

Witnessing Code Blues: An Interpretive Phenomenological Analysis of Bystander Patients' Lived Experiences

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ABSTRACT (290 words)

Objectives

Code Blue activations frequently occur in shared ward environments where neighboring patients who involuntarily witness resuscitation efforts while in a vulnerable psychological and physical state may experience emotional and psychological effects that remain unrecognized or unaddressed. We explore the lived experiences of such witnesses to understand the impact of these exposures, and determine whether additional attention, support, or system-level redesign is warranted.

Methods

Twenty-four participants who had witnessed Code Blues were recruited. Data were collected through 1:1 bedside semi-structured interviews conducted within the first 72 hours of the event, transcribed verbatim. Analysis followed the principles of Interpretive Phenomenological Analysis (IPA), engaging in both phenomenological description and hermeneutic interpretation. Patterns were examined across cases and emergent themes refined through team consensus.

Results

Most participants described the event as unexpected and distressing, although experiences varied in intensity and interpretation. Five superordinate themes were identified: (1) Immediate perceptions of resuscitation, (2) The embodied and emotional impact of witnessing a Code Blue, (3) Sense-making of the event, (4) Navigating coping and closure, and (5) The role of healthcare providers throughout the journey. Most participants reported that a brief check-in or update would be helpful, but did not feel psychological counselling or formal support was required.

Conclusions

Code Blues are an under-recognised source of psychological distress with variable impact on hospitalised bystander patients. We highlight the need to improve communication surrounding such events and to identify patients who may benefit from targeted, proportionate support to facilitate understanding, coping, and emotional resolution.

Practice Implications

Bystander patients who witness Code Blues may experience distress and uncertainty. A brief post-event check-in acknowledging the event, providing information within reasonable limits, and inviting questions may reduce uncertainty and facilitate emotional resolution. Providers should remain attentive for ongoing distress and offer additional support where appropriate.

INTRODUCTION

In-hospital Code Blue (cardiac arrest rapid response) activations occur at a rate of 1 to 6 per 1,000 admissions internationally [1] and frequently take place in multi-bedded wards, where neighbouring patients may be directly exposed to resuscitative efforts [2].

Existing literature has focused predominantly on healthcare providers involved in Code Blues, documenting significant psychological sequelae including sadness, loss of confidence, and impaired work performance [3], and informing interventions such as resuscitation training and post-event counselling. Comparatively less attention has been paid to bystander patients who involuntarily witness resuscitation. Unlike healthcare professionals, such patients may lack the contextual understanding needed to interpret what they observe [4], and their vulnerability as inpatients, compounded by self-identification with the affected patient, may heighten the risk of acute stress reactions and longer-term psychological harm [5].

This qualitative study seeks to explore bystander patients' experiences of witnessing a Code Blue, identify factors associated with greater distress and difficulty in self-managing emotional responses, and inform mitigating strategies to reduce negative psychological impact. Addressing these unmet needs represents an opportunity to strengthen patient-centred care.

METHODS

Participant recruitment

Between December 2024 and November 2025, Code Blue resuscitations at National University Hospital, Singapore, were prospectively identified from activation records, anonymised to include only ward, bed number, and date and time of the activation.

Eligible participants were communicative bystander patients aged ≥ 21 years in the same ward cubicle as the index patient who could recall witnessing the Code Blue event. Patients who had moderate to severe cognitive impairment were excluded. Concurrence from the primary team and cubicle nurse was obtained prior to approach, and informed consent was obtained. Participants willing to participate

1 in the study were visited by interviewers and provided with a study
2 information sheet and verbal explanation of the study.

3 4 5 Data collection

6 1:1 semi-structured interviews were conducted at the patient's bedside by trained study team
7 members (K.W., A.C., J.K., Y.J., A.L., C.E.). An interview guide (Supplementary Material 01)
8 explored participants' recollections, understanding, emotions, and reflections toward the event.
9 Interviews were audio-recorded, transcribed verbatim using artificial intelligence-assisted
10 software, and manually reviewed for accuracy. Field notes documenting non-verbal behaviours
11 and interviewer observations were recorded. Sampling was purposive and homogenous,
12 influenced by the depth and richness of individual cases. Participants were not approached
13 again for repeat interviews and transcripts were not returned to participants for comment or
14 correction.

15 16 Data analysis

17 Interpretative Phenomenological Analysis (IPA) was employed as described by Smith et al [6].
18 Grounded in phenomenology, IPA examines how individuals make sense of lived experiences
19 through double hermeneutics. This approach is well-suited to emotionally complex situations
20 such as Code Blues. The research team's clinical familiarity with resuscitation practices further
21 supported understanding of meanings that participants may not have fully articulated.

22 23 **Analysis proceeded through five steps:**

- 24 1. **Data familiarisation:** audio recordings were scrutinised and transcripts read in full.
- 25 2. **Initial within-case analysis:** transcripts were analysed line-by-line, with annotation of
26 descriptive (content), linguistic (use of language), and conceptual (interpretative
27 insights) elements.
- 28 3. **Experiential statement development:** emergent themes were identified and organised
29 into superordinate themes through abstraction and subsumption, conducted
30 independently by researcher pairs (K.W., A.C., J.K., Y.J., A.L., C.E.) prior to group
31 discussion.
- 32 4. **Cross-case analysis:** themes from each case were shared, compared, and refined to
33 capture convergence and divergence across cases.

5. **Interpretation:** analysis moved beyond descriptive accounts to examine underlying assumptions and emotions not explicitly articulated by participants, using a dialogical process between the data and psychological theory to generate deeper insight.

Reflexivity and quality control

The team comprised three medical students, two intensive care residents, an intensivist, and two qualitative researchers (total: three male, five female). Medical students contributed perspectives closer to those of bystander patients, while clinicians provided resuscitation expertise. The qualitative researchers provided methodological supervision and guided study design, data collection, and analysis. These differing positionalities were treated as an analytical resource. All team members received training in qualitative interviewing and analysis. No prior relationship existed with the study participants.

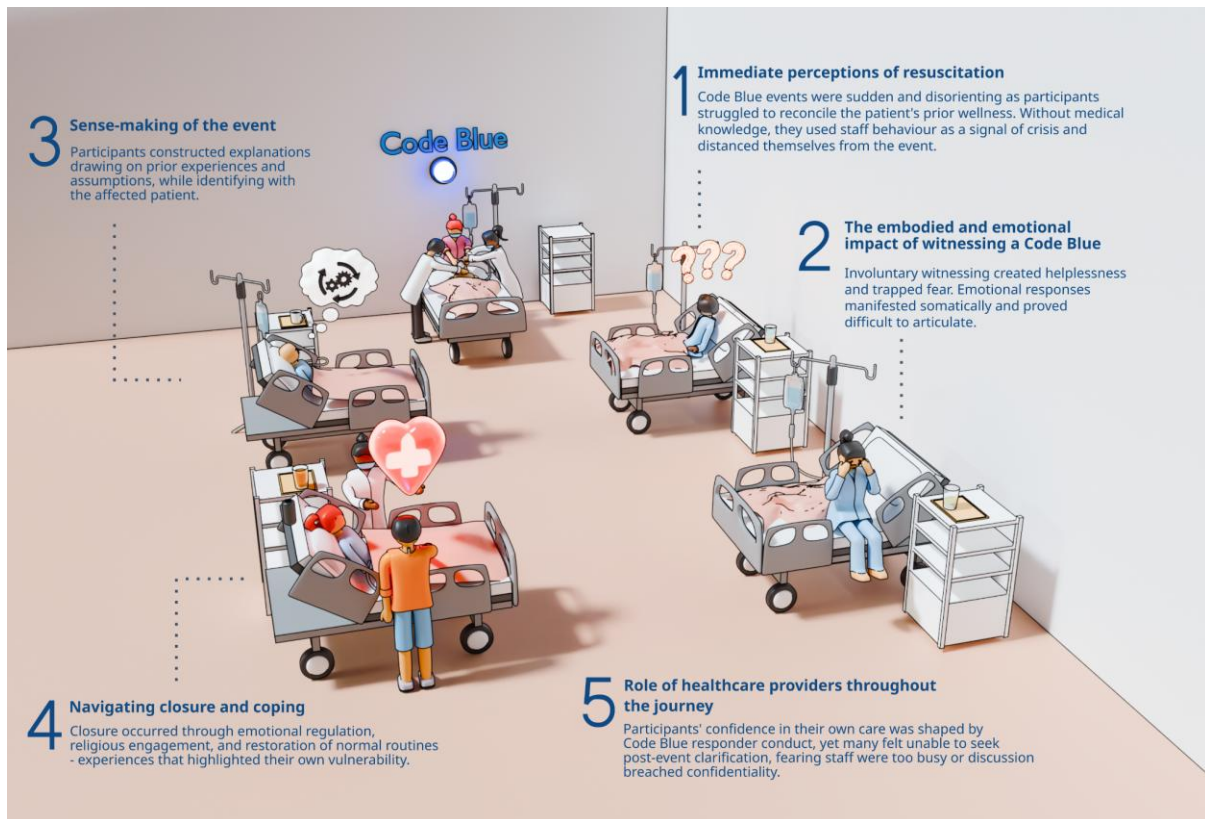
Analysis was conducted individually, then in pairs before group discussion. Reflexivity was maintained through memorandum keeping, peer debriefing, and consensus meetings. An audit trail documented analytical decisions throughout. The study followed Consolidated Criteria for Reporting Qualitative Research (COREQ) guidelines [7], and received ethical approval from the National Healthcare Group's Domain Specific Review Board (reference 2024-3673).

RESULTS

Participant characteristics

Sample size was guided by the principle of information power [8]. 24 participants were recruited. Median duration of interviews was 19.9 minutes (IQR: 6.18-35.60) (Table 1). This is a larger sample than is typically seen in IPA given that several interviews were short and yielded limited experiential depth due to suboptimal recall, limited understanding and physical fatigue. There were no drop-outs.

Figure 1. Superordinate themes identified through Interpretive Phenomenological Analysis of interview transcripts



THEME 1: IMMEDIATE PERCEPTIONS OF RESUSCITATION

1.1 The shock of sudden deterioration

Participants described Code Blue events as unexpected and disorienting, occurring abruptly within an apparently stable clinical trajectory. Many reported difficulty reconciling the patient's perceived wellness immediately prior to collapse with the sudden transition to a life-threatening emergency. This abrupt shift and contrast appeared to heighten the emotional impact of the event.

"So when I go for screening, I saw her, was okay! After I come back, what's happening?... I didn't expect...I thought she was okay. " (Pt 01)

"That morning, she still got up. I even heard her saying, like a nurse telling her that she can go home soon..." (Pt 02)

1 Witnessing a patient unexpectedly transition from expected discharge and anticipated recovery
2 to life-threatening deterioration challenged illness assumptions and posed a reminder of life's
3 fragility. Distress arose not only from witnessing resuscitation but from the abrupt collapse of
4 expectations, disrupting participants' ability to construct a coherent understanding of the event.

7 1.2 Reading danger through urgency and chaos

9 Participants interpreted the urgency and movement of healthcare providers as indicative of the
10 gravity of Code Blue events, even without prior medical training.

12 One participant recalled waking to the commotion in the ward:

14 *"Wah I never [see] before, not only one doctor, couple of doctors and nurses also run*
15 *up and down. Must be very serious, you know, up and down."* (Pt 15)

17 Repetition and emphasis in the above quote reflect how participants' observations of deviations
18 from routine behaviour signal crisis, even in the absence of overt explanation.

21 1.3 Distancing oneself from the crisis

23 Distancing emerged as a prominent theme, where participants described creating both physical
24 and emotional distance from the Code Blue.

25 Many framed this as an act of non-interference, emphasising that the resuscitation team
26 required space. However, underlying emotional distancing was also evident, suggesting
27 attempts to disengage from a distressing situation.

29 *(When asked about her choice on not returning to bed after using the washroom) "Yeah*
30 *it was also little space to walk [back to the bed]. Let them focus on doing that... I do*
31 *not want to add on to their troubles lah, so I went out for a walk... I wanted to like, let*
32 *myself calm down."* (Pt 18)

1 *"I don't want to hear anything, so I just put on my (earphones) to listen to some other*
2 *things lah - music."* (Pt 17)

3
4 Visual and auditory avoidance helped participants manage distress and regain control,
5 reflecting a coping strategy to reduce emotional and sensory overwhelm.

6 7 8 **THEME 2: THE EMBODIED AND EMOTIONAL IMPACT OF WITNESSING A** 9 **CODE BLUE**

10 11 2.1 Feeling trapped within an uncontrollable situation

12 Many participants described experiencing fear and anxiety during the Code Blue in the context
13 of being physically and situationally unable to disengage from the event. Some participants
14 emphasized the sense of being unable to escape once the event had begun, often contributed by
15 their own physical limitations.

16
17 *"I was scared, I was not scared of dying, but I was scared - why am I encountering this*
18 *type of situation for a second time?"* (Pt 10)

19
20 *"It's not like... you see something, then you just run away... I can't even run away"* (Pt
21 22)

22
23 *"If I had a choice, obviously I wouldn't want to witness it."* (Pt 02)

24
25 Distress was not solely related to the medical emergency itself but to the nature of involuntary
26 exposure, with participants finding themselves unable to avoid, interrupt, or meaningfully
27 distance themselves from the ongoing resuscitation. These accounts illustrate how fear and
28 helplessness arose from perceived loss of agency within the ward environment, where
29 participants remained physically present during an event they neither controlled nor could
30 easily escape.

31 32 33 2.2 Carrying pity, sorrow and imagined regret

1 Participants frequently expressed pity toward patients and their families, particularly in cases
2 of sudden or unexpected deterioration.

3 *“I saw that she is very pitiful, so pitiful... I just feel sorry for her... I hope she recovers*
4 *soon.” (Pt 09)*

5 *“I don’t know the person uh, just pray that the family is well taken care (of)...” (Pt 17)*

6 Participants and patients in equally vulnerable circumstances shared a sense of camaraderie,
7 reinforcing emotional resonance and feelings of identification. Witnessing the event prompted
8 participants to imagine the emotional burden experienced by families, despite the absence of
9 personal connection.

10 Perceived preventability of the event appeared to amplify regret. This is exemplified in the
11 account of *Pt 14 (Illustrated Case 1)*, a former lifeguard, who emphasized the need for earlier
12 resuscitation and framed the event as a learning point.

13 **Illustrated Case 1. Recount of a patient who was a former lifeguard**

Narrative
Oh, yesterday. I was standing here. Then I saw the nurse come and tap him. Tap him. No response. Then when he got no response, they called for the assistant. They checked here, checked there, then later, they do the CPR (cardiopulmonary resuscitation)... think you got to admit, once you see no response, first thing you must do, you must shout out for help. Then straight away, you need your CPR...Because when they all come together [after a perceived delay] I can tell you it's gone already.... You don't need to wait for people to instruct you. In this case you should know... What I want to see is the patient get back his breath.... That's why I keep on concentrating... hoping to see that he comes back to life... If I can get that one, I'm very happy... but no response... [Interviewer: How did you feel after that?] Upset, pity. I want to see the patient can breathe.... Why he (the first responder) never act fast? Maybe when he act fast, maybe he still got oxygen, maybe still be okay, right? I tell my wife what we have to learn about the response.
Analysis
As a former trained lifeguard, <i>Pt 14</i> interpreted the resuscitation through the lens of his own understanding of emergency response. Rather than simply witnessing the event, he critically evaluated the healthcare team and mentally rehearsed how the situation could have unfolded differently. His repeated emphasis and regret regarding the perceived delay in initiating CPR highlights his desire for an alternative narrative where earlier intervention may have altered the outcome. When this hope was not realized, feelings of pity and sorrow emerged alongside a sense of regret directed towards the perceived missed opportunity for rescue. By repeatedly questioning whether faster action could have preserved the patient's life, he appeared to struggle with accepting the finality of the outcome. Even though he possessed resuscitation knowledge and recognized what he believed should have been done, he remained powerless to influence the situation, contributing to the pity, sorrow and regret towards the patient.

1
2
3
4

2.3 Limits of language and somatic manifestations of emotional overwhelm

1 Many participants struggled to articulate their emotional responses after witnessing a Code
2 Blue event.

3
4 *“I don't know what to say. I just know that I'm very nervous.” (Pt 02)*

5
6 *(When asked to elaborate on his feelings during the Code Blue) “This question, I have*
7 *no way of answering. This question, I have no answer...I just don't have a way of*
8 *answering you.” (Pt 10)*

9
10 *“Someone asked me if I remember what happened, but everything is empty up here. I*
11 *don't know anything.” (Pt 10)*

12
13 Participants often struggled to verbally articulate their emotional responses, instead expressing
14 distress through somatic symptoms such as “palpitations”, suggesting that the event was
15 experienced physically as well as emotionally. The difficulty in putting these reactions into
16 words reflects the challenge of making sense of and expressing an overwhelming event, rather
17 than a lack of meaning.

18 19 20 **THEME 3: SENSE-MAKING OF THE EVENT**

21 22 3.1 Constructing explanations from prior experiences and assumptions

23
24 Participants drew on prior experiences, observations, and assumptions to explain the event.

25
26 *“I know it's a heart attack, someone pressed on my chest before.” (Pt 12)*

27
28 Prior exposures appeared to narrow interpretation of the cause, anchoring the event to a single
29 diagnosis which may or may not have been accurate. Participants with prior relevant experience
30 tended to focus on actions and procedures in their interpretations of the event.

31
32 *“If the CPR, if still got no response then you have to use that one (AED)... I have*
33 *experience, I always see this kind of thing... I know what to do.” (Pt 14, a retired*
34 *lifeguard)*

1
2 These accounts highlight how professional experience allowed participants to better make
3 sense of the unfolding situation with greater confidence and reduced uncertainty. In contrast,
4 isolated personal experiences may constrain interpretation by encouraging reliance on familiar
5 but inapplicable situations.

6 7 8 3.2 Navigating permission and conversational boundaries 9

10 Uncertainty was expressed regarding propriety of discussing Code Blue events with healthcare
11 professionals. This was influenced by perceived expectations of confidentiality and cultural
12 norms around death. Several participants avoided asking questions to avoid appearing intrusive
13 or overly curious about another person's suffering. The commonly used Hokkien dialect phrase
14 "kay poh" (overly inquisitive) reflects a cultural boundary surrounding discussion of matters
15 considered private.

16
17 *"We shouldn't make their problems our concern. If you pry too much, then you become*
18 *'kay poh'." (Pt 10)*
19

20 *"Because I think, this is privacy right? ... do not be so 'kay poh' lah." (Pt 18)*
21

22 Participants also worried that discussion without factual verification could generate
23 unnecessary distress or misinformation.

24
25 *(When asked whether he discussed the event with other patients in the cubicle)*

26 *"Whatever we talk, we must be very careful, because we don't have the facts." (Pt 24)*
27

28 Limited disclosure by healthcare providers further reinforced uncertainty about whether
29 discussion was permissible.

30
31 *"They don't tell us... Because to them, this is confidential" (Pt 21)*
32

33 This uncertainty appeared to leave participants suspended between a desire to understand the
34 event and concerns about the appropriateness of discussion. In Pt 01's account, the desire to

1 know more was curbed by hesitation (“I scared we cannot talk”). However, some participants
2 did actively seek information from healthcare providers:

3
4 *“I asked the nurse who was doing my... round of check on my blood pressure, then I*
5 *asked her, did he make it, and the nurse told me, no, he didn’t make it.”(Pt 17)*
6

7 There was also an apparent episode of selective or inaccurate information provision by
8 healthcare providers, perhaps well-intentioned, identified on correlating the accounts of *Pt 15*
9 and *Pt 17* who witnessed the same Code Blue. *Pt 15*, an older patient who had fallen asleep
10 during the event, was later informed that the patient had been transferred out when in fact the
11 patient had passed away in the ward.

12
13 These accounts suggest participants were engaged in an ongoing process of making sense of
14 the event despite limited access to information. The uncertainty surrounding what could be
15 discussed, coupled with incomplete or inconsistent information, appeared to limit participants'
16 understanding of the event and its outcome. Rather than resolving uncertainty, attempts to seek
17 clarification sometimes highlighted the boundaries of what participants felt entitled to know.

18
19 **Illustrated Case 2. Selective filtering and calibration of information sharing seen in**
20 **recounts from Pt 15 and Pt 17**

Narrative
Pt 15: “I think it's very serious. I don't know how serious.... Seven o'clock I wake up, he disappeared... I don't know what happened, but the next morning, I woke up, (the patient) disappeared... so I asked the nurse, who said downstairs, or ICU, or something like that.” Pt 17: “He (Pt 15) asked me about the guy “Eh suddenly disappeared? Where is he? They (nurses) said he transferred to downstairs.” Then I think I told him no lah I think he didn't make it...because he can, he's the person who can take, take such news... He (Pt 15) said that he wasn't told the truth because he told me that the nurse told him “Oh, he just went downstairs, oh transfer...”
Analysis
This discordance suggests that both healthcare staff and fellow patients may judge others' capacity to bear the emotional impact of difficult news, leading to filtering, selective provision, and calibration of shared information.

3.3 Seeing oneself in the collapsing patient

Participants' emotional responses were shaped through identification with the patient. A shared identity - through similar characteristics, or prior interactions - reduced perceived distance between participant and patient, with some relating the situation to themselves.

When seeing this kind of thing, I was scared... Because we are all patients, I relate to her” (Pt 18)

“I was thinking it could be me. If it's not another patient, it could be me.” (Pt 20)

Some participants described hopes for the patient's recovery as a projection of what they would hope for themselves.

“If nothing bad happened to him, I would be happy...I hope he gets saved and survives, because I also have similar problems like him.” (Pt 10)

Pt 10's account reflects not only empathy but perceived personal relevance, with concern for the patient intertwined with concern for his own future health.

The accounts showed that participants in witnessing the resuscitation identified with the deteriorating patient, heightening emotional involvement, perceived susceptibility, and awareness that a similar event could happen to them.

THEME 4: NAVIGATING CLOSURE AND COPING

4.1 Drawing clear emotional boundaries

For some, limiting emotional attachment aided resolution and this took the form of emphasizing the absence of personal connection to the patient.

“Someone pass on, pass on lah... And then sometimes it's very close to you, someone that's very connected to you. Then of course there will be some, definitely something attached, but there's no attachment (to this patient).” (Pt 17)

Many participants also cited a preference not to revisit the experience as a reason for not wanting formal post-event counselling. However, this reluctance may reflect avoidance or limited readiness to engage with distressing emotions rather than a lack of need. One participant, who was initially reluctant to discuss the event, later reported relief after the interview, suggesting that willingness to engage may be contingent and developed through a supportive conversational process.

4.2 Restoring normality

Emotional relief was tied to the removal of physical reminders and a decision not to revisit the event.

1 *"After (the patient) was pushed away, I slowly stopped (feeling "messy")...I felt more*
2 *at peace... I didn't want to think anymore about it... I take this thought and bury it in*
3 *my head."* (Pt 02)

5 *"Yesterday. Yesterday, the new guy came. The new patient. So, it was okay."* (Pt 14)

7 The arrival of a new patient often signalled a return to normality, reducing reminders of the
8 event and facilitating emotional relief. For many patients, resolution was achieved not through
9 deeper engagement, but through the gradual removal of the event from both the environment
10 and mind.

13 4.3 Recognising vulnerability and mortality

15 The Code Blue event reminded participants of their own personal health and mortality.

17 *"Because life is precious, this life given to us by our parents is very precious, so you*
18 *must take care of your body."* (Pt 03)

20 For some, the impact extended beyond the self. Participants reported encouraging family
21 members to attend to their own health, suggesting that the experience had altered not only their
22 own wellbeing but also their sense of responsibility towards others.

24 *"Because just to highlight to him that life is very fragile...Just want to ask him to take*
25 *care of himself."* (Pt 17, who had a brother who was unwell too)

28 4.4 Finding comfort through faith and human connection

30 Religious beliefs and prayer provided stability during the event, allowing participants to remain
31 engaged while alleviating helplessness.

33 *"I'm just praying hard that she survives. That's all I want to say."* (Pt 20)

1 *"I prayed for her to quickly get over this obstacle." (Pt 03)*

2
3 Faith provided comfort and a framework through which participants interpreted illness and
4 death.

5
6 *"If you are Catholic, you read the Bible. Death is nothing, right? Life is just only what*
7 *they call a 'tompang' [hitching a ride] only." (Pt 15)*

8
9 *"Dying, there's no reason to describe also, right? It's God's thing. It's time for you. It's*
10 *time for you... My faith also, we are being taught that God will call us anytime." (Pt*
11 *20)*

12
13 Following the event, participants often sought support from family and others within the ward,
14 providing reassurance and emotional validation. These interactions provided reassurance,
15 emotional validation and opportunities to process the experience.

16
17 *"Yes my family, they come to visit me. Give me courage and all this, pray for me. So*
18 *I'm happy for them." (Pt 01)*

19
20 *"Did I think about it again? Yes, today. When we looked at the bed, I kept on telling my*
21 *son and my wife to tell the story about it." (Pt 14)*

22 23 24 **THEME 5: THE ROLE OF HEALTHCARE PROVIDERS THROUGHOUT THE** 25 **JOURNEY**

26 27 5.1 Impact of the Code Blue response team's conduct on participant's own processing

28
29 Participants reported varying perceptions of the competence of Code Blue responders, which
30 shaped how they interpreted the event and its outcome.

31
32 Some participants interpreted the resuscitation as evidence of skilled and coordinated care,
33 drawing confidence from technical competence and the observation of leadership.

1 *"It was good to have people who know what they are doing. Especially those two who*
2 *carry the Code Blue... There's some people in charge here. They know what they're*
3 *doing. Although some are quite lost. But yeah, there are people who take charge..." (Pt*
4 *20)*

5
6 Participants also constructed meaning by attributing responder behaviour to professional duty
7 and collective responsibility:

8
9 *"I feel these people have a responsibility that comes with the job. It's really to save*
10 *lives." (Pt 10)*

11
12 *"I feel that the healthcare staff are all very united lah. When things happen, everyone*
13 *is very proactive. Everyone is working towards the same goal." (Pt 18)*

14
15 Participants' confidence in their own healthcare provision was shaped by inferred competence,
16 control, and coordination of the Code Blue responders, despite their own healthcare providers
17 not being directly involved in resuscitation efforts.

18 19 20 5.2 Desired communication with healthcare providers

21
22 Following the event, some participants wished to speak with healthcare providers about what
23 had occurred, while others did not.

24
25 *"Maybe we can talk to somebody, to feel better... Better than keep inside here, right.*
26 *If we never talk, we just keep inside our heart, then we feel bad." (Pt 01)*

27
28 *(When asked if speaking to a healthcare professional about the event might be helpful)*
29 *"No, I don't want to talk about it. No matter who comes, I don't think we would talk to*
30 *them." (Pt 02)*

31
32 Many patients wanted greater clarity about the event but felt unable to seek it due to perceptions
33 that staff were too busy, might not be knowledgeable about the incident, or that discussion
34 might be inappropriate due to confidentiality.

1

2

*"I want more clarity, but they are not free to talk to me. So I do not want to ask lah, the
nurses are busy... The doctors are also very busy. " (Pt 03)*

3

4

5

**Illustrated Case 3. Pt 08's perspectives regarding healthcare providers' role in
comforting the witnesses**

6

Narrative

[When asked if the medical team subsequently spoke about the Code Blue event]

No. Because they were busy, how could they have a chance? They still had to resuscitate the patient. After the resuscitation, they still had to do a lot of things. I won't say that they had a chance to talk to me... The doctor definitely doesn't speak to you about this patient. Because no one speaks to you about their condition. If the doctor says something, says something wrong, he has to be responsible."

[When asked if anyone should speak to bystander patients about the event instead]

Social workers, possibly, but I'm not too sure. They don't come to comfort some of the patients. Because there are some who need more help, especially the elderly. Then, there should be someone to comfort them. If they really saw it. Yeah. It should be a social worker. Because if it's a doctor, it's not appropriate. Social workers will comfort, because they should have training. It's not possible for them to randomly reassure patients. Unless the doctor is a heart doctor, then possibly they can speak to the patient. I feel [other doctors] shouldn't, I feel they shouldn't. Especially if a heart attack occurred, then they definitely should not.

Analysis

Pt 08 attributed lack of information from healthcare providers regarding the Code Blue event he had witnessed to not only being too occupied with resuscitation efforts and daily work, but also perceived confidentiality surrounding the index patient's medical condition. Additionally, his assumptions that the patient had suffered a heart attack led to his belief that only a heart specialist should speak about such matters with authority, and that only social workers had adequate training to comfort affected witnesses.

These fixed ideas potentially arose from prior experiences interacting with healthcare teams, as *Pt 08* separately recounted incidents where he felt dissatisfied with what he described as a rushed and uncompassionate consent-taking process for wound surgery by an impatient doctor, as well as perceived neglect in daily nursing care of his sister who had been hospitalised for a bowel issue, which he believed had led to her own Code Blue event and ultimate demise. Despite these negative experiences, he cited heavy workloads and manpower limitations as a main driver of inadequate care provision in the hospital environment, rather than any ill-will or malicious intent on the part of healthcare providers.

Pt 08's account highlights potential areas for intervention in improving trust between patients and their healthcare providers, which in turn may increase their willingness to seek help and reduce the emotional impact of experiencing resuscitation.

DISCUSSION

The range of emotional reactions to a Code Blue event indicated that witnessing resuscitation extended beyond immediate distress. Rather than reacting solely to the resuscitation, participants appeared to be affected by the conversion of a familiar ward environment to a site of crisis which challenged assumptions that the hospital was a place of safety, stability and control.

Participants also experienced the event through the lens of social identification, where perceived similarities with the Code Blue patient undergoing a catastrophic event may have heightened their own distress [9].

These reactions can also be understood through the concept of the assumptive world, in which individuals hold implicit beliefs about safety, order, predictability, and the competence of surrounding systems [10]. When these assumptions are disrupted by unexpected events, individuals may experience distress as they attempt to reconcile the event with prior understanding. In this case, participants were not only confronted with the possibility of death, but also with uncertainty regarding what had occurred and what it meant for their own circumstances. In response to this, many engaged in active meaning-making and attempted to restore coherence through information-seeking, meaning-making, or avoidance-based coping manners consistent with trauma and coping theories [10]. Of note, while avoidance might provide short-term relief, persistent avoidance has been associated with maintenance of fear-related beliefs and post-traumatic symptoms [11].

These findings raise important implications. First, although healthcare providers necessarily prioritise emergency response during a Code Blue, brief factual explanations once the situation has stabilized may reduce uncertainty and restore predictability. As patients are typically unclear about information boundaries, clinical providers should establish and communicate these explicitly, balancing transparency, confidentiality and patient privacy.

Second, post-event psychosocial support should be flexible rather than uniform. While some participants felt formal counselling or debriefing would be helpful, many did not feel they required support. Consistent with literature, post-event interventions may be most beneficial when they focus on promoting safety, calmness, connectedness, and voluntary opportunities

1 for discussion [12], rather than mandatory emotional processing which in the setting of
2 experiencing traumatic events has been established to be ineffective and potentially harmful
3 [13].

4
5 Our study was limited by the absence of longitudinal data on medium- to long-term impact.
6 Data collection was also constrained by pragmatic factors: the infrequency of Code Blue
7 events, quick turnaround and discharge of potential participants, insufficient privacy for
8 interviews, and disruption by ward activities. Some interviews were also necessarily shortened
9 due to the patients' fatigue and competing ward activities. Future studies could consider
10 quantifying the prevalence of post-event distress and the utility of post-event coping strategies
11 across different patient profiles.

12 13 14 **CONCLUSION**

15 Witnessing a Code Blue event can be a psychologically disruptive experience for surrounding
16 patients, who are often left to interpret and cope with limited information or support. As an
17 under-recognised consequence of in-hospital resuscitation, this study's findings highlight
18 opportunities for improved communication and supportive interventions for bystander patients.
19 Addressing informational and emotional needs may be an important step towards more holistic
20 and patient-centered inpatient care.

21 22 23 **PRACTICAL IMPLICATIONS**

24 In-hospital Code Blues have a significant psychological impact on bystander patients and
25 present opportunities to improve patient-centered care. While emergency response remains the
26 immediate priority, healthcare providers should recognize that bystander patients may
27 experience distress, uncertainty, and difficulty making sense of the event. As these needs vary
28 considerably between individuals, a flexible approach is warranted. A brief post-event check-
29 in acknowledging that an emergency occurred, providing information within reasonable limits,
30 and inviting questions may reduce uncertainty and facilitate emotional resolution without
31 compromising patient confidentiality. Providers should remain attentive to patients exhibiting
32 ongoing distress and offer additional support where appropriate. Further research should focus
33 on implementing measures to address these gaps.

1 **Table 1. Participant characteristics (n = 24)**

Characteristic	
Age in years, median (IQR)*	69.4 (62.5-76.5)
Gender, n (%)	
Male	14 (58.3)
Female	10 (41.7)
Ethnicity, n (%)	
Chinese	17 (70.8)
Malay	7 (29.2)
Interview language, n (%)	
English	12 (50.0)
Mandarin / Chinese	11 (45.8)
Malay	1 (4.2)
Interview duration, minutes, median (IQR)	19.9 (6.18-35.60)
Time from Code Blue to interview, hours, median (IQR)[†]	41.0 (11.0-80.0)
Primary reason for admission, n (%)[‡]	
Wound infection	2 (8.3)
Fractures	2 (8.3)
Peripheral arterial disease	1 (4.2)
Coronary artery disease	1 (4.2)
Fluid overload	1 (4.2)
End stage kidney disease	1 (4.2)
Bacteremia	1 (4.2)

Septic arthritis	1 (4.2)
Deep vein thrombosis	1 (4.2)

IQR: interquartile range.

**Age data were available for 23 of the 24 participants.*

†Timing available for 20 participants

‡Admission diagnosis was recorded based on participant self-reporting; 13 participants did not report their admission diagnosis.

Table 2. Summary of themes, subthemes, and representative quotes

Themes	Subthemes	Representative quote
Immediate perceptions of resuscitation	The shock of sudden deterioration	<i>"Yeah, I do not understand why this happened suddenly. ... What caused it? She was all right, able to talk to her daughter. She was all right when eating too." (Pt 09)</i>
	Reading danger through urgency and chaos	<i>"Yeah. Then everybody started crowding around the patient and there are different teams making rounds, right? So everybody come and see what they can do to help also." (Pt 20)</i>
	Distancing oneself from the crisis	<i>"Someone can't take care of us all the time, because rescuing that person is more important. I try not to think of that person, and just try and mind my own business." (Pt 02)</i>
The embodied and emotional impact of	Feeling trapped within an uncontrollable situation	<i>"What do you expect me to do? I can't even move myself. It's not like... you see something, then you just run away... I can't even run away." (Pt 22)</i>

witnessing a Code Blue	Carrying pity, sorrow and imagined regret	<i>"Suddenly ah? So I will imagine these kinds of things on myself. Maybe one day I will - I don't know if I will suddenly become like that too. So sometimes I will think, aiya, after today, live today properly, do not think about tomorrow." (Pt 18)</i>
	Limits of language and somatic manifestations of emotional overwhelm	<i>"Speechless. Don't know what to talk." (Pt 01)</i>
Sense-making of the event	Constructing explanations from prior experiences and assumptions	<i>"I think it was an issue with her heart, because the patient had a very big tummy, extending all the way here ... I have a friend, his son is 40 plus years old ... he suddenly got a heart attack... his wife could not wake him up, and he passed away just like that." (Pt 08)</i>
	Navigating permission and conversational boundaries	<i>"This is hospital; maybe they don't like me to talk about this patient to anybody else." (Pt 01)</i>
	Seeing oneself in the collapsing patient	<i>"I feel life is very fragile lah, when I went to the toilet just before that, she looked fine, and she also has the same hairstyle as me." (Pt 18)</i>
Navigating closure and coping	Drawing clear emotional boundaries	<i>"I try not to think of that person, and just try and mind my own business." (Pt 02)</i>
	Restoring normality	<i>"They change the beddings and everything. Then think positively. Then you will be able to control yourself... All the beds they need to change over and over... Very soon a few hours later [a new patient] came in... then there was nothing much lah... What happened there no matter what, it is</i>

		<i>just in that moment. It will be okay after that.” (Pt 18)</i>
	Recognising vulnerability and mortality	<i>“Looked like she was having a difficult time, so I quickly, because I am a Buddhist, so I quickly ... prayed for her to get over this, and not suffer. ” (Pt 03)</i>
	Finding comfort through faith and human connection	<i>“I told [my husband] this morning. So sad. I said, this was very sudden... I was telling my niece also just now. My niece said, oh no.” (Pt 20)</i>
The role of healthcare providers throughout the journey	Impact of the Code Blue response team’s conduct on participant’s own processing	<i>“If this could have been me, what to say? It would have been good if the staff, the ground staff here are more familiar with the instruments or whatever they need. Somebody was saying, the mask, the mask, mask, mask. And everybody's like, mask, mask. It's actually the laryngeal mask, you know. Maybe more practice.” (Pt 20)</i>
	Desired communication with healthcare providers	<i>(When asked if they would prefer for a doctor or nurse to speak to them about the event) “No. Just look at it and let it pass... I am not good at talking, not good if I say the wrong thing.” (Pt 09)</i>

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