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Review

Case studies: A research strategy appropriate for palliative care?

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Selecting an appropriate research strategy is key to ensuring that research questions are addressed in a way which has value and is congruent with the overall topic, questions and purpose of the research. This paper will argue that there are situations when a case study strategy is appropriate to use in palliative care research. These include: when complex situations need to be addressed; when context is central to the study; when multiple perspectives need to be recognized; when the design needs to be flexible; when the research needs to be congruent with clinical practice; when there is no strong theory to which to appeal; and when other methodologies could be difficult to conduct. Using case study strategies rigorously and appropriately can contribute to knowledge in a way which is sensitive to the complex, context-dependent and multiprofessional nature of palliative care. *Palliative Medicine* 2004; 18: 677–684

Key words: health services research; palliative care; research design

Introduction

Research has long been recognized as an important cornerstone of the specialty of palliative care.\(^1\) However, there is also a substantial literature documenting some of the issues and problems experienced in conducting such research.\(^2\) This paper aims to explore the appropriateness of case studies as a research strategy in palliative care. We also consider which characteristics of case study methods might overcome some difficulties in conducting palliative care research.

Case study is a research strategy which focuses on a particular case (an individual, a group or an organization) and uses a variety of methods to explore complex phenomena within the context of the case or cases.\(^5\) It is distinct from the clinical case study, although it can focus on an individual patient.\(^7\)

Case studies have been used intermittently in palliative care research, but there does not appear to have been a literature documenting and developing their use in the way that, for example, the use of randomized controlled trials (RCTs) has been debated.\(^3\)\(^,\)\(^4\) This reflects the priority given to RCTs and other quantitative methods in systematic reviews of evidence in palliative care.\(^8\)

However, case study is also absent as an explicit method from reviews of qualitative research in palliative care.\(^9\) A focus on other methodologies, and the relative invisibility of case study in palliative care research mean that we are in danger of overlooking what could be a valuable research strategy within palliative care.

What are the key features of case study research?

Case study research strategies can be difficult to grasp because many of their features are found in other research methods and designs. Case studies, for example, often use multiple methods and triangulation of data, which can be found in approaches which are not case studies. The lack of an accepted definition has resulted in case study meaning different things in different research traditions.\(^10\)\(^–\)\(^12\) Case studies can use either qualitative and quantitative methods, can be prospective or retrospective, can have an inductive or deductive approach to theory, can focus on one case or many, can describe, explain or evaluate – it is unsurprising that
there is ambiguity in understanding what case study is.\textsuperscript{10,13} It is important to appreciate that case study is an approach or strategy, not a methodology. Case study strategies allow different data collection methods to be used, as long as they are appropriate to the research questions posed.

Case studies do have defining features, which differentiate them from other strategies. A clear definition of case study, and one which is found most frequently in case studies in palliative care is that of Yin\textsuperscript{5} (Box 1).

In contrast, Stake, another key author, describes case study strategies more loosely\textsuperscript{14} – focusing instead on defining the case (a specific, a complex, functioning thing.\ldots with each case being an integrated system with a boundary and working parts; p. 2). Whilst he draws attention to similar rationales for choosing case study (a contemporary issue, in real-life settings, with no researcher control, using multiple sources of evidence), he places much less emphasis on the methods chosen to study the case, and there is no insistence on the use of theoretical propositions or the development of theory.

Case studies are appropriate then to study complex social situations or interventions, where multiple variables exist. Researchers need to be focused and explicit about:

- the congruence between the research topic and the selection of a case study strategy;
- the approach to case study being adopted;
- why particular data collection methods have been chosen to illuminate the questions posed.

**When is a case study strategy appropriate in palliative care research?**

Palliative care is complex, patient focused, context dependent and multiprofessional.\textsuperscript{15} These characteristics mirror the advantages of a case study strategy: its breadth, its collaborative approach, its recognition of complex contexts, the use of multiple research methods, a realistic focus on process and outcome and its flexible yet rigorous approach.\textsuperscript{16}

The situations in palliative care research when a case study strategy may be appropriate will now be examined, illustrated by reference to case studies in palliative care. Table 1 presents four case studies in palliative care to demonstrate the research questions, methods and findings generated by this approach. They have been chosen to represent a range of case study approaches.

**When complex situations need to be addressed**

An early assessment of palliative care research concluded that the dynamic and complex nature of dying requires robust methods which can examine and expose that complexity.\textsuperscript{1} There seems to be a direct resonance between this need to deal with complexity, and Yin's assertion that case study strategies are appropriate to study complex multivariate conditions and not just isolated variables.\textsuperscript{7} Other complex fields such as education\textsuperscript{17} and social work\textsuperscript{18} have recognized the potential of case study, and it has been recommended in health services research because it can address the complexity of implementing change in health care.\textsuperscript{19} Case studies can deal with the increasing pace of change and complexity in the modern health service, particularly where affiliations and motivations are difficult to track and understand, and where more traditional data sources are reported to struggle to answer questions in this changing environment.\textsuperscript{20}

Three of the case study examples refer explicitly to addressing complexity as a rationale for their choice of approach.\textsuperscript{21–23} The ability of case study strategies to deal with complex situations is often identified as key to the choice of method, both because of the complexity of provision and the multifaceted consequences of complex
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<th>Study</th>
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<td>Bergen, 1992&lt;sup&gt;21&lt;/sup&gt;</td>
<td><strong>Multiple case study design</strong> (after Yin). Nine cases, each comprising a patient and their DN and CCN. <strong>Data collection</strong>: interview, questionnaire based on local care of the dying standard. <strong>Analysis</strong>: content analysis based on theoretical propositions from the literature.</td>
<td>Needs were generally well met by the nurses, and patients indicated no serious areas of omission. Some recurrent problems were inadequate referral information, lack of time to care, and supporting carers. A key feature was the high level of liaison work by CCNs.</td>
<td>Bergen&lt;sup&gt;21&lt;/sup&gt; comments that case study served subject and context well – and addressed problem of external validity with a small sample by generalizing to theoretical propositions. A focus on the DN, CCN and patient within the case addresses the complex reality of current provision.</td>
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<td>Cowley et al., 2001&lt;sup&gt;22&lt;/sup&gt; Cowley, 2002&lt;sup&gt;24&lt;/sup&gt;</td>
<td><strong>Multiple embedded case study design</strong> (after Yin). Four cases, each comprising patients and their local specialist palliative care services, social services, primary care and health commissioners. <strong>Data collection</strong>: document analysis, interviews based on theoretical propositions/four phase evaluative model. <strong>Analysis</strong>: pattern matching to theoretical propositions.</td>
<td>Individual activities, roles and service configurations less significant than the interagency processes and overall culture, stability and commitment to a service. Proposed model too one-dimensional to account for variations in palliative care.</td>
<td>Case study strategy facilitated integration of complex different levels and types of data to confirm or refute theoretical propositions. A focus on real life contexts which are not geographically discrete facilitated the understanding of overlapping and conflicting processes between multiple services.</td>
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<td>Lee, 2002&lt;sup&gt;25&lt;/sup&gt;</td>
<td><strong>Single holistic case study</strong> (after Yin). Case comprised all patients and professionals in a day hospice. <strong>Data collection</strong>: interviews, observation, documentary analysis guided by theoretical propositions. <strong>Analysis</strong>: coding and pattern matching to theoretical propositions.</td>
<td>Interprofessional working was not clearly identified. There were a range of goals, communication patterns and both core and extended teams. Patients viewed day care as a mainly social experience.</td>
<td>Lee&lt;sup&gt;25&lt;/sup&gt; comments that case study was challenging and time consuming. It allowed theoretical generalization, where the size of the study precluded statistical generalization. The results challenge the theoretical literature by suggesting that a team structure alone did not promote interprofessional working.</td>
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<td>Skilbeck et al., 2002&lt;sup&gt;23&lt;/sup&gt; Clark et al., 2002&lt;sup&gt;46&lt;/sup&gt; Seymour et al., 2002&lt;sup&gt;47&lt;/sup&gt; Corner et al., 2003&lt;sup&gt;24&lt;/sup&gt; Skilbeck and Seymour, 2003&lt;sup&gt;40&lt;/sup&gt;</td>
<td><strong>Prospective, longitudinal, comparative case study</strong>. No design affiliation. 12 cases each comprising a Macmillan service. <strong>Data collection</strong>: interviews (MNs, managers, stakeholders, patients, carers), demographic data, document analysis, diaries, questionnaires. <strong>Analysis</strong>: techniques varied according to data collection method, included thematic analysis, statistical analysis, longitudinal analyses of patients’ journeys and cost analyses.</td>
<td>Complex findings due to breadth of study. Main findings: much heterogeneity – services with similar aims are very different. Macmillan nurses substitute for inadequacies in skills and knowledge of other staff. Referrals hospital driven and related to way role interpreted, often for emotional/terminal care.</td>
<td>Skilbeck&lt;sup&gt;23&lt;/sup&gt; comments that a RCT was inappropriate for studying pre-existing services. The complex pattern of service delivery and difficulty in distinguishing the topic of enquiry from the complex, changing context dictated choice of strategy. However, context is rarely reported in their analyses.</td>
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services in palliative care. Using a range of data collection methods within these studies appears to be the key to capturing complexity. For example, Corner noted that the shifting needs of dying patients demanded that care outcomes were assessed using more than one source of data to ensure different perspectives and changing interpretations of outcomes were captured.

When context is central to the study
A key defining characteristic of case study is that it ‘investigates a contemporary phenomenon within its real-life context’. Whilst some approaches to research (e.g., randomized controlled trials) control events to ensure that the results of their work are applicable irrespective of context, case study researchers make a deliberate choice to include data relating to context. Both approaches are useful, but appropriate to particular, and different, research questions. For example, should a study focus on the impact of a new service compared with usual care, a randomized controlled trial would be an appropriate design. However, if, as is the case with Cowley et al.’s study, the focus is on describing and evaluating a service in context, a case study approach would be more appropriate. It is outside the remit of this article to fully explore alternative research designs for different research questions, but Box 2 recommends further appropriate reading.

Researchers choosing a case study strategy believe that situational factors have a direct effect on the phenomenon under study. Case studies are apt when the question posed requires an investigation of a real life intervention in detail, where the event may be ill-defined or not discrete, where the focus is on how and why the intervention succeeds or fails, where the general context will influence the outcome and where researchers asking the questions will have no control over events.

Perhaps more than any other strength, these case studies in palliative care have seized on the importance of context to justify their choice of method. For example, Skilbeck et al. particularly argued that Macmillan nursing was not readily distinguishable from the context in which it operated, and also functioned within a changing context. They suggested that a case study approach allowed them to locate individual Macmillan nursing services within their local organizational context; to identify common trends across services; and to describe patterns of service delivery.

When multiple perspectives need to be recognized
All studies can have multiple perspectives, and different potential audiences. In addition, evaluation studies can have stakeholder groups who have a vested interest in the service being evaluated. There appear to be two main threads to the recognition of multiple perspectives: collaborating with stakeholders and using a diversity of methods and sources.

The stakeholders identified within the studies in Table 1 include the commissioners of the research, research participants and the local services studied. Case studies in palliative care have emphasized the importance of involving and taking account of different interest groups, so that issues of complexity are addressed with a broad, inclusive approach. Accomplishing inclusivity can incorporate negotiating study aims and objectives with stakeholders (including patients), and ensuring regular feedback and corroboration of results. This can ensure a shared understanding of what is meant.

Much case study literature also emphasizes the strength of using different sources of evidence to corroborate a phenomenon. This has already been touched upon in discussions of complexity, where the need to study care outcomes from different perspectives was necessary to capture a more complete picture of how Macmillan nurses work. Most of the case study examples in Table 1 make use of different sources of evidence, and different methods of collecting data from these sources to ensure that the picture of the case or cases is more complete.

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**Box 2** Recommended further reading about case study strategies.


This broad approach is consistent with definitions of expert palliative care as multiprofessional, and with arguments that a range of disciplines can contribute to and improve the quality of palliative care research.30,31

When the study design needs to be flexible
Case studies can be used for many purposes – exploring (new areas), describing (complex events or interventions) and explaining (complex phenomena).32 Within these purposes it is possible to adapt the design of the case study to meet different practical, ethical and theoretical considerations. This adaptability is a methodological strength.33

Case studies have been principally associated with process evaluations, although they have also been used to document and analyse the outcomes of interventions.7 The case studies in Table 1 predominantly examine the processes of care.21–23,28 Processes which have been fruitfully examined within a case study strategy include the liaison work of continuing care nurses,21 the interagency work between different services,34 and the complex, and differing, patterns of service delivery by Macmillan nurses.23 It is important to note, however, that the flexibility of the case study strategy has allowed many of these studies to look not just at processes, but also at structures and outcomes. Identifying links between these elements is facilitated within a case study strategy because clear efforts are made to draw together evidence from different sources and collected by different methods, often by comparing the data to prior propositions derived from relevant literature.6

The development of expertise in case study strategies within the field of palliative care would facilitate studies with a broad remit. For example, in social work, which has a long tradition of case study research, case studies are used to study assessment, the processes of intervention, the outcome of the intervention, and the implementation of policy.13

When you want the research to be directly congruent with a clinical practice approach
Case study is a realistic study of practice, and thus has a strong and obvious relationship with practice. It has been used extensively in practice-oriented disciplines as a way of addressing the holistic nature of care and treatment.35 Findings address both practice issues, and the environments within which practice is embedded.

A key argument for the appropriateness of case study strategies in practice-oriented disciplines is that care is organized around cases: the individual patient, the organization or the social context of work.36 Additionally, many of the everyday decisions health care professionals make are intuitive, tentative and variable, and case studies are sufficiently flexible to respond to these issues.27,37 Case studies can be helpful in answering the 'why' questions associated with the challenge of adopting new evidence-based practices.19

A case study also has particular potential to effectively communicate with and directly address the needs of palliative care professionals and decision makers. Whilst all research should strive to engage its audience, the placing of case study research within a particular context appears to encourage its readers, particularly those from the case study sites, to consider and change clinical practice.29 The power of narrative to engage readers in a meaningful way is being increasingly recognized as an important adjunct to more empirical approaches.38 Because case study reports can be congruent with a narrative-based approach, they can harness narrative to explore and explain complex situations in a way which connects with readers.

When there is no strong theory to which to appeal
Case study researchers argue that the strategy is useful in situations where there is no strong theory on which to base a study.39 Whilst there has been robust debate about the role of case studies in producing valid theories (see for example, Dyer and Wilkins, and Eisenhardt),40,41 the object of many case studies is to generate and test theory.17 Theory can be defined in broad terms as an explanation of situations or phenomena, ranging from formal academic theories to speculations made by research participants.16 Of the two key writers on case study strategies (Yin and Stake), Yin particularly emphasizes the importance of theoretical propositions.6 He argues that the role of theory development, prior to data collection, is a key difference between case studies and other related methods such as ethnography. He suggests that the development of theoretical propositions from the research questions, literature and exploratory work is often key to the case study, guiding both data collection and its analysis. As it has been argued that palliative care itself has no clear theory, no clear agreed meaning, and no criteria for success or outcome indicators, then a strategy which can both take account of that, and potentially generate theory may be appropriate.42

Certainly, some of the illustrative case studies have pointed towards the lack of theory in their area as a key element pointing them towards the strategy, and have highlighted the utility of the theoretical propositions they have developed in directing attention towards what to study in a complex field, and in facilitating the integration of different data streams.21,22,28 Lee particularly emphasized the role of developing theoretical propositions, identifying that the literature in the field of day care was insufficiently robust to explicitly guide the study.28 Instead, Lee developed five study propositions from the literature which both guided the study and had the potential to be changed, refined or deleted as the
When other research methodologies could be difficult to conduct

Whilst the arguments for the use of case study in palliative care could not and should not be based wholly on the deficiencies of other research methodologies, as suggested earlier, there is a growing literature in palliative care pointing to the difficulties of operationalizing some techniques in this field.

Difficulties in study recruitment, attrition, randomization, timing and ethics have been particularly reported in experimental work in palliative care. These difficulties have a cumulative effect when systematically reviewing the evidence for palliative care interventions – a process which places a premium on such experimental approaches. Whilst case study research strategies rarely have to deal with randomization; issues of recruitment, attrition, timing and ethics can still be problematic. However, unlike experimental studies which rely on specified levels of recruitment to achieve power calculations, case study researchers often have the flexibility within a rigorous approach to work effectively within these constraints and still produce high quality, relevant work.

None of the authors cited in Table 1 raises major issues of recruitment, attrition, timing or ethics within the accounts of their studies. Indeed, comments made are generally positive, relating to ease of recruitment, or the ability to generate valid findings because small sample sizes do not preclude generalizing to theoretical propositions. Case studies however, are not an easy option just because they can overcome some of these problems. They are demanding and time consuming, requiring researchers with multiple skills, capable of collecting and making sense of a large volume of rich data.

It has been argued that case studies are not well rated in hierarchies of research approaches because they are not generalizable, preventing the cumulation of knowledge within a discipline. However, rigorously conducted case studies are not low quality research, but present a different kind of evidence. Generalization is theoretical (against a proposed theory), not empirical – with the theory acting as a vehicle for analytical generalization in the way that hypotheses act as a vehicle for statistical generalization in experimental work. This is particularly clear in the example of Cowley et al.’s work, where the research process produced frequent changes to their propositional model, facilitating the recognition of factors such as interagency processes on the quality of palliative care. The basic concern should always be that the approach chosen is appropriate to answer the research question posed, and researchers must scrupulously consider all methodological options for each new piece of research.

Discussion

A case study approach has the potential to contribute to knowledge accumulation in palliative care. It has the ability to deal with complex, context-dependent situations, to flexibly address multiple perspectives, to engage clinicians; and to be used in situations without a strong theoretical background and where other research methods could be difficult to conduct. Palliative care today is a complex mix of provision between health and social services, voluntary and statutory agencies. Such provision takes place within constantly shifting care environments, often shaping themselves to take account of local historical, political and organizational issues. A case study strategy has the ability to recognize and take account of these issues, and to be used as a powerful tool to work with stakeholders to improve services.

Caution should be sounded however, as case studies should be approached rigorously, with a sound rationale for their use. Palliative care needs many different types of research, and case studies should only be selected when they are appropriate, and then should be robust examples of the approach to justify the time, expense and involvement of vulnerable individuals in the palliative phase of illness. Case study is not a ‘catch all’ name for a mixed methods approach, and can be as poorly conducted as other research approaches. A rationale should be given for the selection of a particular case study approach with robust justification of the research choices made and the research processes followed. There are obstacles to conducting and appraising case studies, because the range of different approaches within the strategy means that determining agreed quality criteria is difficult. Perhaps though, if we are arguing that case study strategies are appropriate for palliative care, we should also be directing attention towards how best to conduct, evaluate and appraise case studies in the way that, for example, those who manage randomized controlled trials have considered the conduct of their studies both within and beyond palliative care.

Palliative care researchers employing a case study approach also need to ensure that they are producing work which is analytically generalizable. In this way we can use the technique to build up our knowledge of and evidence about palliative care to make a real difference to the care of future patients.
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