Multiple meanings of resilience: Health professionals' experiences of a dual element training intervention designed to help them prepare for coping with error.

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December 18, 2020

Abstract

Rationale, aims and objectives: Consistent data demonstrates negative psychological effects of caregiving on front-line health professionals. Evidence that psychological resilience factors can help minimise distress and the potential for low-cost interventions have created interest in resilience-based development programmes; yet evidence of perceived value amongst health professionals is lacking. This study explored health professionals' experiences and perceptions of a novel, resilience-based intervention designed to pro-actively prepare staff for coping with error; to investigate their perceptions of what resilience meant to them, the relevance of the intervention, and impact of participation on ability to cope with error. Method: Semi-structured interviews 4-6 weeks post intervention with 23 randomly selected participants from seven cohorts (midwives, paediatricians, obstetrians/gynaecologists, paramedics) and trainees (physician associates, mammographers, sonographers). Thematic analysis of interview data. Findings: Participants reported various interpretations of, and a shift in perception regarding what the concept of psychological resilience meant to them and their practice. These included for example, resilience as a positive or negative concept and their awareness and response to a range of personal, organisational and system factors influencing personal resilience. They valued the prophylactic, clinically relevant, interactive and applied nature of the intervention; having developed and applied valuable skills beyond the context of involvement in error, noting that individuals needed to be willing to explore their own coping mechanisms and human fallibility to gain maximum benefit. There was also consensus that whilst proactively developing individual level psychological resilience is important, so too is addressing the organisational and system factors that affect staff resilience which are outside individual staff control. Conclusion: Enhancing resilience appears to be considered useful in supporting staff to prepare for coping with error and the wider emotional burden of clinical work, but such interventions require integration into wider system approaches to reduce the burden of clinical work for health professionals.

Title Page

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Short title: Preparing health professionals to cope with error

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Conclusion: Enhancing resilience appears to be considered useful in supporting staff to prepare for coping with error and the wider emotional burden of clinical work, but such interventions require integration into wider system approaches to reduce the burden of clinical work for health professionals.

Keywords: Resilience, healthcare professionals, error, coping intervention

Data availability statement: Data is available on request due to privacy/ethical restrictions.

Conflict of interest statement: The authors have no conflict of interest to declare.

MAIN TEXT

Introduction

Health systems internationally face significant and escalating challenges to provide care that offers both value and quality in the context of rising costs of care, aging populations, complex conditions and comorbidities.(1, 2) Healthcare professionals at the clinical front-line have borne much of the burden, evident in consistent data demonstrating high levels of stress and burnout(3-5), while studies have shown consistent links between these negative psychological effects and healthcare safety and quality. (6-8) Strong evidence that psychological resilience factors can help minimise distress, coupled with the potential for low-cost opportunities to intervene, have given rise to interest in the development and application of resilience-based interventions to address psychological distress amongst health professionals.(6, 7) Resilience factors are those which statistically moderate the association between exposure to stressors and negative outcomes; those who have high levels of resilience are less likely to show negative reactions in the face of stress.(6) Resilience-based interventions therefore seek to develop individuals' capacity to maintain emotional equilibrium in response to difficult experiences.(8)

Resilience-based interventions have faced substantial criticism as the wrong solution to address system inadequacies that create occupational suffering.(9) The misapplication of resilience-based interventions in an

attempt to build capacity for enduring pervasive health system stress has led to such interventions being criticised for masking inherent system and organisational failings. For example, the application of resilience training in the UK health system, to enhance health professionals' capacity for "absorbing any unacceptably and avoidably negative conditions", has created distaste for the implementation of such training.(10) The potential value of resilience-based training in enabling healthcare professionals to prepare for burdens associated with clinical work is supported, but it is critical for such training to be applied only in the context of systematic solutions to tackle the burden on health professionals that is created by system inadequacies.(9, 10)

Since the late 1990s the impact of involvement in medical error for healthcare staff and associated psychological distress which often heightens potential for further unsafe care has gained increasing attention.(11) Despite extensive focus, few interventional approaches have been developed and fewer have been comprehensively evaluated for their effectiveness in addressing psychological distress.(12-14) To date, interventional approaches have been limited to programs that integrate a range of approaches to support healthcare staff following an error. However, despite a burgeoning commentary in the literature regarding the topic of resilience, we are unaware of any studies that have directly explored healthcare professionals' views of the concept of 'resilience' following participation in resilience-based training interventions. Furthermore, there is little evidence of the experience of health professionals who undertake resilience-based programs regarding their acceptability and value.

A novel, prophylactic, resilience-based coaching intervention was developed by the authorship team to prepare healthcare professionals to mitigate the negative impacts of involvement in making an error. The intervention was evaluated using a mixed-methods design. The findings, which are published elsewhere, demonstrated that the intervention significantly increased resilience levels, confidence in coping with error and knowledge of resilience building strategies and their application amongst 66 health professionals in the UK from diverse professions. (15) The intervention comprised a 3.5 hour interactive, group workshop involving 4-12 participants and a follow up one hour 1:1 coaching phone-call with a facilitator that enabled participants to explore issues they did not feel comfortable discussing in a group setting and their application of the learning in practice. The workshop was theoretically underpinned by an evidence-based concept of resilience to failure events and drew on cognitive-behavioural therapy principles (16) to enable participants to identify and use evidence-based techniques for developing relevant traits and abilities.(7) Work-based case studies, tailored to stressful aspects of clinical practice and errors commonly experienced by the specific discipline groups, were used to facilitate learning and enhance perceived relevance. The facilitators were a Clinical Psychologist (JJ) and an Occupational Health Psychologist (RSE) with experience in CBT-based interventions. Eligible health professionals were employed in the target disciplines of midwives, doctors, paramedics, or completing an education programme leading to qualification as physician associates, sonographers or mammographers. Healthcare staff were invited to participate in the intervention via their employing organisations (qualified healthcare professionals) or programme leads (trainee healthcare professionals).

A qualitative evaluation conducted alongside the intervention answered the following research questions, designed to glean the knowledge required to optimise future implementation approaches:

- how is the concept of psychological resilience perceived by healthcare professionals within the context of healthcare practice?
- how do healthcare professionals perceive and respond to the novel intervention being tested?
- how relevant do participants perceive the intervention to be for them and their roles?
- how do participants perceive their ability to cope with error?

Methods

Ethical approval

All participants provided informed consent prior to participation. The study was approved by the University of Leeds, School of Psychology Ethics Committee (PSC-509/29 November 2019) and NHS (REC reference 19/HRA/0391).

Design

Descriptive, qualitative interview study.

Recruitment

A random number generator was used to select a minimum of four individuals from each uni-disciplinary cohort to ensure all disciplines were included. This provided a target sample of 32 from the 66 staff who had participated in the intervention. These individuals were invited to take part in the qualitative interviews and recruitment ceased once the data gleaned from the sample was deemed to provide sufficient 'information power'.(17)

Data collection

One-to-one, audio-recorded, telephone interviews of 30-45 minutes were completed with participants 4-6 weeks post workshop and transcribed verbatim. GJ and TM conducted the interviews from a private room on NHS premises and at a pre-arranged time to enable participants to be in a private location of their choice. A semi-structured interview guide was used (see Appendix). This was broadly structured around perceptions and experiences of the two elements of the intervention; the training workshop and follow up coaching phone-call. Questions focused on the personal impact of the intervention on participants and their practice/personal development. Data emerging from additional questions regarding the logistical aspects of the intervention, such as its format and design, are reported elsewhere with the quantitative intervention outcomes.(15)

Data analysis

Interview transcripts were analysed by two researchers (GJ; RH) using a reflexive, inductive thematic analysis approach (18) to identify 'semantic' (i.e. surface, explicit) and 'latent' (i.e. implicit or underlying) themes.(19) Repeated listening to the audio recordings enabled initial familiarisation with the data then each researcher independently conducted line-by-line coding, identified key words, phrases and sentences (20) and used these to identify data driven themes (21). Coding was iterative and refinement of themes and subthemes evolved inductively over the course of the analysis.(22) A team-based approach to coding was used(19) in which discrepancies were discussed and themes and subthemes refined until shared understanding and agreement was reached. (23) Measures used to assure the trustworthiness of the analytic process included discussion between the two researchers to facilitate constant comparison, refining and defining themes and categories (24, 25), until a point of theoretical saturation. A third researcher (JJ) then assessed the themes for face validity. The contribution of the wider research team in coding and categorisation checks, and discussion regarding the influence of the research context, ensured the credibility, confirmability and dependability of the analytic process (26).

Findings

We conducted interviews with 23 health professionals (18 female) who participated in the intervention. Participants included: paediatric consultant doctors (4), trainee paediatric doctors (4), physician associate students (4), midwives (4), sonography or mammography students (3), paramedics (3), trainee obstetrics and gynaecological doctor (1).

Participants generally found the intervention to be highly valued and worthwhile. Four data derived themes were identified:

1. shifting perspectives on resilience

2. humanising clinical work

3. resilience as pervasive across personal and professional life

4. resilience building as personal development

along with one over-arching theme:

5. resilience as contextual and multi-layered

Shifting perspectives on resilience

This theme reflects the mixed and complex feelings and attitudes participants held about the concept of resilience and how this had altered as a result of engaging with the intervention. Participants generally reported that resilience was a common but poorly understood term that was used differently across the health system, and specifically within the NHS. Allied Health Professionals in particular reported that whilst resilience was viewed primarily as a nursing issue it was becoming more widely acknowledged in their disciplines. Participants across all staff groups reported that generally, resilience training was perceived negatively. They attributed this to widespread misunderstanding of the term and previous experiences of training that was branded as resilience, but focused on individuals' behaviour without recognising and addressing relevant system level issues:

"...resilience is a way of putting it onto the individual without changing systems" (4727R Paediatrics doctor).

Participants recognised a dissonance between the provision of resilience training and their experience at work which further reinforced this perception:

"...it's a [NHS] cultural thing... it feels very oppressive and dictatorial...unsupportive...incidents are not dealt with very well...we've lost supervision... which has had a huge effect on...where we can go [for] support...in the profession so...doing something like this...does feel...temporary because when you're going to work every day and you're still battered with rubbish and poor staffing...it doesn't take long for you to slip back...and not use the...strategies and that's a bit sad, having said that...our management must've ok'd...this training... so there must be...awareness there...doesn't marry up with how on a shop floor level it works'(3227M Midwife Y cohort)

The inadequacy of previous approaches to resilience development was identified as a long-standing issue. For example, participants reported previous resilience training as having focused on the legal issues associated with error, which had actually generated fear in those taking part. One participant noted this intervention was the first useful resilience training they had had in 11years:

*"it was practically useful not just 'go and do yoga" (4727R*Paediatrics doctor*)*

Many welcomed the proactive, practical nature of the intervention, but emphasised it would be important to advertise it as 'preparation for coping with error' rather than 'resilience training' in order to engage health professionals and overcome the negative legacy associated with resilience training.

Overall, staff reported that the intervention filled a 'huge gap' that had become even more important given the increasing pressures under which they were now working. They associated these pressures with for example increasingly complex patient care, increased expectations and greater risk of litigation. Whilst some interviewees already had a good understanding of resilience and found the intervention reinforced their current practice, most had developed a new understanding as a result:

"I have a better understanding than beforehand...I would've said that I was fairly resilient kind of person anyway...But it's always good to [brief pause] to kind of talk about how you would deal with something in a in a different context especially at work so that that's been useful." (7701I Physician Associate).

This encompassed greater awareness of factors that were largely outside the control of the individual, which provided a revelation for some with a previous tendency to self-blame:

"...big learning curve for me...it's shown me how I do deal with....actually how I don't....how potentially un-resilient...I suppose destructive I've been to myself....definitely an eye-opener." (3208S Midwife B cohort).

Humanising clinical work

The unifying and humanising impact of the intervention was evident throughout the interviews. Participants highlighted the inevitability of error and emotional burden inherent in clinical work but reported that these were rarely discussed issues. The intervention helped them build resilience and they appreciated the opportunity to normalise and legitimise their own experiences. This experience of the intervention led to commentary around broader applications of the resilience-based intervention beyond error. Participants commented on being acutely aware of the inherent challenges and risks associated with clinical work; both in terms of the nature of the work itself:

"children aren't going to stop dying, next week they are going to be dying so how do we deal with that." (4727A Paediatrics doctor)

and the increasing risk associated with the changing nature of that work:

"... really difficult because of there's such high risk women these days and the complexities... are definitely different so I think to get through your working life... unscathed is a miracle."(3208S Midwife B cohort)

There was also recognition that the emotional burden was pervasive rather than specific to a small number of individuals:

"... all of us can be subjected to at any time.. that's given... you're out there for any of that... You're held accountable regardless... even if we don't work in a blame culture we as health professionals we blame ourselves... that can be very destroying erm so it's about trying to... help yourself and others cope with those feelings to sort of turn that around... we do self-blame... that's the nature of the healthcare profession... there's erm a lot at stake isn't there... so... you tend to go out there and... something happens or you miss something you blame yourself for it... There's something I should've done or could've done." (6013B Midwife Y cohort)

Whilst this experience was common, there was also a new sense of this negative internal dialogue as being unwarranted: *"... know nobody chooses to make a mistake." (6608N PA*). Interviewees also reported that participating in the intervention had legitimised their own experience of error as others had voiced similar impact, resulting in loss of confidence or "*losing your nerve"* (6013B Midwife Y cohort).

One participant summed up the views of many in describing the intervention as:

"... very freeing... allowing you to feel that what we do isn't normal....that some days you just need to go home and have pizza and gin and that's ok " (4727A Paediatrics doctor),

Participants also described acting as *"a stress sponge"* (8421R Paramedic) for their peers. For example, they reported having supporting colleagues to their own detriment, and worried about the impact of clinical work on new entrants, particularly younger colleagues or those with limited life experiences to draw on.

Resilience as pervasive across personal and professional life

The pervasive nature of personal resilience and how it impacted on aspects of both work and personal life was discussed by several participants who reported that the application of learning from the training was a 'virtuous circle' spanning every aspect of their lives:

"It's got wider benefits... if you can become more resilient or learning techniques....that's going to rub off into your day to day life, not just the job." (0606Y Paramedic)

Interviewees also noted everyday relevance at work that was not just limited to error experiences:

"... adverse incidents was the main issue but actually all the case studies... that we went through is actually my working life every day." (3208S Midwife B cohort)

Thus, using case studies that were relevant to everyday clinical practice and activities requiring personal application of learning helped participants to take a broader view, promoting a more balanced approach to their own experiences.

Many interviewees discussed 'paying forward' their learning from participating in the intervention by using it to support others, recounting a range of examples of where this had already happened. This indicates the value staff placed on the learning and the wider impact of their participation. However, developing and maintaining resilience was an ongoing process. In particular, participants reported that it takes time to develop new habits and ways of thinking:

"...it does take time, it's little steps at a time...my colleague...we're always...chatting and debriefing everything...sharing with each other so she's...my go to person at work (3208S Midwife B cohort)

As this participant highlights, the importance of ongoing support was key for maintaining the benefits of participation in the intervention.

Resilience building as personal development

The degree to which participants saw resilience building as an integral part of their personal development as a health professional varied. The personal challenges involved in engaging in self-reflection and development work to enhance personal resilience were frequently identified and individuals' readiness to engage with this type of intervention appeared to influence their responses. Participants commented on their own readiness to engage in personal development in terms of resilience building, but also that of colleagues.

Although without exception, participants thought the intervention should be available to all healthcare professionals, there was also recognition that individuals needed to be ready to explore the topic and their own response to it:

"I reckon there'd be quite a few people...who don't feel they want to put themselves out there by taking a resilience course." (6202M Physician Associate)

Participants overwhelmingly valued the intervention. Nevertheless, many noted that self-analysis, however well facilitated, was difficult and could be associated with avoidance. As a result, there was consensus that participants needed to be open to exploring the topic for themselves and therefore the intervention may not suit everyone. Whilst the workshop setting provided 'a place to hide' if necessary, this was less so for the follow-up, coaching phone-call which, even though valued by almost all participants, provoked a particularly emotional response from one which required skilled facilitation. This individual felt very strongly that probing to identify personal strengths and reflect on their resilience was too personal and very uncomfortable:

"I feel uncomfortable with like saying oh 'name a positive characteristic', that's actually a really uncomfortable thing for me to do." (0706I Paediatrics doctor)

Whilst only one participant responded to the follow up call in this way, others identified avoidance of exploring personal resilience as a relatively common coping mechanism:

"A lot of my colleagues spend a lot of time putting a brave face on things...probably not fair...they try and push through things and...make light of problems...that's the way they've developed how to cope." (8421R Paramedic)

Participants commonly reported identifying personal strengths as a particular challenge, with a number noting how unusual it was to be encouraged to focus on their strengths:

"...I wasn't expecting the time spent to take me through what my strengths were... certainly I found it very helpful...These are things I would never have spent time thinking about...I often spend time thinking about the negative but thinking about the positive side of it it's been very unusual." (8421R Paramedic)

Almost all participants valued this process, some even found amusing the probing the facilitator needed to do to enable them to identify their strengths: *"...it was like pulling teeth!"* (3208S – midwife B) because this positive approach was so unfamiliar. This type of probing and exploration of why they might find this type of reflection difficult, within the 'safe' environment of the one-to-one coaching follow-up call, often resulted in new insight for participants.

Thus, whilst all participants thought the workshop element of the intervention would be valuable for all staff, views were mixed regarding the follow up coaching phone-call. A fifth of thought this should be an optional element of the intervention because it had the potential to open 'pandora's box' by challenging an individual's personal coping mechanism before they were ready to deal with it.

Participants also felt that the intervention would be most attractive to staff who recognised the inherent risks associated with clinical practice, their own human fallibility and valued preparedness or were seeking personal development to help them develop solutions in response. Readiness to engage appeared to be influenced by participant perceptions of whether or not they saw building resilience as part of personal development. Not all interviewees thought that having previously experienced involvement in an error should be a pre-requisite for participating in the intervention, possibly having recognised the transcendent nature of resilience and wider relevance of the strategies learned highlighted earlier.

Overarching theme: Resilience as contextual and multi-layered

The contextual and multi-layered nature of resilience was evident throughout participant responses and featured consistently across all four of the previous themes. It therefore represents an overarching theme. Participants perceived resilience and personal resilience building as a complex concept, which is influenced by the individual and the organisation they work within. Participants generally viewed personal resilience as embedded within and therefore influenced by the health system and service. For example, as illustrated in theme 1, participant perspectives on resilience were shaped by the immediate and wider work systems contexts in which they worked, for example resilience was perceived primarily as a nursing issue by some disciplines and previous resilience training as a negative experience, which affected the way they initially engaged with the intervention.

Participants identified three discreet but inter-connected contexts as influencing personal resilience, each related to the degree of control individual staff had over them. Two of these: the inherently risky nature of clinical work and factors at organisation and system level, were largely outside individual control; whilst the third, personal factors, were more within the individual's locus of control. For example, theme (2) 'humanising clinical work' involved recognition that the very nature of clinical work, whether associated with recognised sentinel events such as an error or not, involved inherent risk. However, what ultimately affects the potential impact of this on staff, for example, organisational processes such as incident investigation and organisational and professional cultures regarding error, were largely outside the control of the individual. In contrast, coping and resilience-building strategies such as prioritising self-care and accessing support were also recognised as important and could be used for positive coping as they were more within the control of the individual health professional. However, participants did not view these individual-level strategies as sufficient in themselves to mitigate the impact of the wider system factors identified. Thus these three broad contexts, and the degree of control they afforded individuals, were integral to all four sub-themes in terms of how participants framed their responses.

Discussion:

In evaluating participant experiences and perspectives relating to a novel resilience-based coaching intervention to reduce the negative impact of error on healthcare professionals, we established new knowledge of the potential value of resilience-based interventions and their applications. Participants universally agreed that this resilience-based coaching intervention filled a serious, longstanding gap in staff training (27, 28). Its focus on acknowledging human fallibility and the broader influences on staff resilience, whilst enabling participants to develop effective coping strategies, represented the type of development staff needed to help mitigate the impact of the psychological distress resulting from clinical practice. This finding is consistent with recent criticisms of previous resilience training which has predominantly focused on individual coping versus system change, leading to negative perceptions of resilience training.(9, 10) To our knowledge, this was also the first study to directly explore healthcare professionals' views on the concept of resilience. As the findings indicate, these were influenced by a range of individual, organisational and professional level factors such that the impact of a single, individual level intervention, within a complex system like healthcare, will

always be limited. Thus, our findings add new knowledge in support of recent calls for greater focus on the need for system-level interventions and outcome evaluations alongside those at individual staff level.(12, 13)

The uniqueness of this intervention was its focus on prophylactic preparation for coping with error and the use of practical, evidence based self-management and support strategies. This novel focus was highly valued by participants and is to our knowledge the first intervention of this nature to be tested. We therefore suggest that these are not only important features of a resilience-based programme but, when emphasised as features of an intervention, they are also likely to promote health professional engagement and maximise impact. Using these findings to inform future resilience-based interventions would also help address previous policy recommendations that staff views on the type of training needed to support their wellbeing is taken into account (29).

Whilst this study found focusing on dealing with error was beneficial, participants consistently noted that they used the strategies they developed through the intervention to help them to cope with the wider emotional burdens of clinical work and personal lives. This potential of the intervention to enable health professionals to be better equipped to cope with the wider emotional burden associated with everyday clinical work suggests it may contribute to staff wellbeing more broadly while the reported impacts extend further than the participants involved, as many recounted examples of how they were 'paying forward' their learning by supporting other colleagues in the workplace. This 'virtuous circle' phenomenon may be particularly important given that staffing is currently recognised as a 'make or break' issue for healthcare with shortages already affecting care quality and staff experience.(27)

The importance of guided reflection and coaching was apparent in enabling the application of learning and use of evidence-based strategies to support psychological resilience and wellbeing as a routine aspect of participants' clinical roles. Some interviewees however, questioned the feasibility of scaling-up the relatively resource intensive coaching telephone call element of the intervention. In addition, a small number of participants found this element of the intervention personally challenging, for example in requiring them to identify their strengths or to consider the phenomenon of human fallibility and the potential of making an error themselves. These factors could explain the mixed findings regarding whether or not the coaching component should remain a core element of the intervention or become optional, even though it was one of the most highly valued components by many participants. Despite coaching being widely used outside healthcare (30), its use and evaluation in a healthcare context is more recent and has focused primarily on supporting the development of healthcare leaders (31). However, evidence is now emerging that demonstrates the role of coaching interventions in supporting wellbeing and reducing burnout in health professionals (32).

Many interviewees noted that this type of resilience-based intervention would not suit all staff as participants needed to be ready and willing to explore their own emotional responses to clinical work experiences, coping mechanisms and human fallibility or potential for error. These are not issues that healthcare professionals are traditionally taught or encouraged to focus on however. Our data indicated the tip of a potential 'iceberg' of maladaptation in which some staff use avoidance techniques to help them manage the psychological challenges of clinical work. This was an incidental finding that we did not set out to explore, but may warrant further investigation. Such findings reflect system and cultural factors, including punitive or accusatory approaches to incident investigation, whose significance are widely recognised in the so-called 'second victim' literature, see for example (11, 33, 34).

Our findings reinforce those of previous studies which have found that the inherently risky and demanding nature of clinical work, coupled with greater patient complexity, can take its toll on clinical staff.(35) The need for effective interventional approaches at individual and system levels to support workforce well-being and enhance mental health now and for the future is clear, as participants expressed concern about the longer-term impact of the psychological demands associated with clinical work on the workforce if not more effectively mitigated. This is particularly relevant in the context of current healthcare workforce recruitment and retention challenges and the need to retain staff as a key priority.(27, 28) This makes this exploration of the first resilience-based coaching intervention to focus specifically on preparing health professionals to cope with error as an intrinsic element of healthcare work an important contribution to the current evidence-base.

Recommendations:

Whilst specialist knowledge and facilitation skills are required by those delivering a resilience-based coaching programme like this, its potential as a cost-effective and scalable intervention is great given the size of the healthcare workforce who could benefit. Scalability is possible without losing intervention fidelity, using controlled 'manualisation' of the intervention and a 'train the trainer' model. This approach could enable specialist up-skilling of mental health professionals and other experienced facilitators with transferable psychological care skills and specialist Cognitive Behavioural Therapy training to provide a critical mass of appropriately trained and supported facilitators to enable widespread availability of the intervention.

The wider applications of resilience-based coaching interventions such as the one explored here also offer great potential as a relatively low-cost, scalable means of supporting the general well-being, psychological resilience and coping mechanisms of health professionals dealing with the inherent, non-error related challenges of their everyday work.

Health systems and organisations seeking to garner the gains of resilience-based programmes must first address negative connotations associated with such interventions by distinguishing the role of resilience in the context of system inadequacies. Despite evidence of resilience-based interventions working to support health professionals in managing clinical work, the reluctance of some staff to engage with resilience training due to its misapplication in many healthcare contexts, prohibits effective implementation. Future resilience-based interventions should therefore take account of previous critiques regarding individual versus system change and focus on the prophylactic application of practical, evidence based self-management and support strategies of relevance to specific aspects of clinical working, which are highly valued by staff, if they are to maximise staff engagement and impact in practice. Most importantly, to be truly effective, developing staff capability around resilience requires more than just delivering training, but must also involve system change. Examples should include changes to the current predominantly individual focus of resilience-based intervention design and incident investigation that are largely outside the control of individual health professionals.

Limitations/strengths

The inclusion of a range of professional groups, both qualified and in-training and the relatively open nature of the interviews are strengths of the study that enabled participant perspectives to take prominence. In addition, the strategies taken to ensure robust study quality enhance the trustworthiness of the findings. The descriptive nature and qualitative design mean the study is not, nor did it set out to be, generalisable to the entire healthcare population or disciplines involved. The findings do nevertheless provide potentially transferable learning for other similar contexts and staff groups. They will also inform wider empirical testing of the intervention.

Conclusion

As the first of its kind, designed to enhance healthcare staff preparedness for error, this intervention effectively addressed a crucial, longstanding gap in healthcare staff development. In line with previous studies, the findings indicate that individual resilience is inextricably linked to health system and service context. Thus, whilst interventions to develop individual staff resilience are important, they are not a panacea. The positive outcomes participants attributed to the intervention tested here will merely be temporary if system and cultural change regarding the organisational response to error, better recognition of the need to design systems to take account of human fallibility and the emotional impact of clinical work is not forthcoming.

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Acknowledgements

This research was funded by the National Institute for Health Research (NIHR) Yorkshire and Humber Patient Safety Translational Research Centre (NIHR YH PSTRC). The views expressed in this article are those of the author(s) and not necessarily those of the NHS, the NIHR, or the Department of Health and Social Care.

Conflict of interest statement for all authors

The authors have no conflict of interest to declare.

Appendix : Promoting psychological resilience in the health professions: Interview Topic Guide