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17 **Prosocial Voice in the Hierarchy of Healthcare Professionals: the role of emotions after**
18 **harmful patient safety incidents**
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Purpose of this paper	Supporting and nurturing effective communication between healthcare professionals is vital to protect patients from harm. However, not all forms of employee voice are effective. Fear can lead to defensive voice, while the role of other emotions to drive voice behaviour is less well understood. This paper aims to understand what role the broader range of emotions, including compassion and shame, experienced by healthcare professionals following patient safety incidents (PSI) play in the subsequent enactment of prosocial voice, a positive and other-oriented form of communication.
Design/methodology/approach	This study is based on data from a single English NHS hospital: interviews with healthcare professionals involved in PSIs (N=40), observations at quality and risk committees and meetings (N=26 hours), and review of investigative documents (N=33). Three recent PSIs were selected for cross-case analysis based upon organisational theory related to professional hierarchy, employee voice, and literature on emotions.
Findings	Among three cases, we found variance in context, emotional experience, and voice behaviour. Where professionals feared blame and repercussion, voice was defensive. Meanwhile where they experienced shame and compassion, prosocial voice was enacted to protect patients.
What is original/value of paper	Our study highlights how emotional experiences, such as shame and compassion, can mediate blame and defensiveness, and lead to the enactment of prosocial voice in professional hierarchy.
Practical Implications	Healthcare organisations seeking to foster prosocial voice should: 1) be more considerate of professionals' emotional experiences post-PSI and ensure adequate support for recovery 2) establish norms for professionals to share their struggles with others 3) reward professionals who demonstrate caring behaviour 4) buffer professionals from workplace pressures
Keywords	Prosocial Voice, Professional Hierarchy, Compassion, Shame, Fear, Patient Safety Incidents

Introduction

Research has shown 70 per cent of patient safety incidents (PSI) globally result from failure to effectively communicate safety related concerns (Leonard et al., 2004). In the English NHS there have been several high-profile inquiries into hospitals and departments where large numbers of patients have suffered avoidable harm in recent years. (See for example the tragic cases of the Bristol Royal Infirmary (1991-1995), Mid Staffordshire Hospitals (2005-2009), and Shrewsbury and Telford Hospital NHS Trust (2000-2019). In all cases, a lack of effective communication between healthcare professionals was identified as a major contributory factor. Hence, understanding how to support and nurture effective communication among healthcare professionals seems vital to protect patients from harm.

Prosocial voice is a type of effective communication focused on benefiting others, it is the expression of work-related information intended to improve a situation, underpinned by cooperative motives (Morrison, 2014; Van Dyne et al., 2003). This positive and proactive behaviour can generate intelligence about concerns in the workplace, supporting the identification of opportunities to prevent potentially harmful errors. However, not all forms of communication enacted by healthcare professionals are effective and voice can occur for very different reasons. While prosocial voice is other-oriented, defensive voice is self-protective. Defensive voice is the expression of ideas intended to shift attention and blame away from the professional, to focus on others, and is driven by fear (Van Dyne et al., 2003). Meanwhile, healthcare professionals who work in organizations or departments where a culture of blame pervades (such as that described by Sir Robert Francis in some NHS organizations (2015), fear punitive measures, and hence may opt to stay silent and contribute nothing to effective communication out of concern for self-preservation. As such, fear has been identified as a powerful emotion which prevents individuals from effectively voicing patient safety concerns.

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3 While fear is the primary emotion to receive attention in the field of voice research
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5 (Lebel, 2017), our research aims to understand what role the broader range of emotions
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7 experienced by healthcare professionals in the aftermath of patient safety incidents (PSI) play
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9 in the subsequent enactment of prosocial voice. This is important because while the negative
10
11 consequences for professionals involved in PSI are well documented, there is little evidence of
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13 positively valenced outcomes (Sirriyeh et al., 2010). Moreover, In recent years we have also
14
15 seen how excessive workloads and poor leadership negatively affect employee wellbeing,
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17 which can limit an individual's ability to offer compassion (West et al., 2020). Subsequently,
18
19 a lack of compassion towards patients negatively impacts the safety and quality of the care
20
21 delivered (West et al., 2020). Hence, understanding how emotional experiences of healthcare
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23 professionals shape the decision to enact voice and its subsequent efficacy seems important
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25 (Morrison, 2011).

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28 Through our in-depth analysis of three cases involving PSI, we aim to understand how
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30 emotions influence both the efficacy and safety of voice of healthcare professionals. We focus
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32 our findings and discussion on understanding how the emotional experiences of healthcare
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34 professionals can mediate blame and defensiveness found in professional hierarchy and lead to
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36 the enactment of prosocial voice. Finally, we provide practical insight into how healthcare
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38 organizations can effectively manage emotional experiences and support practices to foster
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40 prosocial voice to enhance patient safety overall.
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50 **Voice in Healthcare Professional Hierarchy**

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53 Voice is a recognised source of organizational intelligence about potential failures in the
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55 workplace in a range of industries (Martin et al., 2020; Morrison, 2014). Thus, it's not a surprise
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57 that organizations in high-reliability industries such as healthcare, aviation, and military, have
58
59 instituted mechanisms for promoting voice and reporting concerns in the workplace (Francis,
60

2015). These mechanisms often take the form of information technology-based solutions like incident reporting systems (Martin et al., 2018), policies and protocols, and assertiveness and leadership training (Reitz & Higgins, 2020). However, the efficacy of these approaches appears mixed; studies report professionals remain hesitant to engage with these formal processes due to a fear of being drawn into official procedures (Brooks, 2018; Martin et al., 2018). The considerable breadth of healthcare specific literature addressing ‘speaking-up’ (e.g. Okuyama et al., 2014) find voice is more likely to occur in day-to-day interactions, rather than through formal channels.

Professional Hierarchy

Within the context of healthcare, voice does not occur across an even playing field, in fact voice is shown to be restrained by the hierarchical arrangement of professionals. This is perhaps best explained as a ‘hierarchical challenge’, a cultural barrier which is found to exist between healthcare professions (Senot et al., 2016). This barrier inhibits nurses from challenging physicians, reduces inter-professional collaboration, and contributes to the delivery of lower quality care overall. Studies show that employees of lower status or hierarchical position feel they would be sanctioned for speaking up, that their input would not be taken seriously, or their voice would be perceived as inappropriate (Detert & Edmondson, 2011). Professional hierarchies such as those found among aircraft crews, sports teams, or in hospital operating theatres are particularly susceptible to this restraint on voice (Weiss et al., 2016).

Defining oneself as a professional seems to depend on the degree of occupational autonomy one possesses, and ability to exert control over the labour process (Freidson, 1974, 1988). Professional autonomy and control have historically depended upon possession of specialised knowledge and an ability to abide by occupational norms without direct supervision. Professional claims to autonomy and control can become strained when working with others of varying hierarchical position. In fact, working collaboratively is found to amplify

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2
3 hierarchical differences in healthcare, rather than unify them (Finn, 2008). For example,
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5 specialist doctors are viewed as having the most power, intra-professionally viewed as higher
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7 than generalist doctors, and inter-professionally nurses and other clinically affiliated
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9 professions, are seen as subordinate to doctors (Abbott, 1988; Freidson, 1974, 1988). It's often
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11 up to those professionals of the highest hierarchical position to help others create shared
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13 meaning about the scenarios they encounter, as a means to see the big picture and understand
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15 how different sources of expertise fit together (Clark & Wheelwright, 1995).
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20 Not all forms of voice are beneficial for developing intelligence about safety concerns.
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22 Hence, next we segue into description of an important form of voice that by all description
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24 does generate positive intelligence about concerns in the workplace. In this study, we are
25
26 concerned with the enactment of prosocial voice in the hierarchy of healthcare professionals.
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31 **Prosocial Voice**

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34 Prosocial voice demonstrates a sense of commitment to the well-being of one's organization,
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36 colleagues, and clients (Morrison, 2014). Voice of this nature is based on altruism, it's
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38 constructive, and intended to bring about positive change and improvement for the organization
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40 (Van Dyne et al., 2003). Examples of prosocial voice include the expression of solutions to
41
42 problems based on cooperation, or suggesting constructive ideas for change which benefit the
43
44 organization. Prosocial voice is other oriented and linked to motivations such as client
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46 orientation (Lam & Mayer, 2014), and a sense of obligation (Liang et al., 2012). Enacting
47
48 prosocial voice is an inherently risky process where individuals must weigh both the positive
49
50 and negative consequences of their decision based on two key outcome-related judgements;
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52 first, whether voice is perceived to be effective, and second whether it's safe to voice concerns
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54 (Morrison, 2014; Sherf et al., 2020).
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3 Efficacy of voice relates to whether speaking up is perceived to be effective. That is, if
4 a professional decides to ‘speak-up’, will their ideas be taken onboard by those in charge and
5 have impact. Alternatively, their attempt might be futile. Voice futility occurs when individuals
6 ignore or exclude people (Detert & Treviño, 2010). Safety of voice determines whether there
7 are possible perceived negative outcomes or risks associated with speaking up. When a team
8 is said to be psychologically safe (Edmondson, 1999), a shared belief exists among members
9 that it is safe for interpersonal risk taking.
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20 *Emotional Conditions for Voice*

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22 Judgements about the safety of voice can extend above cognitive calculation of risk and could
23 be experienced as emotions, such as fear, which can bypass deliberate decision making (Detert
24 & Edmondson, 2011; Kish-Gephart et al., 2009). Failures in the workplace, such as PSI,
25 represent an exemplary context in which to examine emotions and their relationship to
26 employee voice (Cannon & Edmondson, 2001). Past conceptualisations of proactive
27 behaviours, like voice, have tended to be mostly cognitive in nature, generally without
28 consideration for specific emotional conditions (Bindl & Parker, 2012). Hence, there is an
29 opportunity for this study to consider what role specific emotional conditions play in the
30 enactment of voice.
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43 As Lebel (2017) points out, there is benefit to explore how specific emotions influence
44 specific aspects of proactivity, with fear being the prime emotion to receive substantial
45 investigation in the field of employee voice. Lebel proposes that employees view ‘flight’ from
46 fearful situations as blocked when they exhibit felt responsibility, the consideration of past
47 events, or behaviours, said to drive future proactivity. In contrast with prosocial forms of
48 behaviour however, individuals might feel compelled to enact voice for defensive reasons,
49 which may or may not promote intelligence that is useful for addressing safety concerns.
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Defensive Voice

Defensive voice is enacted through communication that shifts attention and blame to others, rather than constructively dealing with the situation (Van Dyne et al., 2003). That is, employees driven by fear of punitive consequences enact defensive voice as a proactive form of self-protection. Fear sits amongst a broader range of emotions experienced by professionals in the aftermath of PSI, including remorse, shame, humiliation, and guilt. While the negative consequences for professionals are well documented amidst this literature, we find little evidence for positive outcomes associated with PSI (Sirriyeh et al., 2010). Hence, our research seeks to understand what role emotions experienced by health professionals in the aftermath of PSI play in the subsequent enactment of positive and proactive behaviours like prosocial voice.

Methods

Case Research Method

This section will describe the rationale for the selection of three cases of harmful patient safety incidents (PSI). Our three cases represent different workplace settings and professional contexts, which are compared through cross-case analysis. The real name of the organization, or individuals, have been replaced with pseudonyms.

Case selection was based on replication logic whereby each case was selected so that it either likely predicted similar results, or produced contrary results, but for predictable reasons (Eisenhardt, 1989; Yin, 1994). Factors for case selection include: 1) a harmful patient safety incident (PSI) occurred, having been investigated by the organization's risk management department and found to result from ineffective communication, 2) the incident was relatively recent (within 2 years of data collection), and 3) variance in the hierarchical position of professionals involved (e.g. both doctors and nurses). Three comparative cases out of ten possibilities provided by the quality and risk department were selected, Surgery, Maternity, and Urology.

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3 Each focal respondent is classified and numbered according to their professional and/or
4 managerial position. Respondents who are doctors appear with a 'D', nurses with a 'N', while
5 those who are professional-manager hybrids will be indicated with an 'M'. For example, a
6 nurse manager would be 'NM', a doctor with managerial responsibility would be 'DM'.
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12 [INSERT TABLE 1 ABOUT HERE]
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14 ***Research Design***

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16 Voice research is predominantly quantitative (e.g. Sherf et al., 2020). While this approach
17 identifies correlation between antecedents (e.g. positive emotions) and voice behaviour, it
18 cannot describe particular mechanisms which drive these results. To make significant advances
19 in the field of voice research, Engemann & Scott (2020) emphasise a need for methodological
20 diversification. Therefore, we adopt qualitative methodological design, which we consider
21 complementary and reciprocal to this field.
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30 ***Data Collection***

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32 The empirical setting for this research is a large NHS hospital in England.¹ The access provided
33 by the hospital for this study was in-depth, made possible by the appointment of an honorary
34 research fellowship. This gave the field researcher access like a hospital employee, including
35 a name badge and access to the hospital intranet to view documentation and policies. Field
36 research began with regular attendance at hospital committees and meetings for a period of
37 three years. At the Quality and Risk Committee, a meeting where hospital leaders review
38 patient safety incidents (PSI), following which they develop improvement plans, 10 cases of
39 PSI were identified for analysis. During follow-up meetings with the hospital risk management
40 team, all investigative documentation related to 10 cases, including names of employees
41 involved in each incident was shared in confidence to the field researcher. Of these 10 cases, 4
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58 ¹ Research ethics were approved by the University of Warwick Biomedical and Scientific
59 Research Ethics Committee and the NHS hospital research department (Reference # REGO-
60 2015-1642).

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3 of them met the case selection criteria identified above. The first case, a failure in a pathology
4 lab, was a pilot, which is not reported in this study, but which we used to try out a draft
5 interview guide. The guide was informed by critical incident analysis interview technique,
6 which aims to evaluate professionals' frame of reference, thought processes, and feelings about
7 the incident (Chell, 2004) . This focused on three-components: 1) the events and circumstances
8 leading up to, and immediately after the PSI, 2) the process of investigation, and 3) emergent
9 practice changes by professionals.
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19 Following completion of the pilot case, three other cases: Surgery, Maternity, and
20 Urology, were initiated. The field researcher pursued data collection for these cases in parallel.
21 Separate introductory meetings between the field researcher and heads of department from each
22 case was held. Interviews lasted roughly an hour each and took place in break rooms or offices
23 near their department. Written consent for interview was obtained from each participant and
24 all data was anonymised. Follow-up meetings with each department occurred one year later to
25 share initial findings with participants and gather insight into whether changes we discovered
26 were sustained. All interviews were digitally recorded in person and later transcribed into
27 verbatim text. The field researcher maintained a journal and took handwritten notes during all
28 observations. Table 2 presents an overview of data sources, comprising: 40 fully transcribed
29 interviews, 26 hours of meeting observations, and review of 33 documents.
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44 [INSERT TABLE 2 ABOUT HERE]
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46 ***Data Analysis***

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48 All data sources including transcribed interviews, meeting observations, and investigative
49 documentation were uploaded and analysed using NVIVO software. We thematically analysed
50 the qualitative data in an iterative fashion, moving back and forth between the data and an
51 emerging theoretical structure (Cunliffe & Eriksen, 2011). This inductive analysis (Pratt, 2009)
52 helped generate theoretical ideas about processes and patterns, similarities, and differences.
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3 Initial coding of the data by coder one, the first author (JR), identified over three
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5 hundred data codes, and a code book was printed. A second coder (author NB), read the code
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7 book to improve the reliability of initial analysis by checking that rationale for assignment of
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9 codes to raw data was identifiable. Through this process of coding to the double (Green &
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11 Thorogood, 2018), coder one and two discussed that some data did not fit well into existing
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13 codes, this led to either the revision of the code, or shifting data to a new, more relevant code,
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15 leaving us with 198 codes.
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19 Moving from open to axial coding (Strauss & Corbin, 1998) our first-order codes were
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21 integrated into a set of theoretical categories. Next, coder one and two discussed how the
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23 categories related to one another within existing conceptual frameworks of employee voice.
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25 During this stage of analysis, we detected emerging categories which represented the emotional
26
27 experiences of healthcare professionals in the aftermath of a PSI. In the next section we
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29 describe the process we undertook to classify the emotional experiences of healthcare
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31 professionals which required drawing upon existing frameworks.
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34 35 *Emotional Conditions for Voice* 36

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38 Our coding identified healthcare professionals that had undergone experiences of an emotional
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40 nature in response to a PSI which influenced their subsequent enactment of voice. In order to
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42 accurately portray our interpretations of their responses, coders one and two drew upon
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44 Lazarus's core relational themes (Lazarus, 1991; Lazarus & Cohen-Charash, 2001) as a means
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46 for initial appraisal of emotional experiences. Where themes began to emerge, we further
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48 updated our appraisal components with literature that built upon Lazarus. Researching
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50 emotions is challenging, primarily because many of the variables that analysis depends upon
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52 are non-observable. Thus, to form an understanding, coders one and two made "theoretical
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54 judgements" (Lazarus, 1991: 44) by focusing upon observable variables relevant to emotional
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56 experiences, specifically actions, what people said, and context (Lazarus, 1991). To reach
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3 consensus about the classification of a particular emotion coders one and two followed a
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5 process where they reviewed the data from each case separately, before coming together and
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7 holding a scholarly discussion to assess inter-coder agreement and ensure consistency of
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9 classifications. Consensus from both coders was required for inclusion. We found fear, shame,
10
11 and compassion as prime emotions expressed by healthcare professionals in our study.
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17 *Fear*: Lazarus's (1991, p.55) original description of anxiety: "*facing uncertain, existential*
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19 *threat*", is identified as a low-intensity type of fear. Fear is considered a distinct, powerful and
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21 pervasive emotion (Kish-Gephart et al., 2009). We appraised fear through actions and words
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23 of participants which demonstrate avoidance of the repercussions from voice (e.g punitive
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25 investigations), a focus on perceived threats, and pessimistic judgements about risk (Kish-
26
27 Gephart et al., 2009). As we expected, fear led professionals towards enactment of defensive
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29 practices and either defensive voice or to "*keep quiet*" (N4, Maternity).
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35 *Shame*: Shame is described as a "*failure to live up to an idealised identity*" (Lazarus, 1991,
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37 p.243). Where blame is directed at oneself, then shame was likely. We appraised shame where
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39 the words used by an individual describe a negative self-evaluation that has threatened their
40
41 identify as a professional (Gibson, 2018). Following Lazarus, we note that actions can include
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43 a desire to hide from things which reinforce negative professional self-evaluation. To this end,
44
45 a professional may choose to stay away from the workplace (hide), they might exit their role
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47 or organization (escape), or seek to compensate for error and/ or prevent further occurrence
48
49 (improve) (Gibson, 2018). Our findings highlight experiences of shame among high-
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51 positioned professionals engendered subsequent enactment of prosocial practices, specifically
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53 setting expectations for voicing concerns among members of their hierarchically arranged
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55 teams and committing to listen.
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3 *Compassion*: Compassion, described as “being moved by another’s suffering and wanting to
4 *help*” (Lazarus, 1991, p.290), was appraised through a three-part process of noticing, feeling,
5
6 and responding to suffering (Dutton et al., 2014). Broadly defined, we adopt the term suffering
7
8 to refer to a range of unpleasant experiences encountered by individuals in the aftermath of
9
10 failure, including emotional and physical pain, trauma, and psychological distress (Lilius et al.,
11
12 2011). A link between compassion and the subsequent enactment of prosocial practices was
13
14 detected in our findings. This was seen with lower-positioned, but senior, professionals
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16 encouraging voice among their junior colleagues who in turn enacted prosocial voice.
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21 **Presentation of data findings**

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23 In this empirical section, we focus data analysis upon the emotional and practical conditions
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25 which led to the enactment of different forms of voice by professionals in each of the three
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27 cases. We derived these categories from the conceptual framework presented by Van Dyne, et
28
29 al. (2003). A contextual overview of the PSI in each case is found in Table 3.
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32 [INSERT TABLE 3]
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Maternity

We discovered a culture of blame on the maternity unit. Professionals explained how they were afraid of being blamed for making mistakes, which was worsened by the punitive nature of investigations into their practice by departmental risk managers. As a result, professionals were fearful to speak-up about PSIs, so instead, they chose to remain silent.

“We keep quiet about incidents. People fear losing their jobs over making a small error, it feels very reactive and that we will be punished if something’s gone wrong” -N4

“Nurses always see incidents as ‘oh my god’ I’m going to be blamed. It’s very much a blame culture and we miss opportunities to learn because there is such a focus on the individual” -NM2

Because the investigation into the PSI was so focused on individuals and less on broader learning, professionals were motivated to protect themselves by avoiding association with official investigations.

“It’s an unfriendly atmosphere. People are fearful and everyday think about how they can protect their general medical council number from being reported as part of an incident” -D3

During our follow-up one-year later we discovered several formal changes had been implemented. Investigations into PSI were now managed at the corporate level and had a greater focus on initial debriefs and round-table discussions with staff. Further, a trend of similar incidents led to the introduction of a ‘respectful challenge’ policy, where staff learn how to question colleagues about the rationale behind their decisions. At the follow-up meeting, NM2 remarked *“During a shift last week [managers] were trying to free-up beds, I saw a nurse respectfully challenge the decision of a consultant, they came to the right decision for the patient and kept [patient] on the unit”*. We also learned professionals in maternity are handed ‘compassion cards’ by their colleagues when they were seen exhibiting prosocial

behaviour towards patients such as *“Touching a patient’s hand, sitting with the family ... we call it ‘making a difference’.”* (NM2). We view these formal changes initiated by managers as promising steps towards minimising blame and promoting prosocial behaviour.

Urology

The death of the patient on the urology ward had a profound impact upon N5 and her colleagues. N5 blamed herself for the death of the patient, holding herself responsible. The investigation itself, which labelled N5 as the *“root of the problem”*, was a *“soul destroying”* experience for her, resulting in her exiting the organization one year later. N5’s manager (NM5) was supportive in the immediate aftermath having been impacted through close proximity with N5, and blamed D4 the senior urologist involved who denied all knowledge of the incident. As a result, NM5 sought to protect her nursing staff through the enactment of defensive practices on the ward, including a standard operating procedure for nurses to inform the doctor immediately, and document who they spoke to.

In the aftermath of the PSI we interpreted that nurses had become fearful, having witnessed the traumatic impact on N5, and worried they might be similarly blamed in the event of future failures. Therefore, they were found to have enacted defensive voice driven by a sense of compliance, fear, and self-preservation:

“you must document the results and you must inform the doctors. don’t just put it in the notes. You must tell them straightaway, act on it, and write the doctor’s name who you spoke to” – N11

“Inform the doctor, write it in the notes the blood result and who we’ve spoken to” -N12

Evidence for continued enactment of defensive voice by nursing staff was found during our follow-up one year later. NM5 explained that *“nurses learned our lessons from when the patient died, we need to protect ourselves, and we are”*.

Surgery

We assessed expressions by several members of the surgical team as shame following the never event, a PSI of the highest magnitude. Specifically, DM1 a lead surgeon, and the other surgeons involved, D1, and D6, contrasted this PSI with the ideal they had for their team and profession. This was a surgical team who routinely performed complex operations and claimed to have regularly gone “*above and beyond for patients*” – D6. These three individuals all felt that they, through the occurrence of a never event had failed to live up to the high standard of care they had previously demonstrated.

*“We have always been very focused on achieving the best results for our patients and that’s why we were all very upset by this incident. Our leader [DM1] is the best surgeon that I’ve ever worked with and **for this to happen in our team was very disappointing and very surprising... it was such a bitter pill to swallow ... it was a very personal, negative experience**” - D6*

“Once we found out that it [retained swab] was in the patient, I got upset and I wished it had never happened. In my head, it won’t fade, because I’ve had a bad experience. I will remember that for ages”- D1

DM1, the lead surgeon, who completed hundreds of similar procedures over a 21-year surgical career, felt the greatest responsibility for the event, describing the difficult decision not to re-open the incision on the patient while a swab was still missing: “*It was up to my discretion to weigh the pros and cons of reopening the patient... if I open this wound again, I’m increasing the chance of infection. So, I took a decision not to open this patient.*”. DM1’s decision was to finish the procedure, wake the patient up and transfer to the recovery area.

“In the last seven and a half years we’ve done 350 [of these procedures], we had this one retained swab ... It was very, very difficult! ... I’m now 21 years in this business as a plastic surgeon and it never happened to me. But it happened! And I had to take this decision on my discretion because everyone was looking up to me because I’m the most senior member of the team” - DM1

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3 During the research interview, D6 pointed at a display board on the wall with several
4 posters stuck to it and said “*Do you see that? That is our **wall of shame***”. The poster this
5 individual pointed at was the ‘PSI at a Glance’ which, in addition to a detailed sequence of
6 events including the titles of those involved, listed ‘key learning points’, and in bright red
7 capitalised letters the words ‘NEVER EVENT’.

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16 *“When I sit here in our coffee break room, the never event is up there*
17 *[poster] to remind us. We can’t hide from it.” - D6*

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21 While intended as a learning tool, this poster reminded surgeons of their failure every
22 time they entered the break room, reinforcing a negative professional self-evaluation. The use
23 of the word ‘hide’ in the above quote is an acknowledgement that this PSI occurred and is
24 incongruent with D6’s professional idealised identity.

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30 Reeling from the emotional experience we appraised two practices enacted by the
31 surgical team as valenced towards improvement. DM1 was the driving force in the enactment
32 of a more vigilant approach to communicating with team members. First, by setting
33 expectations around what is rewarded, supported, and expected for intra-team communications,
34 and second, by committing to listen to all team members including nurses, junior doctors, other
35 surgeons and anaesthetists. DM1 describes this change (emphasis added in bold):

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45 *“It’s not about being a good surgeon, but being a better surgeon who has a*
46 *multi-disciplinary team approach - the nurses, my junior doctors, myself, the*
47 *anaesthetist, everything is discussed openly, it’s everyone’s responsibility.*
48 ***No one is not important enough to be listened to ever** ... I’m more attentive*
49 *in terms of making sure of the communication between team members, ‘are*
50 *your swabs good?’ ‘are your instruments good?’ “ -DM1*

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54 In this way, the lead surgeon has improved the efficacy for voice in the team, by setting
55 expectations around communication and committing to listen. This commitment to listen is
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3 demonstrated, this time by D6, who describes the importance of it during surgery: *“If nurses*
4 *are counting [swabs], I look towards them, stop, and listen.”*
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7
8 To summarise, the experience of shame and resultant actions, these surgeons
9
10 demonstrated a felt responsibility which compelled them to improvement-oriented behaviour,
11
12 linking shame to part of the practical conditions enabling prosocial voice. The other practical
13
14 conditions which helped engender prosocial voice stemmed from compassion by other
15
16 members of the surgical team.
17

18
19 We assessed expressions by members of the surgical team, primarily nurses, as
20
21 compassion towards the patient who was harmed.
22

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24
25 *“We’re not here to harm patients, we’re here to help patients! That patient*
26 *was harmed, and that’s not good... we’re here to make sure the patient is*
27 *safe” – N7*
28

29
30 *“I worry about the huge cost to the patient. [the patient] lost time off work,*
31 *time coming back to the hospital, I’m sure it’s huge and I’m very sad about*
32 *that”. – N1*
33

34 Whereas surgeons primarily expressed concern over their failure to live up to a
35
36 professional ideal, most nurses on the team noticed and were affected by the patient’s suffering,
37
38 drawing attention to the human consequence of the PSI, and catalysing the need for
39
40 improvement on their behalf. This prosocial behaviour aims to protect patients and contrasts
41
42 with defensive behaviours which are more oriented towards protecting the professional.
43

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45
46 *“We all have a duty of care to our patients. I was very concerned that*
47 *[patient] had to suffer. I’m more focused on patients’ experiences now than*
48 *I used to be, I may not have appreciated that before the PSI” – N9*
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51
52 Not only did nurses notice how the patient was harmed, but specifically, we
53
54 noted the use of compassionate language by professionals which described the patient
55
56 analogously as a family member.
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3 *“We’re quite a caring team and you have to think that could be you or your*
4 *family there, so you want to make sure that they’re safe”– N8*
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9 Next, as part of their compassionate response to the patient’s suffering, we found
10 evidence of practical changes by senior nurses to empower junior nurses, encouraging them to
11 speak-up when patient safety is at risk.
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16
17 *“We’re trying to empower the junior staff to challenge the surgeons and if*
18 *they cannot do that to elevate to senior staff. Don’t be frightened to challenge*
19 *if you’re not sure. The staff are doing that” – NM3*
20

21 *“If there was an issue and a junior team member does not have the*
22 *confidence to raise it to a surgeon, they are quite happy to come to me and*
23 *raise it. There has been a couple of times where a swab was lost and nurses*
24 *spoke up and reported it right away.” -N1*
25
26
27

28 These senior nurses empowered junior staff in two ways. First, they improved the safety
29 of voice by coaching and demonstrating that it is normal behaviour to relay important
30 information to surgeons during operations, removing an element of fear. Second, they are
31 offering to mediate hierarchical relationships between junior nurses and surgeons when
32 required, by stepping in to deliver the message themselves. The latter is important as part of
33 the coaching mechanism for junior nurses to observe.
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43 *“In a crisis scenario I’m going to stick to my guns for the patient, and tell*
44 *the surgeon I’m not happy with the situation” – N2*
45

46 *“I am more assertive in theatre for safety reasons. If I’m unhappy with the*
47 *surgeons rushing I’ll tell them. I’m not afraid to speak up now.” -N6*
48
49

50 The quotes above exemplify that nurses’ feelings of voice safety have improved. While
51 nurses had remained silent due to fear of repercussion prior to the PSI, they are now
52 demonstrating a willingness to speak-up, putting patient safety ahead of their own professional
53 self-interest.
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3 Examining the emotionally driven practices by professionals in both high and low status
4
5 hierarchical positions collectively, an interplay occurs. Junior nurses, encouraged by senior
6
7 nurses who improve voice safety by mediating hierarchy and coaching, are more willing to be
8
9 assertive. While surgeons on the other hand, improve voice efficacy by welcoming increased
10
11 communications and committing to listen. Emotionally, surgeons reeling from the shameful
12
13 experience are keen to avoid future failures in team communication, meanwhile nurses exhibit
14
15 compassion for patients, setting aside past judgements about the risk of voice and striving to
16
17 provide care which is safe. Data showing the outcome of these improved conditions for voice
18
19 are shown below.
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23

24
25 *“The other week we had a retained swab problem... I was in the theatre and*
26 *said to the surgeon ‘I hear you’ve done a scan’ and they said ‘yes, they had’.*
27 *I said ‘you did an x-ray right?’ [not fluoroscopy]. They confirmed that they*
28 *knew they needed an x-ray and not fluoroscopy” – NI*
29
30

31
32 One year later at the follow-up meeting with the same surgical team, the conditions for
33
34 prosocial voice were evidently sustained. Among this team, at least two similar never events
35
36 were prevented during the intervening time. Lead Surgeon DM1 summarised the team’s
37
38 emotional improvement journey during the follow-up meeting:
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43 *“This team went through a **painful journey** and is determined for this to*
44 *never happen again”.*
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Discussion

Our study highlights how emotional experiences can mediate blame and defensiveness found in professional hierarchy and lead to the enactment of prosocial voice. Reflecting upon the outcomes of our three cases, urology is valenced towards defensive behaviours intended to protect professionals, while surgery and maternity emphasised protecting patients and enhancing safety. Theoretically, our study makes two interrelated contributions, first to the field of professional hierarchy where we show how shared emotional experience can mitigate hierarchy and promote prosocial behaviour, and second to the study of specific emotional conditions for voice.

Shared emotional experiences, including compassion, and shame, were found in the surgery case to have an equalising and unifying effect across the hierarchy of professionals allowing prosocial voice to emerge. The re-emergence of professional work characterised by a moral imperative was discovered. This was due to a reinvigorated sentiment of care among professionals which was previously rendered dormant by hierarchical relationships and workplace pressures. Reflecting upon the professions literature, professionals are entrusted with dominance over the performance of their own work (Freidson, 1970), which enables them to prioritise professional interests (e.g. social and financial rewards) over the public good (Currie et al., 2019). Nurses normally face a challenge in shifting the priorities of doctors, in this case towards a greater emphasis on patients. Yet, we found professional ideals around moral and public good were prioritised over the attainment of professional interests, which resulted in hierarchical barriers being broken down and the emergence of prosocial voice. Thereby, these professionals sacrificed self-interest and were shown to be open and willing to communicate with each other, accepting responsibility for their client (Brint, 2015).

Next, we highlight the specific role of emotions in mitigating hierarchy and enabling voice. In the surgery case, we note how doctors and nurses analogously referred to patients as

1
2
3 though they were a member of their own family showing a degree of self-other similarity
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5 (Oveis et al., 2010) and motivating helping behaviour. This compassionate response led to a
6
7 common moral grounding between professionals of varying hierarchical position, granting
8
9 shared perception and meaning about how future work would be delivered. Further, while past
10
11 research on compassion has focused on the suffering of employees, our findings surface the
12
13 importance of altruistic concerns for clients to drive prosocial behaviour.
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17 Our findings about shame show how professionals considered their past behaviour to
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19 drive personal responsibility and accountability for failure. In line with Lebel (2017),
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21 professionals with a felt responsibility were compelled to prosocial behaviour, despite potential
22
23 fear, because they perceive it is their responsibility. Yet, if professionals do not feel personally
24
25 responsible, 'flight' from the situation is more likely. This supports Gibson's (2018) work that
26
27 negative self-evaluation can prompt individuals to improve the situation rather than hide or
28
29 escape from the source of shame.
30
31

32
33 Regarding fear, our maternity and urology cases were in line with existing research that
34
35 professionals' remained silent or, if they did speak-out they did so for defensive reasons,
36
37 fearing punitive repercussions (Kish-Gephart et al., 2009). Yet these cases saw variance in
38
39 context and practices enacted. Nurses in urology spoke up to deflect possible blame from
40
41 themselves. This was due to witnessing the traumatic consequences for N5 and wishing to
42
43 avoid the same fate, while also having a supportive and protective manager (NM5). Meanwhile
44
45 in maternity professionals initially felt unsupported to speak-up because of the blame culture.
46
47 Yet, one year after our initial interviews, we learned formal structures to promote prosocial
48
49 behaviours were initiated. While promising, their widespread efficacy is yet to be determined
50
51 and could face challenges given past research which shows professionals are hesitant to engage
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53 with formally introduced processes (e.g. Brooks, 2018).
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3 Although we did not find evidence of fear in the surgery case, professionals, such as
4
5 surgeons and nurses, are legally liable and must be held accountable for their actions (Bovens,
6
7 1998). As such, we question what role the fear of liability from future PSIs could have played
8
9 in the enactment of prosocial behaviours. Further, the PSI in maternity and urology resulted in
10
11 the death of a patient and elicited a defensive response, meanwhile in surgery the patient
12
13 survived, and prosocial behaviours emerged. While this variance in outcome is not explained
14
15 solely by death, this line of possible inquiry is supported by past research which finds positive
16
17 correlation between severity of harm to patients and the degree of emotional impact, with
18
19 greater negative emotional impact resulting in reduced confidence and levels of performance
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21 (Sirriyeh et al., 2010).
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29 **Limitations and Future Research**

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31 Our qualitative approach of classifying emotions is limited as it relies upon making
32
33 theoretical judgements. We did not include physiological reactions, such as autonomic nervous
34
35 system activity, due to participant intrusiveness and lack of ethical guidance. Furthermore, our
36
37 study is a relatively small sample size, and as such could benefit from additional comparative
38
39 sites.
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43 We recommend that future researchers should consider what role shared emotional
44
45 experiences, those which affect both professionals and their patients (e.g., Bell et al., 2010),
46
47 can play in the enactment of prosocial behaviours, given how prevalent these emotions they
48
49 can be. Furthermore, we believe research designs which incorporate a temporal perspective
50
51 will aid researchers to better understand why harmful PSI still occur in healthcare today and
52
53 what can be done about it. Taking a temporal perspective is surprisingly underutilised in voice
54
55 research, yet it can help explain the process of speaking up, from the moment an individual
56
57 becomes aware of an unsafe concern, to enactment of voice, right through to any action being
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1
2
3 taken in response to the unsafe concern (Brooks et al., 2023). Understanding at which specific
4 point in the timeline emotions were found to engender voice would be insightful, and allow
5
6 better support to be provided to professionals, and aid refinement of mechanisms for voice in
7
8 health organizations.
9
10

11 12 13 14 **Conclusion and Practical Implications**

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16
17 Our findings are of real-world importance given recent inquiries into patient safety.
18
19 Healthcare organizations seeking to foster the conditions for prosocial voice must be more
20
21 considerate of professionals' emotional experience in the aftermath of PSIs and ensure
22
23 adequate support is in place to aid recovery.
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26
27 Our findings around shame must be considered carefully. While we discovered that
28
29 professionals who experience shame were oriented towards improvement, the potential to
30
31 reinforce a negative professional self-evaluation and avoidance behaviour is also a possible
32
33 outcome. As such, we suggest that individuals recovering from a PSI must be adequately
34
35 supported so that emotion can be valenced in a positive way, allowing professionals to 'thrive'
36
37 in their recovery rather than merely 'surviving' (Scott et al., 2009). This is highly sensitive and
38
39 will require healthcare organizations to build trust with professionals, so that they feel safe
40
41 accepting support from the organization, without fear of being drawn into formal inquiries.
42
43 With consent, 'thriving' professionals, such as DM1, can be identified and given a platform to
44
45 share their experiences to promote organisational learning about how specific PSIs were
46
47 prevented.
48
49

50
51 To engender compassion, managers in healthcare organizations must consider
52
53 establishing norms around how appropriate and typical it is for professionals to share their
54
55 struggles with others; and reward those who respond to suffering with a public
56
57 acknowledgement. This was discovered in our maternity case where managers award
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3 'compassion cards' to staff who demonstrated caring behaviours at work. We suggest the
4
5 integration of formal supporting roles such as patient advocates, or ombudspersons, within
6
7 clinical departments for handling difficult interactions.
8
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10 As highlighted, everyday workplace pressures tend to drive the sentiment of care out
11
12 of professional work. Hence, clinical hybrid managers play an important role to buffer frontline
13
14 professionals from such pressure. Managers must become sensitized to the potential for
15
16 emotional experiences following PSIs and think about how they can support professionals to
17
18 mediate blame and defensiveness to engender prosocial behaviour. Finally, the cases presented
19
20 in this study can be used for teaching medical and health management university students about
21
22 patient safety and teamwork. Specifically, students learn about the hierarchical barriers which
23
24 inhibit voice, how they can be mediated by emotional and practical conditions, and the
25
26 importance of supporting healthcare professionals in the aftermath of PSI. Only by learning
27
28 from past mistakes will enable healthcare organizations to prevent systemic failures and make
29
30 healthcare safe.
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Table 1. List of Focal Respondents

ID	Job Title	Case	ID	Job Title	Case
DM1	Lead Surgeon	Surgery	D6	Surgeon	Surgery
D1	Surgeon	Surgery	D7	Surgeon	Surgery
N1	Senior Scrub Nurse	Surgery	NM3	Theatre Matron	Surgery
N2	Scrub Nurse	Surgery	N6	Scrub Nurse	Surgery
NM1	Nurse Manager	Maternity	N7	Scrub Nurse	Surgery
N3	Community Nurse	Maternity	N8	Scrub Nurse	Surgery
NM2	Head of Women's Services	Maternity	N9	Senior Nurse	Surgery
D2	Obstetrician	Maternity	DM3	Clinical Director	Maternity
D3	Obstetrician	Maternity	D8	Anaesthesiologist	Maternity
N4	Nurse	Maternity	N10	Nurse	Maternity
N5	Nurse	Urology	NM4	Nurse Manager for Quality & Safety	Maternity
D4	Senior Urologist	Urology	NM5	Nurse Manager	Urology
D5	Junior Doctor	Urology	N11	Nurse	Urology
DM2	Clinical Director	Urology	N12	Nurse	Urology

Table 2. Overview of Data Sources

Cases / Meetings	# Interviews	Overview of participants	Contextual observations	# of document reviews
Surgery	15	1 Investigator, 8 Nurses, 4 Surgeons, 1 General Manager, 1 Radiologist	-	6
Maternity	13	1 Investigator, 3 Obstetricians, 5 Nurses, 4 Nurse Managers	-	5
Urology	12	5 Urologists, 5 Nurses, 2 Nurse Managers	-	7
Quality and Risk Committee			8 hours	15
Meetings with Risk Management			8 hours	-
Follow-up and Validation Meetings			10 hours	-
Totals	40 Interviews		26 hours	33 documents

Table 3. Case Descriptions

Cases	Description	Efficacy of Voice
Maternity	A high-risk pregnant mother arrives suddenly to the emergency room with vaginal bleeding. Patient is immediately brought into the maternity ward and assigned to a healthcare team. The primary midwife (N3) looking after her is from the community and not experienced with high-risk pregnancies. The infant's heart rate is not monitored effectively. The Obstetrician (D2) assigned to the case diagnosed an abruption, but makes a poor decision to monitor the patient every four hours. An opportunity for emergency caesarean section is missed and the infant dies.	No voice (Silence)
Urology	On a busy inpatient ward a newly qualified nurse (N5) receives a phone call from the laboratory informing her of a patient's elevated potassium levels. The nurse went to the bedside of the patient and informed the doctors' (D4, D5) caring for that patient of the elevated results. Doctors took no action is taken regarding the elevated potassium and the patient is discharged home later that day. The next day the patient arrives to the emergency department in cardiac arrest and dies.	Voice Futility
Surgery	Nearing the end of a complex 10-hour multi-site surgery, involving 12 team members, a nurse (N1) informs the surgical team leader (DM1) that a small surgical swab is missing and might have been retained in the patient. The swab cannot be found anywhere. A radiologist is called in to take scans of the patient using fluoroscopy, the wrong imaging device for this type of scan known to miss radio-opaque swabs 15% of the time. At least two nurses (N1, N2) spoke to the surgeons about the radiographer using the incorrect imaging modality. Surgeons were dismissive of these concerns. Subsequently, DM1 decides not to re-open the incision on the patient as no swab could be found, finishing up and transferring the patient to recovery. Two months later the patient attended a clinic visit in obvious discomfort and underwent emergency surgery for the removal of a retained swab. This PSI was classified as a Never Event.	Voice Futility