation methods for case study work, but make no attempt to establish a programme theory, identify candidate mechanisms or describe other features of realist evaluation.

Consequently, HS&DR expressed an interest in identifying the characteristics of good quality case study research, and in devising quality and publication standards, with particular application to the NHS. More specifically, they described the need for a rapid evidence review alongside a Delphi or expert consensus-building exercise to identify elements of good practice and standards for reporting and publication.

While some authors have proposed practical methodological guidelines for case study research methods,<sup>8,9</sup> these have not been universally adopted. The broad diversity of approaches used within organisational case studies - and the contrasting paradigms that underpin these approaches - mean that any attempt develop to 'definitive' methodological guidance in this area is likely to be both highly contentious and resource-intensive. However, the ability of research funders, peer-reviewers, and other research users to establish methodological quality is at least partly contingent on the clarity used to explain the methods proposed or utilised. Indeed, several of the specific concerns raised by HS&DR above

specifically refer to vagueness or lack of clarity around the reporting of proposed research methods.

Reporting standards already exist for a range of study designs, including randomised trials,<sup>12</sup> observational studies,<sup>13</sup> systematic reviews,<sup>14</sup> clinical case reports,<sup>15</sup> qualitative research,<sup>16</sup> realist syntheses,<sup>17</sup> meta-narrative reviews,<sup>18</sup> diagnostic/prognostic studies,<sup>19</sup> quality improvement studies,<sup>20</sup> and economic evaluations.<sup>21</sup> However, to date no such standards have been reported for organisational case studies.

By encouraging authors to consider how their methods are presented, the availability of an appropriate set of reporting standards for organisational case studies also has the potential to improve research conduct in general. A suitable first step towards better conduct of organisational case studies would be to establish agreement about what needs to be reported among the diverse group of researchers who undertake this kind of research. Should further guidance be needed about appropriate methods, the reporting standards can be used as a foundation on which to build.

The aim of this project has been to identify the characteristics of good quality organisational case study research and devise reporting standards, with particular application to the NHS. While a range of opinions and experiences have been sought, the project has not been concerned with case studies outside the remit of the work funded by the HS&DR programme. Therefore, the reporting standards are not intended to be applied to case studies of individuals, or those conducted in other research fields.

In the first instance, we would anticipate these standards to be used to improve the standard of submissions to the HS&DR programme. There may be further potential for the standards to be disseminated to the wider world of organisational case study researchers.

## **2 Methods**

### **2.1 Research aim**

The aim of the project was to develop reporting standards for organisational case study research, with particular application to the UK National Health Service (NHS).

### **2.2 Scope**

We developed the reporting standards in three stages (see Figure 1):

1. A rapid review of the existing literature to identify content for the standards;
2. A Delphi consensus process to develop and refine the final set of standards;
3. Application of the high-consensus Delphi items to two samples of organisational case studies to assess their feasibility as reporting standards.

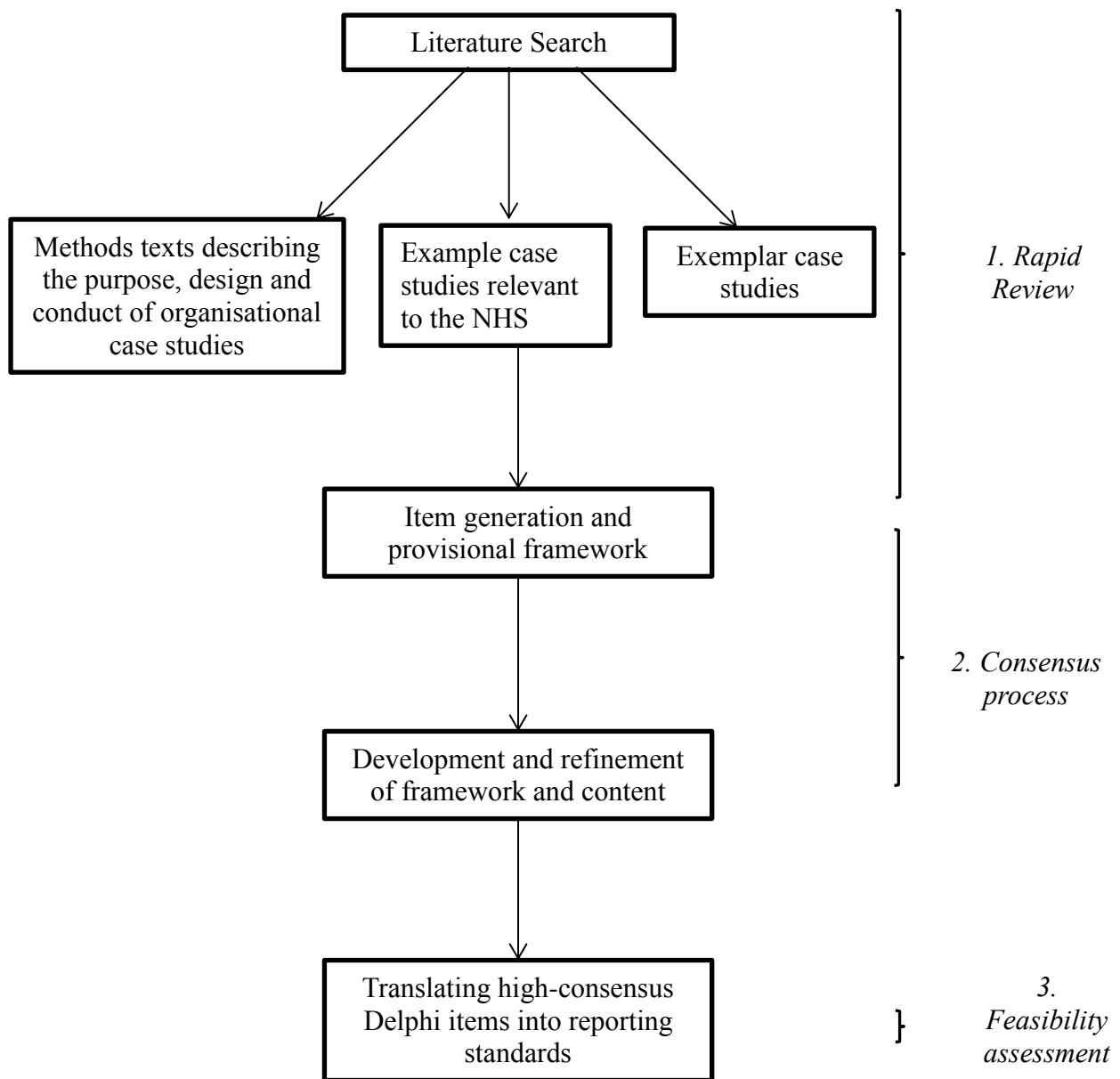
### **2.3 Rapid review**

A rapid review was used to generate items to populate a provisional framework for organisational case studies. Systematic review methodology was used to identify articles, extract and synthesise data. Due to the rapid nature of the review, the process was less exhaustive and contained less detail than would be achievable from a full systematic review.

#### **2.3.1 Literature searching**

The aim of the search strategy was to identify material about organisational case study methods. It was anticipated that the literature on this topic would be found in textbooks, book chapters, journal articles and research methods guidance. Therefore the search strategy consisted of searches of library catalogues, key author searches, focused searching of health and social science databases, and some targeted website searching.

**Figure 1: Outline of research process**





### **2.3.1.1 Library catalogue searches**

The following library catalogues specialising in health management literature were searched to locate books on case study methods:

Health Services Management Centre ONLINE (University of Birmingham)  
(<http://www.birmingham.ac.uk/facilities/hsmc-library/library-resources/index.aspx>)

Health Management Online (NHS Scotland) (<http://www.shelcat.org/nhtml>)

King's Fund Library Database (<http://kingsfund.koha-ptfs.eu/>)

### **2.3.1.2 Key author searches**

Five authors featured prominently in the initial literature searches: David Byrne; Brent Flyvbjerg; Roger Gomm; Charles Ragin; and Robert K Yin (see Box 1). Searches were carried out via Google on each author to locate any lists of their publications. Publication lists were found for each author on either their institution website or, where this was not available, through searches of Google Books and Google Scholar.

### **2.3.1.3 Database searches**

Initial database test searches revealed difficulties in locating case study methodology literature efficiently without retrieving large numbers of irrelevant results. Therefore, as this was a rapid review, a highly focused search strategy was developed on MEDLINE (Ovid) to identify papers about organisational case study methods. Focusing of subject headings, use of subheadings and searching in the title only field were utilised in the strategy.

Searches were restricted to English language papers. A more limited range of databases were searched than would be usual for a full systematic review. In particular, no specific databases of conference proceedings, theses or foreign language studies were searched.

Relevant databases covering literature from health, health management and social science were searched: MEDLINE & MEDLINE in process, ASSIA, Health Management Information Consortium, PsycINFO and the Social Science Citation Index. The MEDLINE strategy was adapted for use in each database.

### **2.3.1.4 Website searches**

The following websites were searched to identify any guidance documents on case study methods:

ESRC National Centre for Research Methods (<http://www.ncrm.ac.uk/>)

ESRC Research Methods Programme (<http://www.ccsr.ac.uk/methods/>)

The Social Research Association (<http://the-sra.org.uk/>)

Methods@Manchester (<http://www.methods.manchester.ac.uk/>)

### 2.3.1.5 Citation searching

Citation searching on case study methods texts from key authors had been planned in the protocol. However, test citation searches identified large numbers of results, and therefore given the rapid nature of the review, citation searching was not feasible within the timescale.

Records were managed within an EndNote library (EndNote version X6). After de-duplication 3,465 records in total were identified.

Further details of the full search strategies and results can be found in *Appendix 1*.

### Box 1: Selected key publications from authors featuring prominently in searches

<b>David Byrne</b> , social scientist, School of Applied Social Sciences, University of Durham <ul style="list-style-type: none"><li>• Complex realist and configurational approaches to cases: a radical synthesis. In: Byrne D, Ragin C, editors. <i>The SAGE handbook of case-based methods</i>. (2009).<sup>22</sup></li><li>• Case-based methods: why we need them; what they are; how to do them. In: Byrne D, Ragin C, editors. <i>The SAGE Handbook of Case-Based Methods</i>. (2009).<sup>23</sup></li><li>• Complexity, configuration and cases. <i>Theory, Culture &amp; Society</i>. (2005).<sup>24</sup></li></ul>
<b>Brent Flyvbjerg</b> , economic geographer, Saïd Business School, Oxford University <ul style="list-style-type: none"><li>• Important next steps in phronetic social science. In: Flyvbjerg B, Landman T, Schram S, editors. <i>Real social science: applied phronesis</i>. (2012).<sup>25</sup></li><li>• <i>Real social science: applied phronesis</i>. (2012).<sup>26</sup></li><li>• Case study. In: Denzin NK, Lincoln YS, editors. <i>The SAGE handbook of qualitative research</i>. (2011).<sup>27</sup></li></ul>
<b>Roger Gomm</b> , social scientist, health and social welfare, The Open University <ul style="list-style-type: none"><li>• <i>Key concepts in social research methods</i>. (2009).<sup>28</sup></li><li>• <i>Using evidence in health and social care</i>. (2000).<sup>29</sup></li><li>• <i>Case study method - key issues, key texts</i>. (2000).<sup>30</sup></li></ul>
<b>Charles Ragin</b> , sociologist, University of California at Irvine <ul style="list-style-type: none"><li>• Reflections on casing and case-oriented research. In: Byrne D, Ragin CC, editors. <i>The SAGE handbook of case-based methods</i>. (2009).<sup>31</sup></li><li>• Case-oriented theory building and theory testing. In: Williams, M, Vogt P, editors. <i>The SAGE handbook of methodological innovations</i>. (2011).<sup>32</sup></li><li>• Comparative political analysis: six case-oriented strategies. In: Amenta E, Nash K, Scott A, editors. <i>The new Blackwell companion to political sociology</i>. (2012).<sup>33</sup></li></ul>
<b>Robert K Yin</b> , social scientist, COSMOS Corporation <ul style="list-style-type: none"><li>• <i>Applications of case study research</i>. 3rd ed. (2012).<sup>34</sup></li><li>• Case study methods. In: <i>APA handbook of research methods in psychology, Vol 2: research designs: quantitative, qualitative</i>. (2012).<sup>35</sup></li><li>• <i>Case study research: design and methods</i>. (2014).<sup>8</sup></li></ul>

### **2.3.2 Inclusion and exclusion criteria**

We sought to identify three sources of information:

1. Methodological texts that reported on the methods used in conducting organisational case study research;
2. Real-world “example” case studies identified from the searches;
3. Methodologically sound “exemplar” case studies identified by NIHR Health Service and Delivery Research (HS&DR) programme.

Inclusion and exclusion criteria were as follows:

#### **2.3.2.1 Methodological texts**

Texts were included if they:

- Described the conduct of organisational case studies; where organisational means relating to an organised body of people with a particular purpose, such as a business, government department, or charity group.
- Contained practical advice on conducting case study research

Texts were excluded if they were:

- Concerned with case studies of individuals (e.g. describing a single patient).
- Concerned with qualitative, quantitative or mixed methods in general, rather than case studies in particular
- Primarily conceptual or theoretical discussions without practical guidance.

Methodological texts were not restricted by topic area. Thus relevant methodological texts from outside health/social services literature, such as business and education were eligible for inclusion.

We focused on practical rather than conceptual texts to identify potential items for reporting standards, but were mindful that organisational case studies can have different underlying epistemological assumptions (e.g. positivist vs. relativist), and that some paradigms lend themselves more easily to practical advice than others.

#### **2.3.2.2 Example case studies**

These were included if they:

- Reported an organisational case study (as defined above).
- Were undertaken in the UK NHS or social services settings.

The purpose of including the example case studies was to identify any additional items for the Delphi consensus process (see section 2.4) that had not already been identified from the methods literature. We therefore prioritised those organisational case studies with particular relevance to the UK NHS and social services settings.

### **2.3.2.3 Exemplar case studies**

The funders of this review provided examples of what they considered to be methodologically strong case study research projects funded by the NIHR Health Service and Delivery Research (HS&DR) programme. These were also examined to identify further items to inform the Delphi consensus process.

## **2.3.3 Selection of relevant evidence**

### **2.3.3.1 Methodological texts**

An initial examination of the Endnote library identified a very large number of irrelevant records referring to research methods more broadly, therefore we ran a search for “case stud\*” in the title or abstract in order to restrict the results to relevant methodological texts. Two reviewers (MR/ST) then independently screened titles and abstracts, with disagreements resolved through discussion. Full text copies were obtained for potentially relevant records and again screened independently by the same two reviewers. Disagreements were resolved by discussion with a third reviewer (AE).

EPPI-Reviewer 4 (EPPI-Centre, Social Science Research Unit, Institute of Education, University of London, UK) text mining software was used by one reviewer (ST) to screen the remaining titles and abstracts to establish whether any relevant texts could have been missed by our restricted search. The text-mining process “learned” what were relevant texts as the reviewer progressed through screening and brought these to the top of the list, enabling faster retrieval of full texts for assessment and potential incorporation into the review. All titles and abstracts were screened, with a decreasing number of texts being selected as the process continued. Full text copies were obtained for potentially relevant records and screened for inclusion by one reviewer (ST). A second reviewer (MR or AE) examined excluded records. Disagreements were resolved by discussion.

### **2.3.3.2 Example case studies**

To identify example case studies we further restricted the results of the Endnote library by searching for the terms “organisational” or “organizational” in either the title or abstract within the “case stud\*” subset of results.

One reviewer (ST) screened the titles and abstracts, obtained full text copies of potentially relevant records and selected these for inclusion. Selection was checked by a second reviewer (MR) and disagreements were resolved through discussion with a third reviewer (AE).

### **2.3.3.3 Exemplar case studies**

Twelve case study projects were identified by the HS & DR staff who commissioned the review as exemplar case studies. For each project, we downloaded the relevant commissioning brief and, where available, the protocol, final report and journal articles from the HS&DR website.

## **2.3.4 Data extraction**

Data extraction forms were created to capture the key methodological components described in individual studies. The forms provided a standard framework whilst accommodating different approaches; the authors’ own wording was used wherever possible.

The methodological texts were extracted first, beginning with the two most commonly cited case study methods texts.<sup>8, 36</sup> The remaining methodological texts were then extracted in reverse chronological order. For the subsequent data extraction, we tried to restrict extraction to additional non-duplicate items; truly identical items identified from two or more sources (i.e. duplicates) were only extracted once, though if two or more items were considered to be similar (but non-identical), these were retained.

Data from the example and exemplar case studies were then extracted in a similar way. For included case studies, we focused on identifying the reporting methods, rather than critically appraising the underlying methodology; we aimed to develop a generic reporting structure that could be applied to a range of different types of organisational case study.

Data extraction was conducted by one reviewer (MR or ST) and checked by a second (MR, ST or AE). Disagreements were resolved through discussion.

### **2.3.5 Synthesis**

To generate items for the Delphi consensus process, the individual data extraction forms from the methodological texts were combined into one overall document. Then a comprehensive and iterative process of refinement was undertaken, combining and grouping similar components and further removing duplicates. A similar process was then undertaken to add in any additional components from the individual example and exemplar case studies.

An initial framework was created by broadly grouping items by research stage as follows:

- Planning and study design
- Data collection
- Data analysis
- Reporting

This provisional framework expanded and evolved as the items were extracted, synthesised and revised.

## **2.4 Delphi consensus process**

The content of the framework was refined and developed through a modified Delphi consensus process. The Delphi technique is a structured and iterative method for collecting anonymous individual opinions from a panel with relevant expertise in the topic where a consensus is required.<sup>37</sup> The basic principle is for the panel to receive successive questionnaires, each one containing the anonymous responses to the previous round, and for them to modify their responses until a consensus is reached.

The Delphi consensus process was employed in order to obtain consensus from experts on the minimum set of reporting criteria that could form the basis of standards for the reporting of future organisational case studies.

### **2.4.1 Design**

The reporting standards were developed over two rounds:

- In the first round, participants were presented with all the unique items identified from the rapid review. They were asked to rate each item as being ‘Essential’, ‘Desirable’, or ‘Not necessary’ for the reporting of organisational case studies. Participants were also asked whether the provisional framework in which items were presented was appropriate, and were given the opportunity to adapt this alongside the content.
- In the second round, participants received a restructured list of items incorporating the results of the first round. Within each section, participants were first presented with high consensus items (i.e. those receiving >70% “Essential” responses in round 1), and given the opportunity to state whether such items should be reported by all organisational case studies, specific types of organisational case study, or do not need to be reported. The remaining “non-consensus” items were ranked according to their positive/negative ratio of ratings from round one. This ratio was calculated for each item by dividing the sum of “Essential” and “Desirable” counts by “Not necessary” counts. Consequently, a ratio of 1 would indicate an even balance of positive and negative ratings. Participants were provided with each item and its corresponding ratio, and again asked whether the item should be reported for all, some or no organisational case studies.

In both rounds, the “high consensus” threshold was set at 70% agreement among respondents for each item. This threshold was chosen as it reflects a greater than 2:1 ratio of agreement to dissent, representing much stronger consensus than would a simple ‘majority agreement’ threshold of 50% or greater.

Each round was open for three weeks, with a reminder sent to non-responders at the end of the first week.

## 2.4.2 Participants

Experts and parties interested in the conduct of organisational case study research (methodologists, research funders, journal editors, interested policymakers and practitioners) were approached to participate. Individuals were identified through the rapid review, personal contacts, and by contacting the following organisations: Health Services Research Network;

the Social Research Association; the UK Evaluation Society; and the National Centre for Research Methods.

All contacts were assured confidentiality, with the aim of encouraging participation and openness, and all were invited to each round of the survey, including previous-round non-responders (unless they chose the option to withdraw from further contact).

In order to assess representation of different stakeholder groups and identify any important differences in their responses, professional characteristics were requested in each questionnaire. These included: designation; topic area of interest; research method of interest; and proportion of work relating to methodology.

### **2.4.3 Instrumentation**

Questionnaires were administered electronically using on-line survey software Qualtrics (<http://www.qualtrics.com/>) and all questionnaires were piloted before distribution.

### **2.4.4 Analysis**

All responses were collected in Qualtrics for initial tabulation and analysis. Subsequent analyses and outputs were produced in Excel. Where a respondent did not reply to a question, this value was recorded as missing. There was no imputation of missing values.

### **2.4.5 Ethical approval**

Ethics approval for the consensus process was obtained from the University of York Health Sciences Research Governance Committee. Invitees were promised anonymity and submission of completed questionnaires was taken as implied consent.

## **2.5 Translating high-consensus Delphi items into reporting standards for organisational case studies.**

During the process of gathering the data from the “real world” example case studies and the exemplar organisational case studies provided by HS&DR we became interested in how these might match up to the reporting standards. Although this step had not been part of the



original protocol we decided to add an additional step in the development process. One reviewer (ST) applied the list of high-consensus items, as far as was possible in retrospect, to all identified example and exemplar case study publications. These were subjective decisions made by one reviewer and are not intended to be a criticism on the quality of reporting in these publications. Rather our aim was to (1) determine the relevance of these items to the reporting of 'real world' organisational case studies, and (2) better understand how the results of the Delphi consultation might best be implemented as reporting standards. The results of this application are discussed in Section 5.

## 3 Results

### 3.1 Rapid review

The searches identified 3,465 potentially relevant references after deduplication. There were 2,456 references which were manually screened, with 2,348 excluded based on title and abstract. Of the 1,009 references screened with the assistance of text mining, 974 were excluded. Thirty five records were identified from the screening of titles and abstracts during text mining, but no additional texts were included after reading of full texts. Following screening of full texts we included: 25 methodological texts,<sup>8-10, 34-36, 38-56</sup> eight example case studies (17 publications)<sup>57-73</sup> and 12 exemplar case studies (16 publications) provided by HS&DR.<sup>1-7, 74-82</sup> The study by Raine et al<sup>77, 78</sup> was described in publications as “a prospective observational study”, but contained many elements of a case study and was identified as an exemplar of organisational case study research. See Figure 2 for details.

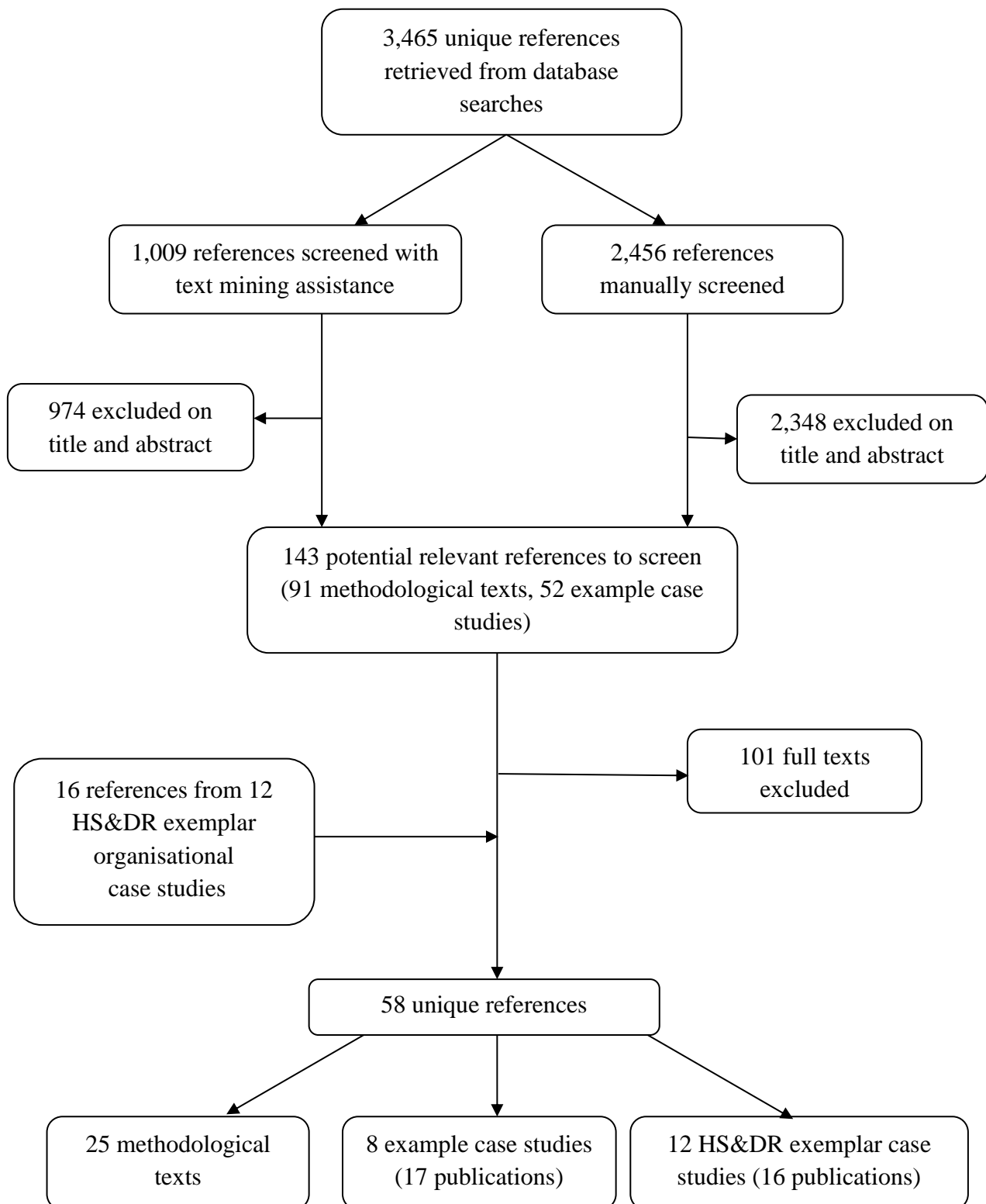
### 3.2 Rapid review - methodological texts

Twenty five methodological texts were included in the rapid review.<sup>8-10, 34-36, 38-56</sup> Dates of publication covered 20 years ranging from 1994 to 2014. One text<sup>47</sup> was received too late to include in the Delphi consensus process, but it included no new items to add to the final list.

A number of key authors in the field of case study methodology had been identified in the early stages of our review (see 2.3.1.2). Other key authors were also identified. A complete list of these authors and their publications is provided in Table 1. After reading the texts, we selected those that gave practical advice on conducting research.

The two most commonly cited publications were by the authors Yin<sup>8, 34, 35, 54-56</sup> and Stake.<sup>36</sup> Therefore, the items for the Delphi consensus process were initially drawn from six publications by Yin<sup>8, 34, 35, 54-56</sup> and three by Stake.<sup>10, 36, 52</sup> The remaining texts were read in reverse chronological order to identify any additional items, with a decreasing number of new items found as we progressed back in time. See *Appendix 2* for the complete list of items together with authors.

**Figure 2: PRISMA flow chart**



The language and paradigmatic assumptions related to each extracted item are likely to reflect the position of the original academic author. For example, the application of concepts such as ‘validity’ and ‘reliability’ to case studies derives directly from the publications of Yin.<sup>8, 34, 35, 54-56</sup>

Across all the included texts authors gave various definitions of case study research, made different paradigmatic assumptions, and recommended different methods. Rather than taking a particular position, we aimed to capture all these variations for inclusion in the first phase of the Delphi consensus process.

### **3.3 Rapid review – example case studies**

Eight example case studies, (with 17 associated publications) were included.<sup>57-73</sup> All the studies were conducted in England, with most relating to the NHS, and one evaluating prison mental health in-reach services.<sup>73</sup> Dates of publication ranged from 2004 to 2011. The methods, as reported by the authors, covered a variety of approaches (see Table 2 for details).

Some of the case studies were part of wider projects that included other methods of evaluation. In such cases we focused only on the methods used for the organisational case studies.

The level of reporting of organisational case study methods within individual publications varied. After assessing all the publications for each included organisational case study, no new items were found to add to the Delphi consensus process.

**Table 1: List of methodological texts**

Author(s)	Title and reference
Crowe S, Cresswell K, Robertson A, Huby G, Avery A, Sheikh A. (2011) <sup>38</sup>	The case study approach. <i>BMC Med Res Methodol</i> 2011; <b>11</b> :100. <a href="http://dx.doi.org/10.1186/1471-2288-11-100">http://dx.doi.org/10.1186/1471-2288-11-100</a>
Darke P, Shanks G, Broadbent M. (1998) <sup>39</sup>	Successfully completing case study research: combining rigour, relevance and pragmatism. <i>Information Systems Journal</i> 1998; <b>8</b> :273-89. <a href="http://dx.doi.org/10.1046/j.1365-2575.1998.00040.x">http://dx.doi.org/10.1046/j.1365-2575.1998.00040.x</a>
Fitzgerald L, Dopson S. (2009) <sup>40</sup>	Comparative case study designs: their utility and development in organizational research. In: Buchanan DA, Brynam A, editors. <i>The SAGE handbook of organizational research methods</i> . London: SAGE Publications Ltd.; 2009:465-83.
Gagnon Y-C. (2010) <sup>9</sup>	<i>The case study as research method: a practical handbook</i> . Québec: Presses de l'Université du Québec; 2010.
Gibbert M, Ruigrok W. (2010) <sup>41</sup>	The "what" and "how" of case study rigor: three strategies based on published work. <i>Organ Res Methods</i> 2010; <b>13</b> :710-37. <a href="http://dx.doi.org/10.1177/1094428109351319">http://dx.doi.org/10.1177/1094428109351319</a>
Gibbert M, Ruigrok W, Wicki B. (2008) <sup>42</sup>	What passes as a rigorous case study? <i>Strategic Management Journal</i> 2008; <b>29</b> :1465-74. <a href="http://dx.doi.org/10.1002/smj.722">http://dx.doi.org/10.1002/smj.722</a>
Gilgun J.F. (1994) <sup>43</sup>	A case for case-studies in social-work research. <i>Soc Work</i> 1994; <b>39</b> :371-80.
Gillham B. (2000) <sup>44</sup>	<i>Case study research methods</i> . London Continuum, 2000.
Greene D, David J.L. (1984) <sup>45</sup>	A research design for generalizing from multiple case studies. <i>Eval Program Plann</i> 1984; <b>7</b> :73-85.
Hays P.A. (2004) <sup>46</sup>	Case study research. In: deMarrais K, Lapan SD, editors. <i>Foundations for research: methods of inquiry in education and the social sciences</i> . Mahwah, NJ: Lawrence Erlbaum Associates Publishers; 2004:217-34.
Hutchinson S.A. (1990) <sup>47</sup>	The case study approach. In: Moody LE, editor. <i>Advancing nursing science through research (Vol. 2)</i> . Newbury Park, California: Sage Publications, Inc.;1990: 177-213.
Huws U, Dahlmann S. (2007) <sup>48</sup>	<i>Quality standards for case studies in the European Foundation</i> . Dublin: European Foundation for the Improvement of Living and Working Conditions; 2007.
Kaarbo J, Beasley R.K. (1999) <sup>49</sup>	A practical guide to the comparative case study method in political psychology. <i>Polit Psychol</i> 1999; <b>20</b> :369-91 <a href="http://dx.doi.org/10.1111/0162-895x.00149">http://dx.doi.org/10.1111/0162-895x.00149</a>
Meyer C.B. 2001 <sup>50</sup>	A case in case study methodology. <i>Field Methods</i> 2001; <b>13</b> :329-52
Moore TS, Lapan SD, Quartaroli MT. (2012) <sup>51</sup>	Case study research. In: Lapan SD, Quartaroli, MT, Riemer, FJ, editors. <i>Qualitative</i>

Author(s)	Title and reference
	<i>research: an introduction to methods and designs</i> . San Francisco, CA: Jossey-Bass; 2012:243-70.
Stake R. E. (2005) <sup>36</sup>	Qualitative case studies. In: Denzin NK, Lincoln YS, editors. <i>The SAGE handbook of qualitative research</i> . 3rd edn. Thousand Oaks, CA: SAGE Publications Inc.; 2005:443-66.
Stake R. E. (1995) <sup>10</sup>	<i>The art of case study research</i> . Thousand Oaks, CA: Sage Publications; 1995.
Stake R. E. (1994) <sup>52</sup>	Case studies. In: Denzin NK, Lincoln YS, editors. <i>Handbook of qualitative research</i> . Thousand Oaks, CA: SAGE Publications Inc.; 1994:236-47.
Thomas G. (2011) <sup>53</sup>	<i>How to do your case study: a guide for students and researchers</i> . London: SAGE Publications Ltd.; 2011.
Yin R. K. (2014) <sup>8</sup>	<i>Case study research: design and methods</i> . Thousand Oaks, California: SAGE Publications; 2014.
Yin R. K. (2012) <sup>34</sup>	<i>Applications of case study research</i> . 3rd edn. London: SAGE Publications Ltd.; 2012.
Yin R. K. (2012) <sup>35</sup>	Case study methods. In: <i>APA handbook of research methods in psychology, Vol 2: research designs: quantitative, qualitative, neuropsychological, and biological</i> . Washington, DC: American Psychological Association; 2012:141-55.
Yin R. K. (2006) <sup>56</sup>	Case study methods. In: Green GL, Camilli G, Elmore PB, editors. <i>Handbook of complementary methods in education research</i> . Mahwah, NJ: Lawrence Erlbaum Associates; 2006:111-22.
Yin R. K. (1999) <sup>55</sup>	Enhancing the quality of case studies in health services research. <i>Health Serv Res</i> 1999;34:1209-24.
Yin R. K. (1998) <sup>54</sup>	The abridged version of case study research. Design and method. In: Bickman L, Rog DJ, editors. <i>Handbook of applied social research methods</i> . Thousand Oaks, CA: SAGE Publications Ltd.; 1998:229-59.

**Table 2: Example case studies**

Authors, year	Publication type	Summary of case study	Where conducted	Author reported case study methods
Attree M, Cooke H, Wakefield A. (2008) <sup>57, 58</sup>	J	The study explored patient safety in an English pre-registration degree nursing curriculum, based on the Nursing and Midwifery Council 2002 curriculum guidelines.	NHS Healthcare Trusts, North of England	Multiple organisational case studies
†Field D, Reid D, Payne S, Relf M. (2005) <sup>59, 65, 68, 69</sup>	R, J	Phase 2: Five in-depth organisational case studies were conducted with adult hospice bereavement support services in England	NHS Hospices, England	In-depth multiple organisational case studies
Hutchinson S, Purcell J. (2010) <sup>61</sup>	J	A multiple case approach was adopted, comprising five acute hospitals and two ambulance trusts all from the south of England to examine managing ward managers for roles in human resource management.	NHS, South of England	A multiple case approach
Kyratsis Y, Ahmad R, Holmes A.(2010) <sup>62, 63</sup>	R, J	To understand the impact of differing organisational capacity and contextual circumstances on technology selection, the subsequent procurement and implementation of the technologies in 12 English NHS Trusts	NHS Trusts, England	A qualitative, multisite, comparative case study
National Nursing Research Unit (2009) <sup>64, 71</sup>	R, J	Phase 2: issues of local implementation of “The Productive Ward” programme in five NHS acute trusts.	NHS Acute Hospitals, England	A mix of qualitative research methods
The Offender Health Research Network (2009) <sup>70, 73</sup>	R, J	Evaluating prison mental health in-reach services using case study sites across the North West, North East and Yorkshire, South West, South East and London Regions.	Prison and Young Offender Institutions, England	Qualitative analysis and a multiple case-study approach
†Payne S, Field D, Rolls L, Hawkder S, Kerr C <sup>65</sup>	J	Case study research methods in end-of-life care: reflections on three studies.		Reflections on methods used in three case studies including Field†, Payne† and Rolls†.

Authors, year	Publication type	Summary of case study	Where conducted	Author reported case study methods
†Payne S, Kerr C, Hawker S, Seamark D, Davies C, Roberts H, Jarret N, Roderick P, Smith H. (2004) <sup>60, 65-67</sup>	R, J	Phase 3 – Six in-depth organisational case studies of community hospitals in the South East and South West of England to identify how palliative care for elderly people is delivered in practice from the perspectives of service users and service providers	NHS Community Hospitals, England	In-depth multiple organisational case studies.
†Rolls L, Payne S. (2004) <sup>65, 72</sup>	J	A multiple case study design: the context and processes of childhood bereavement services and the experience of families who use them, and of the complexity of the contextual conditions that surround UK childhood bereavement services.	NHS UK	In-depth multiple organisational case study approach as part of a larger qualitative study

Key:

J=Journal article

R=Report

† Linked organisational case studies with methods further reported in Payne S, Field D, Rolls L et al.<sup>65</sup>



### 3.4 Exemplar case studies

Twelve case studies (16 publications) funded by the NIHR HS&DR Programme were identified by the funder as being methodologically strong.<sup>1-7, 74-82</sup> The methods, as reported by the authors, covered a variety of approaches (see Table 3 for details).

The list of exemplar case studies contains a number of completed and ongoing projects. Publications included protocols, final reports and journal articles. Most case studies were conducted in England, with one being conducted in all four countries of the UK.<sup>80</sup> All were conducted in the NHS.

After a thorough reading of the publications relating to case studies, no new items were identified to add to the Delphi consensus process.

**Table 3: Exemplar case studies funded by the NIHR HS&DR Programme**

Chief Investigator	Publication type	Project title and link to HS&DR project page	Where conducted	Author reported case study methods
Checkland <sup>2</sup>	R	08/1808/240: Management practice in Primary Care Organisations: the roles and behaviours of middle managers and GPs <a href="http://www.nets.nihr.ac.uk/projects/hsdr/081808240">http://www.nets.nihr.ac.uk/projects/hsdr/081808240</a>	Primary Care Trusts England	Qualitative case study methods
Closs <sup>1</sup>	P	11/2000/05: The detection and management of pain in patients with dementia in acute care settings: development of a decision tool <a href="http://www.nets.nihr.ac.uk/projects/hsdr/11200005">http://www.nets.nihr.ac.uk/projects/hsdr/11200005</a>	NHS England	Multiple case studies with embedded units of analysis
Drennan <sup>74</sup>	R	09/1801/1066: Investigating the contribution of physician assistants to primary care in England: a mixed-methods study <a href="http://www.nets.nihr.ac.uk/projects/hsdr/0918011066">http://www.nets.nihr.ac.uk/projects/hsdr/0918011066</a>	NHS England	Mixed methods (qualitative and quantitative)
Gillard <sup>3</sup>	R	10/1008/15: New ways of working in mental health services: a qualitative, comparative case study assessing and informing the emergence of new peer worker roles in mental health services in England <a href="http://www.nets.nihr.ac.uk/projects/hsdr/10100815">http://www.nets.nihr.ac.uk/projects/hsdr/10100815</a>	NHS England	Comparative case study design
Goodman <sup>4</sup>	P	11/1021/02: Optimal NHS service delivery to care homes: a realist evaluation of the features and mechanisms that support effective working for the continuing care of older people in residential settings <a href="http://www.nets.nihr.ac.uk/projects/hsdr/11102102">http://www.nets.nihr.ac.uk/projects/hsdr/11102102</a>	NHS England	Realist evaluation
Martin <sup>5-7</sup>	R, J	09/1001/40: The medium-term sustainability of organisational change in the National Health Service: a comparative case study of clinically led organisational innovations <a href="http://www.nets.nihr.ac.uk/projects/hsdr/09100140">http://www.nets.nihr.ac.uk/projects/hsdr/09100140</a>	NHS England	Qualitative comparative case study

Chief Investigator	Publication type	Project title and link to HS&DR project page	Where conducted	Author reported case study methods
McCourt <sup>75</sup>	R	10/1008/35: An ethnographic organisational study of alongside midwifery units: a follow-on study from the Birthplace in England programme <a href="http://www.nets.nihr.ac.uk/projects/hsdr/10100835">http://www.nets.nihr.ac.uk/projects/hsdr/10100835</a>	NHS England	Ethnographic study
McDonald <sup>76</sup>	P	08/1809/250: Evaluation of the advancing quality pay for performance programme in the NHS North West <a href="http://www.nets.nihr.ac.uk/projects/hsdr/081809250">http://www.nets.nihr.ac.uk/projects/hsdr/081809250</a>	NHS England	Mixed methods (qualitative and quantitative)
Raine <sup>77, 78</sup>	R, J	09/2001/04: Improving the effectiveness of multidisciplinary team meetings for patients with chronic diseases: A prospective cohort study <a href="http://www.nets.nihr.ac.uk/projects/hsdr/09200104">http://www.nets.nihr.ac.uk/projects/hsdr/09200104</a>	NHS England	Mixed methods (qualitative and quantitative)
Randell <sup>79</sup>	P	12/5005/04: A realist process evaluation of robotic surgery: integration into routine practice and impacts on communication, collaboration and decision making <a href="http://www.nets.nihr.ac.uk/projects/hsdr/12500504">http://www.nets.nihr.ac.uk/projects/hsdr/12500504</a>	NHS Trusts, England	Realist evaluation
Rycroft-Malone <sup>80</sup>	P	12/64/187: Accessibility and implementation in UK services of an effective depression relapse prevention programme: Mindfulness based cognitive therapy <a href="http://www.nets.nihr.ac.uk/projects/hsdr/1264187">http://www.nets.nihr.ac.uk/projects/hsdr/1264187</a>	NHS UK	In-depth case studies using exploratory and interpretive methods
Waring <sup>81, 82</sup>	R, J	10/1007/01: Knowledge sharing across the boundaries between care processes, services and organisations: the contributions to safe hospital discharge and reduced emergency readmission <a href="http://www.nets.nihr.ac.uk/projects/hsdr/10100701">http://www.nets.nihr.ac.uk/projects/hsdr/10100701</a>	NHS England	Ethnographic study

Key: J = journal article; P = protocol; R = final report.

## 4 Delphi consensus process

### 4.1 Items identified from the literature

After deduplication, a total of 103 unique items were identified for inclusion in the Delphi consensus process. See *Appendix 2* for the full list of items. During the extraction process, the classification of items evolved and expanded from four to the six following categories:

- Describing the design
- Background, context and theory
- Describing the data collection
- Describing the data analysis
- Interpreting the results
- Sharing the results and conclusions

These categories were used to structure the questionnaire, though respondents were given the opportunity to suggest additions or changes to this classification (see *Appendix 3*).

### 4.2 Round 1 results

#### 4.2.1 Response rate and participants

Of 36 experts invited to take part in the Delphi consensus process, 19 (53%) responded to the first round invitation. All respondents completed the entire questionnaire.

Following the distribution of questionnaires, the funder of this project was contacted by a learned society for social science researchers, which expressed concerns about perceived assumptions underlying the project. The three main concerns raised were: (1) the difficulty in mandating standards of conduct for the wide variety of case study approaches; (2) the existence of a quality control system already operating through peer-review of HS&DR project reports; and (3) the risk of moving towards excessive standardisation. Four of the experts invited to participate in the Delphi consensus process co-signed the letter, three of whom also went on to complete both rounds of the survey. The comments from these authors, as well as the concerns raised in the letter were used to inform and refine the structure of the second round questionnaire, and are discussed further in section 4.3.

The characteristics of respondents to both rounds of the process are given in Table 4, and their research interests are described in Box 2. The majority of respondents in round one were researchers (80%) with substantial experience of authoring or otherwise contributing to organisational case study research (see **Error! Reference source not found.**). Two respondents classified themselves as research methodologists, two others classified themselves as having an editorial or related publishing role, and one respondent was a research funder. Several respondents expressed research interests related to health and/or social care, and others an interest in different approaches to organisational case study research (e.g. ethnography, qualitative case studies, comparative and theory-related cases).

**Table 4 Characteristics of respondents**

Characteristic	Round 1	Round 2
<b>Professional role</b>		
<b>Researcher</b>	15	1
<b>Research methodologist</b>	2	1
<b>Journal editor/board member/publishing</b>	1	1
<b>Other</b> (“Researcher and journal editor”)	1	1
<b>How many organisational case studies have you authored?</b>		
<b>0</b>	2	1
<b>1 to 5</b>	6	5
<b>6 to 10</b>	5	2
<b>&gt;10</b>	6	7
<b>How many organisational case studies have you been involved with other than as an author? (e.g. peer review,; commissioning; advisory role)</b>		
<b>0</b>	0	0
<b>1 to 5</b>	6	3
<b>6 to 10</b>	3	3
<b>&gt;10</b>	10	8
<b>What proportion of your work relates to research methodology?</b>		
<b>0</b>	0	0
<b>1% to 40%</b>	13	10
<b>41% to 60%</b>	4	2
<b>&gt;60%</b>	2	3

## Box 2: Research interests of respondents (Round 1 and Round 2)

Main area(s) of research interest related to organisational case studies
<ul style="list-style-type: none"><li>- Health and social care</li><li>- Evaluation of health IT</li><li>- Qualitative case studies</li><li>- Development of different models of service delivery and interface between primary and secondary care</li><li>- Organisation of care in hospital wards</li><li>- Use of information technology in health care settings</li><li>- Comparative cases; theory related cases;</li><li>- Evidence implementation; quality improvement</li><li>- Public services broadly - health, children's services, urban regeneration, disability services</li><li>- Healthcare</li><li>- Change; implementation of evidence; maternity care; user and professional experiences; ethnography</li><li>- Health services</li><li>- Ethnography</li><li>- Health care organization</li><li>- Research funder judging quality of organisational case study research. Also editor for NIHR Journals Library reviewing quality</li><li>- Research into health policy</li><li>- Hospitals</li><li>- Quality improvement and change management</li><li>- Organisational change</li><li>- Realist evaluation, qualitative methods</li><li>- Acute hospital settings</li><li>- Relationships between organisational structures and policy outcomes.</li></ul>

### 4.2.2 Rating of items

Respondents were asked to rate absolutely necessary items for reporting case studies as “Essential”, to rate useful but non-essential items as “Desirable”, and rate any unnecessary, unclear, redundant, or meaningless items as “Not necessary”. None of the 103 items were definitively excluded by consensus (i.e. the proportion of “Not necessary” ratings was below 70% for every item).

Table 5 shows the ten items that met the predefined minimum 70% “Essential” consensus level. The level of consensus for these items ranged from 74% to 95%, with the highest consensus for “Describe how the data were collected” and “Describe the sources of evidence

used”. None of the items classified under the headings of “Background, Context and Theory” or “Sharing the Results and Conclusions” met the 70% “Essential” consensus threshold.

**Table 5: Items identified as "essential" by >70% of respondents in round 1**

	<b>Essential</b>	<b>Desirable</b>	<b>Not necessary</b>
<b>Describing the design</b>			
Define the research as a case study	14 (73.7%)	5 (26.3%)	0
State the broad aims of the study	16 (84.2%)	3 (15.8%)	0
State the research question(s)/hypotheses	15 (78.9%)	3 (15.8%)	1 (5.3%)
<b>Data collection</b>			
Describe how data were collected	18 (94.7%)	1 (5.3%)	0
Describe the sources of evidence used e.g. Documentation; Archival records; Interviews; Direct observations; Participant-observation; Physical artefacts	18 (94.7%)	1 (5.3%)	0
Describe any ethical considerations and obtainment of relevant / approvals, access and permissions	15 (78.9%)	4 (21.1%)	0
<b>Data analysis</b>			
Describe the analysis methods	17 (89.5%)	2 (10.5%)	0
<b>Interpretation</b>			
Describe any inherent shortcomings in the design and analysis and how these might have influenced the findings	15 (78.9%)	3 (15.8%)	1 (5.3%)
Consider the appropriateness of methods used for the question and subject matter and why it was that qualitative methods were appropriate	15 (78.9%)	4 (21.1%)	0
Discuss the data analysis (was it conducted in a systematic way and was it successful in incorporating all observations and dealing with variation)	14 (73.7%)	4 (21.1%)	1 (%)

Among items failing to meet the 70% “Essential” threshold, values ranged from 0% to 68%. In order to better inform respondents and to facilitate the rating process in round two, these 93 “non-consensus” items were ranked according to their positive/negative ratio of ratings from round one. This ratio was calculated for each item by dividing the sum of “Essential” and “Desirable” counts by “Not necessary” counts. Consequently, a ratio of 1 would indicate an even balance of positive and negative ratings. Where “Not necessary” counts were zero, a value of 0.5 was used to allow the calculation. Ratio values for the non-consensus

subsequently items ranged from 0.58 to 38.

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### **4.2.3 Round 1 comments**

A number of themes emerged from the comments given by respondents to round one (see *Appendix 5* for all comments).

Several comments raised concerns about the phrasing of items. These fell into two categories: the inability to label items because they were unclear, inappropriate or poorly worded; and the impression that some items were overly focused on quantitative research and/or were informed by a rigid and predominately positivist paradigm.

Several other comments explicitly noted that the appropriateness of certain items would be context specific, and so a single rating could not be universally applied across different approaches.

Other comments objected to the very notion of producing standards for the kind of contextualised and creative interpretative processes that are often employed in qualitative research.

None of the respondents suggested any changes to the six item categories.

## **4.3 Round 2 results**

### **4.3.1 Development of the questionnaire**

The responses from the first round were used to refine and develop both the introductory information and the restructuring of the items in the next questionnaire which was distributed in the second round of the Delphi consensus process.

#### **4.3.1.1 Introduction to round two**

The round two questionnaire was prefaced with an introduction that directly addressed the main concerns raised by respondents to the first round.

Firstly, it was clarified that while the funders originally proposed “a common quality and reporting standard for organisational case study research”, the research team had anticipated that generic standards for the *conduct* of organisational case studies would not be possible, and so chose from the start to focus on quality of reporting rather than scientific quality more



broadly (i.e. to identify any aspects of case study reporting that could facilitate the reading and judgment processes used by peer reviewers and other audiences). However, in light of the letter received by SHOC and associated comments from round one, respondents to round two were given the opportunity to explicitly state whether they considered such reporting standards to be feasible or desirable.

It was also clarified that the items presented in the Delphi consensus process were not created by the research team but were derived from the published academic literature, using the authors' own wording wherever possible. Thus the language used and the paradigmatic assumptions related to each item likely reflected the position of the original academic author. For example, the contentious application of terms such as 'validity' and 'reliability' to case study research came directly from the published work of Yin.

The introduction to the exercise also emphasized the research team's impartiality regarding the final content of the reporting standards, along with the respondents' prerogative to exclude any items that they considered inappropriate, confusing, poorly-worded or meaningless.

#### **4.3.1.2 Item presentation**

Items were again grouped into six categories: Describing the design; Background, context and theory; Describing the data collection; Describing the data analysis; Interpreting the results; Sharing the results and conclusions.

Within each section, respondents were first asked to agree or disagree with the inclusion of the high consensus items from round one (>70% "Essential") in generic reporting standards. They were then asked to either upgrade or discard the remaining lower-consensus items, which were presented in decreasing order of the positive/negative rating ratio. For all items, respondents had the opportunity to distinguish between items that should be reported for organisational case studies in general, those that should be reported for a particular approach, and those that did not need to be reported.

#### **4.3.2 Response rate and participants**

Fifteen respondents completed the entire round two questionnaire; 14 of these respondents (93%) had taken part in the first round, one respondent only contributed to the second round.

While a slightly greater proportion of respondents thought standards for reporting organisational case studies was desirable than did not, several were uncertain (see Table 6 for response rates and all related comments). Others suggested that the usefulness of any standards would depend upon how they were applied (e.g. as “a reference point for aspiration” versus a means to enforce inappropriate standardisation) and where they are applied (e.g. health service research versus sociology; impact on post-structuralist approaches).

Respondents were similarly divided about whether meaningful reporting standards would be feasible for organisational case studies. Again, the issue of standards being possible for some studies but not others was mentioned.

As might be expected, given the very high proportion of overlap between rounds, respondents had a similar level of case study experience and range of research interests as in round one (see **Error! Reference source not found.**).

Appendix 6 contains all the free text comments provided in round 2.

### **4.3.3 Rating of items**

#### **4.3.3.1 Items considered relevant to all organisational case studies**

Thirteen items were rated as “Should be reported for all organisational case studies” by at least 70% of respondents. This included all ten high-consensus items from the first round, plus three further items: “Identify the specific case(s) and justify the selection”; “Ensure that the assertions are sound, neither over- nor under-interpreting the data”; and “State any caveats about the study” (see Table 7).

In round two, the degree of consensus ranged from 73% to 100%, with four items (“State the broad aims of the study”, “Describe how the data were collected”, “Describe the sources of evidence used”, and “Describe the analysis methods”) achieving 100% consensus. For all 13 items, the degree of consensus was greater than in round one.

As in round one, none of the items classified under the headings of “Background, Context and Theory” or “Sharing the Results and Conclusions” met the 70% consensus threshold.

**Table 6: Round 2 respondent opinions on the value and feasibility of reporting standards for organisational case studies**

	<b>No opini on</b>	<b>Yes</b>	<b>No</b>	<b>Don't know</b>	<b>Other</b>	<b>Comments</b>
Did you take part in round 1 of this Delphi exercise?		93.3%	6.7%			
Do you think that a publication standard for reporting organisational case studies is desirable?	0%	40%	26.7%	13.3%	20%	<p>It depends on the audience or community. Advanced ethnographic case studies targeted at anthropology, cultural studies, sociology or policy studies are arguably distinct from HSR or trial research communities. Also, how do post-structuralist or even narrative case accounts fit with the idea of standards? Standards might constrain creativity and imagination!</p> <p>All depends how it is used. It is one thing to have a standard that acts as a reference point or aspiration; it is another if this is used inappropriately to enforce standards that are not universally suitable for all research that might be subjected to it.</p> <p>Yes but...recognize heterogeneity of case study research</p>
Do you think that a meaningful publication standard for reporting organisational case studies is possible?	6.7%	33.3%	26.7%	26.7%	6.7%	For some types of studies and not others, I suspect

**Table 7: High consensus items identified in round 2**

	<b>Should be reported for all</b>	<b>Should be reported for specific types</b>	<b>Does not need to be reported</b>
<b>Describing the design</b>			
Define the research as a case study	13 (86.7%)	0	2 (13.3%)
State the broad aims of the study	15 (100%)	0	0
State the research question(s)/hypotheses	13 (86.7%)	2 (13.3%)*†	0
Identify the specific case(s) and justify the selection (e.g. Key case (good example, classic or exemplary case); outlier case (showing something interesting because it is different from the norm); local knowledge case (example chosen on the basis of personal experience or local availability)	11 (73.3%)	1 (6.7%)	3 (20%)
<b>Describing the data collection</b>			
Describe how data were collected	15 (100%)	0	0
Describe the sources of evidence used (e.g. Documentation; Archival records; Interviews; Direct observations; Participant-observation; Physical artefacts)	15 (100%)	0	0
Describe any ethical considerations and obtainment of relevant approvals, access and permissions	13 (86.7%)	1 (6.7%)‡	1 (6.7%)
<b>Describing the data analysis</b>			
Describe the analysis methods	15 (100%)	0	0
<b>Interpreting the results</b>			
Describe any inherent shortcomings in the design and analysis and how these might have influenced the findings	13 (86.7%)	0	2 (13.3%)
Consider the appropriateness of methods used for the question and subject matter and why it was that qualitative methods were appropriate	13 (86.7%)	0	2 (13.3%)
Discuss the data analysis (was it conducted in a systematic way and was it successful in incorporating all observations and dealing with variation)	13 (86.7%)	0	2 (13.3%)
Ensure that the assertions are sound, neither over-nor under-interpreting the data	11 (73.3%)	0	4 (26.7%)
State any caveats about the study	11 (73.3%)	0	4 (26.7%)
<p><b>Key:</b>            * “Many - but not all”            † “I am wary of what this means for exploratory case studies where research questions are not fixed in advance”            ‡ “NHS based ones”</p>			

#### **4.3.3.2 Items considered unnecessary**

In the second round, 36 items (35%) were classified as “Does not need to be reported” by at least 70% of respondents (see *Appendix 7*). The degree of consensus ranged from 73% to 93%. This emphasises the much higher level of consensus among respondents relative to that seen in the first round.

#### **4.3.3.3 Items considered relevant to specific types of case study**

Seventy two items (70%) were considered by at least one respondent to be appropriate in certain contexts but not others. Methodological approaches identified by respondents included “quantitative”, “qualitative”, “positivist”, “realist evaluation”, “explanatory case studies”, “participatory/action research”. Other types of case study identified included “NHS based”, “policy sponsored research” and “charity funded evaluations”. Respondents very rarely expanded on these labels.

However, there was no consensus that any item should be considered relevant to a particular type of case study (where method-specific items were identified, agreement ranged from 0% to 33%).

#### **4.3.3.4 Items with no overall consensus**

Fifty two items failed to meet the 70% consensus threshold for either inclusion or rejection (see *Appendix 8*).

Combining counts of “Should be reported for all organisational case studies” with counts of “Should be reported for the following type of organisational case study...” would result in just three additional items achieving a 70% “overall positive” consensus (“State whether an inductive or deductive approach to the analysis has been taken”, “Discuss the sampling (or case selection) and explanation of sampling strategy”, and “Describe the data collection tool(s) (e.g. questionnaire or observational protocol, including a description of any piloting or field testing of the tool)”, see Table 8)

**Table 8: Items meeting 70% consensus only when "all" and "specific" categories are combined**

	<b>Should be reported for all organisational case studies</b>	<b>Should be reported for specific types of organisational case study</b>	<b>Does not need to be reported</b>	<b>Comments</b>
State whether an inductive (e.g. grounded) or deductive (hypothesis testing / theoretical framework) approach to the analysis has been taken	66.7%	6.7%	26.7%	“It should be obvious”
Discuss the sampling (or case selection) and explanation of sampling strategy	66.7%	6.7%*	26.7%	*“Studies of heterogeneous populations of organisations”
Describe the data collection tool(s) (e.g. questionnaire or observational protocol, including a description of any piloting or field testing of the tool)	60%	13.3%†‡	26.7%	†“One that you want to publish in a positivist journal” ‡“When new or idiosyncratic data collection methods were used”

## **5 Translating high-consensus Delphi items into reporting standards for organisational case studies**

As an additional step in the development process, we applied the list of high-consensus items to all example and exemplar case study publications identified earlier in the review process, in order to (1) determine the relevance of these items to the reporting of ‘real world’ organisational case studies, and (2) better understand how the results of the Delphi consensus process consultation might best be implemented as reporting standards. As stated in Section 2.5 these were subjective assessments applied in retrospect by one reviewer and were used as practical examples to help with the development of the reporting standards and are not intended to be taken as a critical appraisal of the publications.

### **5.1 Example case studies**

The high-consensus reporting items were applied to all 17 publications of the eight example organisational case studies (see Table 9).

Five of the eight case studies published reports.<sup>59, 62, 64, 67, 73</sup> One report from the National Nursing Research Unit appeared to be aimed at end users and contained little methodological detail.<sup>64</sup> All the case studies had at least one journal publication. One journal article<sup>65</sup> provided some methodological detail for three of the included case studies and their publications.<sup>59, 60, 66-69, 72</sup>

Two linked publications exploring patient safety in English pre-registration degree nursing curriculum met some of the criteria for describing the design,<sup>57, 58</sup> though one did not state the research questions/hypotheses (Item3)<sup>58</sup> and neither fully identified the specific cases and justified selection (Item4). Both fully described data collection (Item5 to Item7), but only partially described the analysis methods (Item8). Both poorly reported items relating to interpreting the results (Item9 to Item13).

A similar pattern of reporting was found in four linked publications evaluating adult hospice bereavement support services which included a report<sup>59</sup> and two journal articles,<sup>68, 69</sup> and a stand-alone paper which reflected on the methods employed in this and other case studies.<sup>65</sup>

The journal articles make reference to the full report, but the number of items met was similar

across all the publications. However the journal articles do not state the research questions/hypotheses (Item3), and either did not report, or only partially reported how the specific cases were identified and the selection was justified. Across these publications, there was generally poor reporting on the items relating to interpreting the results (Item9 to Item13). The overarching methodological paper by Payne et al was published after the three case studies were published and so was not referenced in the report or journal articles.<sup>65</sup>

A case study to examine managing ward managers for roles in human resource management only had one publication;<sup>61</sup> this satisfied all the items for describing the design (Item1 to Item4), collecting data (Item5 to Item7), and describing the analysis (Item8). However items for interpreting the results were poorly reported (Item9 to Item13).

A study to understand the impact of differing organisational capacity and contextual circumstances on technology selection, procurement and implementation included a report<sup>62</sup> and a journal article.<sup>63</sup> The items on describing the design (Item1 to Item4) were all met. Two questions related to describing the data collection were met (Item5 and Item6) but the item relating to ethical considerations (Item7) was not met for either publication. The journal article<sup>63</sup> reported all items for interpreting the analysis, but the report did not.<sup>62</sup>

A study looking at issues of local implementation of “The Productive Ward” programme included a report and a journal article.<sup>64, 71</sup> The report appeared to be aimed at end users. Three items were met or partially met for design (Items 2 to 4), two for data collection (Items 5 and 6), one partially met for data analysis (Item 6), and one partially met for interpretation of results (Item 9).<sup>64</sup> The journal article met more of the high-consensus Delphi items. Two items were met in design (Items 2 and 4), two in data collection (Items 5 and 6), one in data analysis (Item 9) and three for interpreting the results (Item11 to Item13).<sup>71</sup>

One report<sup>73</sup> of a case study evaluating prison mental health in-reach services met all high-consensus Delphi items. The associated journal article<sup>70</sup> met 12 of the 13 criteria but did not report research questions/hypotheses (Item3).

A case study used to identify how palliative care for elderly people is delivered was published as a report<sup>67</sup> and two journal articles,<sup>60, 66</sup> as well as being linked to the methods paper mentioned earlier.<sup>65</sup> The report met all high-consensus Delphi items.<sup>67</sup> Items describing the design (Item1 to Item4) were well covered in one article,<sup>66</sup> but the other article<sup>60</sup> reported neither the broad aims of the study (Item2) nor the research questions/hypotheses (Item3).



Reporting of the data analysis and interpreting the results was generally well covered in one article<sup>66</sup> but less so in the other publication.<sup>60</sup> Both the report and journal articles were published before the Payne et al methodological paper<sup>65</sup> and therefore did not explicitly reference it.

A case study examining the context and processes of childhood bereavement services<sup>72</sup> was also linked to the above mentioned methods paper.<sup>65</sup> This journal article did not state the research questions or hypotheses (Item3), and only partially reported on ethical considerations (Item7). Items relating to interpreting the data were also poorly met. The journal article was published before the Payne et al methodological paper and therefore did not explicitly reference it.<sup>65</sup>

In summary, two publications met less than 50% of the items.<sup>58, 64</sup>, eight reported between 50% and 70% of items<sup>57, 60, 61, 62, 68, 69, 71, 72</sup>, four met over 70% of items,<sup>59, 63, 70, 66</sup> and three met all the high consensus items.<sup>65, 67, 73</sup> Across all publications, the items describing the design (Item1 to Item4), data collection (Item5 to Item7) and the analysis (Item8) were largely met. There was variation in reporting on interpretation of results and several studies either did not report or only partially reported their methods.

There was no clear pattern in the number of items being met between journal articles and reports. This was a relatively small sample of publications aimed at different audiences so it would not be appropriate to draw conclusions on levels of reporting within different types of publications.

These publications covered a range of case study methodology and were aimed at different audiences (e.g. end-users) therefore the lack of reporting should not be taken to mean a lack of quality in the methods used, nor as implied criticism of the original authors.

**Table 9: Assessing example case studies against the high-consensus Delphi items**

		High consensus items												
Category		Design				Data collection			DA	Interpreting the results				
Item (see Key)		1	2	3	4	5	6	7	8	9	10	11	12	13
case study	First author (publication type)													
1	Attre <sup>57</sup> (J)	Y	Y	Y	N	Y	Y	Y	P	P	N	P	Y	Y
	Cooke <sup>58</sup> (J)	Y	Y	N	P	Y	Y	Y	P	N	N	P	Y	N
2	Field <sup>59</sup> (R)	Y	Y	Y	Y	Y	Y	Y	Y	P	Y	P	Y	N
	Reid <sup>69</sup> (J)	Y	Y	N	P	Y	Y	Y	Y	N	N	P	Y	N
	Reid <sup>68</sup> (J)	Y	Y	N	N	Y	Y	Y	Y	N	N	P	Y	N
3	Hutchinson <sup>61</sup> (J)	Y	Y	Y	Y	Y	Y	Y	P	N	N	P	Y	N
4	Kyratsis <sup>62</sup> (R)	Y	Y	Y	Y	Y	Y	N	Y	N	N	P	Y	Y
	Kyratsis <sup>63</sup> (J)	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
5	National Nursing Research Unit <sup>64</sup> (R)	N	Y	P	Y	Y	Y	N/A	P	P	N	U	U	N
	Robert <sup>71</sup> (J)	N	Y	N	Y	Y	Y	N	Y	N	N	Y	Y	Y
6	Offender Health Research Network <sup>73</sup> (R)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Ricketts <sup>70</sup> (J)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
7	Payne <sup>65</sup> (Methods paper) (J)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Payne <sup>67</sup> (R)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Payne <sup>66</sup> (J)	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
	Hawker <sup>60</sup> (J)	Y	N	N	Y	Y	Y	Y	Y	P	N	P	Y	P
8	Rolls <sup>72</sup> (J)	Y	Y	N	Y	Y	Y	P	Y	N	Y	U	U	N

Key: DA=Data analysis; J=Journal article; R= Report; N/A=not applicable; N=No; P=Partial; U=Unclear; Y=Yes.

Items:

1. Define the research as a case study
2. State the broad aims of the study
3. State the research question(s)/hypotheses
4. Identify the specific case(s) and justify the selection
5. Describe how data were collected
6. Describe the sources of evidence used
7. Describe any ethical considerations and obtainment of relevant approvals, access and permissions
8. Describe the analysis methods
9. Describe the inherent shortcomings in the design and analysis and how these might have influenced the findings
10. Describe the appropriateness of methods used for the question and subject matter and why it was that qualitative methods were appropriate
11. Discuss the data analysis (i.e. Was it conducted in a systematic way and was it successful in incorporating all observations and dealing with variation)
12. Ensure that the assertions are sound, neither over- nor under-interpreting the data
13. State any caveats about the study

## 5.2 Exemplar case studies

Of the 12 exemplars, only seven had published reports.<sup>2, 3, 7, 74, 75, 77, 81</sup> Of these, two had a single additional journal article and one had two related journal articles.<sup>5, 6, 78, 81</sup> The 13 high-consensus Delphi items of reporting standards were applied to each of the 11 publications (see Table 10).

Six out of 11 of the publications met all 13 of the high-consensus Delphi items.<sup>2, 3, 74, 75, 81, 82</sup>

Three publications for one case study did not fully meet all the items.<sup>5-7</sup> A report, which included data on follow-up to previous case study sites, did not explicitly state the authors had ethical approvals, access or permissions (Item7).<sup>7</sup> The authors appeared to partially describe shortcomings in the design and analysis and how these might have influenced the findings (Item9). They only partially considered the appropriateness of methods used (Item10) and did not state any caveats about the study (Item13).

The two journal articles associated with the report also did not meet all the items.<sup>5, 6</sup> One article, which was partly linked with the main HS&DR funded project detailed in the report, did not state the research question/hypotheses (Item3), nor describe any shortcomings in the design (Item9), consider the appropriateness of methods used (Item10) or state any caveats about the study (Item13).<sup>6</sup> The other article, published prior to the report, also did not state the research question/hypotheses (Item3).<sup>5</sup> There was no reporting of ethical considerations (Item7). There was only partial reporting of any inherent shortcomings in the design and analysis and how these might influence findings (Item9), consideration of the appropriateness of methods used (Item10), and caveats about the study (Item13).

A report<sup>77</sup> and a linked journal article<sup>78</sup> met 12 out of 13 of items, but did not define the research as a case study (Item1). The authors of this study stated it was a prospective observational study, but because it contained many elements of an organisational case study, it was recommended by HS&DR for this project.

In summary, one exemplar publication<sup>5</sup> met 61% of the reporting standards, two<sup>6, 7</sup> met 69% and six<sup>2, 3, 74, 75, 81, 82</sup> met all of the reporting standards. The journal articles largely met the same criteria as the corresponding reports. As with the example case studies above, these publications covered a range of case study methodology and were aimed at different audiences, therefore the lack of reporting should not be taken to mean a lack of quality in the methods used in the studies themselves, nor as implied criticism of the original authors.

As a whole the exemplar case studies (which had been considered methodologically strong by the HS&DR programme team) more consistently met the high-consensus Delphi items than did the example case studies drawn from the review searches. Of eleven exemplar publications, six (55%) met all 13 items, compared with just three out of 17 (18%) of the example organisational case study publications.

**Table 10: Assessing HS&DR exemplar case studies against the high-consensus Delphi items**

			High consensus items												
Category			Design				Data collection			DA	Interpreting the results				
Item (see Key)			1	2	3	4	5	6	7	8	9	10	11	12	13
case study	First author (publication type)														
1	Checkland <sup>2</sup>	(R)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2	Drennan <sup>74</sup>	(R)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
3	Gillard <sup>3</sup>	(R)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4	Martin <sup>7</sup>	(R)	Y	Y	Y	Y	Y	Y	N	Y	P	P	Y	Y	N
	Martin <sup>6</sup>	(J)	Y	Y	N	Y	Y	Y	Y	Y	N	N	Y	Y	N
5	Currie <sup>5</sup>	(J)	Y	Y	N	Y	Y	Y	N	Y	P	P	Y	Y	P
6	McCourt <sup>75</sup>	(R)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
7	Raine <sup>77</sup>	(R)	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Raine <sup>78</sup>	(J)	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8	Waring <sup>82</sup>	(R)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Waring <sup>81</sup>	(J)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Key: DA=Data analysis; J=Journal article; R= Report; N/A=not applicable; N=No; P=Partial; U=Unclear; Y=Yes.

Items:

1. Define the research as a case study
2. State the broad aims of the study
3. State the research question(s)/hypotheses
4. Identify the specific case(s) and justify the selection
5. Describe how data were collected
6. Describe the sources of evidence used
7. Describe any ethical considerations and obtainment of relevant approvals, access and permissions
8. Describe the analysis methods
9. Describe the inherent shortcomings in the design and analysis and how these might have influenced the findings
10. Describe the appropriateness of methods used for the question and subject matter and why it was that qualitative methods were appropriate
11. Discuss the data analysis (i.e. Was it conducted in a systematic way and was it successful in incorporating all observations and dealing with variation)
12. Ensure that the assertions are sound, neither over- nor under-interpreting the data
13. State any caveats about the study

### 5.3 Generic consensus-based reporting standards for organisational case studies

The exemplar organisational case studies identified by HS&DR as being of high quality were far more consistent with the high-consensus Delphi items than were a group of example case studies identified purely on the basis of topic relevance. If the latter group of studies are representative of the wider field of organisational case study research, then there is clearly scope to use the identified items to improve the consistency and rigour of reporting in this area.

Though the high-quality case studies used different methodological approaches, they were consistent with one another on the high-consensus Delphi reporting items. This suggests that, while these items can detect consistency and rigour of reporting, they are also sufficiently generic to be applied to a variety of organisational case study methods.

The fact that journal articles sometimes satisfied more items than longer reports for the same case study suggests that the length of a publication is not necessarily related to how clearly the research methods are reported. This may be a deliberate choice. For example authors may choose to exclude certain items from a report aimed at practitioners or policy makers, yet include those same items in an academic journal article aimed at other researchers.

Similarly, there may be legitimate methodological reasons for a particular item not being met. For example, a researcher conducting a purely exploratory case study might not consider it appropriate to state an initial research question or hypothesis (item 3 on the reporting standards); in this case it would be perfectly legitimate to briefly outline the justification for not doing so in the report.

However, it is not always obvious whether the absence of certain information is deliberate or an oversight; any reporting standards for organisational case studies should be aware of this distinction. Therefore, unlike reporting standards such as PRISMA that mandate the inclusion of every item in a report, the reporting standards proposed in Table 11 require the author to refer to a place where the reporting item was met *or* where justification for the absence of the item can be found. This approach intends to balance the research freedoms of the knowledgeable researcher with the information needs of the end user.



**Table 11: Consensus standards for the reporting of organisational case studies**

Reporting item	Reported on page no.	Justification for <i>not</i> reporting given on page no.
<b>Describing the design</b>		
1. Define the research as a case study		
2. State the broad aims of the study		
3. State the research question(s)/hypotheses		
4. Identify the specific case(s) and justify the selection		
<b>Describing the data collection</b>		
5. Describe how data were collected		
6. Describe the sources of evidence used		
7. Describe any ethical considerations and obtainment of relevant approvals, access and permissions		
<b>Describing the data analysis</b>		
8. Describe the analysis methods		
<b>Interpreting the results</b>		
9. Describe any inherent shortcomings in the design and analysis and how these might have influenced the findings		
10. Consider the appropriateness of methods used for the question and subject matter and why it was that qualitative methods were appropriate		
11. Discuss the data analysis		
12. Ensure that the assertions are sound, neither over- nor under-interpreting the data		
13. State any caveats about the study		

## 6 Discussion

The final consensus-based reporting standards consist of 13 unique items grouped into four sections (see Table 11):

- Describing the design
- Describing the data collection
- Describing the data analysis
- Interpreting the results

These standards aim to improve the consistency, rigour and reporting of organisational case study research, thereby making it more accessible and useful to different audiences. These audiences include: research sponsors who need to make decisions about whether to fund proposed case studies; ethics and research advisory groups who require clarity about the specific planned methods; peer-reviewers who need to be able to evaluate the robustness of a completed case study; and readers and policy-makers who need to understand how the findings of an organisational case study might be interpreted and implemented.

Though several items in the reporting standards refer to the conduct of case study research, the standards are not intended to be a guide on how to undertake an organisational case study. There are multiple texts that address methodology in this area at great length, many of which informed the initial stage of this project.<sup>8-10, 34-36, 38-56</sup> Any ‘checklist’ mandating specific case study methods would be far more lengthy than the proposed reporting standards, would be difficult to implement universally across different research contexts and paradigms, and would likely encounter resistance from some sections of the research community.

Nevertheless, it can be seen that the majority of specific concerns raised by HS&DR when commissioning this work (e.g. absence of clear research questions, lack of clarity about how cases were selected, lack of clear analysis plans, absence of information about data sources) are directly addressed in the final set of reporting standards. Perhaps surprisingly, none of the items that might have addressed a concern about case studies having an “insufficient theoretical basis” reached sufficiently high consensus to be included in the final set of standards. We might have expected a greater proportion of respondents to consider the theoretical or methodological underpinnings of the research as vital to understanding how

researchers interpret their results. But in fact, none of the items classified as “Background, context and theory” met the high-consensus threshold. It could be that (a) the group of experts consulted truly did not consider the items presented in this category to be sufficiently important, (b) the experts believed that this concern would be addressed by another item (e.g. “Ensure that the assertions are sound, neither over- nor under-interpreting the data”), or (c) this is an artefact of the Delphi process.

Since there was high consensus among experts that the 13 items included in the reporting standards should be reported for *all* organisational case studies, these items tend towards the generic rather than the specific. In fact, rather than being exclusive to organisational case studies, several of the items reflect good practice for the reporting of research more generally, and are similar to items on reporting standards for other research designs.<sup>12-21</sup> This raised a concern that the reporting standards may be so generic as to be of little value for the intended aim of improving the consistency and rigour in terms of reporting of organisational case study research. However, applying the standards to both exemplar and example case studies suggested that (a) there are published organisational case studies that do not meet these standards, (b) such studies could be reported in a manner that meets the standards without impacting on their underlying methodology, and (c) exemplar organisational case studies identified by HS&DR as being of high quality are generally consistent with these standards, whereas the variation in standards is much greater among the example organisational case studies that we reviewed (see section 5). Consequently, we believe that even this short list of relatively generic reporting items does have the potential to improve the standard of reporting among organisational case studies conducted in the NHS.

Several experts expressed concerns about the risk of using a ‘checklist’, particularly if this were used in an attempt to ‘standardise’ organisational case study research methods. Given the generic nature of many of the items included in the reporting standards, we believe that the risk of it being used to constrain research methodology is minimal. In addition, the final reporting standards are structured in such a way as to emphasise their primary intention as a means of supporting authors to report their research proposals and manuscripts, rather than as a tool for standardisation of methods. Consequently, for each item, the reporting standards provide the research author with the opportunity to acknowledge where the item has been met, or to explain why the item has (legitimately) not been met. In either case, the authors will have met the requirements of the reporting standards by providing the end-user with

important information about the design and purpose of the study. The standards are not prescriptive: authors are allowed to exercise judgment about how much information they choose to provide. As seen in section 5, these reporting standards can be met in even relatively brief publications.

Several reporting items included in the Delphi consensus process were considered “essential” by a majority of respondents but, failing to meet the pre-defined consensus threshold, they have not been included in the standards presented here. However, there may be an opportunity to expand and/or refine the current reporting standards further, possibly after it has been applied by authors of newly-conducted organisational case studies.

## **6.1 Strengths of this project**

Unlike a traditional Delphi consensus process in which items are generated by respondents before refinement in subsequent rounds by the same respondents, we expedited the process by deriving an initial pool of items from a rapid review of the methodological literature relevant to organisational case studies. These items were then rated in two rounds by a Delphi panel of experts, all of whom had direct involvement with case study research. This approach aimed to ensure that both the generation and refinement stages were informed by expert knowledge within the short time frame available for the project. The research team made concerted efforts to avoid influencing the content or outputs of the review and consultation processes, and the processes themselves have been reported as clearly as possible to maximise transparency and avoid bias.

Alongside the review of methodological literature, we also examined two groups of case studies: high-quality exemplar studies identified as such by HS&DR, and a group of topic-relevant example studies obtained from the wider literature. These ensured that the project was informed by ‘real-world’ research practices and also provided an opportunity to check the validity of high-consensus Delphi items for inclusion in the reporting standards. Evidence showing a discrepancy between exemplar and example case studies in terms of performance against these items implies that there is scope for greater rigour and consistency of reporting in this area. While the best organisational case studies (such as the exemplars) would not be much improved by these reporting standards, many other studies clearly would be improved.

Some Delphi respondents expressed concerns that the proposed reporting standards might constrain methodological freedom, particularly for researchers using qualitative or interpretive methods. Ultimately, only the most generic items met the minimum-consensus threshold. Some of the items are not even specific to the reporting of case studies, but to good reporting practice for empirical research more broadly. Consequently, we believe that the reporting standards are sufficiently broad to encompass the various different approaches and paradigms that fall under the umbrella of organisational case study research. Evidence from the exemplars suggested that a well reported case study is likely to be consistent with the proposed reporting standards, regardless of the specific research methods or underlying epistemological paradigm. Should an item from the reporting standards be truly inappropriate to the specific case study method, authors are given the opportunity to make this clear (with appropriate methodological justification). This approach aims to balance the needs of readers concerned about methodological quality with the methodological freedom of authors by placing a strong emphasis on transparency.

Consensus among the items included in the reporting standards was generally high, with 100% of respondents in round two agreeing that several items “Should be reported for every organisational case study”. If the Delphi respondents are representative of knowledgeable case study researchers more broadly, we would expect these standards to be acceptable to the wider research community.

## **6.2 Weaknesses of this project**

As stated earlier, the research team attempted wherever possible to avoid introducing bias or personal preferences into the review and consultation processes. For example, we intentionally avoided excluding or substantially rewording items identified in the methods literature wherever possible, leaving any decisions about the value of these items to the Delphi panel. However, we were aware that this meant that some of the items could have been worded more clearly or precisely. While we were keen not to risk changing the original authors’ meaning during the research process, any future piloting of the reporting standards could provide an opportunity to refine the exact wording of the included items.

The total number of respondents was relatively small, though this is frequently the case in Delphi research studies. Since the primary aim is to identify the level of consensus among

experts, rather than generalising to a larger population, obtaining a sufficient degree of expertise and representative panel can be considered more important than obtaining a large 'sample'. Data collected in this Delphi suggested that respondents had an appropriate level of expertise and held a range of views regarding the development of reporting standards, from the enthusiastic to the sceptical.

A minority of Delphi respondents suggested that the material presented in the Delphi had a strongly positivist focus. This impression may have been a consequence of the data extraction process, in which discrete practical items related to reporting were extracted from the methods literature. This meant that authors like Yin (who writes in a predominately didactic-pragmatic style) were more strongly represented among the initial pool of items than were authors that focused on higher level abstractions or theoretical issues (e.g. Hammersley, Gomm, Flyberg). The perception of 'positivist' bias related mainly to items derived from Yin, but it should be noted that these items typically failed to meet the required consensus threshold, and so were not included in the final reporting standards. While the reporting standards might not reflect the terminology used in fields such as anthropology or geography, they are likely to be appropriate to the types of organisational case study most frequently funded by the HS&DR programme. An alternative approach to the identification of items might have been to include an earlier "item-generation" round in the Delphi consensus process, but time and resource constraints prevented this from being possible.

Some reporting items considered necessary by a strict majority of respondents (i.e. >50% agreement) were not included in the final reporting standards. However, a minimum 70% threshold was intentionally chosen as this gives a greater than 2:1 ratio of agreement to dissent, which more accurately reflects 'high-consensus' among the Delphi panel, particularly with a sample size such that an individual respondent score constitutes almost 7% of the total. Ultimately, most of items in the reporting standards far exceeded the 70% threshold. Just three of the sub-threshold items achieved an "overall positive" consensus by combining "report for specific case studies" ratings with "report for all case studies" ratings ("State whether an inductive or deductive approach to the analysis has been taken", "Discuss the sampling (or case selection) and explanation of sampling strategy", and "Describe the data collection tool(s)"). If the reporting standards were to be expanded beyond the 13 current items, based on the available data these would be the most likely candidates for addition.

There is always a risk that easily applied ‘checklists’ can be improperly used as a substitute for proper methodological understanding by less experienced researchers. The reporting standards presented here are intended to improve the transparency of reporting of organisational case studies, and have been presented in a format to ensure that they are used for this purpose. While awareness of these standards may improve the conduct of organisational case studies, they currently outline the minimum requirements for reporting, and should not be considered a simple checklist for establishing ‘methodological quality’. Meeting all 13 standards will not guarantee that an organisational case study has been well-conducted, but it should provide readers with a sufficient understanding of how the case study was undertaken.

## 7 Conclusions

### 7.1 Key conclusions from the project

The reporting standards presented here are intended primarily as a tool for authors of organisational case studies. They briefly outline broad requirements for rigorous and consistent reporting, without constraining methodological freedom. They are not intended to be used as a critical appraisal tool but, by improving reporting quality, hopefully they will prove useful for research funders, peer reviewers, journal editors and readers. Currently it appears that not all organisational case studies report the items listed in the reporting standards, but if implemented properly in future, these standards should facilitate peer review of organisational case studies and give greater confidence to readers.

In general, the proposed standards simply require authors to acknowledge key stages of the research process. Applying the standards is unlikely to be onerous, nor result in a change of methods or a great deal of extended detail in study reports.

### 7.2 Implications for research

While the proposed reporting standards are based on a high level of consensus and have face validity, their true value cannot be fully established until they have been applied in practice.

In the first instance, we propose that these reporting standards be included as part of the submission requirements for all organisational case studies seeking public funding. While the full set of standards can only be met once the study has results to report, it might also be useful to make items 1-8 of the standards available to authors at the proposal stage. It could be emphasised that clear reporting will be of benefit to reviewers and readers (and ultimately the authors themselves).

Though these reporting standards do not mandate specific methods, if a reporting item is not met for legitimate methodological reasons, the onus is on the author to outline their rationale for the reader.

Final report manuscripts should be accompanied by a version of the reporting standard pro-forma completed by the study author(s), and both documents should be made available to peer reviewers. Funding boards may want to collect feedback from users (including



commissioners, authors, peer reviewers) about the implementation of these standards. They may be more straightforward to implement for some forms of organisational case studies than others (e.g. standalone organisational case studies vs. case studies embedded within a larger study design). As mentioned previously, we anticipate that some authors may feel that reporting standards are not relevant or necessary for organisational case studies, and other who may consider the standards proposed here to be too generic. However, consultation with research authors will be necessary to build engagement with the concept of reporting standards for organisational case studies among various audiences, and to collect evidence that could be used to evaluate and/or further refine the existing standards.

### **7.3 Implications for practice**

We will submit the reporting standard for consideration by the EQUATOR (Enhancing the QUALity and Transparency Of health Research) network. This is an international initiative that seeks to improve the reliability and value of published health research literature by promoting transparent and accurate reporting and wider use of robust reporting guidelines. Its Library for Health Research Reporting (<http://www.equator-network.org/library/>) contains 247 reporting guidelines, of which 60 relate to observational research methods. Currently, none of these are explicitly concerned with the reporting of organisational case studies.

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### **Data archiving**

All available data can be obtained from the corresponding author. All data will be shared in a way which safeguards the confidentiality and anonymity of respondents.

### **Disclaimer**

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## 9 Appendices

### 9.1 Appendix 1. Search strategies

#### *Library catalogue searches*

##### **Health Services Management Centre ONLINE (University of Birmingham)**

<https://cssfs8.bham.ac.uk/HeritageScripts/Hapi.dll/search1>

Searched on: 14/07/14

Records retrieved: 15

All fields search:

case AND (method OR methods or methodology)

##### **Health Management Online (NHS Scotland)**

<http://www.shelcat.org/nhml>

Searched on: 14/07/15

Records retrieved: 47

Words= case AND W-subjects= method or methods or methodology and W-type= BK not JA

##### **King's Fund Library Database**

<http://kingsfund.koha-ptfs.eu/>

Searched on: 14/07/15

Records retrieved: 17

Advanced search:

Subject: case studies AND subject: research methods – 10 records

Subject: case studies AND subject: methodology – 3 records

Subject: case studies AND subject: methods – 16 records

All 3 search strings were limited to books.

### ***Key author searches***

Web searches via Google were undertaken on 15<sup>th</sup> July 2014 to find lists of publications for the 5 key authors identified. Publications lists were found either by searching each authors institutional website or, where that was not possible, Google Books and Google Scholar were used. All publications were scanned to identify any relating to case study methods.

David Byrne – 5 publications

Brent Flyvbjerg – 23 publications

Roger Gomm – 11 publications

Charles Ragin – 18 publications

Robert K Yin – 18 publications

### ***Database searches***

**MEDLINE In-Process & Other Non-Indexed Citations and MEDLINE** via OvidSP

<http://ovidsp.ovid.com/>

1946 to 19<sup>th</sup> July 2014

Searched on: 22<sup>nd</sup> July 2014

Records retrieved: 581

- 1 \*Organizational Case Studies/ (191)
- 2 Organizational Case Studies/mt, st [Methods, Standards] (29)
- 3 (organi?ation\$ adj5 case adj (study or studies)).ti,ab. (217)
- 4 1 or 2 or 3 (415)
- 5 \*Research Design/ (23525)
- 6 \*Methods/ (972)
- 7 5 or 6 (24381)
- 8 (case adj (study or studies)).ti. (24261)
- 9 case study research.ti,ab. (149)
- 10 case-oriented research.ti,ab. (1)
- 11 8 or 9 or 10 (24358)
- 12 7 and 11 (161)

- 13 case study method\$.ti. (37)
- 14 case-based method\$.ti,ab. (19)
- 15 13 or 14 (56)
- 16 4 or 12 or 15 (618)
- 17 exp animals/ not humans/ (3968668)
- 18 16 not 17 (607)
- 19 limit 18 to english language (581)

**Key:**

/ = indexing term (MeSH heading)

exp = exploded MeSH heading

\* = focussed MeSH heading

/mt, st [Methods, Standards] = MeSH heading restricted to those with Methods or Standards subheading applied

\$ = truncation

? = wildcard

.ti,ab. = terms in either title or abstract fields

adj5 = terms within five words of each other (any order)

adj = terms next to each other (order specified)

**ASSIA** via ProQuest

<http://www.proquest.com/>

Search date: 22<sup>nd</sup> July 2014

Records retrieved: 627

(TI,AB(organi?ation\* NEAR/5 ("case study" OR "case studies")) AND la.exact("English")) OR (((SU.EXACT("Research methods") AND la.exact("English")) OR (SU.EXACT("Methodology") AND la.exact("English")) OR (SU.EXACT("Research design") AND la.exact("English")))) AND ((SU.EXACT.EXPLODE("Case studies" OR "Single case studies") AND la.exact("English")) OR (TI,AB("case study" OR "case studies") AND la.exact("English")) OR (TI,AB("case study research") AND la.exact("English")) OR (TI,AB("case-oriented research") AND la.exact("English")))) OR (TI,AB("case study

method\*") AND la.exact("English")) OR (TI,AB("case-based method\*") AND la.exact("English"))

Key:

SU.EXACT = subject heading

TI,AB = terms in the title or abstract fields

NEAR/5 = terms within five words of each other (any order)

\* = truncation

“ ” = phrase search

la.exact = language limit

### **Health Management Information Consortium via OvidSP**

<http://ovidsp.ovid.com/>

1979 to May 2014

Searched on: 22<sup>nd</sup> July 2014

Records retrieved: 244

- 1 (organi?ation\$ adj5 case adj (study or studies)).ti,ab. (78)
- 2 research strategies/ (33)
- 3 research design/ (198)
- 4 research methodology/ (287)
- 5 research methods/ (1251)
- 6 methods/ (310)
- 7 method study/ (32)
- 8 evaluation methods/ (120)
- 9 2 or 3 or 4 or 5 or 6 or 7 or 8 (2114)
- 10 case studies/ (2901)
- 11 (case adj (study or studies)).ti,ab. (5541)
- 12 case study research.ti,ab. (48)
- 13 case-oriented research.ti,ab. (0)
- 14 10 or 11 or 12 or 13 (7490)
- 15 9 and 14 (120)
- 16 case study method\$.ti,ab. (70)

- 17 case-based method\$.ti,ab. (2)
- 18 1 or 15 or 16 or 17 (262)
- 19 limit 18 to english (244)

**Key:**

/ = indexing term

\$ = truncation

? = wildcard

.ti,ab. = terms in either title or abstract fields

adj5 = terms within five words of each other (any order)

adj = terms next to each other (order specified)

**PsycINFO via OvidSP**

<http://ovidsp.ovid.com/>

1806 to July week 3, 2014

Searched on: 22<sup>nd</sup> July 2014

Records retrieved: 856

- 1 (organi?ation\$ adj3 case adj (study or studies)).ti,ab. (426)
- 2 \*Methodology/ (21666)
- 3 case study.md. (0)
- 4 "2260".cc. (28838)
- 5 2 or 3 or 4 (43481)
- 6 (case adj (study or studies)).ti. (19192)
- 7 case study research.ti,ab. (768)
- 8 case-oriented research.ti,ab. (5)
- 9 6 or 7 or 8 (19729)
- 10 5 and 9 (381)
- 11 case study method\$.ti. (79)
- 12 case-based method\$.ti,ab. (37)
- 13 1 or 10 or 11 or 12 (887)
- 14 (rat or rats or mouse or mice or hamster or hamsters or animal or animals or dog or dogs or cat or cats or bovine or sheep).ti,ab,sh. (257776)

15 13 not 14 (883)

16 limit 15 to english language (856)

Key:

/ = indexing term

\* = focussed subject heading

.md. = terms in the methodology field

.cc. = classification code (2260 is code for Research Methods and Experimental Design)

.sh. = terms in subject heading field

\$ = truncation

? = wildcard

.ti,ab. = terms in either title or abstract fields

adj3 = terms within three words of each other (any order)

adj = terms next to each other (order specified)

**Social Science Citation Index** via Web of Science, Thomson Reuters

<http://thomsonreuters.com/thomson-reuters-web-of-science/>

1956 – 18<sup>th</sup> July 2014

Search date: 22<sup>nd</sup> July 2014

Records retrieved: 1351

# 6 [1,351](#) (#5 OR #3 OR #2 OR #1) AND LANGUAGE: (English)

*Indexes=SSCI Timespan=All years*

# 5 [40](#) TS="case-based method\*"

*Indexes=SSCI Timespan=All years*

# 4 [969](#) TS="case study method\*"

*Indexes=SSCI Timespan=All years*

# 3 [7](#) TS="case-oriented research"

*Indexes=SSCI Timespan=All years*

# 2 [895](#) TS="case study research"

*Indexes=SSCI Timespan=All years*

# 1      [454](#)      TS=(organizational NEAR/3 ("case study" or "case studies"))

*Indexes=SSCI Timespan=All years*

Key:

TS= topic tag; searches terms in title, abstract, author keywords and keywords plus fields

\* = truncation

“ ” = phrase search

NEAR/3 = terms within 3 words of each other (any order)

### ***Website searches***

The following websites were searched on 22<sup>nd</sup> July 2014:

#### **ESRC National Centre for Research Methods**

**<http://www.ncrm.ac.uk/>**

Advanced search of publications sections using the subjects category “case study”. 47 records were retrieved and browsed for relevance. 12 relevant records were identified.

#### **ESRC Research Methods Programme**

**<http://www.ccsr.ac.uk/methods/>**

Browsed all records listed under publications tab. 1 relevant record was identified.

#### **The Social Research Association**

**<http://the-sra.org.uk/>**

Searched for case study or case studies using the website general search box, 6 results were retrieved and browsed for relevance. No records retrieved were relevant. Browsed the resources section of the website, however no relevant material was found.

#### **methods@Manchester**

**<http://www.methods.manchester.ac.uk/>**

Browsed the mixed methods section under categories for research. 2 relevant records were identified.



## 9.2 Appendix 2. Synthesised data extraction of methodological texts

Section	Items
<b>Themes that cross multiple sections</b>	<ul style="list-style-type: none"> <li>• Replication of case studies<sup>8</sup></li> <li>• Determinants of case study quality<sup>53</sup> <ul style="list-style-type: none"> <li>○ How well has the case been chosen? (approach and processes to be adopted in data collection and analysis)<sup>53</sup></li> <li>○ Explanation and justification of the context for the study<sup>53</sup></li> <li>○ Quality of arguments being made and exploration of rival explanations<sup>53</sup></li> </ul> </li> </ul>
<b>Plan</b>	<ul style="list-style-type: none"> <li>• Determine whether the case study is the appropriate method<sup>48</sup> <ul style="list-style-type: none"> <li>○ Topic is new (i.e. little qualitative or quantitative evidence) – Consider exploratory case studies<sup>48</sup></li> <li>○ There is some quantitative evidence but little is known about how or why - Consider explanatory case studies<sup>48</sup></li> </ul> </li> <li>• Initial steps are<sup>44</sup>: <ul style="list-style-type: none"> <li>○ Read relevant literature<sup>44</sup>;</li> <li>○ Get to know case/s in their setting<sup>44</sup>;</li> <li>○ Decide what broad aims are<sup>44</sup></li> </ul> </li> <li>• Defining / framing the research question(s)<sup>8</sup></li> <li>• Research question –best for how and why questions<sup>49</sup></li> <li>• Both quantitative and qualitative evidence exists but there is a need by policy stakeholders for information about current or best practice in specific contexts – Consider example case studies<sup>48</sup></li> <li>• Begin with a broad <i>prima facie</i> question, then refine using<sup>53</sup> <ul style="list-style-type: none"> <li>○ Literature review<sup>53</sup></li> <li>○ Storyboards / brainstorming / mind maps<sup>53</sup></li> </ul> </li> <li>• Research questions<sup>10</sup> <ul style="list-style-type: none"> <li>○ “Issue questions” or “issue statements” can be used to organize a case study. “Issues” identify one or more aspects of the situation or circumstance surrounding the case, in order to frame the inquiry.<sup>10</sup></li> <li>○ A number of research questions may be proposed at the beginning and refined with greater understanding of the case. <i>Etic</i> issues are brought in from the researcher from outside; <i>emic</i> issues emerge from inside the case. As the researcher begins to integrate etic and emic, the research question(s) evolves.<sup>10</sup></li> <li>○ One way to note the evolution of research question(s) is to retitile the inquiry on a regular (e.g. monthly) basis.<sup>10</sup></li> <li>○ Ensure that the focus has not shifted from the case to the issues<sup>10</sup></li> </ul> </li> </ul>

Section	Items
	<ul style="list-style-type: none"> <li>○ “Progressive focusing”: if early research questions are not helping to thoroughly understand the case, or if new issues become apparent, the research questions can be changed.<sup>10</sup></li> <li>• Thorough literature review<sup>8</sup></li> <li>• Define the research as a case study<sup>8</sup></li> <li>• Identify the research question(s)<sup>8</sup></li> <li>• Carefully formulated research question(s), informed by the existing literature and a prior appreciation of the theoretical issues and setting(s)(also References Stake)<sup>38</sup></li> <li>• Make start on getting research questions into shape<sup>44</sup></li> <li>• Identify the origin of your selected case (subject)<sup>53</sup>: <ul style="list-style-type: none"> <li>○ Key case (good example; classic or exemplary case)<sup>53</sup></li> <li>○ Outlier case (showing something interesting because it is different from the norm)<sup>53</sup></li> <li>○ Local knowledge case (example chosen on the basis of personal experience)<sup>53</sup></li> </ul> </li> <li>• Identify the purpose(s)<sup>53</sup> <ul style="list-style-type: none"> <li>○ Intrinsic<sup>53</sup></li> <li>○ Instrumental<sup>53</sup></li> <li>○ Evaluative<sup>53</sup></li> <li>○ Explanatory<sup>53</sup></li> <li>○ Exploratory<sup>53</sup></li> </ul> </li> <li>• Identify the approach(s)<sup>53</sup> <ul style="list-style-type: none"> <li>○ Testing a theory<sup>53</sup></li> <li>○ Building a theory<sup>53</sup></li> <li>○ Drawing a picture, illustrative<sup>53</sup></li> <li>○ Descriptive<sup>53</sup></li> <li>○ Interpretive<sup>53</sup></li> <li>○ Experimental<sup>53</sup></li> </ul> </li> <li>• Identify the process(s)<sup>53</sup> <ul style="list-style-type: none"> <li>○ Single or multiple<sup>53</sup> <ul style="list-style-type: none"> <li>▪ Nested<sup>53</sup></li> <li>▪ Parallel<sup>53</sup></li> <li>▪ Sequential<sup>53</sup></li> <li>▪ Retrospective<sup>53</sup></li> </ul> </li> </ul> </li> </ul>

Section	Items
	<ul style="list-style-type: none"> <li>▪ Snapshot<sup>53</sup></li> <li>▪ Diachronic<sup>53</sup></li> <li>• Organizations need to:<sup>39</sup> <ul style="list-style-type: none"> <li>○ be very clear about the research outcomes and how their organization will benefit from involvement.<sup>39</sup></li> <li>○ The researcher needs to work with the organization to identify 'what's in it for them'.<sup>39</sup></li> </ul> </li> <li>• Participant organizations and participants need to know that adequate preparation for the study at that site has been carried out.<sup>39</sup></li> </ul>
<b>Design</b>	<ul style="list-style-type: none"> <li>• Define the starting point of the research to be done<sup>48</sup> <ul style="list-style-type: none"> <li>○ Exploratory case studies<sup>48</sup> <ul style="list-style-type: none"> <li>▪ Define policy relevance<sup>48</sup></li> <li>▪ Identify relevant stakeholders<sup>48</sup></li> <li>▪ If necessary narrow definition to ensure focus on policy relevant aspects<sup>48</sup></li> <li>▪ Define other research components (e.g. expert interviews, literature review, expert workshop)<sup>48</sup></li> <li>▪ Develop draft form of words to describe need for indicators<sup>48</sup></li> <li>▪ Define required inputs for future events (e.g. conference, seminar, workshop)<sup>48</sup></li> <li>▪ Specify the need for recommendations<sup>48</sup></li> <li>▪ Define suitable length and publication medium for reporting<sup>48</sup></li> </ul> </li> <li>○ Explanatory case studies <ul style="list-style-type: none"> <li>▪ Formulate clear research questions and/or hypotheses to be tested in the research<sup>48</sup></li> <li>▪ Referring to/analyse relevant quantitative data<sup>48</sup></li> <li>▪ Define how data will be accessed and used<sup>48</sup></li> <li>▪ Describe data protection measures<sup>48</sup></li> <li>▪ Define required inputs for future events (e.g. conference, seminar, workshop)<sup>48</sup></li> <li>▪ Specify the need for recommendations<sup>48</sup></li> <li>▪ Define suitable length and publication medium for reporting</li> </ul> </li> <li>○ Example case studies<sup>48</sup> <ul style="list-style-type: none"> <li>▪ Develop a list of quality criteria if concerned with good practice<sup>48</sup></li> <li>▪ Develop a list of selection criteria if concerned with illustrating the variety of practice<sup>48</sup></li> <li>▪ Define required inputs for future events (e.g. conference, seminar, workshop)<sup>48</sup></li> </ul> </li> </ul> </li> <li>• Decide whether a consolidated/synthesis report is required (i.e. allow cases to speak for themselves, or draw explicit lessons?)<sup>48</sup></li> </ul>

Section	Items
	<ul style="list-style-type: none"> <li>• Define the unit of analysis and the likely case(s) to be studied.<sup>8</sup> <ul style="list-style-type: none"> <li>○ Define the case e.g. a group of ‘neighbours’ vs. geographical neighbourhood<sup>8</sup></li> <li>○ Bound the case i.e. distinguish the subject of the case study (the “phenomenon”) from external data to the case (the “context”). Spatial, temporal, and other concrete boundaries should be considered. Abstractions (e.g. the concept of ‘neighbouring’) cannot be considered a case.<sup>8</sup></li> </ul> </li> <li>• Unit of analysis can be incident, event or event sequences.<sup>40</sup></li> <li>• Unit of analysis: Another way to respond to researchers’ and respondents’ biases is to have more than one unit of analysis in each case (Yin 1993). This implies that, in addition to developing contrasts between the cases, researchers can focus on contrasts within the cases (Hartley 1994). In case studies, there is a choice of a holistic or embedded design (Yin 1989). A holistic design examines the global nature of the phenomenon, whereas an embedded design also pays attention to subunit(s).<sup>50</sup></li> <li>• Use term “Conceptual framework”, but similar to Yin, state purpose of study, hypotheses or research questions, reasoning that led to these. Define concepts. Describe construction of framework eg literature review and researcher experience.<sup>43</sup></li> <li>• Selecting cases (Refers to Yin &amp; Stake): In an intrinsic case study, the case is selected on its own merits, The case is selected not because it is representative of other cases, but because of its uniqueness,[Stake]. For an instrumental case study, selecting a “typical” case can work well, allows investigation of an issue or phenomenon [Stake]. In collective or multiple case studies, a number of cases are carefully selected.[Yin]. It is also important to consider in advance the likely burden and risks associated with participation for those who (or the site(s) which) comprise the case study.<sup>38</sup></li> <li>• Selecting a case<sup>10</sup> <ul style="list-style-type: none"> <li>○ For an instrumental or collective case study, it is more important to select a case that is informative for the study rather than necessarily representative of other cases. An informative case could be typical or novel.<sup>10</sup></li> <li>○ Make some early assessments of progress to see if the case should be dropped and another selected.<sup>10</sup></li> </ul> </li> <li>• Sampling: The logic in case studies involves theoretical sampling, in which the goal is to choose cases that are likely to replicate or extend the emergent theory or to fill theoretical categories and provide examples for polar types (Eisenhardt 1989).<sup>50</sup></li> <li>• When conducting a case study, there are several important issues to decide when sampling time:<sup>50</sup> <ul style="list-style-type: none"> <li>○ how many times data should be collected<sup>50</sup></li> <li>○ when to enter the organizations.<sup>50</sup></li> <li>○ need to decide whether to collect data on a continuous basis or in distinct periods.<sup>50</sup></li> </ul> </li> <li>• Researcher should make explicit which of the variables to be investigated are hypothesized to be most important for explaining the phenomenon.<sup>49</sup></li> </ul>

Section	Items
	<ul style="list-style-type: none"> <li>• Important criteria for sampling factors are that<sup>45</sup> <ul style="list-style-type: none"> <li>○ they should be ascertainable in advance (which usually means from a distance as well);<sup>45</sup></li> <li>○ their range of variation in the population of interest be known.<sup>45</sup></li> </ul> </li> <li>• Selecting cases : Choose comparable cases (eg culture, time period etc ).<sup>49</sup> <ul style="list-style-type: none"> <li>○ Need to choose cases carefully to eliminate bias. Drawbacks with each strategy.<sup>49</sup></li> </ul> </li> <li>• Choose cases across population subgroups.<sup>49</sup></li> <li>• Eisenhardt (1989) suggests that between four and ten cases are desirable for theory building using case study research.<sup>39</sup></li> <li>• Practical issues that impact upon the design and scope of a case study research project including<sup>39</sup>: <ul style="list-style-type: none"> <li>○ the purpose for which the research is undertaken<sup>39</sup></li> <li>○ the resources available to the researcher<sup>39</sup></li> <li>○ the deliverables required.<sup>39</sup></li> <li>○ potential conflicts between the needs and interests of sponsoring organizations and the requirements of the research objectives. Researchers must exercise judgement to ensure that an appropriate balance between these is maintained.<sup>39</sup></li> </ul> </li> <li>• Also reduce bias by using multiple sources of evidence.<sup>39</sup></li> <li>• Develop theory, propositions and related issues to guide the anticipated case study and to generalise its findings.<sup>8</sup> <ul style="list-style-type: none"> <li>○ Define the logic linking the data to the propositions (i.e. anticipate what kind of analytic techniques will be used)<sup>8</sup></li> <li>○ Define the criteria for interpreting the findings (i.e. explicitly consider rival explanations (theories) at the outset, to guide decisions about which data should be collected – this approach differs from methods such as ethnography and grounded theory)<sup>8</sup></li> <li>○ A purely <i>exploratory</i> study without any initial <i>propositions</i> should state a <i>purpose</i> and the criteria by which the exploration will be judged successful or not.<sup>8</sup></li> </ul> </li> <li>• Theory driven approach to defining case may help generate knowledge that's transferable to range of contexts and behaviours, and a more informed appreciation of how and why interventions worked or not.<sup>38</sup></li> <li>• The conceptual framework should identify the main facts and events of interest in the subject of study and the main features of the context in which these facts and events are occurring.<sup>45</sup></li> <li>• Identify the case study design (single or multiple, holistic, or embedded)<sup>8</sup></li> <li>• Four forms of multiple case-study design based on different design logic:<sup>40</sup> <ul style="list-style-type: none"> <li>○ Matching or replication to explore or verify ideas<sup>40</sup></li> <li>○ Comparison of difference to aid analysis of relationships<sup>40</sup></li> <li>○ Outliers; comparison of extremes to delineate key factors and shape of a field<sup>40</sup></li> </ul> </li> </ul>

Section	Items
	<ul style="list-style-type: none"> <li>○ Embedded : to identify similarities/differences within contexts<sup>40</sup></li> <li>• Decide on longitudinal or cross-sectional approach.<sup>51</sup></li> <li>• Choose to use Single or multiple cases<sup>50</sup></li> <li>• The four main features of a multiple case study design are<sup>45</sup>: <ul style="list-style-type: none"> <li>○ a conceptual framework that provides the superordinate structure;<sup>45</sup></li> <li>○ a sampling plan that ensures representativeness of the target population in the sample of cases;<sup>45</sup></li> <li>○ procedures for the conduct of individual case studies that insure sufficient comparability across cases;<sup>45</sup></li> <li>○ a cross-site analysis strategy that tests the limiting conditions of the findings.<sup>45</sup></li> </ul> </li> <li>• Program case study designs: identifying the specific program to be investigated followed by the selection of specific aspects that will be thoroughly studied. Unless very small and uncomplicated, most programs cannot be studied in their entirety.<sup>51</sup></li> <li>• Test the design against four criteria for maintaining the quality of a case study<sup>8</sup> <ul style="list-style-type: none"> <li>○ Construct validity (identifying correct operational measured for the concepts being studied).<sup>8</sup></li> <li>○ Internal validity (seeking to establish a causal relationship, whereby certain conditions are believed to lead to other conditions, as distinguished from spurious relationships). For explanatory or causal studies only, not applicable to exploratory or descriptive studies.<sup>8</sup></li> <li>○ External validity (defining the domain to which a study's findings can be generalised). Analytic generalisation using theory is most applicable to single case studies.<sup>8</sup></li> <li>○ Reliability (demonstrating that the operations of a study can be repeated with the same results). Case study protocol and development of case study database.<sup>8</sup></li> </ul> </li> <li>• Sees problems with Yin quality criteria of construct, internal, external validity and reliability. Proposes criteria by Mays 2001.<sup>40</sup> <ul style="list-style-type: none"> <li>○ Consideration of the appropriateness of methods used for the question and subject matter and why it was that qualitative methods were appropriate.<sup>40</sup></li> <li>○ Adequacy of sampling and explanation of sampling strategy.<sup>40</sup></li> <li>○ Rigour of data analysis (was it conducted in a systematic way and was it successful in incorporating all observations and dealing with variation).<sup>40</sup></li> <li>○ Reflexivity of account “Sensitivity to the ways in which the researcher and research process have shaped the data collection” (Mays &amp; Pope 2000) and provision of sufficient information of research process for readers to judge.<sup>40</sup></li> <li>○ Adequacy of presentation of findings – is it clear how analysis flows from data and are sufficient data presented to justify conclusion.<sup>40</sup></li> <li>○ Worth &amp; relevance of that research.<sup>40</sup></li> </ul> </li> </ul>

Section	Items
	<ul style="list-style-type: none"> <li>• Statistical conclusion validity concerned with whether context intervention takes place is understood and described, with use of reliable and valid instruments and with appropriate statistics.<sup>43</sup></li> <li>• As well as construct validity, external validity, internal validity<sup>43</sup></li> <li>• Need a dialogue among investigators to construct a chain of evidence. Greatest threat to validity arises from a failure to consider alternatives exhaustively or to include all relevant variations in the sample of cases. Need to consult with a range of experts with diverse points of view, both during the final stages of developing the conceptual framework and after drafting conclusions. These procedures need to be built into overall method of approach to perhaps provide a realistic, means of increasing the validity.<sup>45</sup></li> </ul>
<b>Prepare</b>	<ul style="list-style-type: none"> <li>• Hone skills as a case study researcher (Ask good questions, be a good listener, stay adaptive, have a firm grasp on the issues being studied, avoid biases, conduct research ethically)<sup>8</sup></li> <li>• Researcher should write down expectations and preferences to be able to detect own bias<sup>44</sup></li> <li>• Researchers should prepare themselves with sufficient background information about a case study site prior to commencing data collection.<sup>39</sup></li> <li>• Train for specific case study<sup>8</sup></li> <li>• Develop case study protocol with four main sections<sup>8</sup>: <ul style="list-style-type: none"> <li>○ Overview of the case study (objectives and auspices, case study issues, and relevant topic readings)<sup>8</sup></li> <li>○ Data collection procedures (ethical consideration, identify likely sources of data, presentation of credentials to field contacts, other logistical reminders)<sup>8</sup></li> <li>○ Data collection questions (specific research questions and the potential sources of data for each question)<sup>8</sup></li> <li>○ A guide for the case study report (outline, format for the data, use and presentation of other documentation, bibliographical information)<sup>8</sup></li> </ul> </li> <li>• Develop the research specification<sup>48</sup> <ul style="list-style-type: none"> <li>○ Describe the unit of analysis<sup>48</sup></li> <li>○ Propose the number and distribution of cases (if more than one)<sup>48</sup></li> <li>○ Develop a realistic timetable<sup>48</sup></li> <li>○ Finalise proposal specification<sup>48</sup></li> </ul> </li> <li>• Develop the proposal <ul style="list-style-type: none"> <li>○ Briefly summarise existing knowledge<sup>48</sup></li> <li>○ Provide a rationale for the selection of case(s)<sup>48</sup></li> </ul> </li> </ul>

Section	Items
	<ul style="list-style-type: none"> <li>○ Summarise methodology (research instruments, access, obtaining informed consent, interview methods, record keeping, analysis, interpretation)<sup>48</sup></li> <li>○ Propose a management plan (identify key performance indicators and milestones)<sup>48</sup></li> <li>○ Summarise risk analysis (e.g. identify trouble-shooting mechanisms)<sup>48</sup></li> <li>○ Summarise timetable<sup>48</sup></li> <li>○ Summarise costs<sup>48</sup></li> <li>○ Describe deliverables<sup>48</sup></li> <li>○ Prepare CVs<sup>48</sup></li> <li>● Summarise key research questions and/or hypotheses<sup>48</sup></li> <li>● Screen candidates and select final cases (where there is a number of potentially eligible cases to study)<sup>8</sup></li> <li>● Conduct pilot case study<sup>8</sup></li> <li>● Gain approval for human subjects protection<sup>8</sup></li> <li>● Essential parts of a “data-gathering plan”<sup>10</sup>: <ul style="list-style-type: none"> <li>○ Definition of case<sup>10</sup></li> <li>○ List of research questions<sup>10</sup></li> <li>○ Identification of helpers<sup>10</sup></li> <li>○ Data sources<sup>10</sup></li> <li>○ Allocation of time and expenses<sup>10</sup></li> <li>○ Intended reporting<sup>10</sup></li> </ul> </li> <li>● Choose “valid” data collection tool (e.g. questionnaire or observation protocol).<sup>51</sup></li> <li>● Pilot test tool used for data collection<sup>51</sup></li> <li>● Field test tool on participants similar to the actual participants who will be studied.<sup>51</sup></li> <li>● Develop observation plan<sup>51</sup></li> <li>● Need to consider the interpreters of the data – researchers will bring their own perspectives and biases.<sup>43</sup></li> <li>● To implement a multiple case study design properly, it is typically necessary to train a group of data collectors to think and act more or less alike.<sup>45</sup></li> </ul>
<b>Collect</b>	<ul style="list-style-type: none"> <li>● Consider six sources of evidence<sup>8</sup> <ul style="list-style-type: none"> <li>○ Documentation<sup>8</sup></li> <li>○ Archival records<sup>8</sup></li> </ul> </li> </ul>



Section	Items
	<ul style="list-style-type: none"> <li>○ Interviews – be aware of bias, recall, and inaccurate articulation (corroborate with other sources)<sup>8</sup></li> <li>○ Direct observations<sup>8</sup></li> <li>○ Participant-observation<sup>8</sup></li> <li>○ Physical artefacts<sup>8</sup></li> <li>• Document review – selection guided by the research question(s)<sup>10</sup></li> <li>• Observation<sup>10</sup> <ul style="list-style-type: none"> <li>○ Keep a good record of events during observation to provide a relatively <i>incontestable description</i> for further analysis and reporting<sup>10</sup></li> </ul> </li> <li>• Interview – requires a strong advance plan and piloting<sup>10</sup></li> <li>• Prior to the study, the case study researcher also chooses a method for recording information from interviews and observations e.g. videotape, audiotape or note taking<sup>51</sup></li> <li>• Four principles of data collection (help establish construct validity and reliability among the sources of data)<sup>8</sup> <ul style="list-style-type: none"> <li>○ Triangulate evidence from different sources<sup>8</sup> <ul style="list-style-type: none"> <li>▪ data triangulation<sup>8</sup></li> <li>▪ investigator triangulation<sup>8</sup></li> <li>▪ theory triangulation<sup>8</sup></li> <li>▪ methodological triangulation<sup>8</sup></li> </ul> </li> <li>○ Assemble data into a comprehensive case study database<sup>8</sup> <ul style="list-style-type: none"> <li>▪ The data or evidentiary database, in which the raw data can be inspected (including notes, documents, tables and narratives)<sup>8</sup></li> <li>▪ The researcher's report (in article, book, or oral form)<sup>8</sup></li> </ul> </li> <li>○ Maintain chain of evidence<sup>8</sup> <ul style="list-style-type: none"> <li>▪ Increase reliability by allowing an external observer to follow the derivation of any evidence from initial research questions to ultimate case study conclusions<sup>8</sup></li> <li>▪ Case study report ⇔ Case study database ⇔ Citations to specific evidentiary sources within the database ⇔ Case study protocol ⇔ Case study questions<sup>8</sup></li> </ul> </li> <li>○ Exercise care in using data from electronic sources e.g. cross-check the accuracy of online sources, especially information from social media sites<sup>8</sup></li> </ul> </li> <li>• Obtain access and permissions<sup>10</sup></li> <li>• Description of contexts (physical, economic, historical, cultural, aesthetic)<sup>10</sup></li> <li>• May continue to search for data until saturation is reached, that is, the evidence becomes redundant, with no new information</li> </ul>

Section	Items
	<p>(Lincoln &amp; Guba, 1985).<sup>51</sup></p> <ul style="list-style-type: none"> <li>• Refs to Yin and Stake. Uses Stakes checklist to assess quality of a case study report<sup>38</sup></li> <li>• It is important that data sources from different cases are, where possible, broadly comparable even though they may vary in nature and depth.<sup>38</sup></li> <li>• Researchers should maintain a log of evidence and personal notes while conducting the research and collecting data to be used as part of overall database.<sup>44</sup></li> <li>• The role of history in understanding current strategy, choices and levels of institutionalization are often overlooked and should be considered during data collection.<sup>40</sup></li> <li>• Need to develop empathy between researcher and subjects, and understand power dynamics within setting.<sup>46</sup></li> <li>• Construct a case codebook to guide collection of evidence for the variables in the study.<sup>49</sup></li> <li>• Record &amp; report the way data are collected.<sup>49</sup></li> <li>• Contextual detail – unit of analysis rarely isolated from and unaffected by environmental factors – need to describe context in detail (Cooper 1990) to understand and interpret.<sup>43</sup></li> <li>• Refers to “ecosystem framework” with notions of multiple, interacting contextualized systems<sup>43</sup></li> <li>• All the above (Data collection) should be reported as part of methods section<sup>43</sup></li> </ul>
<b>Analyse</b>	<ul style="list-style-type: none"> <li>• Before analysis researchers need to familiarize themselves with the data.<sup>40</sup></li> <li>• Reveal researcher position. If the researcher has a close relationship or a past history with the case being studied, this information should be made transparent.<sup>51</sup> <ul style="list-style-type: none"> <li>○ “Researcher biases or predispositions can be made explicit in a bracketed interview prior to the study. The researcher and case study audiences must examine more carefully any results that match the researcher's preconceived expectations. (p255)”<sup>51</sup></li> </ul> </li> <li>• Two types of researcher bias may be recognized: the effects of researcher on events and the behaviour of participants at the case study site, and the researcher's own beliefs, values and prior assumptions.<sup>39</sup></li> <li>• Array and display data in different ways<sup>8</sup></li> <li>• Watch for promising patterns, insights and concepts<sup>8</sup></li> <li>• Code data: When the researcher sees similarities between various components, these components will be assigned the same category or code.<sup>51</sup></li> <li>• Assign conceptual categories to words (or signs) which represent aspects of the particular theory being investigated. The importance of a concept is related to the frequency with which it occurs.<sup>39</sup></li> </ul>

Section	Items
	<ul style="list-style-type: none"> <li>• Develop a general analytic strategy (or multiple strategies)<sup>8</sup>: <ul style="list-style-type: none"> <li>○ Relying on theoretical propositions (i.e. the propositions on which the original objectives and design of the case study were based)<sup>8</sup></li> <li>○ Working your data from the “ground up”. Contrasts directly with the preceding approach. Use an inductive strategy, pouring through your data, developing concepts and relationships between concepts as you do so. Basis of the <i>grounded theory</i> approach.<sup>8</sup></li> <li>○ Developing a case description. i.e. organise the case study according to some <i>descriptive framework</i> (as opposed to an explanatory theory). The description may later help to identify the appropriate explanation to be analysed.<sup>8</sup></li> <li>○ Examining plausible rival explanations. May work in combination with the above three strategies. Distinguishes between “craft rivals” and “real-world rivals”. Rival explanations should be anticipated before even collecting data.<sup>8</sup> <ul style="list-style-type: none"> <li>▪ Craft rivals <ul style="list-style-type: none"> <li>• Null hypothesis (observation solely due to chance)<sup>8</sup></li> <li>• Threats to validity (e.g. instrumentation, regression selection)<sup>8</sup></li> <li>• Investigator bias (e.g. “experimenter effect”, reactivity in field research)<sup>8</sup></li> </ul> </li> <li>▪ Real-world rivals <ul style="list-style-type: none"> <li>• Direct rival (e.g. results due to intervention 2, not intervention 1)<sup>8</sup></li> <li>• Co-mingled rival (e.g. intervention 1 plus one or more other interventions contributed to the results)<sup>8</sup></li> <li>• Implementation rival (results due to the implementation process, rather than the substantive intervention)<sup>8</sup></li> <li>• Rival theory (a theory different to the original theory explains the results better)</li> <li>• Super rival (a force larger than but including the intervention accounts for the results)<sup>8</sup></li> <li>• Societal rival (social trends, not any particular force or intervention account for the results)<sup>8</sup></li> </ul> </li> </ul> </li> </ul> </li> <li>• Along with the general strategy, consider five analytic techniques<sup>8</sup>: <ul style="list-style-type: none"> <li>○ Pattern matching. If empirically based patterns appear similar to predicted patterns, the results can strengthen internal validity. Especially true if a pattern of results for a number of different outcomes has been predicted correctly (“non-equivalent, dependent variables design”). May further strengthen this through <i>theoretical replication</i> or <i>literal replication</i> across studies. Need to acknowledge possible threats to validity (e.g. confounding variables) and show that these cannot account for the patterns observed.<sup>8</sup></li> <li>○ Explanation building i.e. stipulating a presumed set of causal links about a phenomenon or “how” or “why” something happened. Likely to be an iterative process, in which an initial explanatory proposition is compared against the</li> </ul> </li> </ul>

Section	Items
	<p>findings of a case, revised if necessary, then compared against other details of the case, and repeated as many times as needed. However, there is a risk of drifting from the original research question or introducing bias; suggested safeguards are frequently checking the original purpose, employing “critical friends”, and examining alternative explanations.<sup>8</sup></p> <ul style="list-style-type: none"> <li>○ Time-series analysis. Specifically looking at empirical trend(s) over time for a dependent variable and comparing this empirical trend with one or more theoretical predictions. Like pattern matching, but explicitly involving statistic techniques. Simple time series might involve a linear trend for a single dependent variable; more complex series might involve non-linear trends and/or multiple variables. The researcher must identify the specific indicator(s) to be traced over time, the time intervals to be covered, and the presumed relationships among events <i>prior</i> to collecting the actual data.<sup>8</sup></li> <li>○ Logic models: Describe a repeated cause-and-effect sequence of events linked together (i.e. intervention/phenomenon→immediate outcome→intermediate outcome→ultimate outcome). Provides an initial hypothesis about the case and then provides a framework for analysing the data. Can use quantitative, qualitative or both kinds of data. The need to consider the influence of real-world and other contextual conditions will vary between studies.<sup>8</sup></li> <li>○ Cross-case synthesis. Applies only to multiple cases. Synthesising two or more independent cases can be more robust than having just a single case. Empirical data from multiple cases could be used to examine a theory, of be combined statistically for precision (i.e. meta-analysis)<sup>8</sup></li> <li>● Stick to four principles of good social science research<sup>8</sup>: <ul style="list-style-type: none"> <li>○ Attend to all the evidence<sup>8</sup></li> <li>○ Address all rival explanations and interpretations<sup>8</sup></li> <li>○ Analysis should address the most significant aspect of the case study. (Not digress too far into lesser issues<sup>8</sup></li> <li>○ Use your own prior, expert knowledge<sup>8</sup></li> </ul> </li> <li>● Generalisation of results<sup>8</sup></li> <li>● Identifying and considering rival explanations<sup>8</sup></li> <li>● Categorical aggregation versus direct interpretation<sup>10</sup> <ul style="list-style-type: none"> <li>○ The former appears to mean looking for repeated observations before making an interpretation, the latter making an interpretation about a specific observation<sup>10</sup></li> </ul> </li> <li>● Correspondence and patterns<sup>10</sup> <ul style="list-style-type: none"> <li>○ Patterns may follow from research questions or emerge from the analysis<sup>10</sup></li> </ul> </li> <li>● Naturalistic generalisations – allow the reader to make generalisations by providing them with the opportunity for vicarious</li> </ul>

Section	Items
	<p>experience alongside the researcher's own interpretation(s)<sup>10</sup></p> <ul style="list-style-type: none"> <li>○ Include accounts of matters that readers are already familiar with so they can gauge the accuracy, completeness of reports of other matters<sup>10</sup></li> <li>○ Provide enough raw data prior to interpretation for readers to consider their own alternative interpretations<sup>10</sup></li> <li>○ Describe in plain language how triangulation was carried out, especially in confirming and disconfirming major assertions<sup>10</sup></li> <li>○ Make data available on the researcher and other sources of input<sup>10</sup></li> <li>○ Include the reactions of data sources (and other prospective readers) to the accounts<sup>10</sup></li> <li>● Triangulation<sup>10</sup> <ul style="list-style-type: none"> <li>○ Validation – meaning may be ascribed to a particular observation, but multiple observations give us grounds for revising our interpretation<sup>10</sup></li> <li>○ Targets for triangulation – There will be a greater need for triangulation in the case of more “dubious” or contested descriptions, and for key interpretations.<sup>10</sup></li> <li>○ Triangulation protocols<sup>10</sup> <ul style="list-style-type: none"> <li>▪ Data source triangulation – an effort to see if what we are observing and reporting carries the same meaning when found under different circumstances<sup>10</sup></li> <li>▪ Investigator triangulation – have other researchers look at the same scene or phenomenon<sup>10</sup></li> <li>▪ Theory triangulation – may involve two investigators with different theoretical viewpoints<sup>10</sup></li> <li>▪ Methodological triangulation – using different methodological approaches to examine the same phenomenon<sup>10</sup></li> </ul> </li> </ul> </li> <li>● Member checking – ask actors to review the material for accuracy and palatability<sup>10</sup></li> <li>● Conduct appropriate data analyses; examining researcher preparation and bias; member checking (reviewing draft findings by key informants to see if they affirm the validity of the report); undertaking an external review and interpretation to improve the validity and trustworthiness of case study findings.<sup>51</sup></li> <li>● In collective case studies, it is helpful to analyse data relating to the individual component cases first, before making comparisons across cases.<sup>38</sup></li> <li>● The Framework approach is a practical approach, comprising of five stages (familiarisation; identifying a thematic framework; indexing; charting; mapping and interpretation), to managing and analysing large datasets particularly if time is limited.<sup>38</sup></li> <li>● Each month should do major review of progress and write progress report for researcher records and others on what achieved and how design and theory have developed<sup>44</sup></li> <li>● Look for discrepant data – evidence that complicates emerging understanding.<sup>44</sup></li> <li>● Check representativeness of data – all shades of opinion<sup>44</sup></li> </ul>

Section	Items
	<ul style="list-style-type: none"> <li>• Check ideas and explanations with those in the culture (eg organization).<sup>44</sup></li> <li>• Need to build theories and examine negative evidence<sup>44</sup></li> <li>• Need to be reflective and have feedback workshops with on site collaborators to “road test” early formulations.<sup>40</sup></li> <li>• Decide whether to adopt a framework for analysis or adopt a grounded approach.<sup>40</sup></li> <li>• Focus on research questions during analysis. Remember aim is not to gain a complete picture of the site but to answer the research questions.<sup>46</sup></li> <li>• One approach in examining validity and reliability is to apply the criteria used in quantitative research.eg objectivity/intersubjectivity, construct validity, internal validity, external validity, and reliability.<sup>50</sup> <ul style="list-style-type: none"> <li>○ “The basic issue of objectivity can be framed as one of relative neutrality and reasonable freedom from unacknowledged research biases (Miles and Huberman 1994). One way to guard against this bias is for the researcher to explicitly recognize his or her presuppositions and to make a conscious effort to set these aside in the analysis (Gummesson 1988). Furthermore, rival conclusions should be considered (Miles and Huberman 1994).”<sup>50</sup></li> <li>○ Construct validity can be strengthened by applying a longitudinal multicase approach, triangulation, and use of feedback loops. Gives opportunity to test sensitivity of construct measures to the passage of time.<sup>50</sup></li> <li>○ Internal validity concerns the validity of the postulated relationships among the concepts – needs to be open to scrutiny.<sup>50</sup></li> </ul> </li> <li>• Generalizability : “The validity of the extrapolation depends not on the typicality or representativeness of the case but on the cogency of the theoretical reasoning.” One way to increase the generalizability is to apply a multicase approach p347<sup>50</sup></li> <li>• The interpretive researcher is presenting `their interpretation of other people's interpretations' Walsham (1995, p. 78).<sup>39</sup> <ul style="list-style-type: none"> <li>○ Interpretation aims to make sense of the object of study by iterating between understanding of the object as a whole and understanding of its parts.<sup>39</sup></li> </ul> </li> <li>• Generalization – demonstrated through showing the linkages between findings and previous knowledge. Use analytic generalization not probabilistic type.<sup>43</sup></li> <li>• Theory development<sup>43</sup></li> <li>• Process-relevant case studies – focus on what happened, on how intervention worked and what major actors in the implementation process did. Illuminate outcomes by showing the practical activities and steps leading to overall impact of intervention.<sup>43</sup></li> <li>• Outcome-oriented case studies – focuses on whether change occurred and whether it is attributed to intervention.<sup>43</sup></li> <li>• The first step of the cross-site analysis is to generate a working set of propositions (findings from the individual cases restated so as to apply, in principle, to all the cases).<sup>45</sup></li> </ul>

Section	Items
	<ul style="list-style-type: none"> <li>○ Translate various findings into statements that are subject to empirical confirmation or disconfirmation<sup>45</sup></li> <li>○ Organize the propositions by topics and subtopics. To the extent that the structure of the interview/debriefing guide corresponded well to the reality encountered in the field.<sup>45</sup></li> <li>○ Having generated and organized the propositions, need to test each one against each relevant case.<sup>45</sup></li> <li>○ Through case-by-case comparisons, the analyst fine-tunes, modifies, and qualifies the propositions so that they express precisely the limiting conditions revealed by the pattern of findings across all cases<sup>45</sup></li> <li>○ If the amount of modification required to make a proposition hold in all instances is excessive-amounting to a site-dependent phenomenon, it is dropped from the cross-site analysis<sup>45</sup></li> <li>● After the modified propositions are organized into “clumps” directed to particular research questions the findings should be communicated clearly with carefully chosen examples. Need to differentiate clearly in the report what can and cannot be generalized;<sup>45</sup></li> <li>● Threats to validity in case study research may be classified into two broad types of potential errors in inference:<sup>45</sup> <ul style="list-style-type: none"> <li>○ those resulting from a failure to check out alternative explanatory patterns exhaustively;<sup>45</sup></li> <li>○ those resulting from a failure to achieve representative heterogeneity of important explanatory factors among respondents interviewed.<sup>45</sup></li> </ul> </li> <li>● The evaluator needs to offer some evidence to the audience that the heterogeneity of the sample of cases is representative of the heterogeneity of the target population. <sup>45</sup></li> <li>● Most of the explanatory patterns that constitute the results of a multiple case study evaluation can be restated in the form of empirically testable propositions. <sup>45</sup></li> </ul>
Share	<ul style="list-style-type: none"> <li>● Define audience, whether for written or oral compositions<sup>8</sup></li> <li>● Consider the most appropriate overall reporting structure<sup>8</sup> <ul style="list-style-type: none"> <li>○ Linear-analytic<sup>8</sup></li> <li>○ Comparative<sup>8</sup></li> <li>○ Chronological<sup>8</sup></li> <li>○ Theory-building<sup>8</sup></li> <li>○ “Suspense”<sup>8</sup></li> <li>○ Unsequenced<sup>8</sup></li> </ul> </li> <li>● “The traditional report of statement of problem, review of literature, design, data gathering, analysis and conclusions, is particularly ill-fitting for a case study report. The case is not a problem or a hypothesis”. A report is likely to follow the sequence in Stake’s example above, or follow one of these paths<sup>10</sup>: <ul style="list-style-type: none"> <li>○ A chronological or biographical development of the case<sup>10</sup></li> </ul> </li> </ul>

Section	Items
	<ul style="list-style-type: none"> <li>○ A researcher's view of coming to know the case<sup>10</sup></li> <li>○ Description one by one of several major components of the case<sup>10</sup></li> <li>• Write case study reports in an agreed format, including illustrative quotes<sup>48</sup></li> <li>• When reporting case studies, follow a recognized case study reporting structure that has been used in published case study research literature within the field.<sup>39</sup></li> <li>• The case study report must be complete and must contain sufficient evidence to support the findings.<sup>39</sup></li> <li>• Secondary data that is not essential for understanding and evaluating the case study analysis and conclusions should be omitted.<sup>39</sup></li> <li>• Presentation of data in tabular form is often a useful means of summarizing and compressing data<sup>39</sup></li> <li>• The overall goals in writing up case studies are to adopt a clear and lucid writing style and to present the critical evidence judiciously and effectively.<sup>39</sup></li> <li>• Starting early, compose textual and visual materials<sup>8</sup></li> <li>• Organizing the report early – set out broad sections or chapters to begin. Example given by Stake<sup>10</sup>: <ul style="list-style-type: none"> <li>○ Entry vignette<sup>10</sup></li> <li>○ Issue identification, purpose and method of study<sup>10</sup></li> <li>○ Extensive narrative description to further define case and contexts<sup>10</sup></li> <li>○ Development of issues<sup>10</sup></li> <li>○ Descriptive detail, documents, quotations, triangulating data<sup>10</sup></li> <li>○ Assertions<sup>10</sup></li> <li>○ Closing vignette<sup>10</sup></li> </ul> </li> <li>• Vignettes – temptation to select atypical, rare, and vivid moments mostly because they coincide with the researcher's predilections needs to be challenged<sup>10</sup></li> <li>• The content of case study reports can vary.<sup>51</sup> <ul style="list-style-type: none"> <li>○ Descriptive : provides a detailed account of what is happening in a particular program.<sup>51</sup></li> <li>○ Interpretive: if the report adds explanation in addition to description, for example, explaining why the program is implemented in a particular way.<sup>51</sup></li> </ul> </li> <li>• The goal of a case study report is to use description to provide the reader with a "vicarious experience," (Stake, 1995, p. 63) or a sense of being there in person, and to enable understanding of the experience from the informants' perspectives.<sup>51</sup></li> <li>• Think about narrative dramaturgically i.e. think in terms of actors, roles and stages<sup>53</sup></li> <li>• Methodology section should address<sup>8</sup>:</li> </ul>



Section	Items
	<ul style="list-style-type: none"> <li>○ Overall tone (thoughtful, balanced, and transparent)<sup>8</sup></li> <li>○ Research questions (should be dominated by “how” and “why” questions)<sup>8</sup></li> <li>○ Design<sup>8</sup> <ul style="list-style-type: none"> <li>▪ Definition of case(s) and how selected<sup>8</sup></li> <li>▪ The (logical) connection between the research question(s) and the data to be collected</li> <li>▪ Rivals that were considered<sup>8</sup></li> </ul> </li> <li>○ Overview of rest of methodology section (brief summary of data collection and analysis methods, to allow the reader to skip the subsequent details if they wish)<sup>8</sup></li> <li>○ Data collected<sup>8</sup> <ul style="list-style-type: none"> <li>▪ Emphasis on how the data provided an “up close” and “in-depth” coverage of the case<sup>8</sup></li> <li>▪ Presentation of the case study protocol and how it was used<sup>8</sup></li> <li>▪ List of sources in order of importance; further details about specific items within each source<sup>8</sup></li> <li>▪ How the data were verified (i.e. triangulation methods)<sup>8</sup></li> <li>▪ Unexpected difficulties and how they might have affected the data collection<sup>8</sup></li> </ul> </li> <li>○ Analysis methods<sup>8</sup> <ul style="list-style-type: none"> <li>▪ Description of the analytic approach e.g. pattern-matching, explanation building etc<sup>8</sup></li> <li>▪ Identification of software and how used<sup>8</sup></li> </ul> </li> <li>○ Caveats about study<sup>8</sup> <ul style="list-style-type: none"> <li>▪ Inherent shortcomings in the design and analysis and how these might have influenced the findings<sup>8</sup></li> </ul> </li> <li>• Display enough evidence for the reader to reach their own conclusions<sup>8</sup></li> <li>• Case study investigators can greatly increase the face validity of their conclusions by preserving a “chain of evidence” concerning the basis on which their decisions in the process of constructing explanatory patterns were made.<sup>45</sup></li> <li>• Review and re-compose until done well<sup>8</sup> <ul style="list-style-type: none"> <li>○ Where possible have informants / participants review the draft report<sup>8</sup></li> </ul> </li> <li>• Readers – reader reasonings should be assisted in the way the report is written, by maximizing the reader encounter with the complexity of the case. Try to anticipate what vicarious experiences will do for the reader, and organize the manuscript in a way that facilitates naturalistic generalization.<sup>10</sup></li> <li>• Critique checklist for a case study report<sup>10</sup>: <ul style="list-style-type: none"> <li>○ Is this report easy to read?<sup>10</sup></li> <li>○ Does it fit together, each sentence contributing to the whole?<sup>10</sup></li> <li>○ Does this report have a conceptual structure (i.e. themes or issues)?<sup>10</sup></li> </ul> </li> </ul>

Section	Items
	<ul style="list-style-type: none"> <li>○ Are its issues developed in a serious and scholarly way?<sup>10</sup></li> <li>○ Is the case adequately defined?<sup>10</sup></li> <li>○ Is there a sense of story to the presentation?<sup>10</sup></li> <li>○ Is the reader provided some vicarious experience?<sup>10</sup></li> <li>○ Have quotations been used effectively?<sup>10</sup></li> <li>○ Are headings, figures, artifacts, appendices, indexes effectively used?<sup>10</sup></li> <li>○ Was it edited well, then again with a last minute polish?<sup>10</sup></li> <li>○ Has the author made sound assertions, neither over- nor underinterpreting?<sup>10</sup></li> <li>○ Has adequate attention been paid to various contexts?<sup>10</sup></li> <li>○ Were sufficient raw data presented?<sup>10</sup></li> <li>○ Were data sources well chosen and in sufficient number?<sup>10</sup></li> <li>○ Do observations and interpretations appear to have been triangulated?<sup>10</sup></li> <li>○ Is the role and point of view of the researcher nicely apparent?<sup>10</sup></li> <li>○ Is empathy shown for all sides?<sup>10</sup></li> <li>○ Are personal intentions examined?<sup>10</sup></li> <li>● Does it appear individuals were put at risk?<sup>10</sup></li> <li>● Drawing on case study reports and, where relevant, summary sheets, interpret case study results<sup>48</sup></li> <li>● Revise report taking account of feedback from stakeholders<sup>48</sup></li> <li>● Prepare any other deliverables<sup>48</sup></li> <li>● Publish report<sup>48</sup></li> <li>● Disseminate to scientific (exploratory and explanatory case studies) and policy audiences (exploratory and example case studies)<sup>48</sup></li> <li>● Need to provide researchers perspective and relationship to the case(s). Audience needs to understand researcher's role and perspective to accept findings.<sup>46</sup></li> </ul>

### **9.3 Appendix 3. Delphi consensus process round 1 questionnaire**

*Note: Direct output from Qualtrics survey software*

#### **Reporting standards for organisational case studies: round one**

Thank you for taking part in this Delphi exercise which will run over a period of 3 weeks and require you to complete two rounds of questions. This first questionnaire should take about 30 minutes to complete, and responses should be submitted by 5pm (UK time) on Monday 16th February. The aim of the exercise is to develop a minimum set of standards to improve the quality and consistency of reporting of organisational case studies. For the purposes of this exercise, we have defined this as any case study focused on “an organized body of people with a particular purpose, such as a business, government department, charity, etc”(as opposed to a case study of individuals). The results will be collated and circulated with the second round of the exercise about two weeks after closure of the first round. The second round is likely to require fewer responses and therefore take less time to complete. Your continued participation would be greatly appreciated in order to achieve as clear a consensus as possible.

In this first round, we will present you with all unique items identified from a review of the methodological literature. Each item is followed by one or more numbered references e.g. (1,3,7). These refer to the original source of the item - usually a methodological text. Source details are provided at the end of the survey. We have made the assumption that some form of reporting standard is both possible and desirable, so emphasis has been placed on practical suggestions rather than more abstract or theoretical issues. Items have been de-duplicated and grouped under headings for ease of rating. We have tried to avoid making judgements about the value of individual items, since this is the objective of the Delphi consultation. You are asked to indicate your personal preferences for each item, by rating it as 'Essential', 'Desirable', or 'Not necessary'. If you believe an item is absolutely necessary when reporting an organisational case study, please rate it as "Essential". Items that you consider useful but not essential should be marked as "Desirable". If you consider an item to be unnecessary, unclear, redundant, or not particularly meaningful, please rate it as "Not necessary". After rating the existing items, you will be given the opportunity to suggest any additional essential items, as well as comment on the structure and grouping of items presented here.

Describing the design (Section 1 of 7) Please rate how important it is to include the following items when reporting the design of the organisational case study

Define the research as a case study(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe why case study is the appropriate method(2)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Define the policy relevance(2)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

State the broad aims of the study(7)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Identify the purpose of the case study(1, 4) e.g. Exploratory: The topic is new (i.e. little qualitative or quantitative evidence)(2, 6) Explanatory: There is some quantitative evidence but little is known about ‘how’ or ‘why’ aspects(2, 8, 6) Intrinsic: The case is selected on its own merits. The case is selected not because it is representative of other cases, but because of its uniqueness(5, 6) Instrumental / Example: Selecting a “typical” case that allows investigation of an issue or phenomenon(5, 6) Both quantitative and qualitative evidence exists but there is a need by policy stakeholders for information about current or best practice in specific contexts (2) Evaluative: Evaluation of the impact of practice or intervention(6)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Identify the broad approach(es) e.g. Testing a theory(6); Building a theory(6); Drawing a picture/illustrative(6); Descriptive(6); Interpretive(6); Experimental(6)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Identify the process(es) (6) State whether it is a single or multiple/collective case study(1, 6, 9) (5, 10), along with any other design characteristics e.g. Embedded/Nested(1, 6); Parallel(6); Sequential(6); Retrospective(6); Cross-sectional / Snapshot(3, 6); Longitudinal / Diachronic(3, 6)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Define the case broadly e.g. in a case study of “neighbouring” the case might be defined as either a group of neighbours (people) or as a geographical neighbourhood (place)(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Identify the specific case(s)(1, 5) and justify the selection(5, 6) e.g. Key case (good example; classic or exemplary case) (6); Outlier case (showing something interesting because it is different from the norm) (6); Local knowledge case (example chosen on the basis of personal experience) (6)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe the boundaries of the case i.e. distinguish the subject of the case study (the “phenomenon”) from external data to the case (the “context”). Spatial, temporal, and other concrete boundaries should be considered. Abstractions (e.g. the concept of ‘neighbouring’) cannot be considered a case. (1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe setting/context (physical, economic, historical, cultural, aesthetic) surrounding the case(5, 7)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Mention any rival cases that were considered(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe the likely burden and risks associated with participation for those who (or the site(s) which) comprise the case study(11)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Offer some evidence to the audience that the heterogeneity of the sample of cases is representative of the heterogeneity of the target population(9)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe some early assessments of progress to see if the case should be dropped and another selected(5)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

State the research question(s)/hypotheses(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe how the final research question(s) was developed and refined from the broad prima facie question(s)(2, 5, 6, 7)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Rate the importance of the following tools and techniques for describing development of the final research question

	Essential	Desirable	Not necessary
Literature review(6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Storyboards / brainstorming / mind maps(6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A prior appreciation of the theoretical issues and setting(s)(11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Issue questions" or "issue statements". ("Issues" identify one or more aspects of the situation or circumstance surrounding the case, in order to frame the inquiry)(5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resolution of etic and emic issues. (Etic issues are brought in from the researcher from outside; emic issues emerge from inside the case. As the researcher begins to integrate etic and emic, the research question(s) evolves)(5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Retitling the inquiry on a regular (e.g. monthly) basis in order to note the evolution of the research question(s)(5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Progressive focusing": if early research questions are not helping to thoroughly understand the case, or if new issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



become apparent, change the research questions(5)			
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State the deliverables required(4)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

State the implications of the resources available to the researcher(4)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Acknowledge the potential conflicts between the needs and interests of any sponsoring organizations and the requirements of the research objectives. Show judgment to ensure that an appropriate balance between these is maintained(4)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Specify the need for recommendations(2)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Present the case study protocol and describe how it was used(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Do you have any other comments about the design section? (an opportunity to add more items will be given later in this survey)

Background, context, and theory (Section 2 of 7) Please rate how important it is to include the following items when reporting the background, context and theory of an organisational case study

Report the findings of a thorough literature review(1, 7)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe any other preparatory research components (e.g. expert interviews, expert workshop)(2)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Report whether a pilot case study has been conducted(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe the theory, propositions and related issues developed to guide the case study and to generalise its findings(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Rate the importance of the following techniques for describing the development of theory, propositions and issues

	Essential	Desirable	Not necessary
Outline the conceptual structure (i.e. themes or issues)(5) The conceptual framework should identify the main facts and events of interest in the subject of study and the main features of the context in which these facts and events are occurring(9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Outline the (logical) connection between the research question(s) and the data collected(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Define the logic linking the data to the propositions (i.e. what kind of analytic techniques were used)(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Define the criteria for interpreting the findings (i.e. explicitly consider rival explanations (theories) at the outset, to guide decisions about which data should be collected, unless using grounded theory)(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For purely exploratory studies without any initial propositions, state a purpose and the criteria by which the exploration is judged	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Describe the sources of evidence used(1, 5) e.g. Documentation(1, 5); Archival records(1); Interviews(1) (5); Direct observations(1, 5); Participant-observation(1); Physical artefacts(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

List evidence sources in order of importance; give further details about specific items within each source(1, 4)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

State that all the evidence was examined(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe the data collection tool(s) (e.g. questionnaire or observation protocol), including a description of any piloting or field testing of the tool(3, 5)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

State whether a comprehensive case study database, in which the raw data can be inspected (including notes, documents, tables and narratives) is available to readers(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe data protection measures(2)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe any ethical considerations and obtainment of relevant approvals, access and permissions(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe the observation plan and how it was developed(3)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Search for data until saturation is reached, that is, the evidence becomes redundant, with no new information(3)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe how the data were coded(3, 4)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe the likely impact of the researcher on events and the behaviour of participants at the case study site, and the researcher's own beliefs, values and prior assumptions(4, 12)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Do you have any other comments about the data collection section? (an opportunity to add more items will be given later in this survey)

Describing the data analysis (Section 4 of 7)Please rate how important it is to include the following items when reporting the analysis of an organisational case study

Describe the analysis methods(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Structure the reporting of the analysis around the research questions(13)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

State whether an inductive (e.g. grounded) or deductive (e.g. hypothesis testing / theoretical framework) approach to the analysis has been taken(1, 10, 14)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

In collective case studies, analyse data relating to the individual component cases first, before making comparisons across cases(11)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe the analytic approach in detail(1) e.g. Pattern matching. If empirically based patterns appear similar to predicted patterns, the results can strengthen internal validity. May further strengthen through theoretical replication or literal replication across studies. Need to acknowledge possible threats to validity (e.g. confounding variables) and show that these cannot account for the patterns observed.(1) Patterns may follow from research questions or emerge from the analysis(5) Explanation building i.e. stipulating a presumed set of causal links about a phenomenon or “how” or “why” something happened. Likely to be an iterative process, in which an initial explanatory proposition is compared against the findings of a case, revised if necessary, then compared against other details of the case, and repeated as many times as needed. However, there is a risk of drifting from the original research question or introducing bias; suggested safeguards are frequently checking the original purpose, employing “critical friends”, and examining alternative explanations.(1) Categorical aggregation versus direct interpretation - the former looking for repeated observations before making an interpretation, the latter making an interpretation about a specific observation(5) Time-series analysis. Specifically looking at empirical trend(s) over time for a dependent variable and comparing this empirical trend with one or more theoretical predictions. Like

pattern matching, but explicitly involving statistic techniques. Simple time series might involve a linear trend for a single dependent variable; more complex series might involve non-linear trends and/or multiple variables. The researcher must identify the specific indicator(s) to be traced over time, the time intervals to be covered, and the presumed relationships among events prior to collecting the actual data.(1) Logic models: Describe a repeated cause-and-effect sequence of events linked together (i.e. intervention/phenomenon⇒immediate outcome⇒intermediate outcome⇒ultimate outcome). Provides an initial hypothesis about the case and then provides a framework for analysing the data. Can use quantitative, qualitative or both kinds of data. The need to consider the influence of real-world and other contextual conditions will vary between studies.(1) Cross-case synthesis. Applies only to multiple cases. Synthesising two or more independent cases can be more robust than having just a single case. Empirical data from multiple cases could be used to examine a theory, or be combined statistically for precision (i.e. meta-analysis)(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Discuss plausible rival explanations for the observed data(1) e.g. Null hypothesis - the observation is solely due to chance (1) Threats to validity e.g. poor instrumentation, regression selection(1) Investigator bias e.g. “experimenter effect”, reactivity in field research(1) Direct rival e.g. results due to intervention B, not intervention A(1) Co-mingled rival e.g. intervention A plus one or more other interventions contributed to the results(1) Implementation rival - results due to the implementation process, rather than the substantive intervention(1) Rival theory - a theory different to the original theory explains the results better Super rival - a force larger than but including the intervention accounts for the results(1) Societal rival -social trends, not any particular force or intervention account for the results(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Identify software and describe how it was used(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary



Present raw data (including illustrative quotes) where necessary(2,5)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Omit secondary data that is not essential for understanding and evaluating the case study analysis(4)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Present data in tabular form to summarise and compress data(4)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Array and display data in different ways(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe how promising patterns, insights and concepts were identified(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe the criteria used to maintain the overall quality of a case study(1, 12)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Address the concept of construct validity (i.e. identifying correct operational measures for the concepts being studied)(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Address the concept of internal validity [in explanatory or causal studies](i.e. establishing a causal relationship, whereby certain conditions are believed to lead to other conditions, as distinguished from spurious relationships)(1,12)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Address the concept of external validity (i.e. defining the domain to which a study's findings can be generalised)(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Address the concept of reliability (i.e. demonstrating that the operations of a study can be repeated with the same results)(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Describe how triangulation was carried out,(1) especially in confirming and disconfirming major assertions(5) e.g. data triangulation (validation); (1, 5) investigator triangulation(1, 5); theory triangulation(1, 5); methodological triangulation(1, 5)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Outline a chain of evidence that allows the reader to follow the derivation of any evidence from initial research questions to ultimate case study conclusions, via the collected data(1,4,9,10)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Do you have any other comments about the data analysis section? (an opportunity to add more items will be given later in this survey)

Interpreting the results (Section 5 of 7)Please rate how important it is to include the following items when interpreting and discussing the results of an organisational case study

State any caveats about the study(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Rate the importance of the following when describing the strengths and weaknesses of the case study

	Essential	Desirable	Not necessary
Describe any inherent shortcomings in the design and analysis and how these might have influenced the findings(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consider the appropriateness of methods used for the question and subject matter and why it was that qualitative methods were appropriate(10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discuss the sampling (or case selection) and explanation of sampling strategy(10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discuss the data analysis (was it conducted in a systematic way and was it successful in incorporating all observations and dealing with variation) (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discuss the worth & relevance of the research (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Draw attention to any discrepant data – evidence that complicates emerging understanding(7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discuss the representativeness of data – incorporate all shades of opinion(7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Display enough evidence for the reader to reach their own conclusions(1, 10)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Rate the importance of the following for allowing the reader to reach their own conclusion

	Essential	Desirable	Not necessary
Use description to provide the reader with a “vicarious experience, or a sense of being there in person, and to enable understanding of the experience from the informants” perspectives.(3) Try to anticipate what vicarious experiences will do for the reader, and organize the manuscript in a way that facilitates naturalistic generalization(5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide enough raw data prior to interpretation for readers to consider their own alternative interpretations(5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure that the assertions are sound, neither over- nor under-interpreting the data (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Outline the researcher’s perspective and relationship to the case(s). The audience needs to understand researcher’s role and perspective to accept findings(5, 13, 14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure the account is reflexive i.e. “Sensitivity to the ways in which the researcher and research process have shaped the data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

collection” and provision of sufficient information of research process for readers to judge(10)			
--	--	--	--

Do you have any other comments about the interpretation section? (an opportunity to add more items will be given later in this survey)

Sharing the results and conclusions (Section 6 of 7) Please rate how important it is to include the following items when reporting and disseminating the findings of an organisational case study

Define the audience, whether for written or oral compositions(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Identify the relevant stakeholders(2)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Identify the researcher position. If the researcher has a close relationship or a past history with the case being studied, this information should be made transparent(3)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Be very clear about the research outcomes and how the organization(s) will benefit from involvement(4)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Aim for a thoughtful, balanced, and transparent tone of reporting(1)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Ensure the report is easy to read(5)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Aim for a sense of story to the presentation(5)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Think about narrative dramaturgically i.e. in terms of actors, roles and stages(6)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Consider the most appropriate overall reporting structure(1, 3, 4) e.g. Linear-analytic(1); Comparative(1); Chronological(1); Theory-building(1), “Suspense” (1); Unsequenced(1); A chronological or biographical development of the case(5); A researcher’s view of coming to know the case(5); Description one-by-one of several major components of the case(5)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary



Review and re-compose the report until done well, using the following techniques:

	Essential	Desirable	Not necessary
Where possible have informants / participants review the draft report(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consult with a range of experts with diverse points of view during after drafting conclusions(9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Revise report taking account of feedback from stakeholders(2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Include the reactions of data sources (and other prospective readers) to the accounts(5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Check ideas and explanations with those in the culture (e.g. organization)(7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be reflective and have feedback workshops with on site collaborators to “road test” early formulations(10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Publish the report(2)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Disseminate to scientific (exploratory and explanatory case studies) and policy audiences (exploratory and example case studies)(2)

- ☐ Essential
- ☐ Desirable
- ☐ Not necessary

Do you have any other comments about the sharing the results section? (an opportunity to add more items will be given later in this survey)

Further essential items (Section 7 of 7) Please add any additional items that you think are essential to a set of reporting standards for organisational case studies. Please be as concise as possible; these items will feed into the second round of the survey. Please separate multiple items with a semi-colon (;)

Describing the design  
Background, context and theory  
Describing the data collection  
Describing the data analysis  
Interpreting the results  
Sharing the results and conclusions  
Other (not captured by the headings above)

If you think that additional headings are required to capture the essential items, or that the current headings should be reordered, give details below (please be as concise as possible)

Original items were drawn from the following texts: 1. Yin RK. Case study research: design and methods. Thousand Oaks, California: SAGE Publications; 2014. 2. Huws U, Dahmann S. Quality standards for case studies in the European Foundation. Dublin: European Foundation for the Improvement of Living and Working Conditions, 2007. 3. Moore TS, Lapan SD, Quartaroli MT. Case study research. In: Lapan SD, editor. Qualitative research: an introduction to methods and designs. San Francisco, CA: Jossey-Bass; 2012. p. 243-70. 4. Darke P, Shanks G, Broadbent M. Successfully completing case study research: combining rigour, relevance and pragmatism. Information Systems Journal. 1998 Oct;8(4):273-89. PubMed PMID: WOS:000076484900002. Pubmed Central PMCID: Include. English. 5. Stake RE. The art of case study research. Thousand Oaks, CA: Sage Publications; 1995. 175 p. 6. Thomas G. How to do your case study : a guide for students and researchers. Los Angeles: Sage; 2011. 7. Gillham B. Case study research methods. London Continuum; 2000. 8. Kaarbo J, Beasley RK. A practical guide to the comparative

case study method in political psychology. *Polit Psychol.* 1999 Jun;20(2):369-91. PubMed PMID: WOS:000081422300006. Pubmed Central PMCID: Include. English. 9. Greene D, David JL. A research design for generalizing from multiple case studies. *Eval Program Plann.* 1984;7:73-85. PubMed PMID: Peer Reviewed Journal: 1985-00063-001. Pubmed Central PMCID: Include. 10. Fitzgerald L, Dopson S. Comparative case study designs: their utility and development in organizational research. In: Buchanan DA, Brynam A, editors. *The Sage handbook of organizational research methods* Thousand Oaks, CA: Sage Publications Ltd; 2009. p. 465-83. 11. Crowe S, Cresswell K, Robertson A, Huby G, Avery A, Sheikh A. The case study approach. *BMC Med Res Methodol.* 2011;11:100. PubMed PMID: 21707982. Pubmed Central PMCID: Include. English. 12. Meyer CB. A case in case study methodology. *Field Methods.* 2001;13(4):329-52. PubMed PMID: Peer Reviewed Journal: 2001-05194-001. Pubmed Central PMCID: Include. 13. Hays PA. Case study research. In: deMarrais K, Lapan SD, editors. *Foundations for research: methods of inquiry in education and the social sciences.* Mahwah, NJ: Lawrence Erlbaum Associates Publishers; 2004. p. 217-34. 14. Gilgun JF. A case for case-studies in social-work research. *Soc Work.* 1994 Jul;39(4):371-80. PubMed PMID: WOS:A1994NU43600006. Pubmed Central PMCID: Include. English.

That is the end of the rating section for this round of the Delphi exercise. All responses are anonymous. In order to assist in ensuring we have an appropriate range and distribution of respondents, we ask you to provide the following information in relation to your primary role/interest:

#### Designation

- ☐ Health, education, or social care practitioner
- ☐ Policy maker
- ☐ Commissioner / funder of research
- ☐ Researcher
- ☐ Research methodologist
- ☐ Journal editor / board member / involved in publishing
- ☐ Other \_\_\_\_\_

Main area(s) of research interest related to organisational case studies

How many organisational case studies have you authored?

- ☐ 0
- ☐ 1-5
- ☐ 6-10
- ☐ >10

How many organisational case studies have you been involved with other than as an author?  
(e.g. peer review; commissioning; advisory role)

- ☐ 0
- ☐ 1-5
- ☐ 6-10
- ☐ >10

What proportion of your work relates to research methodology?

- ☐ 0
- ☐ 1-40%
- ☐ 41-60%
- ☐ >60%

## 9.4 Appendix 4. Delphi consensus process round 2 questionnaire

*Note: Direct output from Qualtrics survey software*

### OCS delphi round 2 - final

Thank you for your contribution to this work so far. In this second round, you will have the opportunity to agree or disagree with the responses given in Round One, whether you participated in Round One or not. Following from the many helpful comments we received via the initial questionnaire and others submitted to HS&DR, we would like to clarify some aspects of this project and survey: Though NIHR HS&DR initially proposed “a common quality and publication standard for organisational case study research”, the research team anticipated that generic standards for the conduct of organisational case studies would not be feasible. We therefore chose to focus on quality of reporting rather than scientific quality more broadly (i.e. Are there aspects of case study reporting that could facilitate the reading and judgment processes used by peer reviewers and other audiences?) However, if you believe that a reporting standard is also not possible or desirable, there is now the option to make this clear at the beginning of this round. The initial list of reporting items were derived from the published academic literature, using the authors’ own wording wherever possible. The language and paradigmatic assumptions related to each item are likely to reflect the position of the original academic author (e.g. the application of concepts such as ‘validity’ and ‘reliability’ to case study come directly from the publications of Yin). One aim of this consultation is to establish whether there can be any consensus on using items from the published literature to inform reporting standards. As researchers, we have explicitly tried to avoid making any assumptions or judgements about any of the items. This meant including some items that might be considered inappropriate, difficult to understand, not meaningful, or concerned more with methodology than reporting. We anticipated such items to be poorly rated in the consultation, and this seems to have broadly been the case in Round One. We have no prior view on the length or content of any future reporting standard that might derive from this work. Just ten of the 112 items from round one met the consensus threshold, and most of these relate to good practice for reporting research in general.

In this round, the items will again be presented grouped into the following sections:

· Describing the design · Background, context and theory · Describing the data collection · Describing the data analysis · Interpreting the results · Sharing the results and conclusions

Within each section, you will be asked to rate two types of item: 1. Items that were initially rated as “Essential” by over 70% of respondents in Round One; 2. “Non-essential” items that failed to meet this threshold. These items have been ordered by the ratio of positive to negative responses (i.e. (Essential+Desirable)/Not necessary), in decreasing order of positivity. A major issue that was anticipated is the tension between items that can be applied to organisational case studies in general, and those that only apply to a specific paradigm or context. Items may be appropriate to some types of case study and not others. Indeed, this was picked up by the ratings and comments in Round One. In this round, there is the opportunity to distinguish between items that should be reported for organisational case studies in general, those that should be reported for a particular approach, and those that do not need to be reported. At this stage, the “Does not need to be reported” option should be used to capture any items that cannot be said to comfortably satisfy either of the first two options. Therefore, any items you consider to be inappropriate, unintelligible, irrelevant, or unrelated to reporting should be marked “Does not need to be reported”. This second questionnaire should take about 30 minutes to complete, and responses should be submitted by 5pm (UK time) on Monday 30th March.

Did you take part in round 1 of this Delphi exercise?

- ☐ Yes
- ☐ No

Do you think that a publication standard for reporting organisational case studies is desirable?

- ☐ Yes
- ☐ No
- ☐ Don't know
- ☐ No opinion
- ☐ Other \_\_\_\_\_

Do you think that a meaningful publication standard for reporting organisational case studies is possible?

- ☐ Yes
- ☐ No
- ☐ Don't know
- ☐ No opinion
- ☐ Other \_\_\_\_\_

Describing the design: "Essential" items Over 70% of respondents in round 1 rated the following three items as 'essential' for describing the design of an organisational case study. Please state whether you agree that these items should be included in a generic reporting standard for organisational case studies.

Define the research as a case study (74% rated "Essential")

- ☐ I agree, this should be reported for all organisational case studies
- ☐ I disagree, this should only be reported for the following specific type of organisational case study: \_\_\_\_\_
- ☐ I disagree, this does not need to be reported

State the broad aims of the study (84% rated "Essential")

- ☐ I agree, this should be reported for all organisational case studies
- ☐ I disagree, this should only be reported for the following specific type of organisational case study: \_\_\_\_\_
- ☐ I disagree, this does not need to be reported

State the research question(s)/hypotheses (79% rated "Essential")

- ☐ I agree, this should be reported for all organisational case studies
- ☐ I disagree, this should only be reported for the following specific type of organisational case study: \_\_\_\_\_
- ☐ I disagree, this does not need to be reported

Describing the design: "Non-essential" items 24 items for describing the design of an organisational case study failed to meet 70% consensus in round 1. These items are ranked below in decreasing order of popularity (positive/negative rating ratio is given in parentheses). Please state whether you believe any of these items should be upgraded to become essential items to be included in a generic reporting standard (i.e. "should be reported...") for organisational case studies, or remain excluded from the reporting standard (i.e. "Does not need to be reported").

Describe why case study is the appropriate method (18.0)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Define the policy relevance (18.0)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Identify the purpose of the case study (e.g. exploratory, explanatory, evaluative, intrinsic, instrumental) (18.0)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Identify the process(es) (18.0) (e.g. single or multiple/collective, embedded/nested, parallel, sequential, retrospective, cross-sectional, longitudinal)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported



Identify the specific case(s) and justify the selection (18.0)e.g. Key case (good example; classic or exemplary case); Outlier case (showing something interesting because it is different from the norm); Local knowledge case (example chosen on the basis of personal experience)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe setting/context (physical, economic, historical, cultural, aesthetic) surrounding the case (18.0)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Identify the broad approach(es) (8.5) e.g. Testing a theory; Building a theory; Illustrative; Descriptive; Interpretive; Experimental

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Define the case broadly (8.5)e.g. in a case study of “neighbouring” the case might be defined as either a group of neighbours (people) or as a geographical neighbourhood (place)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Show a prior appreciation of the theoretical issues and setting(s) (8.5)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Acknowledge the potential conflicts between the needs and interests of any sponsoring organizations and the requirements of the research objectives. Show judgment to ensure that an appropriate balance between these is maintained (8.5)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

State the implications of the resources available to the researcher (5.33)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe the boundaries of the case (3.75) i.e. distinguish the subject of the case study (the “phenomenon”) from external data to the case (the “context”). Spatial, temporal, and other concrete boundaries should be considered. Abstractions (e.g. the concept of ‘neighbouring’) cannot be considered a case.

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe the resolution of etic and emic issues in developing the research question. (3.75) (Etic issues are brought in from the researcher from outside; emic issues emerge from inside the case. As the researcher begins to integrate etic and emic, the research question(s) evolves)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe how the final research question(s) was developed and refined from the broad *prima facie* question(s) (2.80)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Report "Progressive focusing" i.e. if early research questions are not helping to thoroughly understand the case, or if new issues become apparent, describe how this changed the research questions (2.80)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Specify the need for recommendations (2.17)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Offer some evidence to the audience that the heterogeneity of the sample of cases is representative of the heterogeneity of the target population (2.17)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Include "issue questions" or "issue statements" when describing the research question. (2.17) ("Issues" identify one or more aspects of the situation or circumstance surrounding the case, in order to frame the inquiry)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Mention any rival cases that were considered (1.71)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

State the deliverables required (1.71)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Present the case study protocol and describe how it was used (1.11)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe the likely burden and risks associated with participation for those who (or the site(s) which) comprise the case study (1.11)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe some early assessments of progress to see if the case should be dropped and another selected (1.11)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Background, context, and theory: “Non-essential items” All 11 items for describing the background, context and theory of an organisational case study failed to meet 70% consensus in round 1. These items are ranked below in decreasing order of popularity (positive/negative rating ratio is given in parentheses). Please state whether you believe any of these items should be upgraded to become essential items to be included in a generic

reporting standard for organisational case studies (i.e. “should be reported...”), or remain excluded from the reporting standard (i.e. “Does not need to be reported”).

Outline the conceptual structure (i.e. themes or issues) (38.0)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Report the findings of a thorough literature review (18)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe the theory, propositions and related issues developed to guide the case study and to generalise its findings (18)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Outline the (logical) connection between the research question(s) and the data collected (8.50)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Define the logic linking the data to the propositions (i.e. what kind of analytic techniques were used) (8.50)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe any other preparatory research components (e.g. expert interviews, expert workshop) (5.33)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Report whether a pilot case study has been conducted (5.33)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Define the criteria for interpreting the findings (3.75) i.e. explicitly consider rival explanations (theories) at the outset, to guide decisions about which data should be collected, unless using grounded theory

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

For purely exploratory studies without any initial propositions, state a purpose and the criteria by which the exploration is judged successful or not (3.75)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

State which of the variables being investigated are hypothesized to be most important for explaining the phenomenon (1.71)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe whether a range of experts were consulted during the final stages of developing the conceptual framework and report the findings of this consultation (1.38)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describing the data collection: “Essential items” Over 70% of respondents in round 1 rated the following three items as “essential” for describing the collection of data in an organisational case study. Please state whether you agree that these items should be included in a generic reporting standard for organisational case studies.

Describe how data were collected (95% rated "Essential")

- ☐ I agree, this should be reported for all organisational case studies
- ☐ I disagree, this should only be reported for the following specific type of organisational case study: \_\_\_\_\_
- ☐ I disagree, this does not need to be reported

Describe the sources of evidence used (95% rated "Essential") e.g. Documentation; Archival records; Interviews; Direct observations; Participant-observation; Physical artefacts

- ☐ I agree, this should be reported for all organisational case studies
- ☐ I disagree, this should only be reported for the following specific type of organisational case study: \_\_\_\_\_
- ☐ I disagree, this does not need to be reported

Describe any ethical considerations and obtainment of relevant approvals, access and permissions (79% rated "Essential")

- ☐ I agree, this should be reported for all organisational case studies
- ☐ I disagree, this should only be reported for the following specific type of organisational case study: \_\_\_\_\_
- ☐ I disagree, this does not need to be reported

Describing the data collection: “Non-essential items” 10 items for describing the background, context and theory of an organisational case study failed to meet 70% consensus in round 1. These items are ranked below in decreasing order of popularity (positive/negative rating ratio is given in parentheses). Please state whether you believe any of these items should be upgraded to become essential items to be included in a generic reporting standard for organisational case studies (i.e. “should be reported..”), or remain excluded from the reporting standard (i.e. “Does not need to be reported”).

Describe the data collection tool(s) (e.g. questionnaire or observation protocol, including a description of any piloting or field testing of the tool) (18)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe the likely impact of the researcher on events and the behaviour of participants at the case study site, and the researcher's own beliefs, values and prior assumptions (18)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe the observation plan and how it was developed (8.5)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe how the data were coded (8.5)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported



Describe whether the data provided an “up close” and “in-depth” coverage of the case (5.33)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Search for data until saturation is reached, that is, the evidence becomes redundant, with no new information (5.33)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe data protection measures (3.75)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

State whether a comprehensive case study database, in which the raw data can be inspected (including notes, documents, tables and narratives) is available to readers (2.17)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

List evidence sources in order of importance; give further details about specific items within each source (1.71)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

State that all the evidence was examined (1.38)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describing the data analysis: “Essential” items Over 70% of respondents in round 1 rated the following item as “essential”; for describing the analysis of an organisational case study. Please state whether you agree that these items should be included in a generic reporting standard for organisational case studies.

Describe the analysis methods (90% rated "Essential")

- ☐ I agree, this should be reported for all organisational case studies
- ☐ I disagree, this should only be reported for the following specific type of organisational case study: \_\_\_\_\_
- ☐ I disagree, this does not need to be reported

Describing the data analysis: “Non-essential items”; 18 items for describing the background, context and theory of an organisational case study failed to meet 70% consensus in round 1. These items are ranked below in decreasing order of popularity (positive/negative rating ratio is given in parentheses). Please state whether you believe any of these items should be upgraded to become essential items to be included in a generic reporting standard for organisational case studies (i.e. “should be reported...”), or remain excluded from the reporting standard (i.e. “Does not need to be reported”).

State whether an inductive (e.g. grounded) or deductive (e.g. hypothesis testing / theoretical framework) approach to the analysis has been taken (8.5)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Present raw data (including illustrative quotes) where necessary (8.5)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe how promising patterns, insights and concepts were identified (8.5)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Address the concept of external validity (8.5)(i.e. defining the domain to which a study’s findings can be generalised)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe the analytic approach in detail (5.33) e.g. Pattern matching; Explanation building; Time-series analysis; Logic models; Cross-case synthesis.

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Identify software and describe how it was used (5.33)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Address the concept of internal validity [in explanatory or causal studies] (5.33)(i.e. establishing a causal relationship, whereby certain conditions are believed to lead to other conditions, as distinguished from spurious relationships)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe how triangulation was carried out, especially in confirming and disconfirming major assertions (5.33) e.g. data triangulation (validation); investigator triangulation; theory triangulation; methodological triangulation

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Outline a chain of evidence that allows the reader to follow the derivation of any evidence from initial research questions to ultimate case study conclusions, via the collected data (5.33)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Discuss plausible rival explanations for the observed data (3.75)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Describe the criteria used to maintain the overall quality of a case study (3.75)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

In collective case studies, describe analysis of data relating to the individual component cases first, before making comparisons across cases (2.80)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Structure the reporting of the analysis around the research questions (2.17)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Omit secondary data that is not essential for understanding and evaluating the case study analysis (2.17)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Address the concept of construct validity (2.17) (i.e. identifying correct operational measures for the concepts being studied)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Present data in tabular form to summarise and compress data (1.71)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Address the concept of reliability (1.71)(i.e. demonstrating that the operations of a study can be repeated with the same results)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Array and display data in different ways (1.11)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Interpreting the results: “Essential items” Over 70% of respondents in round 1 rated the following three items as “essential” for interpreting the results of an organisational case study. Please state whether you agree that these items should be included in a generic reporting standard for organisational case studies.

Describe any inherent shortcomings in the design and analysis and how these might have influenced the findings (79% rated "Essential")

- ☐ I agree, this should be reported for all organisational case studies
- ☐ I disagree, this should only be reported for the following specific type of organisational case study: \_\_\_\_\_
- ☐ I disagree, this does not need to be reported

Consider the appropriateness of methods used for the question and subject matter and why it was that qualitative methods were appropriate(79% rated "Essential")

- ☐ I agree, this should be reported for all organisational case studies
- ☐ I disagree, this should only be reported for the following specific type of organisational case study: \_\_\_\_\_
- ☐ I disagree, this does not need to be reported

Discuss the data analysis (i.e. was it conducted in a systematic way and was it successful in incorporating all observations and dealing with variation) (74% rated "Essential")

- ☐ I agree, this should be reported for all organisational case studies
- ☐ I disagree, this should only be reported for the following specific type of organisational case study: \_\_\_\_\_
- ☐ I disagree, this does not need to be reported

Interpreting the results: “Non-essential items” 11 items for describing the background, context and theory of an organisational case study failed to meet 70% consensus in round 1. These items are ranked below in decreasing order of popularity (positive/negative rating ratio is given in parentheses). Please state whether you believe any of these items should be upgraded to become essential items to be included in a generic reporting standard for organisational case studies (i.e. “should be reported..”), or remain excluded from the reporting standard (i.e. “Does not need to be reported”).

Draw attention to any discrepant data / evidence that complicates emerging understanding (38)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Ensure that the assertions are sound, neither over- nor under-interpreting the data (38)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

State any caveats about the study (18)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Discuss the sampling (or case selection) and explanation of sampling strategy (18)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported



Discuss the worth and relevance of the research (18)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Display enough evidence for the reader to reach their own conclusions (18)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Use description to provide the reader with a "vicarious experience", or a sense of being there in person, and to enable understanding of the experience from the informants' perspectives. (8.5)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Outline the researcher's perspective and relationship to the case(s). The audience needs to understand researcher's role and perspective to accept findings (8.5)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Ensure the account is reflexive i.e. "Sensitivity to the ways in which the researcher and research process have shaped the data collection" and provision of sufficient information of research process for readers to judge (8.5)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Discuss the representativeness of data - incorporate all shades of opinion (5.33)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Provide enough raw data prior to interpretation for readers to consider their own alternative interpretations (1.71)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Sharing the results and conclusions: “Non-essential” items All 17 items for describing the background, context and theory of an organisational case study failed to meet 70% consensus in round 1. These items are ranked below in decreasing order of popularity (positive/negative rating ratio is given in parentheses). Please state whether you believe any of these items should be upgraded to become essential items to be included in a generic reporting standard for organisational case studies (i.e. “should be reported...”), or remain excluded from the reporting standard (i.e. “Does not need to be reported”).

Identify the researcher position. If the researcher has a close relationship or a past history with the case being studied, this information should be made transparent (38)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Publish the report (18)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Disseminate to scientific (exploratory and explanatory case studies) and policy audiences (exploratory and example case studies) (18)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Aim for a thoughtful, balanced, and transparent tone of reporting (8.5)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Ensure the report is easy to read (8.5)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Aim for a sense of story to the presentation (5.33)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Be very clear about the research outcomes and how the organization(s) will benefit from involvement (3.75)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Explicitly consider the most appropriate overall reporting structure(3.75) e.g. Linear-analytic; Comparative; Chronological; Theory-building; “Suspense”; Unsequenced; A chronological or biographical development of the case; A researcher’s view of coming to know the case; Description one-by-one of several major components of the case

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Acknowledge revision of the report taking account of feedback from stakeholders (3.75)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Define the intended audience (2.80)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Report checking ideas and explanations with those in the culture (e.g. organization) (2.80)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Identify the relevant stakeholders (2.17)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Where possible have informants / participants review the draft report (2.17)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Be reflective and have feedback workshops with on site collaborators to "road test" early formulations (2.17)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Think about narrative dramaturgically i.e. in terms of actors, roles and stages (1.38)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Consult with a range of experts with diverse points of view during after drafting conclusions (1.38)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

Include the reactions of data sources (and other prospective readers) to the accounts (1.38)

- ☐ Should be reported for all organisational case studies
- ☐ Should be reported for the following type of organisational case study:  
\_\_\_\_\_
- ☐ Does not need to be reported

That is the end of the rating section for this round of the Delphi exercise. All responses are anonymous. In order to assist in ensuring we have an appropriate range and distribution of respondents, we ask you to provide the following information in relation to your primary role/interest:

#### Designation

- ☐ Health, education, or social care practitioner
- ☐ Policy maker
- ☐ Commissioner / funder of research
- ☐ Researcher
- ☐ Research methodologist
- ☐ Journal editor / board member / involved in publishing
- ☐ Other \_\_\_\_\_

Main area(s) of research interest related to organisational case studies

How many organisational case studies have you authored?

- ☐ 0
- ☐ 1-5
- ☐ 6-10
- ☐ >10

How many organisational case studies have you been involved with other than as an author?  
(e.g. peer review; commissioning; advisory role)

- ☐ 0
- ☐ 1-5
- ☐ 6-10
- ☐ >10

What proportion of your work relates to research methodology?

- ☐ 0
- ☐ 1-40%
- ☐ 41-60%
- ☐ >60%

## 9.5 Appendix 5: Respondent comments from round 1

**Do you have any other comments about the design section? (an opportunity to add more items will be given later in this survey)**

Text Response
I'm assuming you're referring to qualitative case studies, but some of the statements above have a very 'quantitative' feel to do them and feel a bit out of place
Helpful to know the case study method literature that are being used as source references, they do not all agree on the key elements of case study design
Burdens and risks are the business of ethics committees, so reporting of ethics approvals may act as a proxy for reporting in the paper.
the answer to many of these questions will depend very substantially on the design used e.g. inductive ethnography is very different from a theoretically based study. Some of the questions asked imply to my mind an overspecification and formalisation of the case study process. e.g. last one - a protocol may evolve rather than being fixed at the start of the study.
I am sceptical of all attempts to reduce good, reflective qualitative research to a set of mandatory steps. I particularly don't like the insistence on a formal 'research question' (as opposed to a topic/area of interest) which can constrain good exploratory case studies with a broader aim of just understanding what's going on. This is why I am not prepared to tick essential against many of these things, though they may be good in many cases
My understanding of this Delphi is that it relates to description / presentation of case studies for external audiences. I have answered it accordingly. However, the items under 'Rate the importance of the following tools and techniques for describing development of the final research question' did not seem to be about reporting, so I struggled slightly with these. There are also two suggestions in the final section of this page that I did not understand ('State the deliverables required' and 'Specify the need for recommendations'). I tried to leave these unanswered but the web page would not let me, so I have put them down as 'not necessary' - but this may be because of my misunderstanding of what they mean.
General comment – you haven't provided the option of saying something like 'not appropriate' rather than not necessary. This pushes the respondent to answer not necessary when they have some issues with the question. The meaning is not the same. AS I couldn't continue without answering the questions I was not happy with answering, I have ticked desirable for them. I'm really not sure about the validity of a survey where it is not possible to avoid answering a question that you don't feel is clear or well stated. Q1 – hard to answer as some studies may or may not be defined as case studies, depending on how you frame or think about them. This made the question as presented difficult to answer. Q – Identifying the purpose – boundaries of the case. I think this is essential but found the question difficult

to answer as presented as one might define a case in a more systems- based way, so suggesting the context is external was not a helpful way of framing this question, in my view. Heterogeneity of the cases as representative: I couldn't answer this in the terms set. It should be essential to say something about the type of case and whether it can be considered representative or not – if it is claiming to be so – but as one of your prior questions note, cases may sometimes be selected for quite different reasons than representativeness. State the research questions/hypotheses – yes (I have put essential), but in some studies that are very exploratory, even stating a research question might be considered inappropriate unless constructed broadly enough. In the following question, I have answered desirable but felt this was difficult to respond to it is also poorly framed. Some case studies in their nature would avoid coming to something 'final'. It depends how you interpret final. Also, I wasn't sure what the question was really asking. Do you mean that the write up should describe the process of refining the questions as part of the study, in relevant studies? Or beforehand? Or both? State the deliverables required – I didn't understand this question. Do you mean by funders or external agencies? Or, if relevant, the organisation being studied?

The possible responses are very limiting. The authors seem to have worked out what they think is best and are asking "do you agree with us?"

Many of these questions are not intelligible and seem premised on a very postivist world view

Some kinds of organisational case study would be less dependent on a prior research question/hypothesis - but it is a good discipline to keep checking in on the emerging research question/focus during the course of research. For some of these answers, I wanted to answer 'it depends' - if case studies were being used in an evaluative context, then framing around 'controls' or comparators may be essential, less so if more exploratory purpose behind the research.

**Do you have any other comments about the background, context and theory section?  
(an opportunity to add more items will be given later in this survey)**

#### **Text Response**

Again, a bit confused by some of these statements - how can you know whether 'exploration was successful'? Also talk of 'variables' concerns me - very quantitative language - surely we are searching of understandings and explanations rather than reducing things down to what variables predict what?

some of the words here variables, hypotheses are very strange in this context indeed. a conceptual framework is ordered around concepts and not facts or events, as wrongly implied in the first statement.

The further I get into this the more uncomfortable I feel about the rigidity of the assumptions underlying the questions. It all seems too deterministic, and I am not reassured by a tiny



'unless using grounded theory' get-out clause
Personally I prefer that studies should report a detailed literature review, but I am conscious of the fact that some philosophies discourage a lot of prior literature review, instead doing this work as part of the analysis process following lines of enquiry. This then does raise a reporting question of how and where in a report the relevant literature and theories are discussed.
You've assumed the paradigm is one of "variables". I recommend Ramiller and Pentland 'Management Implications in Information Systems Research: The Untold Story'. Journal of the Association for Information Systems Volume 10, Issue 6, pp. 474-494, June 2009. Also Bent Flybjerg 'Five Misunderstandings About Case-Study Research': Qualitative Inquiry, vol. 12, no. 2, April 2006, pp. 219-245.
Again I find these questions impossible to answer without more context. There should be a box for a non response/question unclear. I do not share the stated assumption that reporting standards are easily or meaningfully distilled into a checklist of standards or even desirable. There is a need for paradigm differences and theoretical differences which this questionnaire fails to allow.

**Do you have any other comments about the data collection section? (an opportunity to add more items will be given later in this survey)**

<b>Text Response</b>
do you mean - how the data was analysed? coding is only one part of the process of qualitative data analysis....
Recruitment and criteria for how the study participants were identified e.g. stakeholder, practitioner with specialist knowledge and who was excluded for whatever reason, often pragmatic choices have to be made and that needs to be made explicit
Raw data is likely to be identifiable, so ethically it should only be made available to readers with the consent of participants.
the in depth question is very odd, not sure what it means at all
But this is all just characteristics of good qualitative research reporting, not specific to case studies
Again, not all of these seemed to relate to reporting: e.g. "Search for data until saturation is reached, that is, the evidence becomes redundant, with no new information" is a methodological question, not a question of presentation.
See Flybjerg's paper.

So many of these questions are suited to more nuanced answers. Data saturation is not a concept all qualitative researchers deploy for example. I question the inherent assumptions and premise of some of the questions.

**Do you have any other comments about the data analysis section? (an opportunity to add more items will be given later in this survey)**

**Text Response**

Again - very quantitative focused criteria - I think its very important to be able to substantiate any analytical claims made within a case study, but I would not phrase this in terms of 'internal validity' - wrong concept to understand it

Some of the statements above relate , and are therefore more or less important, to the type of case study and the underlying assumptions of the case study approach

Some of these terms or ideas would be contested by some qualitative researchers as they don't reflect the essential interpretive and emergent nature of good qualitative research.

Don't understand what is meant by 'Describe the criteria used to maintain the overall quality of a case study'

Researchers may use other relevant concepts than those given here e.g. as per Guba and Lincoln's typology. There are other possible approaches apart from inductive or deductive.

Some of these are very obvious. But I'm not sure you've covered every element. And I'm not sure this is really a Delphi. It's more a 'do you agree with us' questionnaire.

I think these questions derive from a very positivist understanding and implicit logic model. They are mostly not appropriate or meaningful for those coming from an interpretivist tradition. I think the choice boxes are too narrow and would like to register 'not appropriate' rather than 'not necessary' for many answers.

**Do you have any other comments about the interpretation section? (an opportunity to add more items will be given later in this survey)**

**Text Response**

representativeness is a misnomer here - qualitative research does not search for statistical representativeness in the same way that quant research does. You should read Nick Emmel's book on sampling....

relation to theory may also be key in generating an interpretation

Suddenly a section which makes sense. It's all about the credibility and reflexivity of the construction of the story, not following a set of process rules
There is always an issue of concern over how much raw data to include given that the data tend to be very detailed and 'bulky'. Also, inclusion of larger amounts can be very tricky in such studies when trying to maintain confidentiality so the balance can be very challenging. Respondents may sometimes be in a position where simply disguising name and role and clearly identifying details may not be sufficient as the role is quite specific. There are also debates about the role of the researcher and responsibility to analyse the data with care rather than resort to presenting large amounts of raw data in the hope that the data will speak for themselves. This requires a lot of elements, many of which have been referred to in the questions here.
One of the above questions implied that the case study is exclusively qualitative. Most good case studies contain some quant data.
Again I am unconvinced at trying to produce standards or black and white answers to such highly contextulised and creative interpretative processes.

**Do you have any other comments about the sharing the results section? (an opportunity to add more items will be given later in this survey)**

<b>Text Response</b>
Unsure how many of these statements are case study specific, many would be true for any research report.
These questions are difficult to answer as although I believe sharing is very important there are differing views as to how to do it. Sometimes case studies reveal uncomfortable truths. We all look in the mirror sometimes and feel disappointed or want to see a different image. there may also be considerable differences and conflicts of perspective between different actors and parties in a case. it is essential in my view to feedback in some fashion unless there are very particular barriers to doing this, and to take the responses into full consideration. This can be very informative and revealing in itself, but may not always be straightforward.
This reads as silly "Aim for a thoughtful, balanced, and transparent tone of reporting". Who is going to say "aim for a thoughtless, unbalanced and opaque tone". So why ask this? It might be worth considering whether Van Maanen's 'realist', 'impressionist' or 'confessional' genres are most appropriate. Experts are likely to disagree and hence you might end up with some data worth analysing.
These closed answers force the respondent into a very narrow set of choices. Most of the reporting categories would need to be conditional on the type of report, type of funder and purpose of reporting, all very context specific.

Publication and 'push' to policy and service depends on the quality of research and report!  
Not a given, although transparency is ultimate aim.

## 9.6 Appendix 6: Complete respondent comments from round 2

**Do you think that a publication standard for reporting organisational case studies is desirable?**

Text response
It depends on the audience or community. Advanced ethnographic case studies targetted at anthropology, cultural studies, sociology or policy studies are arguably distinct from HSR or trial research communities. Also, how do post-structuralist or even narrative case accounts fit with the idea of standards? Standards might constrain creativity and imagination!
All depends how it is used. It is one thing to have a standard that acts as a reference point or aspiration; it is another if this is used inappropriately to enforce standards taht are not universally suitable for all research that might be subjected to it.
Yes but... recognise heterogeneity of case study research

**Define the policy relevance**

Should be reported for the following type of organisational case study:
research focusing upon policy issues
ones that are policy relevant
ones that focus on policy or policy related issues
If it is a policy relevant issue

**Identify the process(es) (e.g. single or multiple/collective, embedded/nested, parallel, sequential, retrospective, cross-sectional, longitudinal)**

Should be reported for the following type of organisational case study:
Not sure what this question ('processes') means
comparative case studies

**Describe setting/context (physical, economic, historical, cultural, aesthetic) surrounding the case**

Should be reported for the following type of organisational case study:
Studies of atypical organisations (e.g. organisational innovations, pilot schemes, 'alternative' models of organisation.
Yes....and should be part of sampling frame too

**Identify the broad approach(es) e.g. Testing a theory; Building a theory; Illustrative; Descriptive; Interpretive; Experimental**

<b>Should be reported for the following type of organisational case study:</b>
realist evaluation, qualitative
Might be many of these things - more important to clarify the purpose of case study research, as above

**Show a prior appreciation of the theoretical issues and setting(s)**

<b>Should be reported for the following type of organisational case study:</b>
theory-driven ones
realist evaluation or qualitative
theoretically driven ones
Those aiming to apply or test a specific theory.

**Acknowledge the potential conflicts between the needs and interests of any sponsoring organizations and the requirements of the research objectives. Show judgment to ensure that an appropriate balance between these is maintained**

<b>Should be reported for the following type of organisational case study:</b>
where this has a bearing on the findings
If affects decisions about which sites recruited etc

**State the implications of the resources available to the researcher**

<b>Should be reported for the following type of organisational case study:</b>
charity funded evaluations - these tend to have much less resources and often result in 'quick and dirty' evaluations
Where resource constraints may have made the findings biased, incomplete or otherwise misleading. .

**Describe the boundaries of the case i.e. distinguish the subject of the case study (the “phenomenon”) from external data to the case (the “context”). Spatial, temporal, and other concrete boundaries should be considered. Abstractions (e.g. the concept of ‘neighbouring’) cannot be considered a case.**

<b>Should be reported for the following type of organisational case study:</b>
--

contextual ones
Inter-organisational studies; studies of relationships between organisation and its environment.

**Describe the resolution of etic and emic issues in developing the research question. (Etic issues are brought in from the researcher from outside; emic issues emerge from inside the case. As the researcher begins to integrate etic and emic, the research question(s) evolves)**

<b>Should be reported for the following type of organisational case study:</b>
participatory or action research case studies

**Describe how the final research question(s) was developed and refined from the broad prima facie question(s)**

<b>Should be reported for the following type of organisational case study:</b>
realist evaluation
Where the research has theoretical or explanatory ambitions.
May not be relevant if prior research question/focus is broad

**Report "Progressive focusing" i.e. if early research questions are not helping to thoroughly understand the case, or if new issues become apparent, describe how this changed the research questions**

<b>Should be reported for the following type of organisational case study:</b>
realist evaluation or qualitative

**Specify the need for recommendations**

<b>Should be reported for the following type of organisational case study:</b>
if sponsor allows. sometimes e.g. NIHR you're not allowed to make rec's
where the purpose is to make recommendations
Only if policy type research
policy focussed evaluations
I would couch this as drawing out wider implications for the service

**Offer some evidence to the audience that the heterogeneity of the sample of cases is representative of the heterogeneity of the target population**

<b>Should be reported for the following type of organisational case study:</b>
quantitative, positivist evaluations
Only where representativeness of this nature is being claimed
Those which aim to offer generalised or generalisable findings.
when the study depends on case heterogeneity
Again, being explicit about sampling frame is important even if n=3 or whatever

**Mention any rival cases that were considered**

<b>Should be reported for the following type of organisational case study:</b>
Where inclusion of the rival cases might prima facie appear likely to affect the results.to
could be useful, not required

**State the deliverables required**

<b>Should be reported for the following type of organisational case study:</b>
Maybe for policy sponsored research

**Present the case study protocol and describe how it was used**

<b>Should be reported for the following type of organisational case study:</b>
quantitative or positivist case studies - qualitative researchers know that case study research is iterative and evolving and that its perfectly acceptable for the research to be different from the protocol, quants/positivists have a problem with this!
Does this mean full interview schedules, document analysis etc

**Describe the likely burden and risks associated with participation for those who (or the site(s) which) comprise the case study**

<b>Should be reported for the following type of organisational case study:</b>
Where the burden and risks may have affected data quality and availability, hence study findings.
Part of access and consent/governance issues

**Describe some early assessments of progress to see if the case should be dropped and another selected**

<b>Should be reported for the following type of organisational case study:</b>
Good idea, if resources allowed

**Outline the conceptual structure (i.e. themes or issues)**

<b>Should be reported for the following type of organisational case study:</b>
realist evaluation
conceptualised ones
Good to have a sense of theoretical frame or conceptual drivers for selection of cases

**Report the findings of a thorough literature review**

<b>Should be reported for the following type of organisational case study:</b>
if appropriate
realist evaluation

**Describe the theory, propositions and related issues developed to guide the case study and to generalise its findings**

<b>Should be reported for the following type of organisational case study:</b>
positivist ones!
realist evaluation
Those which aim to test theories and/or produce generalisable findings.



where theory is an important aspect of the case study design
--

**Outline the (logical) connection between the research question(s) and the data collected**

<b>Should be reported for the following type of organisational case study:</b>
--

ones that use a logic model. i don't like these questions at all.
---

Where the connection is not immediately obvious.
--

**Define the logic linking the data to the propositions (i.e. what kind of analytic techniques were used)**

<b>Should be reported for the following type of organisational case study:</b>
--

positivist ones
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**Describe any other preparatory research components (e.g. expert interviews, expert workshop)**

<b>Should be reported for the following type of organisational case study:</b>
--

if it was done, it needs to be reported.
--

**Report whether a pilot case study has been conducted**

<b>Should be reported for the following type of organisational case study:</b>
--

this is silly. If a pilot was done, it needs to be reported.
--

wherte there are pilots
-------------------------

Where new methods of data collection and/or analyses are being developed.
---

**Define the criteria for interpreting the findings i.e. explicitly consider rival explanations (theories) at the outset, to guide decisions about which data should be collected, unless using grounded theory**

<b>Should be reported for the following type of organisational case study:</b>
--

if you're using 'criteria' for interpreting, then you need to report those criteria. some of us
---

don't.
realist evaluation
for theory-driven studies

**State which of the variables being investigated are hypothesized to be most important for explaining the phenomenon**

<b>Should be reported for the following type of organisational case study:</b>
quantitative case studies - qual case studies would never use the term 'variable'
Explanatory case studies

**Describe any ethical considerations and obtainment of relevant approvals, access and permissions**

<b>I disagree, this should only be reported for the following specific type of organisational case study:</b>
nhs based ones

**Describe the data collection tool(s) (e.g. questionnaire or observation protocol, including a description of any piloting or field testing of the tool)**

<b>Should be reported for the following type of organisational case study:</b>
one that you want to publish in a positivist journal
When new or idiosyncratic data collection methods were used.

**Describe the likely impact of the researcher on events and the behaviour of participants at the case study site, and the researcher's own beliefs, values and prior assumptions**

<b>Should be reported for the following type of organisational case study:</b>
Where integral to service issue and data collection
Where it is reasonable to have expected such impacts.
where this is appropriate given the nature of data collected

Where more participant/action research methods used
---

**Describe the observation plan and how it was developed**

<b>Should be reported for the following type of organisational case study:</b>
--

where observation is used as a key method
---

Only where observational techniques were used
---

New observational methods; and where the findings depend heavily on observational data.
---

where observation is a data collection method and where this is appropriate given the design/theoretical approach of the study
--

**Describe how the data were coded**

<b>Should be reported for the following type of organisational case study:</b>
--

where qualitative data has been collected
---

**Describe whether the data provided an “up close” and “in-depth” coverage of the case**

<b>Should be reported for the following type of organisational case study:</b>
--

where relevant
----------------

surely that's for the reader to determine on the basis of the information you give
--

qualitative
-------------

**Search for data until saturation is reached, that is, the evidence becomes redundant, with no new information**

<b>Should be reported for the following type of organisational case study:</b>
--

qualitative
-------------

Those with no other criteria for the completeness of data collection (in terms of the study aims and RQs).
--

## **Describe data protection measures**

<b>Should be reported for the following type of organisational case study:</b>
where protocol dictates e.g. ethics committee says so or legally required
Those dealing with data whose collection or use raises ethical questions.
Part of ethics/governance - not necessarily separate

## **State whether a comprehensive case study database, in which the raw data can be inspected (including notes, documents, tables and narratives) is available to readers**

<b>Should be reported for the following type of organisational case study:</b>
if appropriate
Project website is advisable

## **State that all the evidence was examined**

<b>Should be reported for the following type of organisational case study:</b>
Where incomplete examination would reasonably be expected to make the findings incomplete, biased or otherwise misleading.

## **Present raw data (including illustrative quotes) where necessary**

<b>Should be reported for the following type of organisational case study:</b>
where appropriate. you can't set the rules in stone.
Where relevant to reporting audience
qualitative - but don't expect all raw data to be presented, but quotes to illustrate the points made are essential
where appropriate given the data that has been collected

## **Describe how promising patterns, insights and concepts were identified**

<b>Should be reported for the following type of organisational case study:</b>
--

where appropriate, and perhaps using illustrative elements but not exhaustively
qualitative
Those using inductive methods.
where appropriate given the design of the study

**Address the concept of internal validity [in explanatory or causal studies] (i.e. establishing a causal relationship, whereby certain conditions are believed to lead to other conditions, as distinguished from spurious relationships)**

<b>Should be reported for the following type of organisational case study:</b>
for explanatory or causal studies

**Describe how triangulation was carried out, especially in confirming and disconfirming major assertions e.g. data triangulation (validation); investigator triangulation; theory triangulation; methodological triangulation**

<b>Should be reported for the following type of organisational case study:</b>
where appropriate
where data triangulation is used
If this is the approach followed
Those using multiple kinds of data (interview, documents, observation etc.).
this is appropriate for case studies which explicitly say they aimed to triangulate as part of the design

**Outline a chain of evidence that allows the reader to follow the derivation of any evidence from initial research questions to ultimate case study conclusions, via the collected data**

<b>Should be reported for the following type of organisational case study:</b>
in practice, this is hard to do

**Describe the criteria used to maintain the overall quality of a case study**

<b>Should be reported for the following type of organisational case study:</b>
Remove the word 'criteria' and replace with 'approach'
not quite sure what this means

### **Structure the reporting of the analysis around the research questions**

<b>Should be reported for the following type of organisational case study:</b>
Only those which set out with fixed research questions - many will not
useful for presentation

### **Omit secondary data that is not essential for understanding and evaluating the case study analysis**

<b>Should be reported for the following type of organisational case study:</b>
Where secondary data analysis was a planned component of the original research design.

### **Address the concept of construct validity**

<b>Should be reported for the following type of organisational case study:</b>
quantitative

### **Present data in tabular form to summarise and compress data**

<b>Should be reported for the following type of organisational case study:</b>
Where presentationally clearer than text.

### **Address the concept of reliability**

<b>Should be reported for the following type of organisational case study:</b>
quantitative
Only where the methods might seem to raise a prima facie objection that the findings are subjective to the author(s).

**Discuss the sampling (or case selection) and explanation of sampling strategy**

**Should be reported for the following type of organisational case study:**

Studies of heterogenous populations of organisations.

**Use description to provide the reader with a "vicarious experience", or a sense of being there in person, and to enable understanding of the experience from the informants' perspectives**

**Should be reported for the following type of organisational case study:**

Depends on reporting format

**Outline the researcher's perspective and relationship to the case(s). The audience needs to understand researcher's role and perspective to accept findings**

**Should be reported for the following type of organisational case study:**

qualitative

Where there might be the appearance of a conflict of interest, or the author(s) have a partisan reputation.

where there are participant researchers

**Provide enough raw data prior to interpretation for readers to consider their own alternative interpretations**

**Should be reported for the following type of organisational case study:**

where appropriate

Where the findings rest on the balance of complex and ambivalent data.

**Identify the researcher position. If the researcher has a close relationship or a past history with the case being studied, this information should be made transparent**

**Should be reported for the following type of organisational case study:**

only where the researcher has a relationship with the case being studied
--

**Acknowledge revision of the report taking account of feedback from stakeholders**

<b>Should be reported for the following type of organisational case study:</b>
--

where appropriate
-------------------

participatory/action research
-------------------------------

**Define the intended audience**

<b>Should be reported for the following type of organisational case study:</b>
--

This is the key factor that shapes most of the responses
--

**Report checking ideas and explanations with those in the culture**

<b>Should be reported for the following type of organisational case study:</b>
--

where appropriate
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action research/participatory
-------------------------------

Where the author(s) have heavily interpreted or re-structured the original data.
--

**Where possible have informants / participants review the draft report**

<b>Should be reported for the following type of organisational case study:</b>
--

where appropriate
-------------------

study sites should usually have opportunity to review some form of findings
---

**Be reflective and have feedback workshops with on site collaborators to "road test" early formulations**

<b>Should be reported for the following type of organisational case study:</b>
--

Where relevant
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participatory/action research
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**Consult with a range of experts with diverse points of view during after drafting conclusions**

<b>Should be reported for the following type of organisational case study:</b>
--

where appropriate
-------------------

participatory/action research
-------------------------------

**Include the reactions of data sources (and other prospective readers) to the accounts**

<b>Should be reported for the following type of organisational case study:</b>
--

Where the author(s) have heavily interpreted or re-structured the original data.
--

## 9.7 Appendix 7. Items with $\geq 70\%$ consensus "Does not need to be reported" in round 2

Item	Should be reported for all organisational case studies	Should be reported for a specific type of organisational case study	Does not need to be reported
	(%)		
Describe the resolution of etic and emic issues in developing the research question.	20	6.7	73.3
Describe how the final research question(s) was developed and refined from the broad prima facie question(s)	6.7	20	73.3
Present the case study protocol and describe how it was used	13.3	13.3	73.3
Describe the likely burden and risks associated with participation for those who (or the site(s) which) comprise the case study	13.3	13.3	73.3
Describe any other preparatory research components (e.g. expert interviews, expert workshop)	20	6.7	73.3
For purely exploratory studies without any initial propositions, state a purpose and the criteria by which the exploration is judged successful or not	26.7	0	73.3
State which of the variables being investigated are hypothesized to be most important for explaining the phenomenon	13.3	13.3	73.3
Structure the reporting of the analysis around the research questions	13.3	13.3	73.3
Address the concept of reliability (i.e. demonstrating that the operations of a study can be repeated with the same results)	13.3	13.3	73.3
Use description to provide the reader with a "vicarious experience", or a sense of being there in person, and to enable understanding of the experience from the informants' perspectives.	20	6.7	73.3
Provide enough raw data prior to interpretation for readers to consider their own alternative interpretations	13.3	13.3	73.3
Publish the report	26.7	0	73.3
Disseminate to scientific (exploratory and explanatory case studies) and policy	26.7	0	73.3

audiences (exploratory and example case studies)			
Acknowledge revision of the report taking account of feedback from stakeholders	13.3	13.3	73.3
Mention any rival cases that were considered	6.7	13.3	80
State the deliverables required	13.3	6.7	80
Describe whether a range of experts were consulted during the final stages of developing the conceptual framework and report the findings of this consultation	13.3	6.7	80
Search for data until saturation is reached, that is, the evidence becomes redundant, with no new information	6.7	13.3	80
State whether a comprehensive case study database, in which the raw data can be inspected (including notes, documents, tables and narratives) is available to readers	6.7	13.3	80
Address the concept of construct validity (i.e. identifying correct operational measures for the concepts being studied)	13.3	6.7	80
Be very clear about the research outcomes and how the organization(s) will benefit from involvement	13.3	6.7	80
Define the intended audience	13.3	6.7	80
Where possible have informants/participants review the draft/report	6.7	13.3	80
Be reflective and have feedback workshops with on site collaborators to "road test" early formulations	6.7	13.3	80
Consult with a range of experts with diverse points of view during and/or after drafting conclusions	6.7	13.3	80
Describe some early assessments of progress to see if the case should be dropped and another selected	6.7	6.7	86.7
State that all the evidence was examined	6.7	6.7	86.7
Omit secondary data that is not essential for understanding and evaluating the case study analysis	6.7	6.7	86.7
Present data in tabular form to summarise and compress data	6.7	6.7	86.7
Array and display data in different ways	13.3	0	86.7
Explicitly consider the most appropriate overall reporting structure (e.g. Linear-analytic; Comparative; Chronological; Theory-building; "Suspense"; Unsequenced; A chronological or biographical development of the case; A researcher's view of coming to know the case; Description one-by-one of several major components of the case)	13.3	0	86.7

Identify the relevant stakeholders	13.3	0	86.7
Think about narrative dramaturgically i.e. in terms of actors, roles and stages	6.7	6.7	86.7
Include the reactions of data sources (and other prospective readers) to the accounts	6.7	6.7	86.7
Include "issue questions" or "issue statements" when describing the research question. ("Issues" identify one or more aspects of the situation or circumstance surrounding the case, in order to frame the inquiry)	6.7	0	93.3
List evidence sources in order of importance; give further details about specific items within each source	6.7	0	93.3

## 9.8 Appendix 8. Items with no overall consensus

Item	Should be reported for all organisational case studies	Should be reported for specific types of organisational case study	Does not need to be reported
	(%)		
State whether an inductive (e.g. grounded) or deductive (e.g. hypothesis testing / theoretical framework) approach to the analysis has been taken	66.7	6.7	26.7
Discuss the sampling (or case selection) and explanation of sampling strategy	66.7	6.7	26.7
Identify the purpose of the case study (e.g. exploratory, explanatory, evaluative, intrinsic, instrumental)	60	0	40
Describe the data collection tool(s) (e.g. questionnaire or observation protocol, including a description of any piloting or field testing of the tool)	60	13.3	26.7
Draw attention to any discrepant data / evidence that complicates emerging understanding	60	0	40
Identify the process(es) (e.g. single or multiple/collective, embedded/nested, parallel, sequential, retrospective, cross-sectional, longitudinal)	53.3	13.3	33.3
Describe setting/context (physical, economic, historical, cultural, aesthetic) surrounding the case	53.3	13.3	33.3
Describe how the data were coded	53.3	13.3	33.3
Outline a chain of evidence that allows the reader to follow the derivation of any evidence from initial research questions to ultimate case study conclusions, via the collected data	53.3	6.7	40
Discuss plausible rival explanations for the observed data	53.3	6.7	40
Display enough evidence for the reader to reach their own conclusions	53.3	0	46.7
Identify the researcher position. If the researcher has a close relationship or a past history with the case being studied, this information should be made transparent	53.3	6.7	40
Describe why case study is the appropriate method	46.7	6.7	46.7
Define the case broadly e.g. in a case study of “neighbouring” the case might be defined as either a group of neighbours (people) or as a geographical neighbourhood (place)	46.7	0	53.3
Aim for a sense of story to the presentation	46.7	0	53.3

Acknowledge the potential conflicts between the needs and interests of any sponsoring organizations and the requirements of the research objectives. Show judgment to ensure that an appropriate balance between these is maintained	40	13.3	46.7
Outline the (logical) connection between the research question(s) and the data collected	40	13.3	46.7
Define the logic linking the data to the propositions (i.e. what kind of analytic techniques were used)	40	6.7	53.3
Describe how promising patterns, insights and concepts were identified	40	26.7	33.3
Address the concept of external validity (i.e. defining the domain to which a study's findings can be generalised)	40	0	60
Describe the analytic approach in detail e.g. Pattern matching; Explanation building; Time-series analysis; Logic models; Cross-case synthesis.	40	0	60
Discuss the worth and relevance of the research	40	0	60
Ensure the account is reflexive i.e. "Sensitivity to the ways in which the researcher and research process have shaped the data collection" and provision of sufficient information of research process for readers to judge	40	13.3	46.7
Aim for a thoughtful, balanced, and transparent tone of reporting	40	0	60
Ensure the report is easy to read	40	0	60
Identify the broad approach(es) e.g. Testing a theory; Building a theory; Illustrative; Descriptive; Interpretive; Experimental	33.3	13.3	53.3
Report "Progressive focusing" i.e. if early research questions are not helping to thoroughly understand the case, or if new issues become apparent, describe how this changed the research questions	33.3	6.7	60
Outline the conceptual structure (i.e. themes or issues)	33.3	20	46.7
Describe the likely impact of the researcher on events and the behaviour of participants at the case study site, and the researcher's own beliefs, values and prior assumptions	33.3	26.7	40
Present raw data (including illustrative quotes) where necessary	33.3	26.7	40
Identify software and describe how it was used	33.3	6.7	60
Address the concept of internal validity [in explanatory or causal studies] (i.e. establishing a causal relationship, whereby certain conditions are believed to lead to other conditions, as distinguished from spurious relationships)	33.3	13.3	53.3
Describe the criteria used to maintain the overall quality of a case study	33.3	13.3	53.3

Outline the researcher's perspective and relationship to the case(s). The audience needs to understand researcher's role and perspective to accept findings	33.3	20	46.7
Show a prior appreciation of the theoretical issues and setting(s)	26.7	26.7	46.7
Describe the boundaries of the case i.e. distinguish the subject of the case study (the “phenomenon”) from external data to the case (the “context”). Spatial, temporal, and other concrete boundaries should be considered. Abstractions (e.g. the concept of ‘neighbouring’) cannot be considered a case.	26.7	13.3	60
Describe the theory, propositions and related issues developed to guide the case study and to generalise its findings	26.7	33.3	40
Describe the observation plan and how it was developed	26.7	26.7	46.7
Describe data protection measures	26.7	20	53.3
Define the policy relevance	20	26.7	53.3
State the implications of the resources available to the researcher	20	13.3	66.7
Report whether a pilot case study has been conducted	20	26.7	53.3
Define the criteria for interpreting the findings i.e. explicitly consider rival explanations (theories) at the outset, to guide decisions about which data should be collected, unless using grounded theory	20	20	60
Describe how triangulation was carried out, especially in confirming and disconfirming major assertions e.g. data triangulation (validation); investigator triangulation; theory triangulation; methodological triangulation	20	33.3	46.7
In collective case studies, describe analysis of data relating to / the individual component cases...	20	13.3	66.7
Discuss the representativeness of data - incorporate all shades of opinion	20	13.3	66.7
Specify the need for recommendations	13.3	33.3	53.3
Report the findings of a thorough literature review	13.3	20	66.7
Describe whether the data provided an “up close” and “in-depth” coverage of the case	13.3	26.7	60
Report checking ideas and explanations with those in the culture (e.g. organization)	13.3	20	66.7
Offer some evidence to the audience that the heterogeneity of the sample of cases is representative of the heterogeneity of the target population	6.7	33.3	60