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Full title: The role of emotion in patient safety: Are we brave enough to scratch beneath the surface?

Short title: Role of emotion in patient safety

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Summary

Healthcare professionals work in emotionally charged settings, yet little is known about the role of emotion in ensuring safe patient care. This article presents current knowledge in this field, drawing upon psychological approaches and evidence from clinical settings. We explore the emotions that health professionals experience in relation to making a medical error and describe the impact on healthcare professionals and on their professional and patient relationships. We also explore how positive and negative emotions can contribute to clinical decision making and affect responses to clinical situations. Evidence to date suggests that emotion plays an integral role in patient safety. Implications for training, practice and research are discussed in addition to strategies to facilitate health services to understand and respond to the influence of emotion in clinical practice.

Keywords: emotion; patient safety; medical error; impact of error; clinical decision making; personality

Humans are emotional beings. In the face of danger a rational, slower considered response to a risk comes at a cost (being bitten by a snake or hit by a car). The primitive brain kicks in fast, sometimes without recourse to conscious processing, and the associated physiological response (increases in heart rate and adrenalin) prepares us for fight or flight. It is only as we run or jump out of the way that we become aware that we feel emotion (fear in this case). It is at this point that we might stop and think, "What could have happened? Did I do the right thing?" In a complex interplay of emotion and cognition this experience becomes a memory of the event that is reactivated in similar situations. When framed in this way, the links between the emotional response and patient safety may seem remote, but look again.

It's a hectic night in A&E. The team is short-staffed due to sickness, and registrar, Dr X, has had to stay late to cover until further support is found. His partner was furious about the night out that has had to be cancelled, and the angry conversation has left him feeling upset. Three drunken youths are admitted with cuts to their face and hands following a fight in a local bar. The noise levels are high as the friends of the three injured youths shout and swear. Dr X feels angry that he is spending his evening attending to these youths who have brought it on themselves. His irritation increases when he recognises one of the friends is a patient he had treated with similar injuries only a few weeks ago. He is struggling to calm the most seriously injured member of the group so that he can treat his wounds, but no one seems to be available to help him. The sister on duty is intimidating and everyone else is busy.

Parts of this scenario may be familiar; there may be an implicit acknowledgement by others of our physiological states (e.g. tiredness) or our reaction to patients (e.g. irritation), but do we ever really consciously and regularly review, reflect and stop to explicitly consider the impact of these emotions on patient safety?

Traditionally, medical care has been viewed as a practice that is based on rational and considered thought - but healthcare professionals do emotional work; they deal with pain, joy, anxiety, unhappiness, hope, loss, and anger on a daily basis. The effective delivery of healthcare relies on a complex synthesis of many components, and organisational and contextual factors are just some of

these. But healthcare professionals are also human, and therefore come to that work with their own emotional states and traits that influence their response to these factors and the way they react to situations, patients and colleagues. As such, emotions play an intrinsic role in clinical judgement, and will do so increasingly as patients (with their own emotions) are asked to be fully involved in their own care, with decisions made in partnership with clinicians. Clinical practice is also about relationships – and here too emotions are key. They are integral to team-working, effective leadership and the patient experience - all important issues in healthcare.[1-3]

Pat Croskerry[4] has written extensively about the need to acknowledge the role of emotion in healthcare safety and argues that, "H*ow providers feel, their emotional or affective state, may exert a significant, unintended influence on their patients, and may compromise safety"* (p. 199). Here we discuss literature exploring the role of emotion in patient safety and the underpinning psychological theory; firstly looking at the more overtly acknowledged area of emotion as an outcome of patient safety incidents, and then as a contributor. We argue that whilst it is important to recognise the impact of emotional responses on patients and healthcare professionals in the aftermath of patient safety incidents, emotions also have a broader role in patient safety within and beyond clinical decision making, and before, during and after patient care.

Methods

We drew upon existing literature reviews and key papers in the topic areas of emotion as a consequence of error, emotion and decision making and emotion as a trait. We identified pertinent primary studies and extracted findings relating to the issues addressed in our paper: a) the emotions that health professionals experience in relation to making a medical error; b) the emotions that health professionals experience in clinical practice and c) the impact of these emotions on healthcare professionals, their professional and patient relationships and on clinical performance. We synthesized these data in a narrative form to provide a brief summary of evidence.

EMOTION AS AN OUTCOME: AFTERMATH OF ERROR

Recognition of the emotional impact of patient safety incidents (and medical errors in particular) on both patients and healthcare professionals is growing.[5,6] The physical, emotional and financial trauma

experienced by patients, and the powerful emotional impact of error on healthcare professionals has been described by many authors.[5, 7, 8] Health professionals report significant emotional distress in the aftermath of making an error, and in particular, feelings of shame, guilt, fear, panic, shock and humiliation.[9] This distress readily transfers into personal life, creating additional burdens, such as inter-personal conflicts and sleep disturbance.[5, 9] In the workplace feelings of distrust, reduced goodwill and detachment from patients are all described as sequelae.[5, 10]

The emotions that health professionals experience can directly influence their safety behaviour. Patients and families consistently report that they would like errors in their care disclosed to them, but healthcare professionals who do not have their emotional needs addressed may be unwilling to report or disclose errors via organisational reporting systems, and in particular, to patients. In cases where they do disclose errors to patients, distressed health professionals may not do this as effectively resulting in poor or incomplete disclosures that create additional distress for all those involved.[11, 12]

Evidence from a recent large scale study of open disclosure highlights that well managed disclosure takes place in a context where staff and patients are well prepared and supported before, during and afterwards.[12] The effectiveness and quality of a disclosure of error are therefore likely to be enhanced for patients, families, healthcare professionals and organisations if the emotions that arise in relation to disclosure are addressed. It is suggested that helping healthcare professionals to manage feelings of fear, shame and anxiety experienced as a result of being involved in an error encourages openness and transparency when communicating with patients.[5] Similarly, supporting patients and families through the emotions that arise when experiencing a medical error enhances their ability to engage with the healthcare team and organisation to learn lessons and make changes as a result of errors.[11,12]

Whilst the emotional experiences of healthcare professionals and patients have been studied in the context of medical error and its disclosure, there is a dearth of work around organisational support for both groups to successfully manage the expression of emotion resulting from such events.[5,12] The availability of such support mechanisms might be one way to avoid potential future psychological problems for healthcare professionals and their patients.

EMOTION AS A CONTRIBUTOR TO PATIENT SAFETY

Few doubt or deny that when things go wrong, the emotional repercussions for staff and patients are immense, but acceptance of a role for emotion as a predictor of safe performance is less widely accepted in health care. In the remaining sections we explore the less frequently considered roles of emotion in patient safety as a) an influential factor in clinical decision making and b) a stable individual trait, and consider the implications of these for patient safety. We also pose some suggestions for how, as a healthcare community, we can begin to explore the role of emotion in patient safety.

i. CLINICAL DECISION MAKING

Healthcare professionals frequently make judgements and choices about the management of their patients in time-pressured and emotionally-charged environments, yet little is known about the impact of emotion on clinical outcomes.

The limited literature from within healthcare suggests that clinical decisions may be influenced by factors that trigger emotion in clinicians. Reflective narratives describe how powerful negative emotions, such as disgust[13] and horror[14] experienced by healthcare professionals while attending to patients, are regular feelings that impact judgement and practice. A clinician's emotional response to a patient (e.g. whether or not they like them) may also impact decision making.[15, 16] Working with hostile or friendly colleagues or conflicts within multi-professional clinical teams may elicit feelings that affect both individual and collective clinical judgements.[17, 18] A healthcare professional's previous experience (e.g. positive or negative emotions associated with similar past patients or level of confidence) may also have an impact on their own emotional response, which in turn influences their perception of the amount and type of information considered important for clinical judgement.[4, 15, 19]

Empirical evidence outside healthcare has shown that when there is risk and uncertainty, emotions, rather than a cognitive appraisal of objective facts and choices may drive decisions and behaviour.[20, 21] Judgement has been examined within the context of psychological dual process models[22, 23] which propose that everyday decisions are based on a complex interplay between emotion-based and

cognitive-based processing and evaluative systems. These models may offer one way of gaining a deeper understanding of clinical decision making.[24, 25] For example, they propose that the *types* of emotion experienced during decision making are also important. Findings suggest that the mood (e.g. sadness due to problems at home) that an individual brings with them to a decision,[26, 27] their immediate visceral response (e.g. fear, level of emotional arousal) to a situation or stimulus,[28, 29] and the anticipated future feelings (e.g. regret) which may arise as a consequence of their decision[30, 31] all impact decision making.

If we refer back to the scenario presented earlier, negative emotion may have a detrimental impact on Dr X's clinical decisions. His upset at having to cancel his night out, his anger about how the youths sustained their injuries, and the noise created by their friends, may make his immediate goal to treat and discharge the youths as soon as possible and lead to rushed assessment and treatment. A previous encounter with one of the group may lead him to associate the current case with feelings of irritation, which could result in him attending to the patients with less sympathy and patience. Furthermore, his reluctance to ask the intimidating colleague for help may mean that he doesn't seek a second opinion about the most optimal care for the most seriously injured youth. However, it is also possible that the negative emotions felt by Dr X result in more efficient and focused care. An acknowledgment of the strong visceral feelings of anger may lead him to recognise that he needs to seek the support of the sister on duty, and motivate him to address the long-term health risks of excessive drinking while attending the patient.

The assumption that only negative emotion will impact on the safety of care should also be examined. Had the same doctor been in a happier frame of mind, and felt supported by his colleague, he may have spent more time attending to their injuries in a compassionate and friendly manner, and consulted his colleague about his treatment plan for the most seriously injured patient. While his behaviour may have appeared more appropriate, would these positive emotions lead Dr X to make more appropriate case management decisions to those he might make while experiencing negative emotions?

Intuitively it might seem that positive emotion would produce better care, and there is some evidence that in certain situations, it may produce more considered reasoning.[32] However, evidence outside healthcare suggests that the role of positive and negative emotion in clinical decision making is likely to be complex and not as straightforward as one might expect. When making judgements, positive emotion has been shown to decrease the amount of information gathered[33] and to lead to individuals to focus on less specific features,[34] while negative emotion has been shown to increase the amount of information gathered[33] and make specific detail more salient.[34] Furthermore, there is growing evidence that specific negative emotions may have different effects on the way we process and respond to information.[35-37] Appraisal Tendency Theory[35] suggests that fear and anger evoke different appraisals of risk and that these guide our behaviour. Findings suggest that a negative appraisal that evokes fear is more likely to lead to deliberative and risk averse decisions and behaviour (e.g. admitting a young women complaining of headache for overnight assessment because a previous patient with similar symptoms later died), while a negative appraisal that elicits anger may lead to more spontaneous and risky judgements and actions (e.g. discharging a patient with vague symptoms without performing a thorough physical examination because she attends frequently and is always abusive).[35] This suggests that the specific emotions experienced (not just the emotional valence, i.e. positive versus negative) can influence the decision making process.

There is a now need to change the perception that clinical decision making is based purely on a rational consideration of objective facts and options, and to gain more knowledge about the non-rational, emotion-based processes and mechanisms that are involved in clinical judgement. Empirical studies that provide evidence of how and when emotion impacts clinical judgement are now needed so that we can understand and deal with its impact on clinical performance and associated outcomes.

ii. EMOTION AS A TRAIT

When considering the role of emotion in the delivery of health care and patient safety, most discussion refers to emotions as a ‘state’ which may fluctuate according to particular situations. However, individuals may display very consistent patterns of emotional responsiveness which are different from those of others. In other words, individuals have stable emotional ‘styles, or ‘personality traits’. Personality traits may be defined as habitual patterns of behavioural responses that are

evident across different situations (stimuli). Further, traits have the capacity of directing responses to such stimuli in characteristic ways.[38] In the context of patient safety, this might explain some of the variance in reactions to the same clinical situation or error within a multi-disciplinary team. To date, this concept has lacked investigation, possibly due to the preference for exploring and addressing factors in the design or delivery of health care that are considered more amenable to intervention such as training.

Personality can impact on the expression of emotion in three main ways[39] and each of these may impact on patient safety differently. Firstly, individuals will differ in terms of their general experience of positive or negative emotions (their affective style); secondly, in the intensity of their emotional experience (their affective lability); and thirdly, in the extent to which they display their emotions (their affective expressiveness).

Intuitively, it is easy to understand how a healthcare professional's affective style might impact both directly and indirectly upon patient safety outcomes. For example, individuals who generally experience high levels of positive emotions are known to report fewer conflicts,[40] maintaining job performance by remaining rational and free of negative emotions,[41] both of which may be of importance in a clinical setting where effective team working is critical. It has also been suggested that, in complex situations, positive affect may lead to more efficient and careful problem-solving and decision making[32] which would clearly be of benefit in clinical decision making within teams. Conversely, there is evidence that positive affect leads to quicker decisions but that these are not necessarily more accurate.[42] A tendency to experience negative emotions may equally influence patient safety outcomes. For example, there is emergent evidence that nurses reporting lower levels of the personality trait 'emotional stability', demonstrate lower patient-reported quality of care,[43] and nurse reported patient safety outcomes.[44] A 'negative' affective style might also indirectly impact on patient safety. There is some evidence to suggest that negative affect is associated with greater experience of workplace stress or strain for medical staff, and maladaptive coping.[45, 46] Such factors (e.g. burnout) have, in turn been linked with more negative safety perceptions,[47] failures in cognitive performance (e.g. accuracy, reaction time, attention, reasoning/judgement, memory)[48] and poorer patient safety outcomes (e.g. patient falls, hospital acquired infections, medication errors etc.).[49] In

summary, affective style may impact directly on patient safety outcomes, but also indirectly through emotional reactivity (affective 'lability') and ineffective coping strategies.[50]

As well as variations in affective style and intensity, individuals vary in their emotional expressiveness. Numerous advantages are described for those people who are able to recognise, process and express their emotions.[51] For example, individuals who are able to more readily express their emotions are likely to be happier[52] and higher in self-esteem.[53] In fact, interventions encouraging expression of emotion through 'expressive' writing have been shown to have a positive impact on psychological health in medical students over a three month period.[54]

Our hypothetical doctor may generally experience more negative emotions (his affective style) and therefore, often find himself feeling stressed at both work and home. Furthermore, he may experience his emotions very strongly and find that he experiences more stress than his colleagues in similar situations. If he was able to express his feelings to colleagues, and be honest with colleagues about his ability to cope then this may present few problems for him. Or, if he didn't wish to share his emotional experience with others, an adaptive response might be to take time to stop, reflect on his emotional state, and then during clinical encounters try to make sure sufficient time is taken to come to decisions. However, if he bottles up his frequently experienced and keenly felt emotions, this may both acutely and over time cause problems for his health, his practice, and outcomes for the team and their patients.

Considering the role of 'trait' as well as 'state' emotion might well lead to a better understanding of how different individuals experience, react to and cope with the same clinical environment and challenges over time. It has been suggested previously that personality type variables might have more of an influence in 'non-restrictive' roles (e.g. roles with reasonably high levels of autonomy).[55] As many healthcare professionals enjoy a high degree of autonomy in their roles, one might suggest that having a more thorough understanding of the complex interactions between the clinical context, trait and state emotional responses would help us better manage patient safety in the future. It is also important to highlight that recognising emotional traits is not about screening and selection into

healthcare roles, but helping individuals recognise how they react in certain circumstances and offering them an opportunity to acknowledge the role of their emotions.

AN EMOTIONAL PLEA

Our collective experience as psychologists, who have engaged with healthcare practitioners in our research, is that emotion is central to patient safety throughout the course of care. GPs may refer to difficult or 'heart-sink' patients; anaesthetists to the positive team dynamic as a critical component of good performance, and junior doctors to the anxiety they experience when doing a night shift on a new ward in an unfamiliar environment, with an unfamiliar team. The powerful influence of emotion on behaviour is widely accepted in psychological theory,[21, 56] yet other than limited education around attrition, burnout and patient centred care, healthcare professionals do not learn to recognise and anticipate the impact of emotions on their behaviour in real time, and to actively discuss this with others. Small pockets of organisational activity address the management of emotions and personal traits, but the sharing of best practice is rare; acceptance that emotions may contribute to clinical performance and patient safety incidents is even rarer. We still lack knowledge of the impact of interventions that address healthcare professionals' emotions on outcomes for patients, staff and healthcare organisations.

Along with a growing number of others[4, 57, 58] we call for researchers and clinicians to recognise the powerful influence of emotion when exploring patient safety problems and developing solutions. Progress in understanding and acknowledging the role of emotion in patient safety can be made in a number of ways. Reflection on the role of emotion in patient safety is vital in professional training practice and throughout continuing professional development.[59] Leaders and mentors are critical to fostering a culture in which the discussion of emotion and its impact on patient safety is actively encouraged. The increasing use of Schwartz Rounds[60, 61] in healthcare organisations suggests that there is a growing recognition of the value of reflective practice initiatives which allow health professionals to do this. Researchers and practitioners may also look to collaborate in setting research agendas which explore and examine the role of emotion in patient safety and acknowledge this when developing patient safety interventions. It may be useful to draw upon psychological models and knowledge gained from outside healthcare to assist in the development of clear research

frameworks. Collectively, these actions can help us as a healthcare community, to begin to scratch beneath the surface of the role of emotion in patient safety. Healthcare professionals may then be brave enough to recognise the impact of their emotions on the way they do their job, and the impact of clinical work on their emotions.

Take-home points
• Healthcare professionals work in emotional environments, but the potential impact of emotion on patient safety is not widely acknowledged. • Emerging 'second victim' literature shows that error has emotional repercussions for healthcare providers. • Positive and negative feelings may influence clinical decision making and healthcare professional's responses to clinical situations – yet little is known about how these may contribute to patient outcomes. • The tendency to view clinical practice as a purely rational process hinders consideration of the potential impact of emotion on healthcare safety. • Strategies drawn from psychological approaches and evidence from clinical settings should be developed to encourage the healthcare community to recognise the role that emotion plays in patient safety.

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