Brief encounters with qualitative methods in health research: Grounded theory

Thomas Earnshaw

Abstract
Given that research evidence is having an increasing influence on health professionals’ understanding of human health and policy and practice within an ever-changing interdisciplinary healthcare environment, it would prove useful for practitioners to possess an understanding of the theoretical perspectives and methodological approaches underpinning contemporary health research. One such approach is grounded theory, a means of inductively generating explanatory theories of social processes and phenomena in specific contexts.

Keywords
grounded theory; theory generation; health; qualitative research

Introduction
"A grounded theory is one that is inductively derived from the study of the phenomena it represents” (Strauss & Corbin, 1990, p. 23). This explanation of the research outcome provides a useful starting point, but in order to fully appreciate the approach, an understanding of its methodological principles and procedures are also needed. The methodology, or ‘paradigm of enquiry’, is influenced by a set of philosophical principles (Backman & Kyngäs, 1999); a worldview to inform research design and decision making during the research process (Birks & Mills, 2011; Gliner, Morgan & Leech, 2009). In grounded theory specifically, it determines the study's focus when exploring and developing theoretical concepts during the analytical process (Birks & Mills, 2011). The methodological approach selected should reflect the researcher’s own ontological and epistemological standpoints, that is, their understanding of reality and how best to obtain truth about it (Hallberg, 2006).

Existing within the methodology, grounded theory methods are actions designed to construct theory from examples illustrated in empirical observations (Green & Thorogood, 2014). In this sense, the theory is ‘grounded’ in the data. In the seminal works of Glaser and Strauss (1965; 1967), the approach sought to discover social and social psychological processes, with the substantive theory generated serving to accurately interpret, explain and predict these processes.

Grounded theory is suited to studying phenomena in a given context (Bradley, Curry & Devers, 2007; Goulding, 1998), for example, a particular hospital ward. It is often used to generate new theory to explain connections between issues and human behaviour e.g., carer-patient relationship dynamics. This can mistakenly pertain exclusively to newly emerging topics about which there is little known. The approach can also be used to provide fresh perspectives on well-established issues, contribute additional concepts to pre-existing grounded theories, and make connections between variables previously considered unrelated (Backman & Kyngäs, 1999; Batson & Chesnay, 2015; Corbin & Strauss, 1990).

Data collection typically involves participant observations, interviews, diaries or other transcribed accounts (Backman & Kyngäs, 1999). Glaser and Strauss (1967) or applied in-depth interviews (Bradley et al., 2007), but grounded theory literature has since advocated using a combination of these strategies so as to compare reported behaviour and that observed (Backman & Kyngäs, 1999).

Grounded theory methods involve using a set of systematic analytical procedures (Strauss & Corbin, 1994). These procedures are part of a cyclical process whereby traditionally separate stages of participant selection, data collection, data analysis and theory development are interdependent, iterative and often overlapping (Charmaz, 2006). The research process is data-driven. Findings from analysis and coding of initial data form abstract concepts and theoretical ideas, informing the next participant sample and lines of enquiry. This process is recurrent so as to further focus the topic of study, develop increasingly sophisticated concepts, and ‘test’ any emergent hypotheses i.e., statements of concept relationships (Strauss & Corbin, 1994). The research process ends with ‘saturation’; whereby no additional data can
Further develop the theory’s core categories (high-level abstract concepts) in terms of their properties and dimensions, with links established between relevant concepts (Goulding, 1998).

Grounded theory is the most commonly employed qualitative research method (Bryant & Charmaz, 2007), yet can be overlooked within health research in favour of other interpretivist approaches such as phenomenology (see Cronin & Lowes, this issue) and ethnography (see Benkwitz, this issue). While phenomenology and ethnography are somewhat limited to identifying themes and categories relevant to contextual behaviour, grounded theory intends to produce theory. While there is no definitive approach to inquiry, there are data analysis methods more appropriate in healthcare studies (Bradley, Curry & Devers, 2007). This ‘brief encounter’ seeks to inform health practitioners of grounded theory’s applicability in health research. The article introduces some of the key canons and philosophical principles of grounded theory, with a brief account of health studies that have applied the approach and consideration of potential challenges facing researchers.

**Philosophy & Tenets of the Approach**

Classical grounded theory provides a general methodology for both qualitative and quantitative data (Glaser, 1967). Positivistic objectivity produced codified qualitative analytic methods (Artinian, Giske & Cone, 2009). A lack of methodological explication, due to a concern that it would limit grounded theory’s usefulness (Birks & Mills, 2011; Glaser & Strauss, 1968), later afforded diversity in its development and the type of research it may appeal to (Bryant & Charmaz, 2007).

The philosophical principles underpinning grounded theory methodology have since been tied to symbolic interactionism, stemming from pragmatism (Corbin & Strauss, 2008; Heath & Cowley, 2004). Pragmatism identifies inductive and abductive reasoning as means of establishing truth. Unlike the traditional quantitative paradigm of inquiry that advocates deductive inferences to form hypotheses and then seeks data to confirm it, grounded theory appropriates inductive reasoning to generate theory explaining data, with the data being central to that theory. Induction is personified in the formation of new theory that irrefutably ‘fits’ the data and its context. Abduction is used to make inferences about data based on theory derived from other data. Here, inductive and deductive reasoning are combined as data serves to generate hypotheses, which then inform subsequent inquiry and are checked against new data sets, and verified or reformulated accordingly.

Symbolic interactionism views people as self-aware sentient beings capable of altering their behaviour depending on their situation in relation to others (Charmaz, 1990; Heath & Cowley, 2004; Mead, 1934). The interactionist approach to inquiry focuses on how concepts gain significance through their prevalence and patterned relationships (Blumer, 1956; Heath & Cowley, 2004). Personifying interactionism, grounded theory repeatedly compares data sets so as to develop significant concepts within them and suggest relationships between them (Hammersley, 1989; Health & Cowley, 2004). Grounded theory seeks to explore the meanings people attach to phenomena and operates under the symbolic interactionist assumption that participants must be aware of these meanings and able to communicate them to the researcher (Backman & Kynägs, 1999). A grounded theory researcher is required to take into account their influence on the participant and vice versa; significant in many studies using health professionals, given the often intimate practitioner-client relationship.

Charmaz’s (1990; 2006) constructivist grounded theory approach would appear most appropriate for research in many healthcare settings. Belonging to the interpretative tradition, it sits between positivism and postmodernism (Hallberg, 2006), adopting epistemological subjectivism and ontological relativism (Bryant & Charmaz, 2007; Gardner, McCutcheon & Fedoruk, 2012). Subjectivism rejects the idea that researchers can be completely objective. The researcher-participant relationship is embraced to co-construct theory, offering more flexible strategies for data analysis and allowing for abstract interpretations of data (Creswell, 2008). Accordingly, research is interactive, cooperative and participative. Social constructions of language, consciousness and shared meaning provide instruments for establishing understanding of phenomena and the meanings people attach to them (Gardner, McCutcheon & Fedoruk, 2012). Relativism purports that there is no one true reality, how people make sense of their world is constructed through interaction and shared understanding, so the participant’s perspective of truth is confined to their given context. This methodology proves useful for explaining issues and phenomena within specific healthcare settings, but can limit its applicability outside of a given time, locality, or culture (Gardner, McCutcheon & Fedoruk, 2012), making generalisability problematic (Rennie, Phillips & Quartaro, 1988).

A grounded theory is considered the result of interpretation and therefore should be considered an understanding rather than an explanation or prediction of phenomena (Charmaz, 2006). This understanding can enhance practitioners’ discursive practices to better address problems expressed by patients, offering perspectives of patients’ attitudes and behaviours not obtainable within the clinic environment (Charmaz, 1990). Constructivist grounded theory provides a practical methodological
framework for the health professional-come-researcher interested in studying their patients as, rather than distance the participant from the researcher and analysis process, their perspective is utilised to generate theory. This allows care provision and research to occur simultaneously (Gardner, McCutcheon & Fedoruk, 2012). However, as data analyses are social constructions involving both the researcher and participant, the research outcome can be seen as narrative identifying relationships between conceptual categories, rather than as hypothesis (Hallberg, 2006). Within health research, these descriptive accounts are often then evolved into theories through subsequent research (Batson & Chesnay, 2015).

**Constant Comparison**
A key feature of the analytic process is constant comparison; a general method of comparative analysis to develop theoretical elaboration (Glaser & Strauss, 1968). It describes the regular interplay between correspondingly coded data and emergent theory (Green & Thorogood, 2014). Grounded theory uses four iterative phases of constant comparison (Glaser, 1965): relating and grouping incidents to form categories; discovering relationships between categories; establishing parameters for categories and their relationships; and forming theory. Comparative analysis has commonly been misused as a means of disproving a peer’s theory by identifying negative cases contradicting the ‘fact’ upon which it is based (Glaser & Strauss, 1968). However, grounded theory applies this process to create new concepts and categories aiding further development of a peer’s theoretical understanding. The constant comparative method had previously been limited in application to large scale social units such as organisations, institutions, nations or global regions (Glaser, 1965), but grounded theory has since allowed for comparison making between individuals (and their roles) and small organisational units (Glaser & Strauss, 1968), such as GPs in local surgeries.

**Theoretical Sensitivity**
Theoretical sensitivity, a researcher attribute rather than a methodological procedure, describes the intuitive capacity to apply meaning to data and distinguish its relevance to the topic studied (Bitsch, 2005; Strauss & Corbin, 1990). It can be obtained through professional and personal experience, or during the analytic process, whereby the researcher immerses themselves in the raw data to access a participant’s meanings of lived experience. It may also be developed by reviewing literature, but in subject areas other than that directly under study or after the researcher has fully developed the emergent theory and left the field. Here, literature reviewing is not neglected, just delayed; serving to position the emergent theory in relation to existing knowledge (Walker & Myrick, 2006). Exercising theoretical sensitivity streamlines the research process by focusing on the most pertinent emerging concepts and themes to be subjected to further exploration and testing.

**Theoretical Sampling**
Theoretical sampling is an iterative data collection procedure intended to aid the development of theory (Backman & Kyngäs, 1999; Green & Thorogood, 2014). Once initial data is analysed, the researcher gains general ideas to formulate primitive theories which they wish to explore in greater depth. It is flexible in selecting the next line of participants that will best ‘shine light’ on emerging themes and issues (Backman & Kyngäs, 1999). Exploration of previously unknown but pertinent issues is encouraged, even demanded (Walker & Myrick, 2006). It focuses questioning and discourages the gathering of extensive general information; ensuring rich data is obtained and time is not wasted analysing irrelevant data. Theoretical sampling enables deeper dimensional construction of a concept as it can be examined across a range of settings (Brekenridge & Jones, 2009).

While classical grounded theory deemed theoretical sampling appropriate (Glaser, 1978), many studies since have adopted purposive sampling. A purposive participant sample is selected from the outset based on a common denominator relevant to the studied phenomenon, typically some shared experience or knowledge that may help answer predetermined questions (Sandelowski, 1995). Whereas theoretical sampling cannot know the selection criteria until initial data is analysed and what is relevant emerges (Brekenridge & Jones, 2009; Glaser, 1978). So, theoretical sampling is purposeful, but not all purposive sampling is theoretical (Hood, 2007). Ideally, a grounded theory study uses purposive sampling to identify the initial participant sample, and theoretical sampling from then on (Birks & Mills, 2011).

**Trustworthiness**
The strength of any grounded theory is based on establishing trustworthiness (Shenton, 2004). Claims of credibility, a qualitative research alternative to internal validity, are made through the ‘close’ explanation of phenomena it provides (Lincoln & Guba, 1985). As the theory is derived directly from empirical data, evidence of its existence is well illustrated, making it irrefutably tied to experimental data. Focusing on generating statements about participants using solely their accounts creates ecological validity by providing great context specificity and ensuring the theory works in that setting i.e., it...
predicts, explains, or describes what is happening in the field studied (Glaser & Strauss, 1968; Strauss & Corbin, 1990). Novelty, or originality of findings, is created through building theory from the ground up (Birks & Mills, 2011). Direct literature reviewing is discouraged so that preconceived ideas do not influence the formation of concepts within the emergent theory or hypotheses, allowing for genuine discovery (Charmaz, 1990). Such methods reduce the opportunity of simply adopting an existing theory or ‘force-fit’ their findings to a desirable theory; a criticism of deductive methods. Parsimony is achieved via the systematic, repetitive process of data reduction and formation of abstract concepts to produce a ‘lean’ explanation of the connected constructs describing the phenomenon under study in the simplest, most elegant manner (Morse & Field, 2002).

**Brief Review of Health Research Studies**

Grounded theory research has been applied across a range of disciplines, including fields of healthcare, such as intervention, service management, professional practice and training, and patient diagnosis and treatment. It has been employed to explore patients’ perceptions and experiences of their condition, diagnosis, treatment and recovery (Batson & Chesnay, 2015; Fenwick, Chaboyer & St. John, 2013; Khair et al., 2013), the sources of these perceptions and patients’ desired and avoided behaviours (Fenwick, Chaboyer & St. John, 2013; Perrett & Biley, 2013), and their interaction and relationships with health care providers, family, and friends (Stoddart, 2012). The following is a brief note of some such studies.

In the original grounded theory study (Glaser & Strauss, 1965), a theory was generated to explain the social psychological processes involved in the relationship dynamics between patients aware that they were dying, and their relatives and carers. Similarly, due to insufficient existing data, the approach produced a description of the participative role elderly tumour patients’ companions played during interactions with healthcare providers (Ellingson, 2002). Charmaz (1987) applied her constructivist grounded theory approach to address themes of self-esteem, continuity and change of “self” concept. Data collection and analysis led to further exploration of emotions and the self, and information-control regarding self and illness. Cooney (2012) developed a grounded theory to identify how elderly people establish a sense of ‘home’ while in long-term care settings. The methodology has formed theory to explain ‘the journey of chronic pain’ experienced by elderly people with leg ulcerations (Taverner, Closs & Briggs, 2012).

Atkinson and Peden-McAlpine (2013) formed the ‘advancing adolescent maternal development’ theory in which social psychological issues identify at-risk mothers to poor post-pregnancy outcomes. Price and Mitchell (2004) investigated teenage women’s experiences of the maternity services, allowing participants to form their own ideas of what care they should receive. Hernández-Plaza, Padilla, Ortiz & Rodrigues (2014) examined the influence of severe socio-economic inequalities on migrant women’s maternal needs as users of primary healthcare. They were able to focus on numerous context-specific social and psychological processes, with participants’ voices being central to the development of emergent concepts and themes. Sandelowski (1995) conducted three studies, one using grounded theory, synthesising different theoretical approaches to ascertain the transitional processes involved in infertile couples becoming parents.

Grounded theory methodology is common within mental health research given the focused concern of psychosocial processes (Batson & Chesnay, 2015). McCann and Clarke (2003) explored the role of nurses in motivating young adult patients with schizophrenia to seek early access community services to avoid increased severity of illness. It also allowed Puolakka, Haapasola-Pesu, Kikkala, Astedt-Kurki & Paavilainen (2013) to identify pertinent mental health issues of schoolchildren and devise appropriate interventions. Andersson, Eriksson & Nordgren (2013) compared care provision in different settings for patients recovering from heart failure. They identified themes of patients’ needs while moving between primary care and specialised clinic settings. In Stone’s (2013) study of general practitioners’ accounts of patients with unexplained symptoms, constructivist grounded theory methodology produced concepts and frameworks for strategies for assessment. Studies have used grounded theory for management evaluations of healthcare provision. For example, Leach and Mayo (2013) assessed the operations of a hospital’s emergency response team, leading to restructuring of communication systems.

It is commonly assumed claims made by grounded theories are limited to their particular sample and setting. However, Cranley, Doran, Tourangeau, Kushniruk & Nagle (2012) examined staff nurses’ everyday experiences of work-related uncertainties, addressing global nursing issues. The resulting substantive theory of ‘recognising and responding to uncertainty’ had wider clinical, educational, administrative and research relevance (Batson & Chesnay, 2015).

**Conclusion**

Like all research methodologies, grounded theory is not without weaknesses and limitations. However, due to the appeal of its core principles, much research methods literature devoted to solving issues inherent with the general approach is available, providing the
novice with guidance and affording them confidence to conduct systematic, independent research. Grounded theory’s value is evident in the diverse adaptation it has undergone to ensure its applicability in a wide range of research fields. It has experienced greater popularity and development within the qualitative domain, particularly in health topics such as clinician and nursing practice, intervention, and patient perspective. Constructivist methodology would appear most suited to these research areas. As well as affording the participant a sense of empowerment in addressing the issues they experience, the research gains close access to the participant’s perception of lived experience through intimate interaction. As health issues are becoming increasingly social, grounded theory offers a viable means of understanding human behaviour and meanings of lived experience so as to address problems of human health and healthcare services.

Affiliations
Thomas Earnshaw, Lecturer and PhD Candidate, Department of Medical and Sport Sciences, University of Cumbria.

Contact information
Corresponding Author: Thomas Earnshaw, Faculty of Health and Wellbeing, University of Cumbria, Bowerham Road, Lancaster. LA1 3JD. Email: Thomas.Earnshaw@cumbria.ac.uk

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