



Discussion paper

Case study and case-based research in emergency nursing and care: Theoretical foundations and practical application in paramedic pre-hospital clinical judgment and decision-making of patients with mental illness



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ABSTRACT

Generating knowledge through quality research is fundamental to the advancement of professional practice in emergency nursing and care. There are multiple paradigms, designs and methods available to researchers to respond to challenges in clinical practice. Systematic reviews, randomised control trials and other forms of experimental research are deemed the gold standard of evidence, but there are comparatively few such trials in emergency care. In some instances it is not possible or appropriate to undertake experimental research. When exploring new or emerging problems where there is limited evidence available, non-experimental methods are required and appropriate.

This paper provides the theoretical foundations and an exemplar of the use of case study and case-based research to explore a new and emerging problem in the context of emergency care. It examines pre-hospital clinical judgement and decision-making of mental illness by paramedics. Using an exemplar the paper explores the theoretical foundations and conceptual frameworks of case study, it explains how cases are defined and the role researcher in this form of inquiry, it details important principles and the procedures for data gathering and analysis, and it demonstrates techniques to enhance trustworthiness and credibility of the research. Moreover, it provides theoretically and practical insights into using case study in emergency care.

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Case study and case-based research as a basis for inquiry

The terms *case*, *case study*, and *case methods* are used by a variety of authors [1–7] who each assign particular meanings and procedures for inquiry. Generally speaking, a case study is “an empirical inquiry that investigates a contemporary phenomenon within its real-life context” [8], p. 13. It is used to probe and analyse particular phenomena that is new, unexamined, or poorly understood. Case studies allow researchers to understand the *how* and *why* of contemporary events, problems, and situations in ways that do not

require control over those events or problems [8]. They seek to understand the event, problem or situation within what is referred to as a *bounded system*. Creswell [6] suggests that:

... the investigator explores a bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information (e.g. observations, interviews, audio-visual material, and documents and reports), and reports a case description and case-based themes [6].

Case study is an appropriate way “for those interested in the richness of actual cases, understanding a good story, staying close to naturalistic events, exploring new areas and discovering new phenomena, and applying our understanding to therapeutic ends” [9]. Moreover, case study can provide a powerful story to illustrate a particular social context or phenomenon [10]. The type of case

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study that is best suited to a particular research study depends on what the researcher is seeking to understand. Stake as cited in Creswell argues that “case study research is not a methodology but a choice of what is to be studied” [6]. Other researchers [1,11,12] suggest that it is a strategy of inquiry, a methodology, or a comprehensive research strategy for a methodology. Fundamentally, case study is “both the process of learning about the case and the product of that learning” [13]. A classic example of the use of case study to examine a new and emerging problem in emergency care is Shaban’s [14] case study of paramedic clinical judgment and decision-making of mental illness, which followed Stake’s [3] approach. This approach was used because it is sympathetic to the background and context of the case and it best suited the particular research question. Central to Stake’s [3] approach and philosophy is that:

We study a case when it itself is of very special interest. We look for the detail of interaction within its contexts. Case study is the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances [3].

Stake’s approach underscores the importance of *context* and *interaction* in coming to understand the particularity and complexity of the *case*, which is defined next.

Identifying the case or cases and its elements

The identification of the case is critical to the nature and type of case study research. In interpretive case study, researchers are required to understand the *case in context*, where they information about the case and its context during prolonged engagement. Researchers aim to obtain internal consistency and meaningful information about the case and the problem, rather than to compare it with theory [9]. Generally speaking, there are three types of case study: intrinsic, instrumental, or collective [3]. An *intrinsic case study* is one in which the researcher has an inherent interest in an entity or event. The need to understand it arises out of its distinct yet ordinary features rather than a need to understand how it relates to other entities or to a problem more broadly. The aim is to learn about the particular case itself [3,13]. In such instances, there may be no choice about what the actual case is as it is already determined. In *instrumental case study*, the study of a case facilitates the understanding of the problem – what Stake refers to as the *issue*. The entity, or the case, is of secondary interest to understanding the issue. Whether or not the case is typical of other cases is not of interest. Instead, examining the ordinary case in its everyday context is the focus so as to arrive at an understanding of the issue [3,13]. Stake suggests that, in reality, little distinguishes intrinsic and instrumental case study, as a case study may begin as intrinsic but evolve to become instrumental depending on that which is of interest. When there is a need to look to more than one case to understand an issue, *collective case study* is appropriate. The similarities and differences of the cases, and the variety and redundancy therein, are of value to both the inquiry and to understanding the issue. For this reason, the choice of cases is purposive because studying them will provide a better understanding of the issue.

For each type of case study, there are single-case or multiple-case applications and there is variation in the unit of analysis, although these are typically individuals, groups, and organisations. Whatever the application or unit of analysis, Stake’s [3] approach requires that we have a “sincere interest in learning how they function in their ordinary pursuits and milieus and with a willingness to put aside many presumptions while we learn” [3]. Emphasis is placed on “particularization of the issue of interest” [3]. Stake argues that:

The real business of case study is particularization, not generalization. We take a particular case and come to know it well, not primarily as to know how it is different from others but what it is, what it does. There is emphasis on uniqueness, and that implies knowledge of others that the case is different from, but the first emphasis is on understanding the case itself [3].

Three important elements define the nature and type of instrumental case study. These are the *case* or *cases*, the *context*, and the *issue*. In Shaban’s [14] collective instrumental case study of paramedic clinical judgment and decision-making of mental illness the *cases* were paramedics, the *context* was the Queensland pre-hospital emergency care setting, and the *issue* was how they accomplished clinical judgement and decision-making of mental illness and what influenced this aspect of their work. To understand the issue about these cases in this context, Shaban undertook a collective instrumental case study according to Stake’s approach. Central to Stake’s approach to case study is the examination of a *case in context* so as to arrive at an understanding or “particularization” [3] of an *issue*.

Role of the researcher

In case study, it is the researcher who is the instrument for data gathering and analysis, and who undertakes deep and prolonged engagement with the case(s) in the context. Researchers should consider their *role* during data gathering and analysis. Stake argues that the role of *interpreter* is to examine “the nature and quality of activities and processes, portraying them in narrative description and interpretive assertion” [3]. In such instances, the researcher is immersed in the context of the research, where it is their responsibility to develop an understanding of the issue by spending “extended time on-site, personally in contact with activities and operations of the case, reflecting, and revising descriptions and meanings of what is going on” [5]. The subjectivity of the researcher’s experience and interpretations is inherent in the research process. Interpretively, the researcher and the participants are inexorably linked in the study design, the generation of data, and the analysis of findings.

Case study research often works from the position that gathering and interpreting insiders’ perspectives will enable a deeper and richer understanding of the world being particularised. Without a familiarity of this kind, understanding the field and practices therein is often strained. Misinterpretations may result, requiring further immersion in the field [15,16]. Although an insider in the setting of this research, it is important to balance between the *emic* and *etic* perspectives. This distancing between the research and participants within the field permitted what Brewer [16] refers to as *critical gaze*, which is essential in maintaining balance between the *emic* (insider) and *etic* (outsider) perspectives [17]. This enabled me to adopt the role of *interpreter* as described by Stake [3], where:

... the case researcher recognises and substantiates new meanings. Whoever is a researcher has recognized a problem, a puzzlement, and studies it, hoping to connect it better with known things. Finding new connections, the researcher finds way to make them comprehensible to others [3].

The research unearthed the factors that influenced this aspect of their work. In case study, the researcher is recognised as the primary analytic instrument, moving recursively through the data continuously until arriving at theoretical saturation [18]. The ultimate aim of the analysis is to provide “particularization of the issue” [3]. As the interpreter, Shaban [14] connected to other paramedics’ accounts of how they accomplished clinical judgement and decision-making of mental illness in the Queensland pre-hospital emergency care setting. The research unearthed the

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