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# What can acute medicine learn from qualitative methods?

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## **Abstract**

### **Purpose of review**

The contribution of qualitative methods to evidence-based medicine is growing, with qualitative studies increasingly used to examine patient experience and unsafe organisational cultures. This review considers qualitative research recently conducted on teamwork and organisational culture in the Intensive Care Unit (ICU) and also other acute domains.

### **Recent findings**

Qualitative studies have highlighted the importance of interpersonal and social aspects of healthcare on managing and responding to patient care needs. Clear/consistent communication, compassion, and trust underpin successful patient-physician interactions, with improved patient experiences linked to patient safety and clinical effectiveness across a wide range of measures and outcomes. Across multidisciplinary teams, good communication facilitates shared understanding, decision-making and coordinated action, reducing patient risk in the process.

### **Summary**

Qualitative methods highlight the complex nature of risk management in hospital wards, which is highly contextualised to the demands and resources available, and influenced by multi-layered social contexts. In addition to augmenting quantitative research, qualitative investigations enable the investigation of questions on social behaviour that are beyond the scope of quantitative assessment alone. To develop improved patient-centred care, health professionals should therefore consider integrating qualitative procedures into their existing assessments of patient/staff satisfaction.

### **Keywords**

Qualitative methods, patient safety, organisational culture, teamwork, patient perspectives.

# What can acute medicine learn from qualitative methods?

## **Introduction**

Research investigating patient outcomes in acute care settings has identified the importance of social factors (e.g. staff skills and attitudes, culture) as a determinant of safe and effective patient care. For example, issues of organisational management, institutional culture, teamwork, leadership, and patient-staff interactions have all been found to underlie the safety of care provided to patients. To investigate these, health service researchers have extensively utilised qualitative methods [1]. This refers to a set of investigative techniques for analysing naturally occurring phenomena in context [2], and within healthcare these are used to understand how patients and healthcare professionals make sense of the world, organise themselves and interact with each other [3]. Qualitative methods cover a broad range of techniques including design principles, data elicitation practices and analytical procedures [4], and are highly versatile, shedding light on complex issues related to people, groups, organisations and cultures. In acute healthcare, qualitative methods have been used to generate new explanatory and theoretical models about many aspects of the care cycle, including effective decision-making [5] [6] and communication [7] between care team members, patient and staff experiences [8], staff burnout [9], leadership behaviour [10\*] [11], and retrospective case reviews [12].

Qualitative methods primarily emerge from the social sciences (e.g. social psychology, sociology, anthropology), and are used to examine and develop theory on social behaviour. However, within healthcare, the interdisciplinary approach of qualitative methods can lead to resistance from other more deductive research traditions. Issues which draw particular scepticism include the extent to which qualitative findings can be generalised and the role such findings play in helping to develop new interventions [13]. Some of these concerns stem from misunderstandings about the objectives and scope of qualitative inquiry, where different methodologies foreground different assumptions about reality and ways of thinking about knowledge [14]. Others result from a need to better account for how qualitative studies are contributing to a holistic understanding of evidence-based medicine

[15]. Many arguments have addressed the theoretical considerations of using qualitative methods in healthcare research (e.g. [16] [17]); however, in this article we aim to discuss how such methods have enriched our knowledge of acute medical care. To this end we first provide a brief definition of qualitative methods, and then through a review of recent empirical studies, examine how qualitative research has furthered our understanding of healthcare provision by multidisciplinary teams, and the culture of healthcare organisations.

### **What are qualitative methods?**

Qualitative methods are a family of investigative techniques for collecting, exploring and analysing naturally occurring social behaviour. They are particularly suited for understanding ‘how’ and ‘why’ social phenomena take place [3], and are used to build large and semantically rich data sets that expand understanding (e.g. interviews to explore subjective experience), reduce complexity (e.g. content analysis of online data), or typically combine to do both (e.g. multi-method research designs). Qualitative methods aim to provide explanatory and theoretical models of human behaviour through focussing on the meaning, experiences and perspectives of individuals and communities. Such models can then be used to inform new practice, interventions, or lines of enquiry for future research. Qualitative methods are particularly useful for investigating organisational behaviour, and are used to examine how people collaborate to perform work and how organisations influence the beliefs and practices of their members.

Qualitative methods are not without limitations. The broad array of methods available and the different theoretical orientations underscoring their use can complicate efforts to justify and interpret research designs (Table 1). Similarly large data sets are very time-consuming and labour-intensive to accumulate, organise and analyse. Despite these disadvantages the merits of qualitative methods are now increasingly recognised within clinical research, with qualitative studies being accepted within medical journals [1]. While no universal rules exist governing when and how qualitative methods are used [18], a number of formats are common to most research designs, including interviews, focus

groups, participant observation, ethnography, content analysis and case reviews. In particular, within healthcare, qualitative research has been applied extensively in order to develop our understanding of how healthcare providers collaborate and develop institutions for providing safe and effective care to patients.

## **Organisational culture**

Qualitative methods have been widely used to investigate organisational culture within healthcare institutions [19]. Organisational culture encompasses the shared values, norms, beliefs and customs of an organisation which influence how staff perceive, think and feel in response to situations and events [20] [21\*]. The practices surrounding patient safety, patient-physician interactions and healthcare team coordination are shaped by organisational culture and for this reason a number of organisations now use cultural assessments to support their clinical governance activity [22]. Oftentimes, the relationship between organisational culture and patient care has been examined through surveys (e.g. [23]), and while these yield important data (e.g. for identifying problems in safety culture), qualitative investigations provide valuable insights on how culture develops and influences behaviour.

For example, ethnography has revealed the complex nature of risk management in acute hospital wards, and shows safety practices to be highly contextualised to the demands and resources available to staff [24]. Where nurses have few resources and competing priorities, qualitative research shows that to manage patient care, risks are reconceptualised and downgraded (e.g. in relation to other risks), risky behaviours become normalised (e.g. not hand washing), and poor procedures become standard and commonplace. Staff behaviour toward managing patient risks are also influenced by wider cultural contexts. Interview data has shown that accurate incident reporting by specialist physicians is often viewed as redundant because administrative duties are deemed to be bureaucratic, with little account for the inevitable and unmanageable features of medical work [25]. Similarly, patient safety programmes introduced to hospital wards from external organisations face challenges because such programmes are viewed within the context of prior government-led interventions [26]. A qualitative

multi-methods study by Dixon-Woods et al. [26] examined responses to an intervention for reducing central line infections from 98 staff working across 17 ICUs. Despite not having government affiliation, qualitative research demonstrated common concerns among staff that the intervention represented another top-down, externally imposed initiative with the potential for data to be used for performance management and public shaming purposes [26]. Such beliefs adversely affected genuine engagement of staff in the programme and contributed to varied performance across the 17 ICUs. Thus through analysing the perspective of health professionals, qualitative methods offer a unique window into understanding aspects of organisational culture, including cultural contexts external to the care setting, which nonetheless intrinsically shape healthcare practice.

However, perhaps some of the most valuable contributions of qualitative research to understanding organisational culture in healthcare have been conducted at the level of staff-patient interactions. Research on patient perspectives (e.g. attitudes, values, emotions, behaviours and interactions of patients) suggests patients should be integrated into safety assessments, with patient accounts of good or poor care being used to detect unsafe organisational cultures [27] [28]. Patient perspectives have therefore been linked with patient safety and clinical effectiveness across a wide variety of treatments, settings, population groups and outcome measures [29]. In particular, research has shown that patients assess organisational culture in healthcare institutions through their interactions with clinical staff [30]. For example, interview data has highlighted that patients who share positive relationships with clinicians are more likely to “speak up” about health concerns [31], experience less stress, and maintain better adherence to evaluation programmes [32]. Similarly within critical care environments, qualitative questionnaire data has revealed that clear communication, compassion and emotional support are integral to the satisfaction of family members, leading to reduced stress over time [33]. Qualitative findings of this nature reflect how patients prioritise the interpersonal and social aspects of healthcare and have contributed to the inclusion of patient perspectives in essential care quality frameworks (e.g. The Picker Institute [34], NICE [35]).

Qualitative methods also provide alternative routes to assessing organisational culture through patient perspectives, particularly when addressing the methodological challenge of eliciting subjective data. Subjective knowledge and ideas are guided by tacit theories concerning what such knowledge means, how it may change and how it should be used [18]. Within patient-doctor interactions such implicit beliefs and expectations play an integral role in navigating underlying asymmetries of power (e.g. patient health vulnerability, expert/lay person roles). Qualitative methods, through multi-method approaches, have illuminated the nature of social constructs which shape successful patient-doctor interactions. For example, research from Skirbekk et al. [36] examined conditions of trust in patient-physician relationships, which exist implicitly within dialogue, through triangulating participant observation with semi-structured interviews. Consultations between patients and physicians were video-taped, with implicit thoughts about the trust relationship stimulated post-consultation by reviewing the videotape during interviews. Video-elicitation techniques of this kind enable subjective experiences to be explored by assisting participant recall, re-experience and reflection [8], while similarly avoiding the problem of reflexivity disturbing participants during action [37]. Skirbekk et al. [36] were therefore able to unpack the latent features of trust negotiation and identify the explicit activities of physicians (e.g. showing an early interest in patients' well-being, demonstrating sensitivity, engaging on personal levels and establishing common ground) which opened up trust relations [36]. This study therefore highlights the power of qualitative methods to both provide insight on culture within healthcare institutions, alongside facilitating the development of explicit strategies for improving care delivery on the basis of phenomena which are, at first, empirically hard to access (with this only being achievable from analysing patient perspectives on care).

## **Teamwork**

Alongside studying organisational culture, qualitative research has also been used extensively to examine teamwork in healthcare settings. Teamwork refers to the way in which team members function and coordinate to produce a 'synchronised' output [38]. Studies of teamwork in healthcare generally focus upon how group activities such as communication, leadership, and coordination



influence team performance (e.g. task success, patient safety), or the factors (e.g. team climate, roles and hierarchies) that influence team behaviour [39]. Within acute medicine, teamwork has been demonstrated to both underlie poor (e.g. miscommunications resulting in medical error) and good (e.g. crisis management to avert a serious patient deterioration) clinical outcomes [40]. Investigations of teamwork in healthcare tend to utilise methods from social and applied psychology such as experiments and surveys [41], with commonly used measures including survey tools such as the TeamSTEPPS Teamwork Perceptions Questionnaire [42] and the Safety Attitudes Questionnaire [43]. These have yielded important data on the nature and manifestation of teamwork in healthcare settings (and its association with clinical outcomes). Furthermore, quantitative experimental studies have highlighted how team behaviours vary according to clinical scenario and personnel [44], and analyses of error have highlighted the frequency and circumstances under which medical errors arise [45].

Thus, quantitative research has yielded important information on teamwork in healthcare – yet it is arguably qualitative research which provides most insight for improving standards of care and patient safety. In particular, over the past 15 years healthcare research has focussed significantly on developing ways to improve teamwork in acute medical teams [11]. For example, in domains such as anaesthesia and surgery, tools for observation, training, and providing feedback on clinician teamwork, skills have been developed to improve the care provided by multidisciplinary teams [46] [47]. Qualitative research underpins the development of such systems, as they are built through aggregating data from incident reports, interviews, and observations on the teamwork skills that underpin effective team performance. Yet, alongside this, qualitative research with acute healthcare is also providing insight into aspects of team performance that have previously received little investigation, and are to some extent inaccessible through quantitative methods.

For example, research by Fackler and colleagues [48] has investigated workflows of clinical teams as they coordinate to provide patient care over an extended period of time. Through observations and interviews, and drawing on naturalistic decision-making theory [49], this work highlights the challenges of ensuring a team is able to maintain an ongoing understanding of the clinical work being

performed in critical care. Challenges include ensuring that, where there are a large number of staff members and patients, decision-making is not fragmented and that all members are able to contribute and remain aware of patient decision-making which may in the future affect them. In particular, aspects of unit functioning, such as shift changes, make it difficult for teams to maintain a common understanding of the status of patients in the ICU, especially where team communication is not optimal (e.g. between doctors and nurses). Critical to maintaining this 'common ground' is effective story-telling, whereby the story of a patient is continually told and communicated through the process of care, with different members of the ICU team contributing their insight to the story.

Furthermore, interview research investigating communication through surgical pathways has shown that problems in handovers from wards to theatres, poor communication between anaesthetists and surgeons, and poor procedures for information transfer are critical to patient safety [50]. In addition, observational studies of team communication during postoperative handovers have shown considerable inconsistency in patterns of handover communication (e.g. information-seeking behaviours). In particular, while clinical data tends to be documented and shared in handovers, more tacit aspects of knowledge (feelings, anticipations, concerns) are often not documented or shared [40]. Such qualitative work highlights the challenges of maintaining continuous and coordinated teamwork within and across a complex acute unit, with the construct of the 'shared mental model' being especially important.

Shared mental models relate to how teams form a shared and accurate understanding of the tasks they face, and the ways in which they coordinate to complete those tasks [51]. Structured observational research on the utility of shared mental models has shown that team mental model similarity (e.g. for the sequence of tasks involved in an intubation) influences team performance during simulated anaesthesia inductions [52]. Furthermore, and linking to the discussion above, semi-structured interviews of critical care teams have shown that shared mental models between clinical staff are critical for the delivery of longitudinal care across handovers and shift changes [53]. In terms of understanding how shared mental models are developed, observational research in the ICU has shown

the importance of team dynamics. In particular, where senior and junior doctors participate together in clinical decision-making, they are more likely to form (through discussion and questioning) a shared mental model for clinical risks facing patients [54]. This work highlights the importance of shared mental models for teamwork in acute care, but also the influence of team factors (e.g. hierarchies) upon such models.

Finally, qualitative teamwork research has also shown the influence roles and tasks have upon how team members coordinate together. For example, interview research in the ICU has revealed the variation in team skills and behaviours that are required for safe and effective performance for different tasks in critical care (e.g. emergency care, routine decision-making) [54]. Interview research examining team leadership has shown that effective senior clinician decision-making is partly dependent upon the type of problems being faced. During tasks (e.g. rounds) where more collaborative forms of decision-making are required (e.g. information gathering from junior team members), more democratic and participatory forms of decision-making and leadership are found to underlie effective care. Conversely, in situations where rapid decision-making is required (e.g. emergency scenarios), autocratic and directive forms of decision-making and leadership are important for patient safety. This speaks to the highly contextual nature of teamwork, whereby leadership and decision-making are influenced by the type of task being faced by a team. Such qualitative findings move away from viewing teamwork in healthcare as 'static' and 'uniform', and instead highlight that effective team behaviour is highly dependent upon the context being managed.

## **Conclusion**

Recent studies have shown that qualitative methods are extending our knowledge of evidence-based medicine by highlighting the social contexts underpinning risk management in hospital wards, and by providing an alternative way to examine unsafe organisational cultures. Qualitative investigations have shown patient/staff perspectives to be highly useful for detecting good and poor healthcare practice, with multi-method studies creating exciting new insights on successful doctor-patient

relations and health-related behaviour. Moreover, qualitative methods are highly complementary with quantitative methods for investigating teamwork within multidisciplinary teams. Yet, while quantitative research is useful for identifying teamwork-related trends (e.g. satisfaction with teamwork) and understanding how teamwork influences clinical performance (e.g. through experiments), qualitative investigations identify the fine-grained teamwork skills that underpin good performance, and provide insight into phenomena that are either less-well established or difficult to capture through quantitative methods (e.g. workflows). This therefore shows that to develop improved patient-centred care, health professionals should consider integrating qualitative procedures into their existing assessments of patient/staff satisfaction.

### **Key points**

- Qualitative studies highlight the importance of interpersonal and social aspects of healthcare on managing and responding to patient care needs.
- Qualitative analysis of patient/staff perspectives provides an alternative way of examining unsafe organisational cultures and managing the complex nature of risk in hospital wards.
- Qualitative methods both complement quantitative investigations, while similarly providing insights about healthcare performance which are beyond the scope of quantitative inquiry.
- To develop improved patient-centred care, health professionals should consider integrating qualitative procedures into their existing assessments of patient/staff satisfaction.

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