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# Phenomenological study of medical interns reflecting on their experiences, of open disclosure communication after medication error: linking rationalisation to the conscious competency matrix

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## ABSTRACT

**Introduction and objectives** Errors are common within healthcare, especially those involving the prescribing of medications. Open disclosure is a policy stating doctors should apologise for such errors, discussing them with the harmed parties. Many junior doctors take part in open disclosure without any formal training or experience, which can lead to failure of the apology, and increased patient/family frustration. In this study, we explore the ways in which interns perceive the relationship between medication error and their experience of open disclosure.

**Methods** Using known theoretical frameworks of apology and moral rationalisation, a qualitative study of medical interns who had been involved in open disclosure was conducted. Twelve medical interns volunteered, and were selected using purposive sampling. Face-to-face semi-structured interviews illuminated their clinical experiences of open disclosure after medication error. The data was coded and analysed using Interpretative Phenomenological Analysis. Our data supported three super-ordinate themes: (1) Rationalisation of medical error, (2) Culture of medical error and (3) Apology in practice.

**Results** The interns in this study rationalised their observations, their subsequent actions and their language. Rather than reframing their thinking, they became part of a healthcare environment that culturally accepted, promoted and perpetuated error. Rationalisation can lead to loss of context in apologising, which can be perceived as unempathic by the patients/families. However, when reflection and unpacking of their errors, they acknowledged that their reasoning was problematic, recognised the reasons why and were able to reframe their approach to apology for a future occasion.

**Conclusion** Our data suggests the utility of a learning framework around open disclosure following medication error, for having a supervisor conversation about aspects of the interns' rationalisation of their clinical practice, in their contextualised clinical environment. Further research could clarify whether interns are 'unconsciously incompetent' or 'consciously incompetent', when addressing medication error and preparing to apologise.

## Strengths and limitations of this study

- The strength of this study lies in the selection and rigour of the methodology and methods chosen. Hermeneutic Phenomenology is ideally situated to illuminate the interpretation of the human experience. The analytical method is well validated and robust, especially for the number of participants selected in a qualitative study such as this. Interpretative Phenomenological Analysis allows a rich and deeply-contextualised interpretation of the topics being explored.
- This study is the first to attempt such a high level of analysis in this area from the perspective of the junior medical staff involved, and it provides a theoretically-informed study that is explanatory for the thoughts and actions of the participants.
- The context of this study is significant to final-year medical students, as this is a clinical scenario and experiences that they will encounter many times in their future careers.
- One of the limitations to the study is the level of experience of medical students sampled, as there are many levels of experience of medical students based on their progression through medical school. These experiences relate to medical students who are due graduate and commence clinical practice, and these experiences might not reflect the experiences of other medical students who are at a different stage of learning.

## INTRODUCTION

Errors are common within healthcare,[1] especially those involving the prescribing of medications. Up to 67% of all patients admitted to hospital are exposed to a medication prescription error,[1] many of which have the potential for severe harm to patients. Open disclosure is a policy that states that doctors should apologise for errors and discuss them with the harmed parties. It is a process that is part of state and national policy in Australia,[2] and elsewhere

around the world.[3 4] The specific discussions in open disclosure focus on an incident that resulted in harm to a patient while receiving healthcare. The elements of open disclosure are; an expression of regret, a factual explanation of what happened, the potential consequences and the steps being taken to manage the event and prevent recurrence.[5] Learning from error requires navigation through blame and responsibility,[6 7] and there is a gap in the literature about the ways that early career doctors experience open disclosure in the context of medication error. A better understanding of the factors that shape learning from error can help make the transition from making the error to learning from the error more explicit, thereby increasing the opportunity to learn from errors that permeate the practice of medicine.[6]

Many junior doctors faced with the situation of having to take part in open disclosure do so without any formal training[8] or prior experience, which can become a stressful situation.[9] This is especially true when an error has led to patient harm, and in some circumstances even death. Combine this difficult conversation topic with the doctor's concerns about whether admitting to the error could leave them or their colleagues facing legal action,[10] the mere act of saying the word sorry or admitting to a mistake becomes a task that is insurmountable to many.[9] The result can be that a doctor does not give an apology and does not admit to the error, leaving patients and their families feeling frustrated and even angrier when the truth finally emerges.[11]

In this study, we explored the experiences of interns taking part in open disclosure communication, and interpreted how they made sense of this experience. Our research question was 'What are the ways in which interns perceive the relationship between medication error and their experience of open disclosure?' Understanding this question could optimise supervisory practice in promoting a reframing of intern's perceptions of medical error.

## THEORETICAL FRAMEWORK AND METHODS

The theoretical framework for the study was constructed around the existing literature on apology and rationalisation theory: an emerging theory of apology' by Slocum *et al*, as this gives a specific framework of the perspectives of apology from both parties (the person giving the apology, and the person being apologised to),[12] and Tsang on moral rationalisation, as this gives a specific framework to the integration of situational factors and psychological processes to assist humans in episodes that may be seen as immoral behaviour.[13] From a qualitative research perspective, the chosen methodology was Hermeneutic Phenomenology which focusses on understanding human experience, and the ways that people find meaning in their experiences and lives. This methodology is underpinned by the theoretical perspective of interpretivism, which states that researchers should focus on understanding the meanings that social actions have, for the people being studied.[14] Interpretivism leads to an epistemological stance of constructivism, which believes that social phenomena develop within the specific social contexts of which they are observed.[15] And finally, an epistemology of constructivism is underpinned by an ontological stance that is naturalistic, the since Phenomenology explores people's experiences and collects their narratives.[16]

Sampling was purposive and criterion-based, for interns (PGY1 doctors) working within Western Sydney Local Health District (LHD), and they were recruited via an advertisement in the Junior Medical Officer room. Western Sydney LHD serves the population of greater western Sydney, with a population of over 1 million people. The recruitment occurred between months 6 and 9 of their 12-month intern posts. Semi-structured face-to-face interviews lasting roughly 30 to 45 min allowed insight into a person's knowledge, understandings, perceptions, interpretations and experiences.[17] The list of potential interview questions is listed in online supplementary appendix 1. Consent was gained from the participants, and the interviews were audio-recorded and transcribed and analysed using the method of interpretative phenomenological analysis (IPA), and this choice of analysis guided the number of interns who were to be recruited. Thematic and theoretical saturation was reached after 12 interns (7 female and 5 males, between the ages of 23 to 26 years old) had been interviewed, which was consistent with the IPA method.[18] IPA is an iterative process so the first case is analysed in detail, and then the next case. It is common to start with the most complex and engaging case. Analysis using IPA is a six-stage process and I followed the six steps as described below: (1) Reading and re-reading, (2) Initial noting, (3) Developing emerging themes, (4) Searching for connections across emerging themes, (5) Moving to the next case and (6) Looking for patterns across the cases. Reflexivity was ensured by using the Learning Pathways Grid proactively prior to data collection, an activity which explores the interviewers internally held cognitive frames on a subject, leading to reflexivity being considered a dynamic process rather than a moment in time, by constantly challenging the obvious and making it explicit at all stages during the research process.[19]

## PATIENT AND PUBLIC INVOLVEMENT

The development of this research question and outcome measures was not directly informed by questioning of patients' priorities, experience and preferences, and furthermore patients were not involved in the study. We did take into consideration the reports in the literature of patient's stories with regard to experiencing open disclosure from clinicians. Patients were neither involved in the recruitment nor the conduct of this study.

Participants had the option to review transcripts, and to be informed of any publications produced from the research. If they chose this option, they will be contacted with regard to the link to the publication. Patient advisers or the public were not involved in this research.

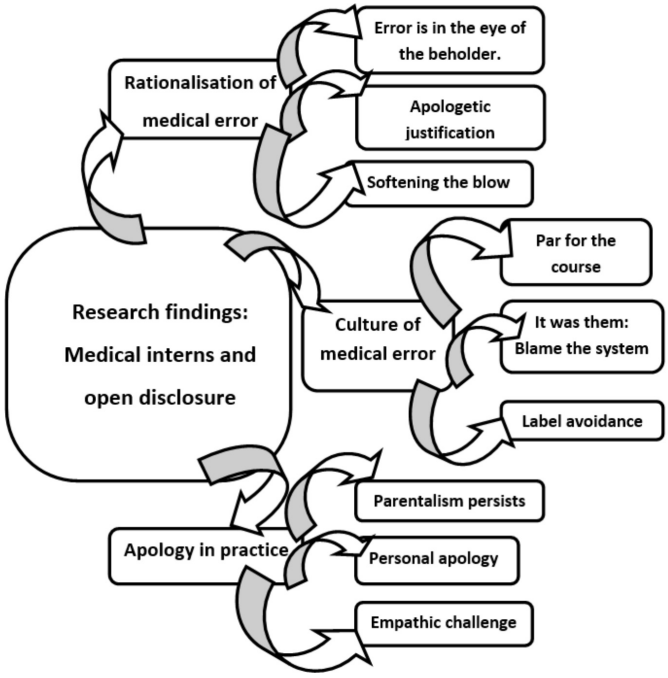


**Figure 1** The links between the research question, and the superordinate-themes and themes.

## RESULTS AND INTEGRATED DISCUSSION

The data was developed into three superordinate themes which were: (1) Rationalisation of medical error, (2) Culture of medical error and (3) Apology in practice. These are displayed in figure 1. The superordinate themes and themes are outlined and explained, with a selection of the supporting quotes which demonstrate and clarify the descriptions and interpretations.

## SUPERORDINATE THEME 1: RATIONALISATION OF MEDICAL ERROR

The three themes describe how medical interns rationalised the errors they encountered in three different ways: their observations (what they saw), their purpose (what they thought) and their language (what they said). The three themes within this superordinate-theme were: (i) Error is in the eye of the beholder, (ii) Apologetic justification, (iii) Softening the blow.

## THEME 1.1: ERROR IS IN THE EYE OF THE BEHOLDER

Participants were ambivalence in reconciling the difference between what the experience of error had meant to them, and what they understood about how error was defined more widely in the clinical setting. Participants referred to incidents where patients came to harm due to opioid medication errors, and suggested that the error was defined by outcome, rather than the intent and their part in the process by which the error occurred

> Because there was a negative outcome, I guess, but was it reasonable? I think it was reasonable.

### Interview 5

> When it affects your respiratory rate, when it can affect your haemodynamics, when it can affect your level of consciousness.

### Interview 2

The intern's perception of error is in keeping with the widely-adopted definition and belief, that error may be defined 'as an unintended act (either omission or commission) or one that does not achieve its intended outcome'.[20] This definition, although it mentions unintended acts also discusses bad outcomes, which is at odds with the scientific theories of error, such as the model put forward by James Reason,[21 22] which he defined as 'A generic term to encompass all the occasions in which a planned sequence of mental or physical activities fails to achieve its intended outcome, and when these outcomes cannot be attributed to the intervention of some chance agency'.

Associating errors with poor clinical outcomes rather than with poor clinical intent is ethically and practically problematic. If there are no witnessed or documented clinical sequelae that require further action, then the people observing the incident may not consider the incident as an error at all, as the essence of error lies within the outcome, and not the intended actions leading to the outcome.

## THEME 1.2: APOLOGETIC JUSTIFICATION

Participants perceived that although they had made a mistake it was justified and explained in a manner that suggested they believed their action was without consequence. For example, when discussing their prescribing error for intravenous heparin for a deep vein thrombosis, there was a lack of understanding of the risk associated with using this medication.

> The guy was fine, he was just super you know anticoagulated for a little while, which was probably a good thing for him, you know he had a thrombus basically.

### Interview 1

On further discussion of the same incident, while the mistake was discussed as personal, mitigating reasons were given.

> I gave somebody a heparin bolus based on their PT rather than their APTT. Well it was a chain of errors… nursing staff on this ward are more proactive in getting things done.

### Interview 1

The miscalculation of the anticoagulation resonates with the Tsang's concept of 'distorting the consequences of an action'.[13] The professional re-interprets the situation in such a way that, for example, a lethal error becomes a 'valuable learning experience' or a 'blessing in disguise'. The error of giving too much anticoagulant medication was portrayed as beneficial for the patient, which is

therefore defendable from a clinical and ethical perspective to the clinician. The subsequent explanations bring in other aspects of rationalisation, for example, the suggestion that the ward and the proactive nurses were in some way to blame for the error resonates with the concept of 'diffusion of responsibility', which is another rationalisation technique described by Tsang.[13]

However, during the interview process, they often become aware of their errors and came to the realisation that their reasoning was incorrect, and recognised the reasons why. The interns could be described as 'not knowing what they don't know', so they were not aware of the mistakes they were making until these mistakes were explicitly explained to them. In addition, in some instances, they demonstrated that they felt something was not quite right, but they were not quite sure what it was.

### THEME 1.3: SOFTENING THE BLOW

'Softening the blow' is a reference to the use of euphemistic language in the interns' talk, demonstrating their cognitive uneasiness, as exampled by these two participants referring to patients who had received an excessive does of opioids, with a resulting decreased level of consciousness:

> (when speaking to the family) I would approach it as they're on this type of medication, the side effects include x, y, z, the dose is not standard for everybody, therefore this has been given, which was obviously for your family member a bit too strong.

#### Interview 3

> Just watching him sleeping it off, making sure that the saturations were not trending down, staying stable, because it did sort of knock him out pretty quickly once the pain had settled.

#### Interview 9

The use of euphemistic language is another of the rationalisation techniques described by Tsang.[13] She states that words are chosen carefully such that the immoral act is seen as harmless. An error becomes a 'complication' or 'medical misadventure', and with enough repetition, the physician convinces themselves that these phrases are in fact the true account of what happened. In the examples quoted in this theme, the rationalisation technique of euphemistic language appears to be used as part of one of the previous explained rationalisation techniques, 'distorting the consequences of an action'. In this instance the patient is 'sleepy', which sounds more natural than 'unconscious'.

## SUPERORDINATE THEME 2: CULTURE OF MEDICAL ERROR

The three themes describe how the medical interns interacted with the culture of the healthcare system. Their interaction was in three different ways, and was manifested in the ways in which they; accepted culture, preserved culture and perpetuated culture. The three themes within this superordinate-theme are: (i) Par for the course, (ii) It was them: blame the system, (iii) Label avoidance.

### THEME 2.1: PAR FOR THE COURSE

Participants accepted error as part of their clinical environment and practice, and demonstrated that they expected errors to occur. While health professionals recognise that they do not work in an error-free environment, there is an ambivalence to the amount of errors expected, and they saw their fellow healthcare professionals as a safety-net for the errors which they are expected to make, which led to subjectivity as to what they considered an error.

> There was another incident when my registrar charted heparin and Clexane for a patient and the patient was in renal failure and thankfully the nurse picked it up and mentioned it to me.

#### Interview 5

> yeah… well I think you know, you know you make errors in terms of like charting wrong doses, you know, I know that I have done a couple of those. They have all been picked up thankfully before they got administered.

#### Interview 1

'Par for the course' suggests that the interns and other healthcare staff are aware of the errors occurring within their environment, and they accepted these errors as part of healthcare system. The concern was the regularity with which the errors occurred, and it may have altered the way in which the interns viewed these errors, leading to circumstances where the interns felt that an apology for the error was not required, due to the context of what had occurred.

### THEME 2.2: IT WAS THEM - BLAME THE SYSTEM

Participants' clinical practice preserved the culture of error within the healthcare system. This theme demonstrated rationalisation, which showed that they had begun to act in a manner of framing the error as system error, and not a personal error, thereby preserving the culture of error.

> My patient had a heart rate of 40 and was given 50 mg of metoprolol, and subsequently had a heart rate of 28. That was medication error on the part of probably the nursing staff that did not really understand what metoprolol was and did, and by giving something they shouldn't have given.

#### Interview 9

Although it was accepted as a personal error, there was justification not explanation of why it occurred

It's a personal error… but when you are working geriatrics with a patient load of 40, you don't have the time to do that, so you leave it up to the nursing staff.

### Interview 9

Many of these situations once again fit with Tsang's rationalisation technique of 'diffusion of responsibility',[13] and the concern with this is that individuals defer the error to the global workforce, thus making it a 'system error', of which they are only a small part. This diminishes personal accountability.

## THEME 2.3: LABEL AVOIDANCE

Participants practiced in a manner that perpetuated the culture of error. Interns often practised in a manner that perpetuated the idea that medicine is a family that 'looks after its own and 'protects its own profession".[23] This situation occurred because they were either practicing beyond their level of experience without appropriate support, in their own practice or having conversations with families where they were discussing a colleague's practice. The data illustrates how they were developing a view which would last beyond the current situation, therefore perpetuating the culture of error.

It's a difficult word to use, because we don't like to say mistake. It makes us look bad…Junior medical professionals.

### Interview 1

Yeah. I think it's a mistake. I guess because, oh I don't know, I think there is this whole stigma involved in medicine that, I don't know, you just don't dob your colleagues in.

### Interview 7

Perpetuating the culture of error is different from preserving the culture, in that it refers to something being continued indefinitely, whereas preserving is referring to maintain a current status quo. 'Label avoidance' starts to reveal that unfortunately there is a recognised culture of fear in medicine, and a culture of bullying that if you speak out you will be next in line to be targeted.[24] 'Label avoidance' also suggested that interns commonly avoided the word mistake, and associated it with serious errors, and that although there are suggestions, they wished to preserve their own personal patient-doctor relationship, they were also putting the general patient-doctor relationship before patient well-being.

## SUPERORDINATE THEME 3: APOLOGY IN PRACTICE

The three themes describe how medical interns differed in their approach to and delivery of apology, based on whether they were apologising on behalf of somebody else, themselves or considering the open disclosure guidelines. The themes within this superordinate-theme are: (i) Parentalism persists, (ii) Personal apology, (iii) Empathic challenge.

## THEME 3.1: PARENTALISM PERSISTS

This theme described the way in which the interns approached an apology, if they felt they were apologising for errors made by other doctors and not themselves. Interns wrestled with how much information to disclose to families, and displayed traits of parentalism. However, they also displayed empathy when apologising.

I just didn't feel at that point in time that was information that they necessarily needed or would help them with making the decisions in terms of what happened from there. I mean her condition was what it was. It was quite evident she wasn't going to survive through it.

### Interview 7

There have been a few situations where I've been asked to justify the actions of someone else and those sorts of things, and it's actually an impossible task. You can't speak for someone else and what they were thinking…

### Interview 10

Parentalism is behaviour, by a person, organisation or state, which limits some person or group's liberty or autonomy for his or her own good.[25] It can also imply that the behaviour is against or regardless of the will of a person and may express a sense of superiority.[26] However the context is not quite as straightforward as it first appears, and withholding information has been argued to be ethically justifiable, it depends on how clinicians view their ethical responsibilities.

'Parentalism persists' suggests that parentalistic behaviour is probably not a personal principle, but the result of rationalisation, and it occurred because many situations in healthcare involve context and nuance. This theme reinforced the need for context in apologising, which is consistent with the work of Slocum *et al*,[12] and that protocols describing how a doctor should deliver an apology have the potential to miss context if applied rigidly.

## THEME 3.2: PERSONAL APOLOGY

Participants considered how they approached an apology based on if they were apologising for errors made by themselves, as compared with errors by colleagues. Participants demonstrated that their approach to apologising was very different if the error was personal.

As awful as it sounds, I think it's a little bit easier when it's not you. So, I think I would have coped with it a lot better than having to admit that I had made the error.

### Interview 5

I would say I'm sorry this has happened; I didn't say I'm sorry during that time. But if I say I'm sorry that this has happened, but I wouldn't say I'm sorry. I wouldn't take ownership for the mistake that wasn't mine.

### Interview 2

There is a difference between responsibility and accountability, in that responsibility is bestowed but accountability must be taken. It would appear with the situation of 'personal apology' that interns felt responsibility, but were not prepared to take accountability for this patient and the harm they had come to, unless it were a personal error. However, when they were apologising, they were the medical representative of the hospital given the task of apologising to the family at that time, yet they did not appear to have a connection with the situation that had occurred, and therefore did not take accountability. This was a concern with the disclosure guidelines, in that for an apology to be perceived as being genuine there needed to be an element of regret and remorse, resonating with the theory of apology from Slocum *et al*.[12] What is important in the apology is that they give the family what they need, and that there is genuine empathy that they are truly sorry that this has happened to the patient.

## THEME 3.3: EMPATHIC CHALLENGE

Participants wrestled with the delivery of apology using the open disclosure guidelines, and how this difficulty could have affected the perception of empathy from the perspective of the patients and families. There were specific words in the open disclosure policy that the participants had opinions on, especially the words 'error' and 'mistake', and others that they were ambivalent about, for example, the word 'sorry'. Both these words are part of the process of open disclosure, that is, saying sorry for the incident occurring, and admission that an error or mistake has occurred.

Well I would use the word mistake. It's just the language I use, I guess. It's less threatening, error, I think mistake is, describes an unintentional error. Whereas error, is I think is a slightly more aggressive term. Yeah, and mistakes is more colloquial and conversational than error as well.

### Interview 6

I mean, there definitely is a negative connotation about the words error and mistake. I'm not quite sure that I was ready to quite go that far in acknowledging with the patient. At the time I just was carrying a lot of blame, I felt awful and, to be honest, I didn't want to set foot in emergency again.

### Interview 11

This construction of an apology in the theme resonates with the work of Bok,[27] who argues that the construction of truth-telling is not well defined and many people give a different context. For example, if truth-telling means 'not lying', if patients do not ask about error then they have not lied, so there has been no breach of truth-telling.

Our data suggests that the use of apology guidelines can give the impression that the person delivering the apology can initially appear unempathic, when that person possesses a great deal of sincerity and empathy. This reinforces one of the concerns with the open disclosure policy: that when it becomes a procedure with itemised points to make, the empathy and contextualisation of the apology can be lost.

## FURTHER DISCUSSION

Our data sheds new light on the ways in which interns, conceptualise medical errors in the clinical environment, especially the way in which they rationalise them, and therefore suggests new ways forward to enhance their preparation for and expectation of apologies, in the context of improving patient care. The interns in this study rationalised their observations, their actions and their language, and became part of a healthcare environment that culturally accepted, promoted and perpetuated error, which led to further rationalisation. Rationalisation can lead to loss of context in apologising, which can be perceived as unempathic by the patients and their families. However, when made aware of their errors, the interns often managed to negotiate this, came to the realisation that their reasoning was incorrect and recognised the reasons why. The interns could be described as 'not knowing what they don't know', so they were not aware of the mistakes they were making until these mistakes were explicitly explained to them. In addition, in some instances, they demonstrated that they felt something was not quite right, but they were not quite sure what it was.

## IMPLICATIONS FOR PRACTICE

A useful method in supervisory practice to unpack interns' ability to recognise one's limitations is the use of a learning framework: 'the competency matrix'. This relates to a person learning a new skill, behaviour, ability or technique,[27] and in the context of this study, navigating a conversation with a patient or family member about medical error. The framework is outlined in figure 2.

Learners begin at stage 1 'unconscious incompetence', where the individual does not understand or know how to do something and does not necessarily recognise the deficit.[28] As their skills increase, they enter stage 2 of 'conscious incompetence' where though the individual does not understand or know how to do something, they recognise the deficit.[28] With greater skill acquisition, they attain stage 3 of 'conscious competence', where the individual understands or knows how to do something. However, demonstrating the skill or knowledge requires concentration. Finally, as they master their skill, they attain stage 4 of 'unconscious competence'. The

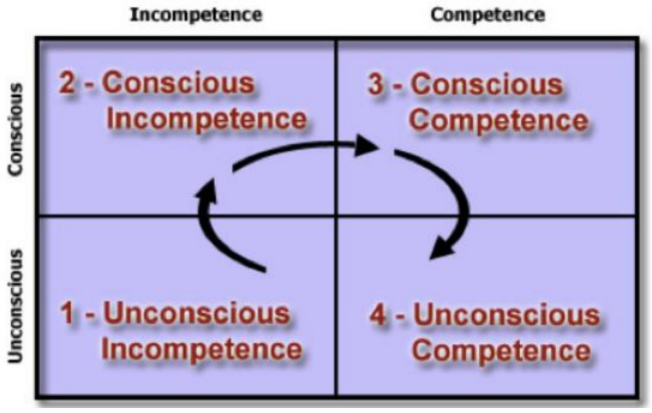


**Figure 2** Levels of competency.

individual has had so much practice with a skill that it has become 'second nature' and can be performed easily.[28]

The point at which the transition from unconscious incompetence to conscious competence occurs has often been called the 'light-bulb moment',[29] but what is seen from the data is that there are certain times when the light-bulb is potentially flashing, when they are starting to recognise something is not-quite-right, but have not quite realised why. If rationalisation is occurring when the interns are 'unconsciously incompetent' and therefore making sense of their error in the incorrect way, what is happening when they are feeling uncomfortable with a feeling that something is wrong, but they can't work out what it is? This development of self-awareness and reflective practice is an aspect of professional development that can be easily adapted into healthcare professional education programmes, since based on our data they were not developing this skill in this context. Superordinate theme 1 describes how the medical interns rationalised the errors they encountered in three different ways: their observations, their purpose and their language, and while they were able to unpack this on subsequent interview this appeared not to occur at the time. One of the potential reasons for this comes directly from superordinate theme 2, which describes how the medical interns interacted with the culture of the healthcare system, and accepted, preserved and perpetuated the environmental culture, and the role-modelling and exemplars they were exposed to ensure they did not develop the reflective practice in these contexts. This phenomenon could be explained by attribution theory.

Attribution is a concept in social psychology addressing the processes by which individuals explain the causes of behaviour and events.[30] People have a need to explain the world, both to themselves and to others, attributing cause to the events around them. This gives people a greater sense of control of their surrounding environment. People with a high need to avoid failure will have a greater tendency to make attributions that put themselves in a good light, which has been previously described in doctors.[31] Attribution occurs because of cognitive dissonance within the individual. Cognitive dissonance is the feeling of discomfort when simultaneously holding two or more conflicting cognitions: ideas, beliefs, values or emotional reactions. In a state of dissonance, people may sometimes feel 'disequilibrium': frustration, hunger, dread, guilt, anger, embarrassment, anxiety.[30] This contradiction between two beliefs will spontaneously create a third belief in order to be filled. Generally, this 'third belief' is pure confabulation.[32] Cognitive dissonance is a largely unconscious process; you are seldom consciously aware that you hold two contradictory beliefs or value systems simultaneously, using each belief only when it is most socially convenient to do so. Our data supports the notion that although the interns were using recognised rationalisation techniques to explain the phenomena that surrounded them, their internal moral compass was still working. Superordinate theme 3 demonstrates the deep and empathic thoughts that they navigated while negotiating open disclosure, despite their actions and decisions aligning with the culture of medical error in superordinate theme 2.

Attribution leading to rationalisation, also aligns with another theoretical concept that links in with the competency framework, that of intellectual humility. Intellectual humility has been described as 'having a consciousness of the limits of one's knowledge, including a sensitivity to bias, prejudice and limitations of one's viewpoint'. Intellectual humility depends on recognising that one should not claim more than one knows.[33] Put simply it means that people have 'knowledge of Ignorance', the same as having 'conscious competence of unconscious competence'. When considering intellectual humility from a learning perspective, it could be described as a mean between extremes of intellectual arrogance, and overconfidence in one's own opinions and intellectual powers, and undue timidity in one's intellectual life.[34]

There are certain strengths and limitations to this research. The strengths are the robustness of the methodology and methods chosen, as they aligned with the interpretation of the human experience. The method of analysis is strong in this regard, especially for the number of participants selected. IPA gives a rich and nuanced interpretation of the topic being discussed. The context of the study is also highly pertinent to junior doctors, and the experiences they recounted were recognised as something themselves and their colleagues faced on a regular basis. Limitations are the level of junior doctor sampled, as there are many levels of junior doctor and interns do not reflect the practice or experience of residents, registrars, etc, who have developed further in their careers, and future research could focus on this.

## CONCLUSION

The results from the data suggest that the competency framework of learning resonates with aspects of the interns' rationalisation of their clinical practice and the clinical environment around them, especially situations of 'unconscious incompetence' and 'conscious

incompetence'. This current framework for explaining the development of competency is a neat model for demonstrating how learners develop mastery, however it is too simplistic and does not consider aspects of the findings discussed in this paper. It considers neither the interns' cognitive dissonance and rationalisations, nor the aspect of intellectual humility, and further development of the competency matrix is required to fully understand critical aspect of cognitive development for learners with regard to medication error and open disclosure.

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**Data availability statement** Data are available upon reasonable request. As above.



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