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An exemplar of naturalistic inquiry in general practice research

Susan McInnes

University of Wollongong, smcinn@uow.edu.au

Kathleen Peters

University of Western Sydney, k.peters@uws.edu.au

Andrew D. Bonney

University of Wollongong, abonney@uow.edu.au

Elizabeth J. Halcomb

University of Wollongong, ehalcomb@uow.edu.au

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An exemplar of naturalistic inquiry in general practice research

Abstract

Background Before beginning any research project, novice researchers must consider which methodological approach will best address their research questions. The paucity of literature describing a practical application of naturalistic inquiry adds to the difficulty they may experience.

Aim To provide a practical example of how naturalistic inquiry was applied to a qualitative study exploring collaboration between registered nurses and general practitioners working in Australian general practice.

Discussion Naturalistic inquiry is not without its critics and limitations. However, by applying the axioms and operational characteristics of naturalistic inquiry, the authors captured a detailed 'snapshot' of collaboration in general practice in the time and context that it occurred.

Conclusion Using qualitative methods, naturalistic inquiry provides the scope to construct a comprehensive and contextual understanding of a phenomenon. No individual positivist paradigm could provide the level of detail achieved in a naturalistic inquiry.

Implications for practice This paper presents a practical example of naturalistic inquiry for the novice researcher. It shows that naturalistic inquiry is appropriate when the researcher seeks a rich and contextual understanding of a phenomenon as it exists in its natural setting.

Disciplines

Medicine and Health Sciences | Social and Behavioral Sciences

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Abstract

Background: Before beginning any research project, novice researchers must consider which methodological approach will best address their research question(s). The paucity of literature describing a practical application of naturalistic inquiry adds to the difficulty they may experience.

Aim: To provide a practical example of how naturalistic inquiry was applied to a qualitative project exploring collaboration between registered nurses and GPs working in Australian general practice.

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Conclusion: Using qualitative methods, naturalistic inquiry provides the scope to construct a comprehensive and contextual understanding of a phenomenon. No individual positivist paradigm could provide the level of detail achieved in this naturalistic inquiry.

Introduction

Prior to undertaking a research project, the novice researcher must reconcile their philosophical worldview with the theoretical design that supports their research question (Creswell 2014). Challenging this decision are the methods of data collection, analysis and interpretation which must be considered within the

framework of a qualitative, quantitative and more recently mixed methods design(Creswell 2013). While naturalistic inquiry has been adopted as a research design since the mid 1980s, there are currently few exemplars applying this design in nursing research. This paper seeks to provide a practical application of how naturalistic inquiry has been successfully utilised to explore the nature of collaboration between GPs and registered nurses in general practice.

Background

A paradigm, or worldview, is a set of basic beliefs used to guide action and make sense of complex real world issues(Guba 1990, Guba and Lincoln 1994, Patton 2002). Individual inquirers adopt the paradigm that best represents their relationship to that worldview and helps legitimise the practice of their research(Guba and Lincoln 1994, Creswell 2013). Therefore, paradigms form an important theoretical framework to describe the researcher's belief system and how the inquiry will be practiced(Guba 1990). Naturalistic investigators accept that the ontological assumption around the nature of reality "cannot be proven or disproven"(Guba 1990)(p. 18). This of course is problematic to the positivist investigator whose philosophies are driven by the existence of one true and possible conclusion(Lincoln and Guba 1985).

Situated within a constructivist worldview, naturalistic inquiry was proposed as an independent paradigm of inquiry by Lincoln and Guba(1985) in their seminal work '*Naturalistic Inquiry*'. The two founding tenets of naturalistic inquiries as described by Lincoln and Guba(1985), are that there is no manipulation on the part of the inquirer and that the investigation is void of *a priori* outcomes. This contrasts with the ontological perspectives of positivist investigations which not only allow

manipulation of the study conditions but assert that it is not possible to conduct an inquiry without establishing an *a priori* theory(Lincoln and Guba 1985, Patton 2002). To the naturalistic investigator, this etic perspective engenders an artificial situation in which positivist designs produce “human research with human respondents that ignore their humanness”(Lincoln and Guba 1985) (p. 27).

The overarching aim of the Project described in this paper was to explore the nature of collaboration between registered nurses and GPs in Australian general practices. As an emergent design, naturalistic inquiry provided the scope to examine subjective and complex human experiences in the context and natural setting which they occurred(Lincoln and Guba 1985, Moxham 2012). Using purposeful sampling and qualitative methods, the candidate entered the participants' workplace to gather the narrative accounts of those with first-hand experience(Lincoln and Guba 1985). An inductive process of thematic analysis, allowed the researchers to construct a deep understanding of the phenomenon under investigation(Braun and Clarke 2006, Portney and Watkins 2009).

Given that the philosophical assumptions of the researcher underpin the ontological, epistemological and methodological approaches of different paradigms, it is important to present each in context. The exemplar of naturalistic inquiry presented in this paper will describe the nature of reality (ontology), the source and validity of knowledge (epistemology), and the strategy of inquiry (methodology). This will be achieved through presenting ways that the axioms and operational characteristic of Naturalistic Inquiry(1985) were applied to the research.

Applying the Axioms of Naturalistic Inquiry

Lincoln and Guba(1985) presented five basic axioms (beliefs) to differentiate naturalistic inquiry from other paradigms (Table 3.1). The first is founded on the ontological assumption that “realities are wholes that cannot be understood in isolation from their contexts”(Lincoln and Guba 1985)(p. 39).

Table Error! No text of specified style in document..1: Five Axioms of Naturalistic Inquiry

(adapted from Lincoln and Guba(1985), p. 37)

Axiom	Naturalist Paradigm
The nature of reality (ontology)	Realities are multiple
The relationship of knower to known	Each are inseparable
Generalisation	Statements are time and context bound
Causal linkages	It is not possible to distinguish cause from effect
The role of values in inquiry	The inquiry is value-bound

To understand the nature of reality, it is important to clarify the context of general practice within the Australian healthcare landscape. Like many other OECD countries, most general practices in Australia operate as small business enterprises(Saunders 2011, McInnes et al. 2017). The private nature and geographic spread of general practices throughout city, metropolitan, rural and remote communities differentiate this workplace from most other healthcare settings(McInnes et al. 2017). Individual practices operate according to local demands and the preferences of practice owners, who are predominately GPs. Different categories of nurses and their varying scopes of practice add further complexities to the skill mix in this dynamic environment(Australian Nursing and Midwifery Federation 2014). Given this diversity, it was plausible to conceive this research Project within a naturalist paradigm where realities could logically be

perceived as multiple constructions(Lincoln and Guba 1985, Guba and Lincoln 1994).

The second axiom relates to the epistemological relationship between the naturalist and subject(Lincoln and Guba 1985). In all naturalistic inquiries, the source of knowledge and the inquirer is inseparable and a transactional approach is adopted to examine the phenomenon(Lincoln and Guba 1985, Appleton and King 1997). By entering the general practice setting to collect data in the participants' environment the researcher became an intangible aspect of the Project. Individual face-to-face interviews adopted a semi-structured approach to data collection. This approach provided the researcher with the additional scope to use prompts and clarify responses(Polit and Beck 2014). All participants were informed of the researcher's role as a doctoral student with expertise as both a registered nurse and in general practice research. On reflection, this approach placed nursing participants at ease as they felt less vulnerable discussing their experiences and GPs were enthusiastic to discuss this workplace issue with a researcher.

The third axiom is concerned with generalisation and the assumption that a naturalistic inquiry accepts that phenomena are neither time nor context free(Guba and Lincoln 1982, Lincoln and Guba 1985). Rather than seeking to generalise findings, naturalistic inquiries present a rich description of the participants and Project setting so that the reader may determine transferability between situations(Guba and Lincoln 1982, Lincoln and Guba 1985). The researchers succinctly described that participants were recruited across multiple practice locations of variable sizes and clearly defined inclusion and exclusion criteria in all

reports to assist the reader to determine transferability(McInnes et al. 2017, McInnes In press, McInnes et al. In press).

The fourth axiom accepts that it is difficult to distinguish causes from the effect and that the best method of assessing these interactions is holistically in their natural contexts(Guba and Lincoln 1982, Lincoln and Guba 1985). Entering the participants' natural setting to conduct individual interviews facilitated the development of a rapport between the researcher and participant and provided the opportunity to observe intonations and body language(Opdenakker 2006, Irvine et al. 2013). Such observations were noted in reflective journals following each interview and were used as additional data to the interview transcripts(Miles and Huberman 1994).

The final axiom relates to the axiology of the inquirer who is value bound and grounded in the values of naturalistic inquiry(Guba and Lincoln 1982, Lincoln and Guba 1985). The research team comprised of a doctoral student, two registered nurse academics and one academic GP, each with extensive expertise in general practice and qualitative research.

Applying the Operational Characteristics of Naturalistic Inquiry

Recognising that naturalistic research requires more detail than addressing the five axioms, Lincoln and Guba(1985) proposed an additional set of fourteen operational characteristics to guide a naturalistic inquiry. While each characteristic is dependent on the five axioms, they exhibit a logical interdependence to each other(Lincoln and Guba 1985). The practical implementation of each operational characteristic is provided in Table 3.2.

Addressing Quality in Naturalistic Inquiry

Positivist paradigms have traditionally established rigour by addressing internal validity, external validity, reliability and objectivity (Claydon 2015). Lincoln and Guba (1985) suggest that such criteria are inconsistent with the axioms and operational characteristics of naturalistic inquiry. Internal validity is inappropriate because it supports the merging of outcomes into a single reality. Additionally, external validity is inconsistent with the axiom around generalisability. Reliability requires absolute stability and replication, and as an emergent design this is not possible. Objectivity fails because naturalistic inquiries employ the human and their values as an instrument. In response, Lincoln and Guba (1985) propose the concepts of credibility, transferability, dependability and confirmability to address trustworthiness and quality in naturalistic inquiry.

Credibility

Credibility is achieved through establishing confidence in the truth value of the data and by truthfully interpreting them (Polit and Beck 2014). Lincoln and Guba (1985) suggest naturalistic inquiries can generate credible findings through external checking (peer debriefing), negative case analysis, referential adequacy (checking interpretations against raw data), and member checking (checking interpretations with participants). Others define credibility as being related to rigorous methods that yield high quality data, the credibility of the researcher (training, experience) and the ability to implement the philosophical beliefs fundamental to naturalistic inquiry (qualitative methods, inductive analysis, purposeful sampling) (Patton 2002). Reflexivity, field notes, accuracy in the

transcription and the use of direct quotes further strengthen the credibility in the interpretation of naturalistic data(Tuckett 2005, Thomas and Magilvy 2011).

Table Error! No text of specified style in document..2: Characteristics and Exemplars of Naturalistic Inquiry
(adapted from Lincoln and Guba(1985), p. 39-43)

Characteristic	Description	Example
Natural setting	Realities must be understood in their context.	Individual face-to-face interviews were conducted in the participants' workplace.
Human instrument	Researchers use themselves and others as data-gathering instruments.	For consistency, one researcher conducted all interviews and analysed all data. Findings were cross-checked with other members of the research team until consensus was reached.
Use of tacit knowledge	Tacit knowledge accurately mirrors the value patterns of the investigator.	All members of the research team had expertise in nursing/medicine and general practice research.
Qualitative methods	The naturalist adopts qualitative methods because they can be adapted to deal with multiple realities.	The diverse nature of general practice supported a qualitative Project and the multiple realities that would be generated from participants.
Purposeful sampling	Purposeful sampling increases the scope or range of data.	Purposeful sampling ensured that participants had the experiences the researchers sought to explore.
Inductive analysis	Inductive analysis is more likely to identify multiple realities in the data.	An inductive process of analysis as suggested by Braun and Clarke (2006) was used in the interpretation of data.
Grounded theory	Substantive theories emerge from the data.	Given the diversity of settings and expertise of participants, no <i>a priori</i> theories were generated before the collection and analysis of data.
Emergent design	The naturalist elects to have the research design emerge rather than construct it.	Given the lack of research into this aspect of collaboration, it was appropriate to adopt an emergent design. Patterns within the data were allowed to emerge void

Characteristic	Description	Example
		of pre- conceived expectations.
Negotiated outcomes	Meanings and interpretations are negotiated with the people from whom the data is drawn.	Member checking was not conducted as part of this Project and is discussed in more detail later.
Case study reporting	Case study reporting describes multiple realities.	Multiple realities are presented in the findings through the inclusion of participants' quotes.
Idiographic interpretation	The researcher is inclined to interpret data as unique sources rather than generalisable cases.	By reaching consensus, the research team ensured interpretations were consistent with the participants' experiences and did not generalise findings to settings outside of those they occurred
Tentative application	The naturalist is likely to be hesitant about making broad application of the findings.	Less definitive terms such as 'may' and 'possible' were used during the interpretation and reporting of findings.
Focus-determined boundaries	Multiple realities define the focus rather than the inquirer's preconceptions.	The researchers were conscious of the influence their prior knowledge and expertise might have on the interpretation and presentation of data. Regular discussions among the research team helped ameliorate any preconceptions.
Special criteria for trustworthiness	Criteria to assess trustworthiness (credibility, transferability, dependability and confirmability) are adopted.	Consistent with naturalistic inquiry, the criteria for addressing trustworthiness were presented in the Projects methods and are discussed in detail in the following section.

Our research adopted a multifaceted and detailed approach to ensure accurate and credible findings. Prior to any data collection, the conduct of the Project was approved by the UOW / Illawarra Shoalhaven Local Health District (ISHLHD) Human Research Ethics Committee (HREC)(Approval HE14/459). All participants signed an informed consent to participate in the Project and gave additional verbal consent to audio record interviews. Purposeful sampling from diverse settings ensured variation in the sample and inclusion and exclusion criteria ensured that participants had the experience which the researchers wished to investigate. All interviews were audio recorded and transcribed verbatim. Given that accuracy in the transcription and interpretation of participants' meanings are important aspects in establishing credibility, all transcripts were read whilst listening to audio recordings. Following confirmation, transcripts were imported into NVivo 10™ which allowed codes and themes to be tracked. Consistent with naturalistic inquiry, all data underwent an inductive process of thematic analysis(Braun and Clarke 2006). Field note observations and reflective journaling were completed at the conclusion of each interview and became an important addendum during analysis. A search for negative cases identified patterns and trends which did not fit and forced the researcher to revise codes and themes until consensus was reached. The use of direct quotes in all final themes ensured interpretations remained a true and credible reflection of the participants' responses. Finally, the track record and expertise of the researchers have been acknowledged in reports generated from this Project(McInnes et al. 2017, McInnes In press, McInnes et al. In press).

Transferability

Transferability is the extent to which significant elements or factors in a naturalistic study may be extrapolated to other settings(Lincoln and Guba 1988, Polit and Beck 2010). However, it is not the role of the naturalist to determine if findings may be transferred to other situations outside of the time and context in which they were found. Rather, it is the naturalist's role to provide rich description so others may experience a sense of deja vu whilst drawing inferences and applicability to other settings(Lincoln and Guba 1985, Lincoln and Guba 1988). A clear description of time and context are proposed by Lincoln and Guba(Guba and Lincoln 1982, Lincoln and Guba 1985) as appropriate strategies to maximise the range of information and to enhance the transferability of findings in naturalistic inquiries. Other strategies to assist transferability include; providing a clear and comprehensive description of the Project participants, setting, and of the processes associated with data collection and analysis(Graneheim and Lundman 2004, Polit and Beck 2010).

To enhance transferability in our research, the researchers provided a clear and detailed description of the Project participants, setting, recruitment strategies and methods of analysis(McInnes et al. 2017, McInnes In press, McInnes et al. In press). This ensured the reader had appropriate knowledge of the context to determine the transferability of the findings to a broader sample of practices outside of those which participated. Transferability was further enhanced by a recruitment strategy which sought maximum variation in the sample. Participants were recruited from general practices in city, metropolitan and rural settings and varied in size from solo through to large group practices.

Dependability

If credibility is established then it may be argued that dependability is likewise proven(Lincoln and Guba 1985). It is possible in conventional paradigms for multiple inquirers to independently arrive at the same or similar interpretations. However, Lincoln and Guba(1985) argue that as an emergent design, it is likely that the interpretation by two or more investigators will diverge in a naturalistic inquiry. This confliction may be reconciled by robust communication, particularly at milestone points and by maintaining an auditable trail describing the Project purpose, selection criteria, data collection methods, findings and interpretations(Lincoln and Guba 1985, Thomas and Magilvy 2011).

This was a significant aspect of the researcher's naturalistic inquiry into collaboration in Australian general practice. The inclusion of registered nurse academics and a GP academic on the research team improved dependability and ameliorated the threat of discipline bias influencing the conduct and interpretation of data(Guba and Lincoln 1982). Robust discussions were cordial and provided opportunities to present and discuss interpretations until consensus was reached. Meeting notes were recorded and a detailed description of the research methods guiding the conduct of the Project are clearly articulated in all disseminated literature(McInnes et al. 2017, McInnes In press, McInnes et al. In press).

Confirmability

Confirmability is established when the data accurately reflects the information provided by the participants and that findings are not imagined by the inquirer(Polit and Beck 2014). Guba and Lincoln(Lincoln and Guba 1985) suggest that confirmability may be achieved through the triangulation of different sources and

perspectives. Reflective journaling which encompasses reasons for undertaking a naturalistic inquiry in a particular way and reflects assumptions or biases may also be used to establish confirmability(Guba and Lincoln 1982, Lincoln and Guba 1985).

The lead researcher reflected on the conduct and interpretation of data at regular intervals and recorded diary notations of thoughts and insights. Data were sourced across various settings and locations. For consistency, one member of the research team conducted all interviews and initial coding of the data (SM). Confirmability was further addressed by having two other members of the research team cross check codes for accuracy (KP and EH). All members of the research team discussed preliminary findings to ensure they were a credible interpretation of participants' responses.

Discussion

Limitations associated with naturalistic inquiry largely stem from Lincoln and Guba's(1985) criteria to establish trustworthiness. Sparkes(Sparkes 2001), reports that Lincoln and Guba are critical of the inappropriate use of internal validity, external validity, reliability and objectivity in naturalistic studies, yet they were satisfied to develop parallels based on these same criteria. Grounded theorists reject the axioms and assumptions of naturalistic inquiry as ungrounded conjectures(Glaser 2004). Pragmatists on the other hand, take exception to the lopsided argument that naturalistic inquiry is the only valid and meaningful way to study humans(Patton 2002).

The suggestion by Lincoln and Guba(Lincoln and Guba 1985) that credibility may be established through member checking has also drawn criticism. Sandelowski(1993) observes that participants will inevitably look for their own account of their

experiences which may be lost in the synthesis of multiple realities. The credibility of member checking is also rejected by Berkenkotter(1993), who rebuffs member checking as a credible source to assess trustworthiness. All transcripts in the Project were confirmed for accuracy by reading each transcript whilst listening to audio recordings. Having considered the issues presented by Sandelowski(1993) and Berkenkotter(1993), and the resource constraints of the Project, the researchers were satisfied that the transcripts were a true reflection of participant responses and elected to not undertake member checking.

In defence of naturalistic inquiry, Lincoln(Lincoln 1990) states that as a constructivist paradigm, the quality criteria are “nonfoundational” and grew out of concern of conventional paradigms (p. 73). As well, it is clearly stated by Lincoln and Guba(Lincoln and Guba 1985) in the preface of *naturalistic inquiry*, that; “This book should not be viewed as a complete product. It is more profitably seen as a snapshot in time of a set of emergent ideas” (p. 9). Consistent with a constructivist paradigm, criteria and assumptions associated with naturalistic inquiry continue to morph into multiple realities. The researchers in this exemplar acknowledge this perspective and accept that the Australian general practice setting is a rapidly evolving sector of primary healthcare. As such, the nature of collaboration between registered nurses and GPs is likely to continue to morph into multiple realities that will require continued assessment.

Conclusion

The novice nurse researcher can use this exemplar to determine the suitability of utilising a naturalistic inquiry approach in their own research. In this Project, we found that a naturalistic inquiry provided the scope to explore the nature of

collaboration in general practice within the context it occurred. While no positivist exploration in isolation could have provided the level of detail achieved in this naturalistic inquiry, future exploration within a positivist paradigm may help generalise and confirm findings to a broader general practice landscape.

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