How events in emergency medicine impact doctors' psychological well-being

Laura Howard,[1,2] Christopher Wibberley,[2] Liz Crowe,[3,4] Richard Body[1,5]

[1]Emergency Department, Manchester University Foundation NHS Trust, Manchester Academic Health Science Centre, Manchester, UK
[2]Faculty of Health, Psychology and Social Care, Manchester Metropolitan University, Manchester, UK
[3]School of Medicine, The University of Queensland, Herston, Queensland, Australia
[4]Paediatric Intensive Care Unit, Lady Cilento Children's Hospital, South Brisbane, Queensland, Australia
[5]Cardiovascular Sciences Research Group, The Innovation Centre, The University of Manchester, Manchester, UK

Correspondence to
Dr Laura Howard, Emergency Department, Manchester University Foundation NHS Trust, Manchester M13 9WL, UK; laurahoward@doctors.org.uk

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ABSTRACT

Background Emergency medicine is a high-pressured specialty with exposure to disturbing events and risk. We conducted a qualitative study to identify which clinical events resulted in emotional disruption and the impact of these events on the well-being of physicians working in an ED.

Methods We used the principles of naturalistic inquiry to conduct narrative interviews with physicians working in the ED at Central Manchester University Hospitals NHS Foundation Trust, between September and October 2016. Participants were asked, 'Could you tell me about a time when an event at work has continued to play on your mind after the shift in which it occurred was over?' Data were analysed using framework analysis. The study had three a priori themes reported here. Other emergent themes were analysed separately.

Results We interviewed 17 participants. Within the first a priori theme ('clinical events') factors associated with emotional disruption included young or traumatic deaths, patients or situations that physicians could relate to, witnessing the impact of death on relatives, the burden of responsibility (including medical error) and conflict in the workplace. Under theme 2 (psychological and physical effects), participants reported substantial upset leading to substance misuse, sleep disruption and neglecting their own physical needs through preoccupation with caring. Within theme 3 (impact on relationships), many interviewees described becoming withdrawn from personal relationships following clinical events, while others described feeling isolated because friends and family were non-medical.

Conclusions Clinical events encountered in the ED can affect a physician's psychological and physical well-being. For many participants these effects were negative and long lasting.

Key messages

What is already known on this subject
- The prevalence of compassion fatigue, secondary trauma and burnout has been studied in emergency physicians, but there is little research on how different clinical events impact on doctors psychologically, physically and emotionally.

What this study adds
- In this qualitative research study of 17 emergency physicians we begin to understand how clinical events in emergency medicine have potential to impact on doctors' well-being in terms of individual psychological and physical effects, and effects on relationships.
- This study highlights the need for intervention after clinical events in the ED and further research into how best to support a physician during these times.

there are no known qualitative studies exploring the meaning of emotionally disruptive events to EPs. There has been little discussion of the nature and effect of these events as reported by the physicians themselves. Qualitative research can provide a rich and deep insight into the psychological and physical disruption caused by events in the ED and could allow us to create meaningful steps to developing targeted interventions to protect the well-being of EPs. The aim of this study was to explore the impact of clinical events on the well-being of EPs, and to identify which events result in emotional disruption.

BACKGROUND

Emergency physicians (EP) work in a fast-paced and high-pressured environment, with constantly changing teams. The EP must be prepared to manage and process whatever occurs on a shift. This includes the potential of exposure to death, serious illness, trauma and suffering, often with no clear solution to the problems they face.[1] This environment can lead to emotional disruption in the physician, which may be short or long term in effect.

Previous research shows that EPs are at high risk of compassion fatigue, secondary trauma and burnout, and this may change behaviour in the workplace or at home.[2 3] Despite growing literature reporting the potential stresses on EPs,

METHODS

Our study design was founded in the principles of naturalistic inquiry.[4–6] The research design drew on five elements of such enquiry listed by Lincoln and Guba[4]:

1. It used tacit knowledge gained by working in the setting in which the research was carried out.
2. A qualitative method was adopted.
3. Inductive data analysis was applied.
4. The results reflected a case study reporting mode.
5. The implications were considered tentative, especially with respect to transferability.
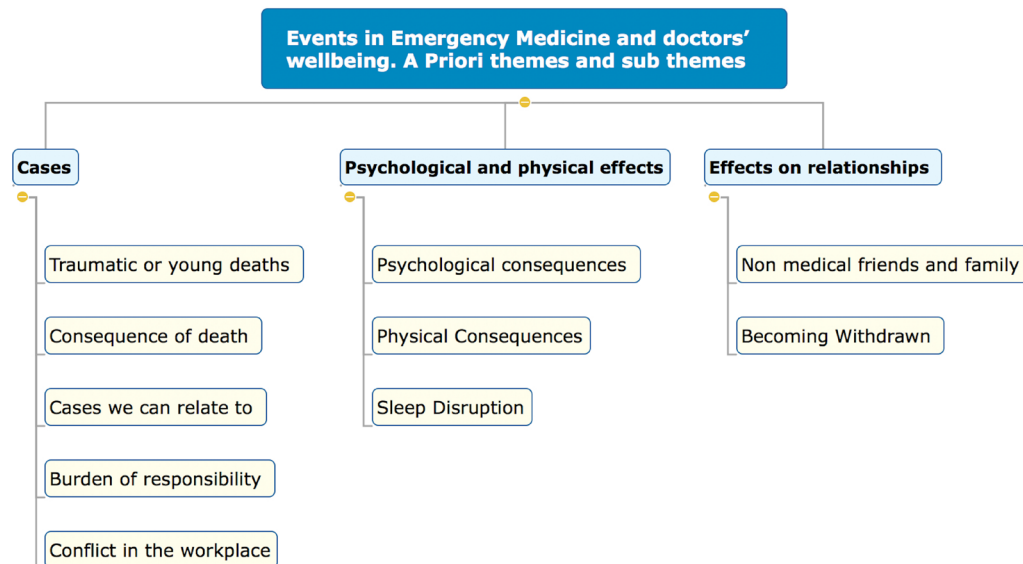
Figure 1 A priori themes and subthemes.

Setting and participants

Participants were recruited from Central Manchester University Hospitals NHS Foundation Trust ED. Written information sheet and given an opportunity to 'opt in' to the study were distributed around the department, during key times such as morning handover, junior doctor teaching and consultant meetings over a week's period in September 2016. There were 69 potential participants comprising 26 consultants, 8 non-training registrars, 11 non-training senior house officers, 5 training registrars, 15 foundation doctors and 4 general practitioner trainees. Participants were made aware that: selection from those 'opting in' may occur to ensure representation of doctors at all levels of training, and that selection would continue until data saturation.[7 8] Written consent was obtained from all participants prior to the interviews and it was confirmed with all participants that they could withdraw at any time. All participants were informed that our staff support team were available for anyone experiencing distress following the interview.

Data collection

Narrative style interviews were conducted with EPs using the prompt: 'Could you tell me about a time when an event at work has continued to play on your mind after the shift in which it occurred was over?' Follow-up questions were then based on the information provided by the interviewee. All participants were interviewed by a single investigator (LH) who was also an EP, working within the organisation. Interviews were audio recorded and transcribed verbatim for analysis. Pseudonyms were used in all transcripts and are used throughout this report. Interview recordings and transcripts were stored on an encrypted, password-protected hard drive.

Data analysis

Data analysis was carried out using a process similar to that of framework analysis, allowing the inclusion of both a priori and emergent themes.[9] This process involved data being read and re-read and emerging themes noted alongside a priori themes using a constant comparative approach. Phases of familiarisation and indexing led to the development of a thematic framework, discussed and agreed between the authors. This framework was used for data extraction, mapping and interpretation. A priori themes arising from the aims were 'the clinical events that resulted in emotional disruption'; 'the psychological and physical effect of these events'; and 'work events intruding on personal relationships'. Emergent themes (not reported here) were 'positive experiences within the ED'; 'cultural influences on experiences'; and 'professional help and support'. This paper focuses on the a priori themes (see figure 1): a second paper will focus on emergent themes.

RESULTS

In total, 17 physicians opted in, and all were interviewed. The authors agreed that data saturation had been reached after 15 interviews. Two further interviews had been scheduled and were therefore completed

Of the 17 physicians recruited to the study, there were 10 men and seven women, with various levels of experience (table 1).

Clinical events

We identified several factors relating to clinical events that seemed to cause emotional disruption, often for many years after the event. Participants could recall the clinical encounters in vivid detail and clearly reported the compounding factors that they believed made these events memorable.

Young or traumatic deaths

Several participants reported being affected by witnessing patients dying at either a young age or a perceived young age, or in a traumatic manner. The detail of these memories remained vivid to participants. Some of these included doctors recalling events where highly invasive procedures had been carried out on young babies and children and the child had still died. Other

Table 1 Grades of participating doctors

Grade of doctor	Participants (n)
Consultant	7
Training registrar	3
Non-training registrar level	2
Non-training senior house officer level	3
Foundation doctor	2

confronting events included a young woman who had been sexually assaulted and left to die, where entire families had died leaving only one surviving member and having to tell a pregnant mother and young child that their husband/father had died.

Our data demonstrated that the term 'young' was used broadly to describe children and 'younger' adults up to 50 years of age. There was a repeated theme among participants of the tragedy for adults who had died 'before their time'. For example:

> I just saw a guy with heart failure, he was a young guy and he was waiting for a heart transplant… I went to see him the next day and he had died. He had just arrested in the night…it's just so sad that someone would die so young, so quickly and so tragically.

Events EPs can relate to their own lives
When participants were able to identify with the patient on any level, it appeared to have a powerful impact on them. Dr C reported being upset by an event that could relate to their own child, saying:

> Things can be very upsetting. Particularly I remember, a couple of times, you know having a child in… who was the same age as my child… who had been killed in a road traffic accident. I found that really hard because he was a similar size and age and… if you didn't look at his face you would assume it was the same.

Similarly, Dr B reported the negative impact of treating a 'Young guy that was killed on his bike, because I like cycling, I cycle to work, I cycle all the time….'

Bearing witness to the consequences of death on relatives
Participants reported bearing witness to the pain and distress of the surviving family and friends as more distressing than being involved in the death of a patient. Dr H reported that witnessing family bereavement is 'the thing [they find] hardest' and described being affected by a 'little boy, only 3 or 4, saying goodbye to his daddy.' Dr N noted the negative impact of witnessing sudden and unexpected death, saying, 'Now that fella is there whose wife just had a cough. He is on his own now for the rest of his life… I think about that more than actual death.'

The burden of responsibility
Participants spoke of the pervasive responsibility and fear of making a mistake at work that disturbed their personal life. Some participants expressed overt regret following a scenario, which they perceived as their own mistake. Dr R said:

> I shouldn't have sent that patient home or I should have got them to come and see them coz I think regardless of whether you have written down on a bit of paper and discussed with so and so, it is still your patient and you have to take responsibility.

Some had witnessed a negative outcome for a patient and worried that it may have been their fault, even though there was no evidence of a personal error. Doctors worried that if it had been a different physician or they had done something differently the outcome could have changed. Dr R said, 'I came in the next day and unfortunately, he had died in the department, and that was quite a big thing to happen. Obviously, I just thought I had done something wrong.'

While several physicians spoke about specific scenarios, for other participants there was a cumulative impact of the burden of taking responsibility within emergency medicine (EM). Fear of hearing of an error or missing a diagnosis resulted in constant reflection and fear for many participants. Dr R said, 'I am going to go home at the end of a shift and I am going to worry and I

am going to feel like… loose ends haven't been tied up.' Dr O said, 'I was dreaming about patients and thinking about… have I checked her bloods? What if her potassium is high? What if her amylase is this? I used to phone people in the middle of the night.'

It was also apparent that legal proceedings and coronial cases created stress for participants. Dr E described profound effects from a 'big critical incident type thing and lots of enquiries and there was going to be an inquest but it took three and half years to go to inquest.' Dr N reported that one of the many difficulties regarding the legal system was EPs 'didn't have control of any of the process.'

Conflict in the workplace
Encountering conflict in the workplace was a source of emotional distress for a small number of participants. Dr G described how 'conversations with other specialties at times can be fraught and there are certain times where that has had a real impact on me.'

Psychological and physical symptoms of events
A range of both psychological and physical effects, along with sleep disruption, were experienced by those reporting emotionally disruptive events within the ED.

Psychological symptoms
The emotional responses described by participants varied from emotional distress, crying, active avoidance of emotions, a reduction of self-confidence and becoming withdrawn. Dr H recalled, 'Driving to work in tears every day, driving home in tears every day.' Dr E reported, 'Whenever I started thinking about it, it was a weight just you know, it was just there all the time.' These emotional responses had a significant effect on many participants. Dr L stated that these events caused him to 'just get to the lowest point you can possibly get to, or the lowest point where you could not function.'

The participants reported how the emotions of these cases had created a reduction in self-confidence and self-esteem. Dr H said, 'It shook my confidence at work and a bit at home. That made me really question myself.' Similarly, Dr J said, 'It had a massive impact on my kind of self-esteem, my self-confidence… how worthwhile I felt I was… and I got kind of in a really bad way.' Dr O told how colleagues had commented that their 'spark had gone out.'

Participants described actively trying to block feelings related to negative emotions. Dr L said, 'Drink, you know, use other substances, you know they are not healthy things to manage the feelings that you have but they are things that we do as a way of getting away from real life or work.' For others, such as Dr O, emotions were avoided by 'de-personalis[ing] a lot of it… like… they are humans and… they… a lot of the time it's like they are broken machines that need fixing.'

Physical symptoms
Participants reported experiencing physical symptoms following an event. For example, Dr Q reported, 'Weight loss… not eating.' This physical manifestation of stress or anxiety was also described by Dr O who said that they had 'not got space for anything else including your own physical needs. You are just so weighed down by someone's amylase and someone's lactate and someone's drain fluid that you're not even thinking about… hang on a second I haven't eaten.'

Sleep disruption

Participants described how events at work had a negative effect on their sleep. Disruption and concerns about sleep hygiene, sleep routine and patterns were mentioned in the majority of interviews. Dr J said, 'At 3 o'clock in the morning I would be lying awake going over every patient that I had seen that night or that day, and I would be second guessing myself, I would be stressing myself out, worrying myself sick.' Others, such as Dr B, would awake in the middle of the night with intrusive thoughts: 'Sometimes, all of a sudden, you wake up in a cold sweat thinking about things, worrying about things, things you might have missed.' For some sleep was disrupted for long periods. Dr E said, 'I certainly didn't sleep properly for three and a half years. I thought about it probably every day, except for a few days on holiday, and looking back it had a huge impact on my life.'

Work events intruding on personal relationships

Participants reported that work events regularly had a negative impact on their personal relationships. These relationships also seemed to affect the way they processed the event that had occurred.

Non-medical friends and family unable to identify and support EPs

Participants who had significant others working outside the healthcare community identified this as isolating. These participants felt they were unable to share their work and fears. Dr A stated:

> None of the people in my life outside of work have any kind of frame of reference for any of this. This is all really weird and they don't really know what to say and it's making everybody else feel very uncomfortable so I kind of need to package this up and deal with it in a way that I can deal with it, rather than expecting other people to be able to.

This inability to share with non-medical loved ones was described as creating a source of conflict in relationships when EPs had to process work events alone. Dr L stated that this 'created a friction I guess at home.' Similarly, Dr K reported, 'I become a little bit short tempered.'

Participants with non-medical partners felt they should not share events at work with their loved ones. This is explained by Dr F, 'Because of the nature of emergency medicine we have, we see, we do, we feel, we experience stuff which other people shouldn't, so I don't impose those on people who are not in this particular club. In fact, I don't impose them on anybody.'

Becoming withdrawn

In order to process events at work many interviewees described becoming withdrawn. Dr M said, 'I stew on things, I just go very, very indrawn.' This was an experience not just felt in the home but socially as well. For example, Dr H said, 'When something nasty has happened at work you would notice it at home by me being quieter. Less likely to be going out with friends.' Dr J said, 'I was becoming more withdrawn and I started to feel anxious at social events and gatherings amongst my closest friends and family. I had to kind of retreat in.'

DISCUSSION

There is increasing evidence of the risk of potential harm to EPs in relation to their work. Burnout and trainee retention are recognised problems within EM, which may be a result of emotional disruption.[10] However, to our knowledge this work is the first to use qualitative methods to allow an in-depth exploration of the impact of events on the well-being of EPs. Our findings demonstrate that events occurring at work have a profound impact on EPs. This may occur as a reaction to routine events, rather than being restricted to those that are particularly traumatic or related to medical error. A wide range of events triggered distress in EPs, which fitted into the broad themes presented. How EPs will respond to events is difficult to predict, as they are deeply personal to them and their circumstances.

Cases at work affect EPs both emotionally and physically and extend to disruption of personal relationships. Our participants often reported experiencing difficulty with sleeping due to intrusive thoughts about events at work. These effects can last for long periods of time, for some several years. These events often affected physicians' relationships with their family and friends. Several participants reported becoming more withdrawn, feeling unable to talk to friends and relatives (particularly if they were from non-medical backgrounds) and reported that this could cause conflict and frustration at home.

Reported negative effects, following cases that continued to intrude on the well-being of EPs, were not associated with the level of experience. Concerning and long-lasting impacts of these events were described equally among participants. The results exemplified that you cannot predict the impact of a particular case across a cohort of participants. What may be an 'ordinary' case with no physical or emotional impact for one EP may have a profound and particularly damaging outcome for another EP. The cases that one physician may identify with may not have the same resonance with another physician. Additionally, the burden of responsibility felt by one physician may not be carried by another. These results indicate the need for physicians to have a deep sense of self-awareness to their own reactions to cases and a strong investment in their own well-being. Leaders in EM ought to provide a multifaceted approach to EPs' well-being, and be able to account for these individual responses and requirements, in order to facilitate recovery and resilience.

Strengths and limitations

All participants opted into this study after reading a participant information leaflet and were therefore a self-selected group who were eager to share their narrative, creating an inherently biased group. EPs who remained resilient irrespective of the clinical case or those who felt deeply shamed or impacted by a case may have opted not to participate. All the participants spoke of past events in the interviews, which may mean the study misses an important group of physicians who were being affected by events at the time of data collection. To maintain participant confidentiality, the age, gender and years of clinical experience of participants have not been disclosed in the results. While this was a single-centre study, the training doctors interviewed and consultants (who had all been through EM training) were often recounting events that occurred while working in EDs in different hospitals.

In this study, 41% (7 of 17) of participants were consultants in EM, meaning they had many years of experience in this field. Due to this, they may have developed mechanisms for coping with events they are exposed to in EM. Conversely, sustained exposure to such events may have resulted in a greater negative impact on their well-being, when emotionally disruptive cases were encountered.

All of the interviews were conducted by LH, who is an EP. This allowed for consistency in the style and conduct of the interviews. As LH is an EP, interviewees may have felt prepared to share experiences more openly, removing the obstacle of the interviewees feeling that they would have to explain the medicine

as well as their feelings. Conversely, as LH was a colleague of the staff the responses may have been more guarded, reducing openness of interviewees. If an investigator with a non-medical background had conducted the interviews, they may have needed to ask more questions about the cases in order to gain an understanding that was assumed by LH. These advantages and disadvantages parallel those discussed in the literature relating to insider-outsider research.[11]

Implications

This study demonstrates that events at work may affect a physician, and in some cases, have a negative impact on all aspects of their lives; emotionally, physically and on personal relationships. The research brings up many questions, mainly about how we can help physicians when these events do happen. Our findings lead us to ask whether we require a culture change in EM, so that physicians have a safe environment to reflect and share concerns with a goal to minimising long-term impact. They should also lead us to ask specific questions about matters that seemed to particularly affect EPs. For example, we should ask how we best provide support to EPs undergoing legal proceedings such as coroner's cases, and how we can help physicians process the responsibility they carry.

CONCLUSION

This research gives insight into how the cases physicians can encounter in the ED can affect a physician's psychological and physical well-being. In some interviews, these effects are deeply moving showing the need for further research in EM well-being, especially researching tools to increase resilience.

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