



Qualitative research: specific designs for qualitative research in emergency care?

S Cooper,¹ R Endacott,² Y Chapman¹

¹ School of Nursing and Midwifery (Gippsland), Monash University, Churchill, Victoria, Australia; ² Faculty of Health and Social Work, Drake Circus, Plymouth, UK

Correspondence to: Dr Simon Cooper, School of Nursing and Midwifery (Gippsland), Monash University, Churchill, Victoria 3842, Australia; simon.cooper@med.monash.edu.au

Accepted 8 March 2009

ABSTRACT

This article follows our description of generic qualitative approaches, focusing on the specific designs of ethnography, grounded theory and phenomenology. Distinguishing features are described, including methodological approaches and methods for enhancing rigour. The use of these designs in emergency care is unusual but informative, and important work has been produced. Whether used in a pure or applied manner, it is likely that such approaches will add to our understanding of the emergency world.

In our first article on qualitative methods in emergency care, we described best practice for generic approaches.¹ In this work, we noted that many researchers claimed a qualitative approach with a design that was influenced by generalist and pragmatic approaches to clinical questions. These generic approaches are also described as interpretative description² or qualitative description³ and are a useful addition to the emergency care researcher's tool set. The rigour of the work can, however, be challenged when the researcher fails to cite or follow the principles of a design or where a mixture of methods—for example, generic and grounded theory^{4–7} may contravene the principles and approach of the more specific design. Qualitative research can enrich our understanding of experiences, such as the exploration of Lindblad and Sjöström⁸ of nurses' perspectives of battlefield emergency care, but it is important to understand philosophical approaches and the underpinning processes to be able to fully understand the outcomes and to repeat the study with different groups.

In this article, we focus on three specific qualitative designs: ethnography, grounded theory and phenomenology. All enable the researcher to develop theory (inductive research) in contrast to testing a theory (deductive research). These “interpretative” approaches (in contrast to critical feminist and action research designs) aim to describe and understand an issue and do not attempt to generalise; however, the methods and the researcher's role vary according to the methodology (table 1). For example, in phenomenology, observation may be used to identify aspects of “lived experience” to explore in later in-depth interviews, whereas in ethnography, observation is the central data collection method used for identifying the characteristics of a culture and community.

As a background review, we performed a search of Medline, CINAHL PLUS, BNI, Google and Google Scholar for papers relating to ethnography,

grounded theory and phenomenology in the emergency care field. Thirteen papers were identified that had an emergency care focus incorporating one of the designs.

For example, in ethnographic approaches, Fry and Stainton¹⁵ examined the context of triage care, identifying the gatekeeping, timekeeping and decisions processes, with the aim of improving educational support. Ware *et al*¹⁶ focused on the meaning of the continuity of care in a psychiatric emergency admission unit, incorporating field observations and open-ended interviews. Cole and Crichton¹⁷ explored the culture of a trauma team in relation to human factors (leadership and teamwork), and Laxmisan *et al*¹⁸ examined emergency department (ED) patient safety issues in relation to multitasking and shift changes using observation and interviews.

In phenomenology, Chan¹⁹ describes ED clinicians' experience in relation to end-of-life decisions and the care of the dying to describe personal, cultural, ethical, clinical and environmental factors. Byrne and Heyman⁹ used a grounded theory approach to data collection and analysis in a study of how nurses' perception of their patients and work may influence patient communication in ED. Finally, Cairo²⁰ also used grounded theory to examine emergency physicians' attitudes towards collaborative practice with emergency nurse practitioners.

From this diverse set of studies, it is clear that these designs do have a place in the description of emergency care and for our understanding of practice. In the following, we summarise the central tenets for each of these three approaches.

DESIGNS

Ethnography

Mertens²¹ describes ethnography as a research method designed to describe and analyse practices and beliefs of cultures and communities—for example, Shaban's²² work on paramedic culture and community. Ethnography has been the traditional domain of anthropologists, and as Wolcott²³ states, “if cultural analysis is not your goal, then ethnography is a misnomer” (p69). Culture itself can be defined by two components: a pattern for behaviour and a pattern of behaviour,²⁴ in other words, the behaviour, beliefs, ideas and knowledge of a group.

The objective is to understand the culture from an outsider's (etic) perspective and from the insider's perspective (emic), hence the predominant use of observation and interviews as data collection methods. The researcher must also be willing to adapt or abandon theories that do not fit the

Table 1 Distinguishing features of qualitative methodologies

| Methodology | Features |
|---------------------------------|---|
| Grounded theory ^{9 10} | Used where very little is known about the topic Theory is developed inductively through the data Hypotheses are generated and tested through further data collection Relies on iterative process of data collection and analysis |
| Ethnography ^{11 12} | Focuses on understanding cultural rules Observation is a central data collection method Observer role includes some degree of participation |
| Phenomenology ^{13 14} | Focus on exploring a phenomenon in depth May include the participants' "lived experience" |

Adapted from Cooper and Endacott.¹

data²¹; that is, the theory is built from the data (as in grounded theory) through repeated reformulation of the study/questions as the study progresses.¹⁶

Data can be collected as a singular or series of case studies and will usually include the following.

Observation

Observation in ethnographic studies is performed in the participant's own "naturalistic" setting and is often participative. The duration can vary from a single to multiple long-term studies, but the focus is on "spending time" with participants, usually moving from a broad to narrowed focus over time. Researchers need to be cognisant of the need to "gain access" and their initial role as a "stranger", aiming for a balance between establishing trust and empathy and the need to attune to the group they are studying.²⁴

Observers may make field notes, which inform later interviews (the diary interview) and may collect data in both quantitative and qualitative forms on—for example, location, participants (actors), and global and individual behaviour measures.

Interviews

Ethnographers tend to use informal and formal interview techniques incorporating both focus groups and unstructured interviews. Reliance on social interaction to build rapport and generate knowledge is paramount, with topics, as opposed to questions, being used to generate a free interchange of ideas between interviewer and respondent. Descriptive questioning techniques are selected to encourage respondents to describe their experiences, with applicable probing and prompting, leading from a broad to "funnelled" approach to questioning.²⁴

Sample sizes vary, but rules of thumb indicate approximately 30–50 interviews for an ethnographic study²¹ (p271). However, sample size depends also on factors such as the population size, focus of the work and the need to sample to the point of saturation—recruiting participants until no new data emerge.¹

Analysis

Data analysis strategies are iterative, using constant comparison techniques of the data throughout the study. Themes and categories are developed comparing multiple data sources with the objective of articulating meaning through description. Specific approaches to analysis vary; anthropologists tend to use the three basic steps of selecting and identifying problems and concepts; checking the distribution and frequency; and testing tentative propositions against information.²⁵ More formal grounded theory methods are also used (eg, Laxmisan *et al*¹⁸) based upon open axial and selective coding of data.²¹

Grounded theory

Studies using grounded theory, or a grounded theory approach, are undertaken where there is an absence of existing theory and the topic of interest is some form of human action or interaction. Theory is developed through data collection (building up from the ground), and hypotheses are generated and tested to confirm or refute aspects of the developing theory. Edwards^{26 27} provides a useful example of the use of grounded theory to build a substantive theory of the triage reasoning process.

Strauss and Corbin²⁸ suggest that there are three levels of theory development in grounded theory research:

1. descriptive: conveying the essence of the action and interaction that has been examined;
2. conceptual ordering: organising ideas into categories to make sense of the actions and interactions;
3. explanatory scheme: identifying relationships between the categories (axial coding).

The explanatory scheme commonly revolves around a core (or central) category; in "classic" grounded theory, the core category also provides a basic social process.

Observation and interviews

In grounded theory studies, interviews and observation can be used in an iterative manner, as theory develops. Theoretical sampling may require the direct observation of aspects of clinical experience or interviews with those closest to the theoretical constructs. Participants may be interviewed individually, in focus groups or a combination of both methods, as demonstrated by the study of Hurley and colleagues²⁹ examining ED staff resistance to changing routes of medication administration in children with asthma. Documents that pertain to the incidents being studied may also provide a useful source of data.

Participants

The central tenets of grounded theory are emphasised in the way in which participants are sampled. First, participants are selected, or events are observed, for their contribution to the developing theory (theoretical sampling) and to ensure maximum variation in the sampling, with the goal of seeing how far the emerging theory will "stretch". Second, sampling continues until saturation is reached; that is, no new data emerge. It is important, however, to avoid "early closure" of sampling; saturation-based sampling requires the seeking out of as many different variations, or conditions, as possible. Indeed, McPherson and Thorne³⁰ justified their sample size of 200 participants for a qualitative study on the grounds that they were able to examine the exceptions in the data in some depth.

Data analysis

Data analysis requires the coding of incidents in the data, identifying categories and building themes, which are then verified, confirmed and qualified in the body of data. Codes, categories and themes may all be reworded as analysis unfolds. It is common practice for researchers to use a grounded theory approach to data analysis while not following the conventions of grounded theory for data collection or sample selection. For example, Foster and colleagues³¹ used a grounded theory framework to analyse data in their study of older people's perceptions of out-of-hours services, and Sklar and colleagues³² used a grounded theory thematic analysis to examine circumstances and the contributing factors in unexpected deaths after

discharge from ED. However, for both of these studies, sampling was purposive, rather than theoretical, with sample size seemingly predetermined rather than based on data saturation.

Phenomenology

Phenomenology is best described as a “movement” rather than an inflexible set of rules that present a homogenous vista. It values human experience and the meanings and understandings ascribed to that experience. There are three key protagonists of phenomenology: Husserl, Heidegger and Gadamer. Husserl, regarded as the father of phenomenology, moved away from Cartesian dualism and advocated philosophical questions about subjectivity and consciousness. He was firmly positioned from an epistemological viewpoint. The method suggested by Husserl³³ requires researchers to suspend their acceptance of the phenomenon in question (bracketing) and, through phenomenological reduction, uncover the rational principles that underlie that phenomenon. On the other hand, Heidegger, who was a student of Husserl, disagrees with the notion of bracketing. Heidegger³⁴ considered the world from an ontological perspective and viewed people as beings-in-the-world, experiencing phenomena. He examined the structure of questioning itself and, in doing so, suggested that to raise a question, the questioner must have some idea of what to ask.³⁵ Thus, he created the concept of a hermeneutic circle and proposed that all epistemological inquiry was also ontological inquiry. Gadamer³⁶ further developed how understanding was possible and purported that language was central to how being could be understood. Contemporary phenomenology has thus evolved as the study of lived experiences.

Borbasi and Jackson³⁷ (p158) describe phenomenological research as seeking “to understand the entirety of an experience as it is lived”. It moves understanding beyond the taken-for-granted assumptions towards a fresh illumination and subsequent reappraisal of a phenomenon. For example, in the ED field, Lyneham *et al*³⁸ used a Gadamerian approach in their research on intuitive knowing with 14 experienced emergency nurses, asking the question “what is the experience of knowing in emergency nursing practice?” which was translated into requests for participants’ stories about intuition.

Methods

Interviews are used to generate data that are systematically analysed to search for themes and patterns that illustrate similarities/differences and uncover the meaning of the particular experience. Researchers ask participants, “what is it like to experience [the phenomenon under question]?” Subsequent questioning of the participants is reflexive and reflective of the answers that participants provide for initial questioning. Questioning is often less formal than in traditional research; as Benner³⁹ (p108) suggests, phrasing questions that are user-friendly allows participants to remain in their everyday experience and to respond in ordinary language.

Observation can be used but is not mandated in phenomenology. Taylor⁴⁰—for example, used observation to witness nurse–patient interaction as a springboard to interviews.

Participants

Participants are selected because they have experienced the phenomenon in question. Because there is no attempt to generalise the findings, small numbers of participants are accepted as being able to provide new illumination of the phenomenon.

Data analysis

In phenomenological analysis, researchers work with participants’ stories, which are translated from audio-tape to text. Additional data are also translated to text, and textual analysis becomes the conduit for understanding the phenomenon in question. Interpretative research is messy. The researcher is often caught in an endless sea of possibilities as different theories are thrown in every direction from the data. Being simultaneously focused in differing directions, researchers intertwine their experiences with those of the participant(s), and finding a way through the “forest” of events can be both laborious and stimulating.⁴¹ Often, isolated themes from phenomenological inquiry are not new at face value; however, the description can illuminate a different perspective of the phenomenon in question. Lyneham *et al*,³⁸ for instance, identified six interrelated themes providing a different perspective about intuition: knowledge, experience, connection, feeling, syncretism and trust.

SUMMARY

Each of the above methods can be used in a pure or applied dimension. For example, Kihlgren *et al*⁴² used a grounded theory approach to examine older peoples’ experience of awaiting ED treatment and relate this to nurses’ goal action (praxis orientation) and attitudes and relationships (poiesis orientation). The principles of grounded theory, however, were only being applied to data analysis, not to data collection. Similarly, most ethnographic studies undertaken in the ED would not require the researcher to “live among” the ED community, and the resulting paper would not be a full “ethnography” of the subcultures of the ED.

The core principles for establishing rigour in qualitative research remain unchanged whatever the approach. Cooper and Endacott¹ described these in full, but in summary, researchers must consider (and report) their reflexivity, described as “sensitivity to the ways the researcher and the research process have shaped the collection of data, including the role of prior assumptions and experience”.⁴³ Other considerations include the retention of clear and accurate records with a full description of the research process (the audit trail), sampling to the point of saturation, triangulation of data (and of methods), respondent feedback (returning to respondents with an account of the provisional findings), collection of a wide range of perspectives (fair dealing), and inter-rater reliability.

Although used much less frequently than quantitative research, qualitative approaches do add value to our understanding of the ED world. As Maclean⁴⁴ suggests, “for me only a subjective view enables us to understand and emphasize with an unfamiliar people and place” (p8). But of course, the bottom line is to select a design that will best answer your question and to stick with it, whether this is quantitative, qualitative or a mixed-method approach.

Mixed methods are the focus of a future paper and are defined as the use of qualitative and quantitative approaches in the same study,⁴⁵ an approach that is particularly useful where complex problems are explored (see, eg the recent evaluation of ED services undertaken by Mason *et al*⁴⁶). In summary, the approach requires a series of decisions to be made⁴⁵ regarding:

1. The relative “weight” of the different approaches, usually driven by whether the research is primarily inductive or deductive;
2. Steps taken to “mix” the data, a crucial step to avoid the inequality that may arise if qualitative or quantitative data are given priority in step 1. Data may be integrated

(or “mixed”) during data collection, data interpretation or in the discussion of findings;

- Timing of data collection, usually determined by the stage at which the data will be mixed. If data mixing is undertaken during discussion of findings, the sequencing of qualitative and quantitative data collection will not be crucial.

Many of these decisions are not made explicit in papers resulting from mixed-methods studies; however, it is essential that they are addressed during the design phase.

Either way, there is great value in using qualitative methods to enrich our understanding of emergency medicine, and a mixed approach adds depth and breadth to the research and its findings.

Competing interests: None.

Provenance and peer review: Not commissioned; externally peer reviewed.

REFERENCES

- Cooper S, Endacott R. Generic qualitative research: a design for qualitative research in emergency care? *Emerg Med J* 2007;**24**:816–9.
- Thorne S, Kirkham SR, MacDonald-Emes J. Interpretive description: a noncategorical qualitative alternative for developing nursing knowledge. *Res Nurs Health* 1997;**20**:169–77.
- Sandelowski M. Whatever happened to qualitative description? *Res Nurs Health* 2000;**23**:334–40.
- Saint Lamont S. “See and treat”: spreading like wildfire? A qualitative study into factors affecting its introduction and spread. *Emerg Med J* 2005;**22**:548–52.
- Cooper S, Barrett B, Black S, et al. The emerging role of the emergency care practitioner. *Emerg Med J* 2004;**21**:614–8.
- Cooper S. Contemporary UK paramedical training and education. How do we train? How should we educate? *Emerg Med J* 2005;**22**:375–9.
- Price L, Keeling P, Brown G, et al. A qualitative study of paramedics’ attitudes to providing prehospital thrombolysis. *Emerg Med J* 2005;**22**:738–41.
- Lindblad C, Sjöström B. Battlefield emergency care: a study of nurses’ perspectives. *Accid Emerg Nurs* 2005;**13**:29–35.
- Byrne G, Heyman R. Understanding nurses’ communication with patients in accident & emergency departments using a symbolic integrationist perspective. *J Adv Nurs* 1997;**26**:93–100.
- Bandiera G, Lee S, Tiberius R. Creating effective learning in today’s emergency departments; how accomplished teachers get it done. *Ann Emerg Med* 2005;**45**:253–61.
- O’Neill E, Woodgate D, Kostakos V. Easing the wait in the emergency room: building a theory of public information systems. *Proceedings of the 2004 Conference on Designing Interactive Systems: Processes, Practice, Methods and Techniques*; 1–4 August 2004; Cambridge, MA. <http://portal.acm.org/citation.cfm?id=1013115.1013120> (accessed 9 May 2007).
- Timmermans S. *Sudden death and the myth of CPR*. Philadelphia, PA: Temple University Press, 1999.
- O’Brien JA, Fothergill-Bourbonnais F. The experience of trauma resuscitation in the emergency department: themes from seven patients. *J Emerg Nurse* 2004;**30**:216–24.
- Fontana JS. A sudden, life-threatening medical crisis: the family’s perspective. *Adv Nurs Sci* 2006;**29**:222–31.
- Fry M, Stainton C. An educational framework for triage nursing based on gatekeeping, timekeeping and decision-making processes. *Accid Emerg Nurs* 2005;**13**:214–9.
- Ware NC, Tugenberg T, Dickey B, et al. An ethnographic study of the meaning of continuity of care in mental health services. *Psychiatr Serv* 1999;**50**:395–400.
- Cole E, Crichton N. The culture of a trauma team in relation to human factors. *J Clin Nurs* 2006;**15**:1257–66.
- Laxmisan A, Hakimzada F, Sayan OR, et al. The multitasking clinician: decision-making and cognitive demand during and after team handoffs in emergency care. *Int J Med Inform* 2007;**76**:801–11.
- Chan GK. *E.R. = exit required. A philosophical, theoretical, and phenomenological investigation of care at the end-of-life in the emergency department* [dissertation]. San Francisco, CA: University of California, San Francisco, 2005.
- Cairo MJ. Emergency physicians’ attitudes toward the emergency nurse practitioner role. Validation versus rejection. *J Am Acad Nurse Pract* 1996;**8**:411–7.
- Mertens D. *Research methods in education and psychology. Integrating diversity with quantitative and qualitative approaches*. Thousand Oaks, CA: Sage, 1998:352.
- Shaban RZ. Accounting for assessments of mental illness in paramedic practice: a new theoretical framework. *J Emerg Prim Health Care* 2005;**3**.
- Wolcott HF. Making a study “more ethnographic”. *J Contemp Ethnography* 1990;**19**:44–72.
- De Laine M. *Ethnography: theory and applications in health research*. Sydney, Australia: MacLennan Petty, 1997.
- Barrett SR. *Anthropology, a student’s guide to theory and method*. Toronto, ON, Canada: University of Toronto Press, 1996.
- Edwards B. Seeing is believing—picture building: a key component of telephone triage. *J Clin Nurs* 1998;**7**:51–7.
- Edwards B. Walking in—initial visualisation and assessment at triage. *Accid Emerg Nurs* 2007;**15**:73–8.
- Strauss A, Corbin J. *Basics of qualitative research: techniques and procedures for developing grounded theory*. 2nd edn. Thousand Oaks, CA: Sage, 1998.
- Hurley KF, Sargeant J, Duffy J, et al. Perceptual reasons for resistance to change in the emergency department use of holding chambers for children with asthma. *Ann Emerg Med* 2008;**51**:70–7.
- McPherson G, Thorne S. Exploiting exceptions to enhance interpretive qualitative health research: insights from a study of cancer communication. *Int J Qual Methods* 2006;**5**(2). http://www.ualberta.ca/~iiqm/backissues/5_2/HTML/mcpherson.htm (accessed 7 Oct 2008).
- Foster J, Dale J, Jessopp L. A qualitative study of older people’s views of out-of-hours services. *Br J Gen Pract* 2001;**51**:719–23.
- Sklar DP, Crandall CS, Leoliger E, et al. Unanticipated death after discharge home from the emergency department. *Ann Emerg Med* 2007;**49**:735–45.
- Husserl E. *The idea of phenomenology*. The Hague, The Netherlands: Martinus Nijhoff, 1970.
- Heidegger M. *Being and time*. Macquarrie J, Robinson E, trans. Oxford, UK: Blackwell Publishers, 1962.
- Taylor B. *Researching human health through interpretation* [monograph]. Armidale, UK: University of New England, 1994.
- Gadamer H-G. *Truth and method*. Barden G, Cumming J, eds, trans. New York, NY: Seabury, 1975.
- Borbasi S, Jackson D. Qualitative research: the whole picture. In: Borbasi S, Jackson D, Langford R, eds. *Navigating the maze of nursing research*. 2nd edn. Sydney, Australia: Mosby, 2008:153–78.
- Lynneham J, Parkinson C, Denholm C. Intuition in emergency nursing: a phenomenological study. *Int J Nurs Pract* 2008;**14**:101–8.
- Benner P. *From novice to expert, excellence and power in clinical nursing practice*. Menlo Park, CA: Addison-Wesley, 1984.
- Taylor B. *Being human: ordinariness in nursing*. Sydney, Australia: Churchill Livingstone, 1994.
- Clandinin DJ, Connelly F. Personal experience methods. In: *Handbook of qualitative research*. Denzin NK, Lincoln YS, eds. Thousand Oaks, CA: Sage, 1994:413–27.
- Kihlgren AL, Nilsson M, Skovdahl K, et al. Older patients awaiting emergency department treatment. *Scand J Caring Sci* 2004;**18**:169–76.
- Mays N, Pope C. Qualitative research in health care. Assessing quality in qualitative research. *Br Med J* 2000;**320**:50–2.
- Maclean R. *Under the dragon. Travels in a betrayed land*. London, UK: Harper Collins, 1998.
- Cresswell JW, Plano Clark VL. *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage, 2007.
- Mason S, Locker T, Carter A, et al. *What are the organisational factors that influence waiting times in emergency departments?* London: National Co-ordinating Centre for NHS Service Delivery and Organisation R&D, 2006.