ALEXIS NG BSc Hons

CRITICAL INCIDENTS: PREVENTION AND POST-VENTION

Section A: What is the effectiveness of suicide-related training offered to healthcare workers in pre-qualification training?

Word Count: 8000 (336)

Section B: Moderating or amplifying threat: Psychological debriefing processes that promote or hinder mental healthcare workers' wellbeing following critical incidents

Word Count: 7990

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A thesis submitted in partial fulfilment of the requirements of
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Summary of the Major Research Project

Section A is a critical review of the literature regarding the effectiveness of suicide-related training offered to healthcare workers in pre-qualification training (HCWs-PT). Fourteen studies published in peer-reviewed journals were reviewed and critically appraised. Study findings were grouped by themes based on training outcomes: knowledge, skills, application of skills, self-efficacy, preparedness to cope following patient suicide, and training experience. They preliminarily suggest that suicide-related training supports the development of competence in HCWs-PT across various disciplines. Limitations of the existing literature, and implications for practice and future research, such as developing standardised outcome measures and integrating training outcomes in one study, are discussed.

Section B presents a grounded theory study to understand how psychological debriefing promotes or hinders mental healthcare workers' wellbeing following critical incidents. Based on interviews with four staff and seven facilitators, the theory identifies five categories, which illustrate how psychological debriefing processes moderate or amplify experiences of threat from critical incidents. Moderating processes are further enhanced by group processes, and promoted by a dual-role facilitator; amplifying processes emerge when psychological debriefing is inappropriately offered or facilitated. The theory informs the development of psychological debriefing and facilitator training.

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Section B

Section A: Literature Review

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Abstract

It is important to gain better understanding of suicide-related training, given its potentials in contributing to national aims of reducing suicide mortality. This paper aims to critically appraise existing literature to examine the effectiveness of suicide-related training offered to healthcare workers in pre-qualification training (HCWs-PT). A systematic literature search was conducted across four electronic databases, MEDLINE, PsycArticles, PsycInfo, and PTSDpubs, using four search criteria linked with Boolean AND. Fourteen papers meeting inclusion criteria for the review were identified. Study findings were grouped by themes, which is informed by training outcomes measured in studies, and examined: knowledge, skills, application of skills, self-efficacy, preparedness to cope following patient suicide, and training experience. While no conclusion could be drawn due to the lack of homogeneity of papers, this review adds to an existing systematic review of suicide-related training delivered to nursing students, and preliminarily suggests that suicide-related training may support the development of competence for HCWs-PT across various disciplines. Methodological limitations of the current literature, and implications for practice and future research are discussed.

Keyword(s): Suicide prevention; Training; Pre-qualification; Healthcare workers

Introduction

Patient suicide

Critical incidents (CI) within healthcare settings are defined as “powerful traumatic events that initiate the crisis response” (Mitchell, 2015, p.17), and an example of CI often encountered by healthcare workers (HCWs) across various disciplines is patient suicide. It was found that 87% of individuals accessed GP services within a year prior to suicide (Leavey et al., 2016), and individuals known to mental health services represented 27% of all deaths by suicide in England (National Confidential Inquiry into Suicide and Safety in Mental Health, 2023). A survey of 220 HCWs working in mental healthcare settings in the UK found that 60.1% of participants reported having experienced patient suicide (Croft et al., 2022).

Suicide is a global public health priority; one of the United Nations’ sustainable development goals for 2030 is to reduce suicide mortality by one-third (Department of Economic and Social Affairs, 2022). In the UK, the Department of Health and Social Care (2023) published a five-year suicide prevention strategy for England, with an aim to reduce suicide mortality by half. Given HCWs’ frequent contact with patients at risk of suicide, suicide risk screening across different healthcare settings can ensure that more people who are at risk of suicide can be reached (King et al., 2017).

Suicide-related training

The World Health Organisation (2014) identified one essential and effective component of national strategies to be the delivery of suicide prevention training to HCWs. The Royal College of Psychiatry’s report (2020) on self-harm and suicide, also highlighted the importance for healthcare services to incorporate suicide prevention, and asserted that one of the seven essential elements of suicide care is training.

Despite so, the lack of suicide-related training offered to HCWs across the world has been highlighted by researchers (e.g. Bolster et al., 2015; Muehlenkamp et al., 2023). For example, clinicians working in outpatient mental health services in the USA reported a lack of suicide prevention knowledge and training (Labouliere et al., 2021). A qualitative study of Australian and Canadian pharmacists' experiences found that they reported issues with insufficient education and training (Murphy et al., 2018). Nurses have also described lacking skills or confidence to respond or intervene (Valente & Saunders, 2010; McAllister et al., 2009), and feeling uncomfortable caring for people at risk of suicide (Valente & Saunders, 2004). There were also similar findings in other disciplines, where a review found that only 50% of psychologists and 6% of counsellors in the USA received training in suicide risk assessment (Schmitz et al., 2012). There is a growing body of evidence to suggest that suicide-related training is correlated with improvements in the screening of suicidal ideation and risks (e.g. Wasserman et al., 2012; Ferguson et al., 2018).

Suicide-related training for healthcare workers in pre-qualification training (HCWs-PT)

Similar to their qualified counterparts in the workforce, those who are in pre-qualification training also have substantial contact with those at risk of suicide. For example, a systematic review of 22 studies found that 46.4% of psychiatric trainees encountered at least one patient suicide during their training (Leaune et al., 2019). However, there appears to be less emphasis on suicide-related training for this next generation of HCWs. Stuber and Quinnett (2013) stated that suicide prevention is "woefully inadequate" (p.117) in training for HCWs-PT in the USA, in nursing, medicine, social work, psychology, and counselling. Only about half of pre-doctoral psychology interns in the USA reported receiving didactic suicide-related training during their graduate education (Dexter-Mazza & Freeman, 2003). There appeared to be more training in psychiatry residency programmes, although this was still limited and primarily occurred in passive formats such as therapy supervision or general seminars, rather than skill development, and the consensus was that this was insufficient (e.g. Melton & Coverdale, 2009). More recently, a systematic review of suicide education offered to nursing students (Ferguson et al., 2020) found that suicide prevention education contributed to enhancing skills, abilities, self-confidence, and positive shifts in attitudes in the short-term, supporting the need and value of suicide-related training to HCWs-PT across other disciplines. With the exception to nursing students, little is known about whether HCWs-PT are prepared for the intervention and implementation of suicide prevention.

Objectives of training

There have been various efforts to establish standardised competencies for suicide-related training, including theoretical frameworks (e.g. Burnette et al., 2015) and competencies developed for healthcare workforces (e.g. Pisani et al., 2011; Cramer et al., 2013; La Guardia et al., 2019). Based on the standardised competencies, defined characteristics and objectives of suicide prevention training (e.g. Osteen et al., 2014), and evaluations of other suicide prevention training, Hawgood and colleagues (2022) proposed a core set of minimum competencies relating to suicide prevention:

Knowledge

'Knowledge' includes facts about suicide, understanding suicidal behaviour, and protective and risk factors (Quinnett, 2012). Research has found that training increases suicide-related knowledge (Yonemoto et al., 2019), and may contribute to increased confidence and willingness to engage in suicide intervention (Rallis et al., 2018).

Skills and abilities

Skills and abilities involve the recognition of suicidality, being able to engage empathically and compassionately with the individual at risk, and facilitating intervention and referral (Gould et al., 2013). In particular, Schmitz and colleagues (2012) suggested that "competence in the assessment of suicidality is an essential clinical skill that has consistently been overlooked and dismissed by the colleagues, universities, clinical training sites, and licensing bodies that prepare mental health professionals" (p.3).

Self-efficacy

Self-efficacy points to "people's judgments of their capabilities to organise and execute courses of action required to attain designated types of performances" (Bandura, 1986, p.391), and is argued to be crucial in HCWs' screening of risk and implementation of intervention. Douglas and Morris (2015) asserted that suicide-related training and adequate skill levels are insufficient for effective practice, as low self-efficacy would negatively impact the performance of suicide risk assessment. Following participation in a suicide intervention training, psychiatry residents reported feeling more comfortable working with suicidal patients, as well as enhanced clinical practice (Sockalingam et al., 2010). Researchers have also reported positive relationships between self-efficacy and positive attitudes towards suicide, thus lowering both avoidance and increasing willingness, (Mitchell et al., 2020), or likelihood of intervening (Albright et al., 2016).

Coping with patient suicide

Further to the competencies identified above, another area in which HCWs-PT may be prepared for in suicide prevention may include coping with the loss of patient suicide, as the literature points to a need for training to support professionals in anticipating, assessing, and caring for their own emotional responses to critical incidents (e.g. Leavitt et al., 2006). HCWs have reported feeling unprepared for the experience of, and the formal processes following patient suicide. A systematic review found that only 10-47% of psychiatric trainees received training about procedures after a patient suicide (Leaune et al., 2019). An interview of psychiatry residents found that one of the influencing factors to responses to suicide is the unpreparedness of individuals (Qayyum et al., 2021). While recommendations have been made for HCWs to be better equipped through training, education, or organisational support (Sandford et al., 2020), Cramer and colleagues (2013) suggested that even when training in suicide prevention is offered, they do not typically equip HCWs for the abrupt change and disruption that often accompanies the death of a patient. However, Briggs (2008) counterargued that regardless of how resourced individuals may be, traumatic loss will still introduce disruption to their internal world.

Effectiveness of suicide-related training

The effectiveness of suicide-related training has at times been questioned. While suicide-related training was found to be effective overall in improving competencies for HCWs (Hwang & Choi, 2016), nurses, (Ferguson et al., 2018), and student nurses (Ferguson et al., 2020), Pisani and colleagues (2011) found that increased knowledge and shifting attitudes towards suicide following training may not always translate to clinical practice. Similarly, a systematic review found that suicide-related training (delivered to the general public) translated poorly into intervention behaviour (Holmes et al., 2019). This review also reported that only training gains on knowledge and self-efficacy maintained over time with some decay, whereas attitudes towards suicide did not, with a suggestion that findings for HCWs may be different due to their education, training, and vocation.

Rationale and aim of this review

Given the prevalence of patient suicide within healthcare settings, and the apparent scarcity of training offered to HCWs-PT, it would seem to be important to support them in developing competence in relation to suicide and suicide prevention/intervention. However the effectiveness of training remains to be unclear; to the researcher's knowledge, the effectiveness of suicide-related training has only been reviewed for the general public, qualified HCWs, and nursing students. Therefore, the aims of this review are:

1. To examine the effectiveness or impact of training offered to HCWs-PT (with the exception of nursing students), with a particular focus on the core set of minimum competencies identified above. Further, additional competencies in the literature (if any) are also explored.
2. To explore HCWs-PT's views (with the exception of nursing students) of the suicide-related training.

Method

Search strategy

A systematic literature search was conducted using four electronic databases, including MEDLINE, PsycArticles, PsycInfo, and PTSDpubs. Four search criteria were derived, and linked with Boolean AND (see Table 1). The search criteria, decisions to search the full abstracts and not include a date restriction, were based on observations during preliminary literature searches.

Table 1

Database search terms

Criterion	Search string
Area of training	suicide*
Population	healthcare staff OR health care staff OR healthcare professional* OR health care professional* OR clinician* OR healthcare provider* OR health care provider* OR psych*
Objective	manag* OR interven* OR prevent* OR protocol* OR program*
Training	prepar* OR train* OR educat* OR teach*

Search process

The search yielded 5356 records. Search results were imported into RefWorks, a web-based database manger. Once duplicates were removed from the database searches, inclusion and exclusion criteria (see Table 2) were applied to screen first according to titles, followed by the abstract if deemed to be suitable, or if the titles were unclear. A total of 16 articles were read in full to determine inclusion against the criteria, and nine papers were identified. Papers that were cited or referenced by these identified papers were hand-searched and screened against the criteria to identify further relevant studies. A further five papers were identified, resulting in a total of 14 papers. See Figure 1 for the PRISMA (Page et al., 2021) figure detailing the search process.

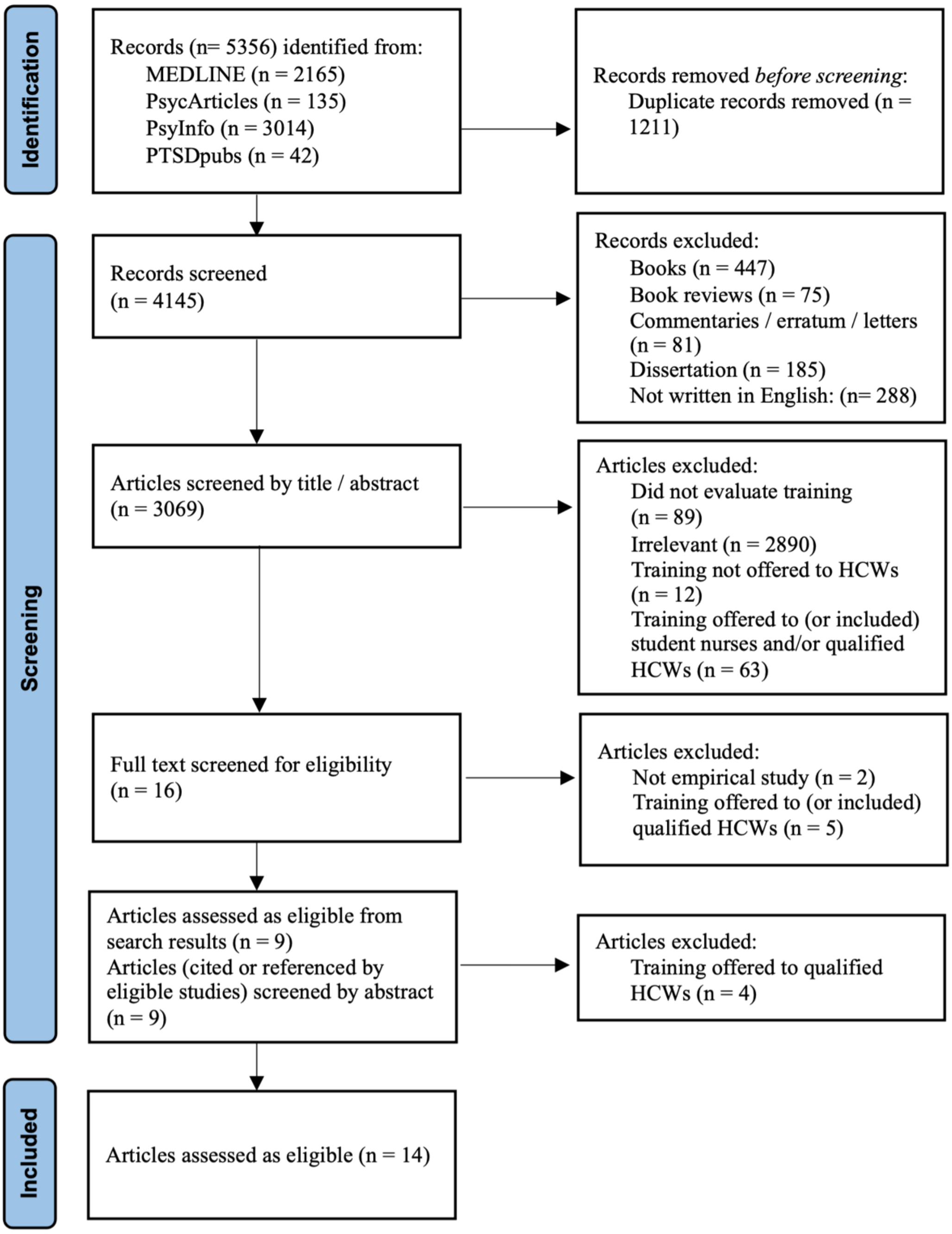
Table 2

Inclusion and exclusion criteria

Inclusion criteria	**Exclusion criteria**
Empirical studies published in English in a peer-reviewed journal.	Suicide-related training offered to student nurses, as there is an existing systematic review on suicide prevention education programmes offered to this population (Ferguson et al., 2020).
Suicide-related training offered to healthcare workers in pre-qualification training (HCWs-PT). As there is not an agreed definition of 'early-career' in the literature (Dymmott et al., 2022), for the purpose of this review, this will include HCWs undergoing training (or are in specialty training programmes) to achieve their professional qualifications.	Suicide-training offered to a mixture of HCWs-PT and qualified HCWs, or a mixture of HCWs-PT and student nurses, and do not report the findings for the two groups separately.
Studies that evaluated the effectiveness or impact of suicide-related training.	Articles that described suicide-related training or curricula, but did not evaluate their effectiveness.
Full text is available to access.	

Figure 1

A PRISMA diagram summarising the screening process of the literature search



Quality appraisal

Eligible papers were assessed using the Mixed Methods Appraisal Tool (MMAT; Hong et al., 2018). This tool allows the appraisal of the methodological quality of studies with a range of methodological approaches (i.e. qualitative research, randomised controlled trials, non-randomised studies, quantitative descriptive studies, and mixed methods studies), and was therefore deemed appropriate for this review. The authors recommended that an overall quality score is not calculated, instead the inclusion of a more detailed appraisal for each study (see Table 4). They explained that global scores are not informative, and do not provide information about aspects of studies that may be problematic, thus defeating the purpose of a quality appraisal. They also discouraged the exclusion of papers which are assessed to be “poor” quality, hence all eligible papers from the literature search are included in this review.

Results

Structure of the review

A summary of the 14 papers included is presented in Table 3, to give an overview of their descriptive characteristics. The papers are described and reviewed collectively, with a focus on the sample and methodological characteristics. The overall quality of the papers is appraised, highlighting key strengths and weaknesses, with the support of the MMAT (Hong et al., 2018).

For clarity, each paper's reference number will be used in the review to indicate the paper being referred to.

As the papers retrieved were not sufficiently homogenous (in terms of population, method of training delivery, and measured outcomes) to support statistical synthesis through meta-analysis (Popay et al., 2006; Russo, 2007), the findings are synthesised thematically by outcomes of training measured, as informed by study aims.

Table 3

Descriptive characteristics of included papers

No.	Paper	Methodology	Sample	Response/data completion rate (corrected to one decimal place for consistency)	Participant demographics	Training contexts and components
1	Carpenter et al. (2023)	Mixed methods: descriptive statistics, dependent samples *t*-test, Pearson chi-square test, and deductive coding strategies.	146 Doctor of Pharmacy (PharmD) students at two schools of Pharmacy: 83.6% second-year, 16.4% third-year students. 102 students (three-month follow-up).	81.1%. 69.9% (three-month follow-up). Optional participation. No reported incentives for participation.	67% female, 30% male, 1% gender non-binary, 1% prefer not to disclose. Mean age 23.6 (range 20-43). Ethnicity data not reported. USA.	“Pharm-SAVES”, a 75-minute in-person class in a required course: 1) 20 minutes of online Pharm-SAVES didactic content, 2) online video cases for demonstration of steps of SAVES at a community pharmacy, 3) 10-minute debrief, and 4) (after post-training survey) 20-minute quiz game.
2	De Silva et al. (2015)	Mixed methods: descriptive statistics, statistical method and qualitative analysis method not reported, selected quotes reported.	266 first-year students at a university: 102 medical students, 113 paramedical students, 51 pharmacy students.	97%. Reported no incentives for participation.	Participant demographics not reported. Australia.	“Suicide and Awareness Intervention Program” (SAIP), five-hour training delivered to groups of 10 to 15 students, as part of the first-year School of Medicine curriculum: 1) an introductory interactive lecture and video, 2) exploration of a suicide journey through use of an analogy and a tunnel vision exercise, and 3) scenario discussion and roleplay involving communication and questioning skills.
3	Fiedorowicz et al. (2013)	Mixed methods: descriptive statistics, Wilcoxon rank-sum test, non-parametric Wilcoxon rank-sum test, and themes and selected quotes reported (qualitative analysis method not reported).	118 third- or fourth-year undergraduate medical students rotating through their four-week psychiatry clerkships. Training group: 61 students; control group: 57 students.	81.4%. Optional participation. No reported incentives for participation.	Participant demographics not reported. Reported no significant differences in gender or year of training by group. USA.	As part of the skills-based medical-interviewing curriculum, of a four-week psychiatry clerkship. Training group participated in a two-hour simulated-patient education activity, focused on challenges in interviewing suicidal patients, and students in small groups took turns interacting with the simulated patient, followed by group feedback, discussion, and re-rehearsal in roleplay. Both training and comparison groups also received three further components: 1) didactic component, 2) formalised feedback from residents or staff on observed real patient clinical interviews, and 3) review of videotaped, performance-based assessment with standardised patient, with feedback.
4	Jefee-Bahloul et al. (2014)	Mixed methods: descriptive statistics, and selected quotes reported.	34 psychiatry residents.	77.3%. No reported incentives for participation.	Participant demographics not reported. USA.	As part of a psychiatry residency training programme: 1) conference presented by three panel members (approximately 20 minutes each), sharing their experiences of losing family members to suicide, including details of illness, attempted interventions, grief, feelings specific to suicide, and recommendations of potential best practice for clinicians.
5	Kato et al. (2010)	Quantitative: descriptive statistics, dependent samples *t*-test (statistical assumption tested for), multivariate repetitive analysis (Bonferroni),	44 first-year medical residents, who were just about to enter real clinical settings, and who had not planned to join in any psychiatric rotation in the first year.	100%. 84.1% (follow-up). No reported incentives for participation.	52.3% female, 47.7% male. Mean age 26.3. Follow-up: 56.8% female, 43.2% male. Mean age 26.1.	Brief suicide intervention programme, partially based on the Mental Health First Aid programme: 1) one-hour lecture on suicide risk assessment, management skills, and the epidemiology of suicide in Japan, and 2) one-hour roleplay session (10-

		chi-square test, and Fishers exact test.			Reported no significant differences between participants and those who completed the follow-up. Amongst 37 completers, one resident intended to specialise in psychiatry, and 30 intended to specialise in internal medicine or surgery. Ethnicity data not reported. Japan.	minute demonstration,15-minute lecture and discussion, 25-minute roleplay, 10-minute Q&A time).
6	Lerner et al. (2012)	Mixed methods: descriptive statistics, dependent samples *t*-test, repeated-measures General Linear Model, and content analysis.	39 psychiatry residents: 9 PGY-1, 12 PGY-2, 9 PGY-3, 8 PGY-4, 1 PGY-5 residents.	Response rate not reported. No reported incentives for participation.	Participant demographics not reported. USA.	Four-hour workshop on medical-legal issues and coping skills, attended by all residents: 1) large group lecture, 2) small group discussions, led by faculty members who have experienced a patient suicide, 3) reconvening of large group with guest speaker who had experienced the loss of a relative by suicide.
7	McCutcheon & Hyman (2021)	Quantitative: descriptive statistics, and independent samples *t*-test.	43 PGY-1 to PGY-4 psychiatry residents.	63% (pre-training). 58% (post-training). No reported incentives for participation. Reminder emails sent to non-responders.	Participant demographics not reported. USA.	Multi-modal curriculum on education about patient suicide and knowledge of postvention supports, implemented within the adult general psychiatry residency: 1) 1.5 hour- Brief Emotional Support Team training, 2) dissemination of communication tree, 3) one-hour faculty panel of supervisors who had experienced a patient suicide during training, 4) dissemination of a two-part article about losing a patient to suicide, and 5) meeting with an attorney from the hospital's Risk Management division and an Associate Chief Quality Officer.
8	McNiel et al. (2008)	Mixed methods: descriptive statistics, multiple regression analysis, and content analysis.	Training group: 43 psychiatry residents (15 PGY-1, 22 PGY-2, 6 PGY-3), and 2 Psychology trainees (year of study not reported). Control group: 10 PGY-1 psychiatry residents.	Response rate not reported. No reported incentives for participation.	Participant demographics not reported. Reported that the two groups did not differ significantly in terms of prior formal training in suicide risk assessment and management received; training group reported significantly more previous experience in providing mental health services. USA.	Training group: five-hour workshop evidence-based risk assessment and management of risk of suicide and violence: 1) lecture on assessment and management of suicide risk, 2) small groups reviewing case vignettes, and identifying historical, clinical, and risk management factors, and 3) lecture on medical-legal aspects of documentation of risk assessment. Control group: three-hour workshop on the application of evidence-based medicine to psychiatry.
9	Pothireddy et al. (2022)	Mixed methods: descriptive statistics, dependent samples *t*-test, and deductive coding strategies.	139 PharmD students at two schools of Pharmacy: 63% second-year, 37% third-year students.	67.5%. Optional participation. Reported no incentives for participation.	Gender data not reported. Mean age 23.8 (range 21-24). 64% White, 21% Asian, 7% Black or African American, 5% Other or prefer not to answer, <1% Hispanic, Latin, or Spanish Origin. USA.	"S.A.V.E pharmacy", 45-minute module as part of required courses: 1) two-minute video case based on actual pharmacy staff encounters, 2) 10-minute didactic presentation on practical strategies, 3) 15-20 minute small group roleplay practice, and 4) feedback to larger group.
10	Prabhakar et al. (2014)	Quantitative: descriptive statistics, linear trend chi-square test, and chi-square test.	167 psychiatry residents in eight residency training programs in different regions of the USA: 28.1% PGY-1, 25.7% PGY-2, 24.6%	69.6%. No reported incentives for participation.	61.7% female. Age data not reported. Ethnicity data not reported. USA.	"Collateral Damages", a patient suicide educational programme, as part of the training programmes' curriculum: 1) a total of 30 minutes of segments from the "Collateral Damages" DVD, 2) a total of 30

			PGY-3, 16.8% PGY-4, 4.8% PGY-5 residents.			minutes of open floor discussions, 3) a 30-minute patient-based learning exercise, on core issues related to patient suicide. Training programmes were instructed to adapt the curriculum and adjust the content according to their needs.
11	Taverne et al. (2022)	Quantitative: descriptive statistics, dependent samples *t*-test, and Shapiro-Wilk test.	273 first-year medical residents: including but not limited to 24 psychiatry residents, and 92 family medicine residents.	65%. No reported incentives for participation.	Whole sample: 62.6% female, 37.4% male; psychiatry residents: 83.3% female, 16.7% male; family medicine residents: 62.0% female, 38.0% male. Mean age 24.8 (for whole sample, psychiatry residents, and family medicine residents). Ethnicity data not reported. France.	"Module Avant-Garde", a mandatory simulation training programme of four scenarios, including suicide risk assessment, delivered to groups of 12 students in the first weeks of the first-year medical residency programme: 1) a 5-10 minute explanation of the main elements of the scenario, 2) a 10-minute scenario with a standardised patient verbalising suicidal thoughts, and 3) a standardised 20-minute briefing.
12	Whitmyre et al. (2023)	Mixed method: descriptive statistics, dependent sample *t*-test, Benjamini-Hochberg procedure, and quality coding (using Brief Safety Plan Scoring Form, SPISA; Brown et al., 2015).	36 student clinicians from two community-based training clinics that offer outpatient mental health services, who plan to provide services to child and adolescent clients during the course of the study: 29 Clinical Psychology, and 6 Counselling Psychology student clinicians.	83.7%. 72.2% (six-month follow-up). $5 gift card as participation incentive. Reminders sent to non-responders.	80.6% female, 16.7% male. Mean age 28.1 (range 26-34). 83.3% White, 13.9% Asian, 2.8% Black or African American. 22.22% Hispanic, 77.8% non-Hispanic. Reported no significant differences on clinician variables across the two clinics at baseline, with the exception that more clinicians at one clinic reported experience using the Columbia-Suicide Severity Rating Scale (C-SSRS; Posner et al., 2011). Reported no significant differences between clinicians who did and did not complete the six-month follow-up. USA.	Training of the use of an electronic safety plan template (ESPT), as part of a mandatory clinic orientation: 1) completion of C-SSRS online training, 2) 50-minute ESPT training video (included use of the C-SSRS, use of the ESPT in the OWL measurement feedback system (MFS), and workflow).
13	Willson et al. (2020)	Mixed methods: descriptive statistics, Mann-Whitney *U* test, Fisher exact test, norming discussions (qualitative analysis method not specified), and inductive coding methods.	158 first-year PharmD students in a university across two campuses (pre-training). 156 students (post-training). 148 students (reflections of prescription counselling assessment).	92.4% (pre-training). 91.2% (post-training). 86.5% (reflections). Course participation points as participation incentive. Email reminders sent.	63% female, 34% male, 4 students chose not to disclose gender information. Age not reported due to a survey construction error. 43% White, 37% Asian, 7% Black, 7% Hispanic or Latino ethnicity, 1% Native Hawaiian or Pacific Islander, and 1% American Indian or Alaska Native, 1% Other, 3% preferred not to disclose. USA.	"Suicide Prevention for Pharmacy Professionals", developed by the Washington State Pharmacy Association and the Forefront Suicide Prevention Centre, incorporated into Pharmacy Communications, a required course for all first-year PharmD students: 1) a two-hour large-group tutorial (video-recorded format, including six videos each lasting 10-20 minutes), 2) a two-hour in-person laboratory session (roleplay and group discussion).
14	Witry et al. (2020)	Mixed methods: descriptive statistics, independent samples *t*-test, Holm-Bonferroni adjustments, multiple ordinal logistic regression models, and content analysis.	111 second-year PharmD students.	100%. Participation credit for attending the training, and extra credit on final course grade if over 80% of the class completed the pre- and post-training surveys.	64.9% female. Mean age 23.7 (range not reported). Ethnicity data not reported. USA.	"Question Persuade Refer (QPR)", as part of a pharmacotherapy course on Neurology and Psychiatry, a required course for second-year students. A total of approximately 150 minutes of in-person instruction, and 10-minute practice with partner: 1) 60-minute discussion session delivered to groups of 36 to 38 students, 2) QPR training,

consisting of didactic teaching and practice with partner.

Sample

The 14 studies included were conducted across four countries, one in Australia (paper 2), one in France (paper 11), one in Japan (paper 5), and the remaining in the USA.

All participants were HCWs-PT from a range of professional disciplines and qualifications: four papers involved Doctor of Pharmacy students (1; 9; 13; 14), four papers involved psychiatry residents (4; 6; 7; 10), two papers involved medical residents (5; 11), one paper involved student Clinical or Counselling Psychology clinicians (12), one paper involved psychiatry and psychology trainees (8), and two involved undergraduate medical, paramedical, and pharmacy students (2; 3).

A total of 1527 participants were included across the 14 studies. Sample sizes varied, ranging from 34 to 273, and the mean sample size was 109.1.

Seven papers (1; 5; 10; 11; 13; 11; 12) reported gender, and the majority (52.3-80.6%) of participants were women. Two papers (1; 13) appeared to offer participant choices of identifying as non-binary or not disclosing their gender; it was unclear whether these options were available in other studies.

Six papers (1; 5; 9; 11; 12; 14) reported the mean age of participants, ranging from 23.6 to 31.4; three studies (1, 9, 12) reported participants' age ranges, with the greatest range being 20 to 43 (1); the remaining papers did not report age information, although paper 13 attributed this to an error in survey construction.

Three papers (9, 13, 12) reported ethnicity, and the majority (43%-83.%) of participants identified as White or Caucasian.

Six papers (2; 3; 4; 6; 7; 8) did not report any demographic information, although papers 3 and 8 provided some information to suggest that the training and control groups were comparable, or reported how between-group differences were accounted for.

Methodological characteristics

Design

The majority of papers adopted a single-group, descriptive design. Two papers (3; 8) adopted a non-randomised design; neither of the papers reported how the allocation was conducted, however both papers addressed potential between-group differences. Paper 3 reported that participants in the training and control groups were similar in gender and year of training. Paper 8 reported that the two groups were similar in prior formal training; the training group was more experienced in providing mental health services than the control group, however this was accounted for by factoring baseline test scores into the analysis model.

Recruitment / participation

None of the studies included reported specific participant recruitment methods nor exclusion criteria. 12 papers appeared to adopt convenience sampling, where attendance of training was mandatory (as they were part of required courses or embedded within the curricula), but participation in the study was optional, and three papers (12; 13; 14) offered participation incentives. 11 of the 12 papers (other than paper 6) reported either a response or data completion rate, ranging between 58% and 100%. Two questionable choices included one paper (10) suggesting that “attendance at the programme and completion of the survey instrument implied informed consent” (p.594), as programme attendance was not a choice; and one paper (14) offering extra credit on the final course grade if over 80% of the class completed both pre- and post-training surveys, as this suggested that participants were not able to give consent that was “free from coercion or undue pressure” (Halej, 2017, p.3).

Two papers (5; 8) did not report the training to be mandatory, nor did they report how participants were recruited. For example, paper 5 reported that participants meeting specific criteria were “approached to participate” (p.533) in the study.

Response rates for studies that conducted additional, longer-term follow-ups (1, 5, 12, 13) ranged from 69.6% to 86.5%.

Method

Thirteen studies (all but paper 4) collected pre- and post-training data. Most studies (1, DESI, 5, 6, 8, 9, 10, 11, 12) collected pre-training data immediately before training, and post-training data immediately following delivery; papers 13 and 14 collected pre-training data within the week prior to training, and post-training data either within the week (14) or two weeks (13) following training delivery. One study (7) collected pre- and post-training data at the beginning and end of the academic year (four months after training completion), spanning across almost 11 months; and one study (3) collected both pre- and post-training data retrospectively at the end of the clerkship (more than two weeks after training completion). Three studies incorporated additional three-month (1) or six-month follow-ups (5, 12) post-training. Paper 4 only collected post-training data.

Analysis

All papers collected quantitative data. In general, studies selected appropriate statistical tests to compare pre- and post-training outcomes, or outcomes between training and control groups, with some caveats. The majority of papers used mean-comparison tests, two papers (6; 8) used multiple regression analyses, and one paper (2) did not report the statistical analysis method used. See Appendix 1 for statistical tests used and their respective strengths or weaknesses of the choice of method.

Ten papers (1; 2; 3; 4; 6; 8; 9; 12; 13; 14) collected qualitative data. Three papers (1, 9, 13) analysed the data using deductive coding strategies, and the frequencies of coded themes were tallied. Descriptive statistics and selected quotes were reported. Papers 14 and 8 used content analysis to yield codes for the most helpful elements of the training and areas for improvement, or to rate the quality of clinical documentation written in response to case vignettes against variables derived from the literature, for a composite score to be calculated. Five papers used coders to analyse data. Paper 1 used only one coder, thus the analysis of the data could be subjective and biased. More attention had been paid to reduce the subjectivity of data analysis in papers 6, 8, 9, and 13, which provided more detail regarding the steps to how codes were derived and scored; all four papers used more than one independent coder, who were blind to the pre- and post-training conditions; papers 6 and 8 reported inter-rater reliability; paper 13 reported the use of norming discussions both prior to and at mid-point of data analysis to ensure consistent interpretation of the data. Themes were generated from participants' feedback in paper 3, with the inclusion of some sample quotes, although the specific method of analysis was not reported. Quotes were reported in papers 2 and 4, although they did not appear to be analysed.

Table 4

Quality appraisal of included papers using the Mixed Methods Appraisal Tool (MMAT; Hong et al., 2018)

Category of study designs		Methodological quality criteria	Papers													
			(1) Carpenter et al. (2023)	(2) De Silva et al. (2015)	(3) Fiedorowicz et al. (2013)	(4) Jefee-Bahloul et al. (2014)	(5) Kato et al. (2010)	(6) Lerner et al. (2012)	(7) McCutcheon & Hyman (2021)	(8) McNiel et al. (2008)	(9) Pothireddy et al. (2022)	(10) Prabhakar et al. (2014)	(11) Taverne et al. (2022)	(12) Whitmyre et al. (2023)	(13) Willson et al. (2020)	(14) Witry et al. (2020)
Screening questions (for all types)	S1.	Are there clear research questions?	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
	S2.	Do the collected data allow to address the research questions?	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
1. Qualitative	1.1	Is the qualitative approach appropriate to answer the research question?	**Y**	**Y**	**Y**	**Y**		**Y**		**Y**	**Y**				**Y**	**Y**
	1.2	Are the qualitative data collection methods adequate to address the research question?	**Y**	**Y**	**Y**	**Y**		**Y**		**Y**	**Y**				**Y**	**Y**
	1.3	Are the findings adequately derived from the data?	**Y**	**CT**	**CT**	**CT**		**Y**		**Y**	**Y**				**Y**	**Y**
	1.4	Is the interpretation of results sufficiently substantiated by data?	**Y**	**Y**	**Y**	**Y**		**CT**		**Y**	**Y**				**Y**	**Y**
	1.5	Is there coherence between qualitative data sources, collection, analysis and interpretation?	**Y**	**CT**	**CT**	**CT**		**Y**		**Y**	**Y**				**Y**	**Y**
3. Quantitative non-randomised	3.1	Are the participants representative of the target population?			**Y**					**CT**						
	3.2	Are measurements appropriate regarding both the outcome and intervention (or exposure)?			**Y**					**Y**						
	3.3	Are there complete outcome data?			**Y**					**Y**						
	3.4	Are the confounders accounted for in the design and analysis?			**Y**					**Y**						
	3.5	During the study period, is the intervention administered (or exposure occurred) as intended?			**Y**					**Y**						
4. Quantitative descriptive	4.1	Is the sampling strategy relevant to address the research question?	**Y**	**Y**		**Y**	**CT**	**Y**	**Y**		**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
	4.2	Is the sample representative of the target population?	**CT**	**CT**		**CT**	**CT**	**CT**	**CT**		**CT**	**CT**	**CT**	**CT**	**Y**	**CT**

	4.3	Are the measurements appropriate?	**Y**	**Y**		**CT**	**Y**	**Y**	**Y**		**Y**	**Y**	**CT**	**Y**	**Y**	**Y**
	4.4	Is the risk of nonresponse bias low?	**N**	**N**		**N**	**Y**	**CT**	**N**		**N**	**N**	**N**	**N**	**Y**	**N**
	4.5	Is the statistical analysis appropriate to answer the research question?	**Y**	**CT**		**CT**	**Y**	**Y**	**Y**		**Y**	**Y**	**Y**	**Y**	**CT**	**Y**
5. Mixed methods	5.1	Is there an adequate rationale for using a mixed methods design to address the research question?	**Y**	**Y**	**Y**	**Y**		**Y**		**Y**	**Y**				**Y**	**Y**
	5.2	Are the different components of the study effectively integrated to answer the research question?	**Y**	**Y**	**Y**	**Y**		**Y**		**Y**	**Y**				**Y**	**Y**
	5.3	Are the outputs of the integration of qualitative and quantitative components adequately interpreted?	**N**	**N**	**N**	**Y**		**N**		**N**	**N**				**N**	**N**
	5.4	Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?	**Y**	**Y**	**Y**	**Y**		**Y**		**Y**	**Y**				**Y**	**Y**
	5.5	Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?	**Y**	**N**	**Y**	**N**		**Y**		**Y**	**Y**				**Y**	**Y**

Y = Yes

N = No

CT = Cannot tell

Quality assessment

The quality appraisal of papers included in the review using the MMAT (Hong et al., 2018) is presented in Table 4. Generally, all 14 papers were found to be of acceptable quality, although they are subject to the limitations described below.

Overall, the quality of qualitative data analysis was poorer. Three papers (2; 3; 4) did not appear to have analysed the data collected, or did not report the method of analysis. While these were mostly focused on qualitative feedback on training experience (i.e. not the main aim of the studies), and the quotes were felt to be relatively self-explanatory, it was difficult to tell whether interpretations of results were sufficiently derived from the data.

It cannot be determined whether participants were representative of the target population. The risk of non-response bias was high for the majority of papers, as the sensitive nature of the topic of suicide increases risk of nonresponse bias (Marquis et al., 1986). The exception was for papers 5 and 13; as paper 5 reported no significant differences between those who did and did not complete follow-up survey, and paper 13 reported a 100% response rate. However paper 5, as well as paper 8 did not report how participants were recruited. While paper 13 was low in nonresponse bias, it was vulnerable to having ‘reluctant’ respondents (those who try to get through the survey as quickly as possible; Tourangeau et al., 2010), leading to measurement errors.

All papers adopted self-rated measures, and are hence subject to response or social desirability bias, where participants may answer questions less honestly, or in a manner which they believe they are expected (Tourangeau & Yan, 2007), partially due to the sensitive nature of the topic (Sedgwick, 2014), the retrospective nature of paper 3, or the power dynamics associated with the training programme (where training is delivered by faculty members, associated with assessment and grades).

Findings from the 14 studies are limited in generalisability, as the studies mostly took place within Westernised countries, where participants mostly identify as White or Caucasian. An exception may be with participants of paper 5, taking place in Japan, however the study did not report demographic data, which highlighted another limitation of these studies where demographic data is not always reported. The convenience sampling in most studies also meant that findings can only be limited to a certain cohort or training programme.

The lack of the use of control groups for the majority of papers included suggest that any measured changes cannot be isolated to the impacts of training. The lack of longer-term follow-ups also suggest that findings are limited to the immediate pre- and post-training effects, and do not offer insight into sustainability of training gains.

Training

The length of training varied across studies; the majority of training involved one-off sessions, ranging from 45 minutes to five hours; two papers (13; 14) involved two-part sessions, ranging from a total of 160 minutes to three hours; and one paper (7) reported a multi-modal curriculum that took place on six occasions across eight months. Components of training also varied, and included in-person or virtual didactic presentation/lectures, panels, written or video case vignettes, simulated or standardised patients, roleplays, group feedback/discussions, and dissemination of written material.

Table 5

Matrix of study/training aims and training outcomes explored

No.	Study / training aims	Training gains						
		Knowledge	Skills	Application of skills	Self-efficacy	Preparedness to cope following patient suicide	Training experience	Other information collected
1	To evaluate the impact of training on suicide prevention knowledge and self-efficacy, determine whether interactive video cases can be used to assess changes in knowledge and self-efficacy, and report on whether students were able to apply Pharm-SAVES skills post-training.	Pre- and post-training: two multiple-choice questions related to Pharm-SAVES content.		Three-month follow-up: three-item survey about use of Pharm-SAVES.	Pre- and post-training: seven-item scale assessing confidence to engage in suicide prevention tasks, and open-ended question regarding opinions about why pharmacist asked the patient about suicide in the video case.		Post-training: six survey items, with the stem "in my opinion, this suicide prevention module…".	Veteran status, expected career post-graduation, experience of previous suicide training, and whether students were close to someone who died by suicide.
2	To increase knowledge and awareness about suicide-related issues, develop interpersonal skills around suicide screening, and increase awareness of available support services.	Pre- and post-training: five-item survey regarding awareness about suicide issues.		Six-month follow-up: application of knowledge, skills, and attitudes developed through training. Anecdotal data over the next three years: case note data from Student Counselling Services.	Pre- and post-training: five-item survey regarding levels of comfort in talking about suicide to various people appearing to be at risk for suicide, and confidence in ability to provide appropriate assistance.		Post-training: survey items relating to satisfaction with training, e.g. whether training enhanced students' preparation for clinical practice around suicide prevention, whether they would like further training, etc.	Previous knowledge and training regarding suicide awareness and intervention.
3	To determine the benefits of a simulated patient activity, with hypotheses that it would improve self-reported and observed interviewing / communication skills, without negatively affecting the overall psychiatric clerkship experience.		Communication scores from a performance-based assessment activity. Retrospective (*a priori*): seven-item pre- and post-training skills assessment, including five communication-skill items, and two composite-skill items relating to comfort in communicating with				Post-training: qualitative feedback relating to training experience.	Ratings of the clerkship overall.

			patients with mental health difficulties, and conducting suicide risk assessments.					
4	To study the impact of training on attitudes towards suicidal patients, understanding of family members' experiences, and intended management of patients who died by suicide.					Post-training: survey items (and space for qualitative comments) around perceived changes in attitude towards suicide loss survivors, and anticipated change in the management of suicidal patients.	Post-training: survey items (and space for qualitative comments) about general benefit of attending the training.	Experiences of encountering patient suicide during training.
5	To evaluate the effectiveness of training, related to changes in confidence, attitudes, and behaviour towards suicidal individuals.		Pre- and post-training, and six-month follow-up: 25-item Suicide Intervention Response Inventory (SIRI-1), to assess management skills for people with suicidality.	Six-month follow-up: self-reported actual clinical intervention times and methods, based on the Mental Health First Aid principles, and whether cases were referred to mental health professionals.	Pre- and post training, and six-month follow-up: confidence about ability to support people with mental health difficulties. Pre-training and six-month follow-up: 1) degree of help provided to people with mental health difficulties at and outside of work, and 2) social distance towards depressive patients in case vignette.		Post-training: evaluation of effectiveness of training.	Pre-training: intended specialty, own or family's experiences of mental health problems. Pre-training and six-month follow-up: participants' physical and mental health condition.
6	To evaluate the impact of training on knowledge about and confidence with coping with patient suicide.					Pre- and post-training: 1) self-perceptions of competence items, relating to knowledge about documentation needs, comfort with supporting a colleague, and capability in participating actively in discussion with involved clinicians following a patient suicide; and 2) open-ended questions assessing knowledge of emotional and medical-		Previous experience of patient suicide.

						legal issues after reading a clinical vignette.		
7	To develop an evidence-based curricula to prepare residents for patient suicide.					Pre-curriculum and end-of-year: six-items on survey about the loss of a patient to suicide: preparedness to deal with, and support a co-resident; perception of programme-level support for residents, and negative impact on patient care; and knowledge of system-level and quality processes that occur after, and steps to take.		Pre-curriculum and end-of-year: survey about experiences of patient suicide during training, who they reached out for support, and awareness of support resources available following a patient suicide.
8	To evaluate the impact of training in evidence-based risk assessment for suicide (*changes in risk assessment skill based on clinical documentation written in response to case vignettes, and self-ratings of confidence in risk assessment skill*).		Pre- and post-training: progress notes written in response to a case vignette, including assessment and planning regarding patient's imminent suicide risk.		Pre- and post-training: survey items related to perceived abilities to accurately assess and manage suicide risk, and knowledge about suicide and working with suicidal patients.			Prior formal training in suicide risk assessment and management (hours), and previous experience in providing mental health services (years).
9	To determine whether training improves knowledge, confidence, and hypothetical behaviour regarding recognition of suicide warning signs, asking about suicide, validation of feelings, and expedition of referrals.	Pre- and post-training: two survey items.		Pre- and post-training: open-ended question about how students would react to the individual depicted in the video vignette.	Pre- and post-training: three survey items.		Post-training: six survey items about the usefulness of the training.	Desired practice site of graduation, whether participants knew someone who died by suicide, and prior suicide prevention training.
10	To evaluate the training aims of educating residents about patient suicide, common reactions after a patient suicide, and steps to reduce emotional distress.					Pre- and post-training: 15 survey items measuring residents' awareness and understanding of issues related to patient suicide, awareness of common feelings, steps to take		

						following a patient suicide, support systems, documentation and risk management, and likelihood of consultation with various people.		
11	To determine the impact of training on suicide risk assessment.	Pre- and post-training (3 months after training): “Questionnaire de connaissances relatives au suicide”, 22 statements relating to myths about suicide.					Post-training: survey relating to general setting, quality, usefulness, potential impact on future practice, and perceived stress level of the training.	
12	To examine the effect of training on knowledge and self-efficacy in the use of safety planning, and the completion rates (use) of an evidence-based safety plan template (ESPT).	Pre- and post-training: eight-item clinician knowledge questionnaire, relating to statements about safety planning.		Six-month follow-up: self-reported number of youth clients presenting with suicidal ideation or behaviour, and use of the ESPT. ESPTs were coded for quality.	Pre- and post-training: six-item self-efficacy questionnaire, about clinicians’ confidence level in using suicide risk assessment, safety planning, and the OWL measurement feedback system (MFS).			Highest level of education, and prior experience of 1) working with youth presenting with suicidality, 2) completion of safety plan with youth, 3) use of Columbia Suicide Severity Rating Scale (C-SSRS) with client, and 4) use of OWL MFS.
13	To determine whether training led to gains in knowledge, confidence, and (ability to apply) skills in identifying and preventing suicide in patients, peers, friends, and family.	Pre- (within a week prior) and post- (within two weeks) training: 15-item knowledge assessment (adapted from the training and QPR Gatekeeping Training for Suicide Prevention programme).		Prescription counselling assessment, with standardised patient, to assess for use of assessment and prevention skills. Four-question reflection following prescription counselling assessment.	Pre- and post-training: 14-item survey. Post-training: three additional items on participants perceptions of whether training will help them assist a suicidal individual, and whether they intend to seek help themselves or reach out to someone who may need help.			Whether participants knew someone who died by suicide.
14	To test changes in confidence and knowledge following training, and assess feedback on training.	Pre- and post-training: eight-item knowledge/reluctance scale, adapted from Question Persuade Refer			Pre- and post-training: seven-item confidence scale, adapted from QPR evaluations (Wyman et al., 2008).		Post-training: 1) five evaluation items on likelihood to intervene when encountering someone presenting with suicide warning signs,	Work experience.

	(QPR) evaluations (Wyman et al., 2008).		likelihood to pursue additional training in the next five years, whether the training had too much/too little information and practice, and self-reported level of emotional difficulty with the material; 2) open-ended responses on most helpful components and recommendations for improvement.

Synthesis of the findings

The 14 papers included evaluated the effectiveness of training by measuring different training outcomes: seven papers (1; 2; 9; 11; 12; 13; 14) measured knowledge, four papers (3; 5; 8; 9) measured skills, five papers (1; 2; 5; 12; 13) measured application of skills, eight papers (1; 2; 5; 8; 9; 12; 13; 14) measured self-efficacy, four papers (4; 6; 7; 10) measured participants' preparedness to cope with a patient suicide, and seven papers (1; 2; 4; 5; 9; 11; 14) collected participants' feedback. See Table 5 for the matrix.

Knowledge

Seven studies (1; 2; 9; 11; 12; 13; 14) assessed the effectiveness of training in relation to participants' knowledge or awareness about suicide issues, and intervention (i.e. prevention, risk assessment, and safety planning).

All papers reported significant increases in knowledge, either measured by mean total knowledge score (1; 12; 14), or increases in all (9; 14) or the majority (paper 2; two thirds of all items, and paper 13; 13 out of 15 items) of individual knowledge-items, where the two items that were not found to be significant related to empathy (e.g. "empathy is the same as sympathy"). Paper 11 divided total knowledge into two dimensions, 'factual knowledge' and 'personal representation', and reported a significant increase in 'personal representation' for all medical residents, however in total knowledge only for psychiatry residents.

Furthermore, paper 12 an overall increase in knowledge at the six-month follow-up, although this was not statistically significant.

Skills

Three papers examined participants' development of skills following training. Paper 3 evaluated participants' communication skills both through a performance-based assessment activity, and *a priori* self-report, paper 5 evaluated participants' suicide management skills using an outcome measure, and paper 8 evaluated assessment skills of suicide risk by reviewing progress notes written in response to case vignette.

Paper 5 reported that participants' overall clinical management skills increased significantly, although this increase was not sustained at the six-month follow-up. When looking closer into the individual items, three (out of the 25 items) continued to be significantly improved at the follow-up, but two items decreased significantly over the six-month period.

The two controlled trials reported mixed findings. Paper 8 reviewed progress notes written in response to a case vignette found that the training group showed greater improvement in abilities to identify protective and risk factors, and management strategies, as well as greater global quality of suicide risk documentation risk and management strategies. Similarly, participants in the training group in paper 3 reported greater improvements in self-reported communication skills than the control group, however when it came to the performance-based assessment activity, their performance did not differ from the control group who did not receive one of the training components.

Self-efficacy

Eight studies (1; 2; 5; 8; 9; 12; 13; 14) examined the effectiveness of training in terms of participants' self-efficacy, and reported an overall increase in self-efficacy across various tasks, with the exception to paramedicine students' self-reported confidence in talking to a friend about suicide (paper 2).

The two papers which conducted six-month follow-ups reported different outcomes; paper 12 found that the significant improvements in self-efficacy were sustained between pre-training and six months post-training; however this was not found in paper 5. Furthermore it reported that participants' 'social distance' towards people with mental health difficulties within a case vignette widened significantly, and participants' mental health condition deteriorated significantly, which they attributed the widening of social distance and clinical management skills score to.

A post-training evaluation (paper 13) reported that 40% of participants planned to reach out to offer support to others, and 21% planned to seek help for themselves.

Preparedness to cope following a patient suicide

Four papers examined the effectiveness of training regarding preparing participants for a patient suicide. Despite varying lengths of training, the three papers adopting pre-post designs reported significant improvements, in knowledge (papers 6; 10), self-perceptions of competence in coping (paper 6), awareness of support systems (paper 10). Paper 4, which only collected post-training data, found that participants reported to be more likely to involve family members in the patients' care, which was also found in paper 10.

On the other hand, both papers reported statistically insignificant increases in items such as the perception that "losing a patient to suicide would negatively affect patient care" (paper 7), and whether it would be important for a resident to understand why they completed suicide, how responsible they would feel.

Interactions between training gains and other variables

While this was not an explicit study aim, paper 14 reported that participants’ post-training confidence scores were significantly and positively correlated with their likelihood to intervene when encountering an individual presenting with suicidal risk. It also reported that increasing age and female participants were statistically more likely to seek additional training relating to suicide in the future.

Five papers acknowledged potential interactions, however did not test for these potential influences. Paper 12 acknowledged a potential relationship between self-efficacy and the application of skills, however reported not being able to examine the direct relationship due to its small sample size. Paper 13 discussed that an increase in participants’ confidence in asking patients directly about suicide did not appear to translate to applying their skills in the prescription counselling session. Paper 2 hypothetically attributed paramedical students’ higher pre-training skill scores to their overall more mature age (and likely richer life experiences). Paper 10 discussed the potential of participants acquiring suicide-related knowledge prior to training.

Application of skills

Six papers examined the effectiveness of training in relation to participants’ application of skills from the training, or whether it led to a change in their practice.

One paper (9) reported increases in hypothetical changes in practice. Paper 13 also examined participants' ability to apply skills in an assessed activity, and reported that while 89% of participants used the words 'suicide' or 'suicide thoughts', few attempted to identify risk factors or ask for more information (11% and 5%). Both papers invited participants to reflect on barriers to communicating with individuals at risk of suicide, or why they had not asked directly about suicide. Paper 9 reported a reduction in participants identifying barriers (i.e. from 50% to 29%), although it was unclear whether this was statistically significant. Paper 13 discussed reflections around finding the topic too challenging, feeling uncomfortable to discuss, due to stigma or bias, not believing it was their role, and forgetting to do so.

Four papers measured practice in longer-term follow-ups, at three months (1), and at six months (papers 2; 5; 12). All four papers reported that some participants had encountered someone at risk of suicide, and applied skills developed from training, although these were only measured post-training and did not provide any comparable, pre-training data. In paper 1, 17 participants (11.6%) reported recognising suicide warning signs in an individual, nine of which asked them about suicide. Of the 41 clinical interventions identified in paper 5, 26 cases (63.4%) were assessed for suicide risk, but only six cases involved asking directly about suicide. In paper 12, 81% of participants reported clinical contact with individuals who presented with suicidal risk, of which 63% completed safety planning (from training), and the global quality was rated as near excellent or excellent.

In paper 2, 9.4% of participants used skills from the training to support themselves, their peers, colleagues or patients, which was supported by qualitative data (e.g. "this training helped me understand what was going on in my life and I was able to then talk to my GP about it"; p.203). Similarly, paper 12 also reported anecdotal data of an increase from eight to thirty medical students attending the Student Counselling Service annually, over the next three years.

Training experience

Seven papers (1; 3; 4; 9; 11; 13; 14) obtained feedback from participants regarding their experience, satisfaction, and perceptions of training. Overall, all studies reported positive experiences with training.

Participants reported that training was helpful to their practice, for example some of the highest rated items in paper 1 was participants' belief that the training was relevant to their pharmacy practice, and in paper 9 that participants had been encouraged to apply what they learnt from training in practice. Both papers reported that participants found training to support them in feeling more comfortable talking about suicide with individuals exhibiting warning signs. Paper 11 reported high mean ratings for the helpfulness of training (9.33/10), and for whether training would lead to changes in practice (8.87/10). These were supported by the qualitative feedback from paper 3, where a theme generated was "positive experience", and participants found integrating patient-care experiences to be helpful. Paper 3 reported that training group participants provided higher ratings for the training than other educational activities within their psychiatric clerkship, however overall clerkship rating did not differ between the training and control groups. Paper 4 reported that 91.2% participants found training to have communicated suicide loss survivors' experience, believed their colleagues would benefit from similar training. This was supported by the quote "I have never heard stories like these. Fascinating, heart-breaking and very helpful."

Qualitative feedback from participants indicated that practical elements within training were perceived to be helpful. For example, some of the most helpful elements identified in paper

14 were the inclusion of tips on what to say, and roleplay; and one of the themes generated in paper 3 was “useful rehearsal”, supported by the quote “this was extremely helpful – reviewing what to look for and trying it in action”. These were further supported by quantitative data, where in paper 14, 56.0% participants believed there was the right amount of practice, and 43.1% believed there was not enough. Participants in these papers also identified demonstrations to be beneficial, where participants in paper 3 associated demonstrations to being provided with tips on what to say (“it helps a lot to watch other people do interviews… to develop the phraseology that I can use for patients”), and one of the main areas of improvement from paper 14 was the inclusion of more video examples.

Despite acknowledgements of some stress or emotional difficulty with the training material (papers 11; 14), participants reported training to be supportive learning environments, or that the instructor was positive and knowledgeable. Participants in paper 3 reported a theme of “comfort”, which was supported by the quote “helpful and non-threatening atmosphere”.

On the other hand, there appeared to be some disagreement regarding how much of the more theoretical elements (e.g. warning signs, myths, and facts) should be included in the training. For example, while 93.6% participants in paper 14 believed there was the right amount of background information (2.8%) believed there was not enough, where learning about warning signs, myths, and facts was coded as one of the most helpful elements, 3.7% participants believed there was too much background information, where one of the codes for areas of improvement was that there was too much didactic teaching (“we have already learned a lot about the basics and statistics of suicide in previous training and lecture”). Similarly, the items with the lowest levels of agreement for 9 was “this is mostly new to me” (64.4%), indicating some existing knowledge of suicide prevention.

Limitations

Overall, there was significant variation in how studies operationalised and measured training outcomes. For example, studies evaluating participants' self-efficacy spanned across various tasks, including performing suicide prevention or intervention tasks, safety planning, and clinical documentation.

The validity of outcome measures is also variable; only four papers (2; 5; 9; 12) reported that some of the outcome measures used have been previously used in other studies and are of good validity, and one paper (14) calculated the reliability co-efficients for pre- and post-training outcomes. The validity of survey items are detailed in Appendix 2.

Discussion

The reviewed literature aimed to examine the effectiveness of suicide-related training on healthcare workers in pre-qualification training (HCWs-PT) , and what their experience was. In addition to the three areas identified by the competencies framework proposed by Hawgood and colleagues (2022), and preparedness to cope with a patient suicide identified by Leavitt and colleagues (2016), studies included in the review evaluated the effectiveness of training in three further areas: application of skills, interaction between training gains, and participants' feedback of their training experience. Broadly consistent with a similar systematic review of suicide prevention education programmes offered to nursing students (Ferguson et al., 2020), there was improvement in various areas, suggesting that suicide-related training may be beneficial for HCWs-PT across various disciplines overall.

Knowledge

Consistent with the literature (Ferguson et al., 2020), training appeared to increase overall suicide-related knowledge, however there appeared to be some variability amongst medical residents of different specialties (paper 11). Huang et al. (2023) found similar results with psychiatric nurses, who showed greater knowledge, self-efficacy, and attitudes towards suicide prevention compared to their counterparts from other departments. Similar to the interpretation in paper 11, Clua-Garcia and colleagues (2021) suggested that psychiatric nurses receive better and more training than other HCWs on suicide prevention therapeutic relationships, and may receive more mutual support from team members.

The one study (paper 12) that conducted a six-month follow-up reported that the increase in knowledge was not statistically significant. This is inconsistent with findings relating to training offered to the general public, where the majority of studies tended to report knowledge being maintained over time following training across follow-up periods ranging from one month to two years despite some decay (Holmes et al., 2019), although it had been acknowledged that findings could potentially be different for HCWs.

Future research would benefit in looking into whether the education of HCWs in general, and between different specialties, may have an impact on the acquisition of suicide-related knowledge and its sustainability over time.

Skills

Overall, while participants demonstrated an overall increase in suicide-related skills, this gain may not always be attributed to training. One controlled trial (8) found greater improvements in the documentation of suicide risk assessment and management in the training group than the control group. Another controlled trial (3) reported that this improvement was only significant in self-reports of skills, and the training group was not superior to the control group in skills within a performance-based assessment activity, which the researchers attributed to methodological characteristics and responses biases.

It was noted that the Items participants In the training group (paper 3) did not self-report to increase significantly, such as "avoiding premature reassurance", appeared to be linked participants self-efficacy. This may be explained by both Osteen et al.'s findings (2016) that self-efficacy is a mediator of practice behaviours.

Furthermore, increases in skills may also not be sustained over time, although a possible explanation has been attributed to cultural differences, where the perceived appropriate responses to individuals presenting with suicide risks may not be the same across different cultures (Kato et al., 2010).

Future research would benefit from more rigorous study designs that involve the evaluation of a variety of skills within the same study, across participants of different cultures, over time.

Self-efficacy

It appeared that training has immediate effects in increasing self-efficacy relating to suicide risk assessment and management, across both personal and professional contexts. This was broadly consistent with findings in the literature (e.g. Ferguson et al., 2021; Holmes et al., 2019).

Specifically, it was noted that in paper 13, items that did not improve significantly related to participants' confidence in their ability to empathise or listen without judgment. This may be explained by Ferrari's findings (2022) that competency in soft skills do not have an impact on participants' perceived self-efficacy.

However, the sustainability of gains in self-efficacy over time is unclear. The literature relating to training offered to non-HCWs reported that self-efficacy remained significantly improved at longer-term follow-ups, however literature relating to HCWs-PT did not examine this (Ferguson et al., 2021).

Further research would benefit from investigating the longer-term impacts of training on participants' self-efficacy.

Preparedness to cope following a patient suicide

Findings suggest that overall participants felt more knowledgeable and prepared regarding patient suicide. However, these studies did not offer any insight into how this translates to their clinical practice or wellbeing. It is possible that participants' may still experience a reduction in their self-efficacy, as the items that did not demonstrate significant improvement in both papers 7 and 10 appeared to be related to participants' confidence, for example, whether participants believed that losing a patient would affect their patient care negatively. This is supported by Briggs' suggestion (2008) that clinicians cannot be fully prepared for the loss of a patient to suicide.

Future research would benefit from follow-ups after a patient suicide, using both self-rated and objective ratings of preparedness and wellbeing.

Application of skills

The findings appeared to be mixed regarding application of skills. Some papers reported increases in hypothetical application of skills, through the use of video vignettes and assessment activities. Some papers reported actual application of skills in personal and professional contexts three to six months following training, and anecdotal data across the next three years, suggesting that there may be greater awareness of support services available, and participants are more likely to make use of them. However, the actual application of skills could not be isolated to training due to a lack of pre-training data and control groups.

It was noted that participants did not ask about suicide directly In all hypothetical and actual clinical encounters related to suicide risks. Participant reflections regarding the perceived barriers to communicating with individuals about suicide to include 'not knowing what to do’, ‘feeling uncomfortable and overwhelmed’, ‘feeling unprepared’, stigma and bias, not believing this was their role. This appeared to suggest that barriers to applying skills developed from training may be associated with self-efficacy and attitudes towards suicide.

This finding is corroborated by the literature (Holmes et al., 2019), and explained by Burnette and colleagues (2015) with the application of Theory of Planned Behaviour (Ajzen, 1985), which suggested that rather than knowledge or skills, intention and behaviour are determined by attitude, subjective norms, and perceived behavioural control (which originates from self-efficacy). None of which are addressed or measured by the studies included in this review, a gap which was also highlighted by Holmes and colleagues’ systematic review (2019).

Interactions between factors

Most studies included in the review did not examine the interactions between outcomes and demographic information, with the exception of paper 14, which found that older, female participants were more likely to seek additional training in the future. This was in line with the literature that suggests individual factors such as age and gender significantly predicted HCWs’ practice skills (Lee et al., 2016). For example, Huang et al. (2023) reported that older and more experienced nurses demonstrated poorer knowledge, and self-efficacy towards suicide prevention. A study found that HCWs with experiences of patient suicide reported greater knowledge and skills than their counterparts who had not experienced a patient suicide, and were more comfortable asking about suicide, even after controlling for years of professional experience (Erbuto et al., 2021). However, studies have suggested that older HCWs rely on their years of experience, and are as such less likely to change their practice (Kennedy et al., 2009), and younger staff may be more receptive to new ideas and more passionate about their work (Lygnugaryte-Griksiene et al., 2017), which appeared to contradict their increased likelihood to seek training found in paper 14.

There is a wealth of literature that discusses the interactions between outcomes, however their effects are not always clear. For example, it is hypothesised that increase in self-efficacy, attitude, and knowledge would contribute to an increase in intervention behaviours (e.g. Williams & Beidas, 2019), however some also suggested that self-efficacy is the foundation for learned skills and knowledge to be showcased (Pajares, 2009). Unfortunately only a few studies included in this review collected information about former training, level of experience, and did not control for them, which compromises a full understanding of the data obtained.

Training experience and evaluation

Participants from all seven studies reported positive experiences overall. While the reported high satisfaction was encouraging, this may not necessarily provide insight into training effectiveness. Contrary to beliefs about training (e.g. Kirkpatrick, 1955), Gessler (2009) found that there is participation satisfaction is not correlated with 'learning success', nor the transfer of learning.

Participants reported to find training to be relevant to their practices, and appeared to find practical elements, such as roleplay, to be a particularly helpful component of training. This is supported by the literature, which suggest that roleplays offer the opportunity for individuals to consider how theoretical ideas can be applied to the real-world context (Rowson, 2019). Additionally, the literature suggest that roleplay aids the construction of knowledge and complex concepts (Chen et al., 2020), and allows individuals to build confidence and experience in a safe environment (Ronning & Bjorkly, 2019) – future research could explore whether roleplay or the use of simulated patients may have greater training gains than other training elements.

Limitations

Due to the diversity in training outcomes, how they were measured, and type of training method adopted across papers, a more systematic / quantitative synthesis of data was not possible, which is similar to other reviews of suicide-related training. Additionally, participants in the identified papers varied significantly in their roles and levels of experience, ranging from undergraduate students who may have limited clinical experience, to residents who have completed their undergraduate and graduate medical education, across various disciplines in physical and mental health settings. Moreover, none of the 14 studies were conducted in the UK. Given the above, it may be challenging to synthesise the data and draw meaningful conclusions about the impact of suicide-related training offered to HCWs-PT, especially those training in the UK. The lack of studies of suicide-related training taking place in the UK may be explained by differences in healthcare systems, training routes and funding. For instance, the UK healthcare system, the NHS, is publicly funded, whereas the US healthcare system does not offer universal coverage, and relies on private insurance and government programmes (e.g. Medicare). The Doctorate in Clinical Psychology, the training course for clinical psychologists in the UK is funded by the NHS, whereas the funding for training course in the USA may involve a combination of institutional support, and personal and external funding. These differences may have implications on how training programmes are evaluated.

Findings from this review should be considered in the context of the methodological limitations of the reviewed literature, including the small volume of studies, the lack of generalisability, the neglect of reporting demographics, the subjection to response and non-response biases, the lack of control-groups, and most studies being limited to immediate pre- and post-training effects. For instance, the neglect of reporting demographics is significant, as gender differences have been reported, where male student nurses reported higher levels of professional capacity, confidence, self-efficacy in managing suicide compared to their female counterparts (e.g. Kerr et al., 2018; Moraes et al., 2016).

There is great variation in how studies operationalised and measured training outcomes, and lack of standardised outcome measures, both of which were limitations highlighted in the literature around the evaluation of suicide-related training (e.g. Ferguson et al., 2020; Hawgood et al., 2022; Holmes et al., 2019). In particular, this was especially apparent in the construct of self-efficacy, where terms such as self-efficacy, comfort, competence, confidence, and attitude appear to be used interchangeably, despite discussions in the literature distinguishing these different constructs (e.g. Bandura, 1990; Markland et al., 2014). This introduced challenges in developing training that is informed by research, although it also acknowledged that all training outcomes are interrelated, and interact with each other to lead to an increase in good suicide prevention practice. Hence these outcomes may be difficult to distinguish, and may benefit from further research in examining their interacting effects. There remains a dearth in the research around the evaluation of how different self-reported training gains may or may not translate to actual clinical practice.

Furthermore, models of learning, such as Kolb's Experiential Learning Cycle (1984), state that "learning is the process whereby knowledge is created through the transformation of experience” (Kolb, 1984, p.38). It posts that effective learning occurs through a continuous cycle of concrete experience, reflective observation, abstract conceptualisation, and active experimentation. It would seem that the suicide-related training in all 14 papers identified may only involve partial rather than all components of this learning cycle, with particular neglect active experimentation in actual clinical practice. As such, the incompletion of the learning cycle may account for positive changes not being consistently reported in the papers.

Implications for research

While over 3600 papers were identified from both the database search and from citations and references, only 14 studies were relevant and included in this review. This implies that literature on the topic is scarce; further and more rigorous research is required to evaluate suicide-related training offered to HCWs-PT.

Future research would benefit from:

1. The development of standardised assessment measures to evaluate the effectiveness of suicide-related training, to support comparable research and identify empirical outcomes (Yonemoto et al., 2019).
2. Evaluation terms being better defined, and outcome measures being assessed for their validity.
3. Consideration of the expansion of outcome measures to include other constructs that are found to be related to behaviour change (i.e. intention), such as attitude towards suicide, perceived behavioural control and subjective norms, which appear to be associated with changes in behaviour, and were argued to be neglected in the research regarding suicide-related training (Gryglewicz et al., 2018).

4. The integration of various training outcomes into one study, and investigation into their direct and indirect relationships would prove enlightening, for instance, whether improvements in the various areas translate to improved clinical practice, and whether training regarding the preparedness of coping with patient suicide translates to better outcomes in wellbeing.
5. Research to be conducted in more training programmes across various disciplines and countries, to address some of the limitations around generalisability. In particular, training programmes in the UK could take more active approaches in evaluating suicide-related training that they offer to HCWs-PT, and consider publishing their findings.
6. The identification and exploration of resistance or barriers to chance within suicide-related training, which appeared to be a gap in the literature (Lee et al., 2016).
7. Longitudinal studies to examine whether training gains are sustained over time.
8. Research to investigate and explore whether training variables (e.g. duration, one-off vs. multi-modal, trainer) and components (e.g. roleplay, simulated patient, case vignettes) may impact the effectiveness of training, as some elements of training may be less suited in the delivery of some areas. For example, a systematic review reported that high-fidelity simulation (e.g. video cases, simulated patient) improved perceptions of self-efficacy, but not communication skills (Roberts & Cooper, 2019).

Implications for practice

It appeared that offering suicide-related training to HCWs-PT supported their development of competence overall, however given the limitations identified above, there is not strong enough evidence to provide specific implications for the development and design of such training.

Recommendations for practice may include:

1. Suicide-related training should be developed and delivered based on a core set of minimum competencies, such that there is a foundation for the examination of their effectiveness against expected learning objectives.
2. The development of training should be informed by models of learning (e.g. Kolb's Experiential Learning Theory), such that they involve the four key components of the learning cycle:
   - Concrete experience (e.g. interactive components with demonstrations and practice, such as roleplays, working with simulated patients, and case studies)
   - Reflective observation (e.g. debriefing, discussions, and personal reflections)
   - Abstract conceptualisation (e.g. reading material and discussions to support the making of theory-practice links)
   - Active experimentation (e.g. the application of learnt skills in clinical work / placements, followed by constructive feedback)
3. The provision of refresher or follow-up training sessions to may support permanence of competence, given that effects of training do not appear to maintain over time.

Conclusion

Despite the cruciality to support HCWs-PT in developing competencies in suicide prevention, the effectiveness or impact of suicide-related training delivered to this population has not been adequately investigated. This review adds to an existing systematic review of student nurses (Ferguson et al., 2020), and preliminarily suggests that training may lead to overall improvements for HCWs-PT across various disciplines. However, this review is limited by the methodological challenges in the literature. Future research is encouraged, especially in the evaluation of suicide-related training against standardised outcome measures, where training outcomes are better defined or operationalised, as well as investigation into how well training gains translate to actual clinical practice in the long-term. Suicide-related training should be developed based on a core set of competencies, be informed by theories of learning, and may benefit from refresher sessions.

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Section B: Empirical Study

Moderating or amplifying threat: Psychological debriefing processes that promote or hinder mental healthcare workers’ wellbeing following critical incidents

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Abstract

Healthcare workers experience various critical incidents at work, which may have significant impacts on their wellbeing and functioning. Psychological debriefing is one of the proposed interventions to support healthcare workers with these impacts. However, the evidence for psychological debriefing is controversial, and often focuses on specific models and techniques. Little is known about the processes within psychological debriefing. This study set out to explore and develop a grounded theory of processes within psychological debriefing that promote or hinder healthcare workers' wellbeing or recovery following critical incidents. Eleven participants working within mental health services were interviewed, including four staff and seven facilitators, with experiences of attending and/or facilitating psychological debriefing. The preliminary theory proposes that processes within psychological debriefing, further enhanced by group processes, moderate experiences of threat. The facilitator, with dual roles of both a representative of the organisation and a member of the team, protects the psychological debriefing space to allow these moderating processes to take place. However, when offered and facilitated inappropriately, some of the psychological debriefing processes may amplify experiences of threat. Other supportive processes should be offered in parallel, to meet individual and group needs, address the limitations of psychological debriefing, and promote healthcare workers' general wellbeing. Factors that support facilitators in their delivery of psychological debriefing are also identified. Findings are broadly consistent with extant literature. It further highlights the role of facilitators in psychological debriefing, which do not appear to have been explored extensively yet. Study limitations, and implications for clinical practice and future research are discussed.

Keyword(s): Psychological debriefing; Critical incident; Staff support; Mental healthcare; Grounded theory

Introduction

Critical incidents (CIs)

Individuals working within mental healthcare settings (also referred to as mental healthcare workers; HCWs), such as psychologists, psychiatrists, community psychiatric nurses, occupational therapists, and support workers, may experience various CIs at work. A CI is defined as “a sudden unexpected event that has an emotional impact sufficient to overwhelm the usually effective coping skills of an individual and cause significant psychological stress” (Caine & Ter-Bagdasarian, 2003, p.59). While there is not a definitive list of CIs, these may include aggression and/or violence by patients, significant deliberate self-harm of patients, suicides of patients or colleagues, severe injuries or traumatic deaths of patients or colleagues, and so on.

The high prevalence of CIs within mental healthcare settings has been extensively documented. For instance, in a national audit of violence conducted on 131 mental health inpatient wards across England, 46% of nurses reported experiences of physical assault, 57% reported distressing incidents at work, and 72% reported feeling threatened or unsafe (Royal College of Psychiatrists, 2007). A national inquiry into suicide also reported that 28% of suicides in the UK in 2016 were attributed to patients with mental health difficulties, and 9% were attributable to those who were admitted to mental health inpatient wards (Burns et al., 2017).

Consequently, HCWs may experience long-lasting and detrimental psychological impact (Rodruguez-Rey et al., 2019), and the significant impacts of traumatic incidents on HCWs are acknowledged (National Institute for Health and Care Excellence, 2018). A meta-analysis of 11 studies (de Boer et al., 2011) found that CIs may contribute to symptoms of depression, anxiety, and post-traumatic stress in hospital-based HCWs. The literature also suggests that CIs may contribute to a range of functional impairments, such as sleep disturbances, fatigue, and relationship problems (e.g. Appleton, 1994; Mitchell & Everly, 2001).

More specifically in the context of healthcare organisations, Reason (2000) suggested that the demand for HCWs to practice to perfectionism, an unrealistic standard, puts them under pressure, and evokes a constant threat of blame. Gorini and colleagues (2012) suggested that approaches used by managers when dealing with medical errors and accidents are mainly associated with "blame culture" in healthcare organisations. Managerialism was argued to underlie the functioning of organisations, which may neglect emotions, relationships, knowledge, and skills (Trevithick, 2014), and contribute to the development of a "blame culture" (Munro, 2010, p.38), in turn exacerbate anxiety within healthcare organisations such as the NHS (Edmonstone, 2021). Lee and colleagues (2004) suggested that inconsistencies between organisational messages (e.g. of support) and behaviour (demands) can lead to mistrust amongst HCWs, further feeding into a sense of feeling unsafe in the workplace. Ashton and colleagues (2018) found that when organisations do not respond supportively following aggression or violence in the workplace, the perceived isolation and abandonment experienced by HCWs could further exacerbate mental distress.

Work-related stress is associated with poor staff wellbeing, sickness, and burnout, and is identified to be the primary factors HCWs leave NHS employment (alongside workload intensity and staffing levels; Weyman et al., 2023). There is an "inextricable link between levels of engagement and wellbeing among NHS staff and the quality of care that those staff are able to provide" (Royal College of Physicians, 2015, p.2), as well as with patient safety and satisfaction (Spencer et al., 2019). Furthermore, the perception of physical and and/or emotional insecurity from patients, often associated with CIs, can lead to changes in the way patients are experienced and perceived by HCWs, in turn reducing empathic capacity (Linn-Walton & Pardasani, 2013). Hence, it is important to ensure that HCWs are appropriately supported following CIs, to maintain the quality of care they provide, and thus promote patients' wellbeing. For example, Mosadeghrad (2013) suggested that occupational stress is crucial in influencing key predictors of staff turnover, and lower turnover is found to correlate with lower patient suicidal rates (University of Manchester, 2015).

Psychological debriefing

'Debriefing' is one of the interventions proposed in the literature to support HCWs following CIs. It should be noted that 'debriefing' carries different meanings that have different intentions in the literature (Kolbe et al., 2021). In the present study, 'debriefing' refers to psychological debriefing (PD), which are structured meetings designed to mitigate the psychological consequences of CIs.

One of the earliest proposed PDs is Critical Incident Stress Debriefing (CISD; Mitchell & Everly, 1996), which is a component of a broader range of supportive interventions, Critical Incident Stress Management (Everly & Mitchell, 1999). CISD is informed by crisis intervention (Caplan, 1969) and group theory (Yalom, 1970), where the proposed mechanisms of action include early intervention, opportunity for catharsis, opportunity to verbalise trauma, structure, group support, peer support, as well as opportunity for follow-up (Everly & Mitchell, 2016). Everly and Mitchell (1999) suggest that talking about one's feelings and reactions to CIs can help "reduce the incidence, duration, and severity of, or impairment from, traumatic stress" (p.), as retelling the event modifies the cognitive structure of the event, including thoughts, feelings, memories, and behaviours (Bledsoe, 2003), as such is believed to encourage emotional processing, normalise trauma responses, and prepare for possible future emotional and behavioural experiences.

Other variations of PD include but are not limited to Raphael's (1986) Dyregrov's (1989) models, both of which were similar to Mitchell's model (1983), with some additions to what the different phases involved. Talbot et al. (1995) developed a model specific for mental healthcare professionals, as they argued that psychological understanding and integration was crucial for these clinicians to be able to function and intervene. The aim of this model was to allow clinicians to cope with work stress through ventilation, catharsis, and sharing of experiences, and in particular, to explore their relating with the victim's experience, to enable them to assimilate their empathy. This was proposed to support clinicians experience as sense of power and control, which would prevent them from developing more severe stress-related symptoms.

Evidence around psychological debriefing

The controversies regarding the use of and efficacy of CISD are extensively documented in the literature. One of the most influential is a Cochrane review of 11 randomised controlled trials (Rose et al., 2003), which found that most one-off interventions to be ineffective at preventing PTSD symptoms, and that the use of compulsory PD following a traumatic event may contribute to possible retraumatisation, and potentially the worsening of symptoms and psychiatric outcome, although other studies found that CISD interventions are effective in reducing distress and improving other outcomes (e.g. Baker, 2017). Some researchers argue that PDs are only shown to be iatrogenic due to invalid measures adopted to evaluate the intervention (e.g. Deahl et a., 2001), or are a result of overgeneralisation from a poor evidence base (Hawker et al., 2010). It was also suggested that research on the effectiveness of CISD are of poor to very poor quality (NICE, 2018), and tend to evaluate methodologically-flawed studies and outdated practices (Burchill, 2019), highlighting a need for more high-quality and rigorous research. It was highlighted that both the practical and theoretical literature examining debriefing as an intervention is incohesive, and as such does not offer researchers a common point to sustain the intervention's effectiveness nor determine how it can be best utilised (Yeung et al., 2012). To date there is still no agreement regarding how PD is conceptualised, as crisis intervention, psychoeducation, stress management, prevention, therapy, or an integrated intervention.

More recently, a review of 50 studies (Richins et al., 2019) examining early interventions for trauma with both clinical and non-clinical staff suggested that interventions help staff manage post-incident trauma if they are delivered in a specific manner, for example, tailored to the populations' needs, respecting organisational culture, and harnessing existing social cohesion within teams. However, it should be noted that the effectiveness of CI support interventions in all included studies was evaluated based on psychometrics, self-reported evaluations, and/or sickness and absences, and only 14% of the studies contained qualitative data. Hence, they do not take into account staff's subjective experiences of the interventions.

PD in clinical settings

Scott and colleague's review (2022) commented on eight factors HCWs valued and found useful in psychological debriefing, with the five most common ones (reported by more than one study) being "opportunities for reflection and joint understanding", "shared experience", it being "facilitated by a trained mental health and peer representative", it being a "relaxed informal, non-judgmental atmosphere", and having an increased understanding of reactions to the event (p.284).

Rationale for this study

While there is some literature on the impact of PD on HCWs and HCWs' experiences of PD, Tuckey and Scott (2014) suggested that the focus of future research should shift from "whether or not a particular technique can prevent the manifestation of clinical symptoms" (p.51), to the understanding of how and why interventions promote recovery. Currently, it appears that there is a gap in the literature addressing individual, group, and organisational processes within PD which may promote the wellbeing of HCWs, particularly within mental health services in the UK.

Hence, a qualitative, inductive method, such as grounded theory, is deemed appropriate to develop an understanding of the processes relating to PD that promote HCWs' wellbeing following CIs, without presupposing which model might be adopted or found appropriate.

Research questions

As is appropriate to grounded theory, research questions are open and focusing on social processes. Research questions guiding initial data generation are:

1. What are the processes related to PD?
2. How do they promote or hinder HCWs' wellbeing following CIs?

NHS values

This study considers all six NHS values (Department of Health, 2005), in particular 'commitment to quality of care' and 'everyone counts'. Through the exploration of the processes by which PD may help HCWs manage the impacts of CIs, the study may offer insight to ensure that HCWs are appropriately supported, in turn committing to the quality of care provided to patients. Consequently, it demonstrates how “everyone counts”, both HCWs and patients.

Method

Design

A constructivist grounded theory approach (Charmaz, 2014) was taken, as it views participants as experts on their social worlds, and focuses on how they construct meaning in relation to the subject, which fit with the study's aims. This approach highlights the researcher's role in co-constructing experience and meaning with participants (Charmaz, 2014), which fits with the researcher's epistemological stance of social constructivism (Burr, 2015): reality is socially-constructed, and a product of interactive processes; there is not a singular objective 'truth'.

Due to the time-limited nature of this study, modifications to its design were necessary. For instance, data saturation could not be used as an indication of endpoint, as it could be "potentially limitless" (Green & Thorogood, 2009, p.120); guidelines regarding the appropriate sample size to reach data saturation varied from as little as six (Guest et al., 2006; Corbin & Strauss, 2008) to 30 participants (Creswell, 1998). Instead, an abbreviated version of grounded theory described by Willig (2013) was conducted, where data analysis followed the general principles of grounded theory, but theoretical saturation is only implemented within the original dataset that is being analysed.

Participants

A purposeful opportunistic sampling strategy was employed, where participants were recruited if they met the inclusion criteria (Table 1).

Table 1

Inclusion criteria

Group	Description
'Staff'	HCWs working within NHS mental health services, who have been exposed to CIs and have been invited to PD in their current role, regardless of their attendance.
'Facilitator'	HCWs working within NHS mental health services, who have completed PD facilitator training (if required by their organisation), and have facilitated at least one PD in their current role.

A recruitment leaflet (Appendix 3) was arranged to be left in staff rooms of mental health inpatient services, and shared informally (e.g. on Twitter, now known as X; Appendix 3). The leaflet also encouraged people to share the leaflet with others whom they believed may be eligible for or interested in participating in the study.

Individuals who were interested in participation were invited to contact the researcher directly. Following confirmation that they met the inclusion criteria, individuals were sent the information sheet (Appendix 4). The researcher arranged to set up an interview with those who confirmed interest in participation. To accommodate for different shift patterns, interview slots were offered throughout the day, and not confined typical 'nine-to-five' working hours.

As the study progressed, the researcher observed an imbalance in the number of facilitators and staff recruited, where more facilitators had been recruited via the informal sharing of the leaflet. In the pursuit of theoretical sampling, the leaflet was arranged to be left in staff rooms again.

Demographics

Eleven participants took part in the study, including four staff, six facilitators, and one participant who shared their experiences of both attending and facilitating PD, and was categorised under facilitators. Given the small sample size, demographics are reported in aggregate to protect participants' confidentiality (Table 2). Participants reported working across a range of community and inpatient mental health services from a number of NHS Mental Health Trusts in the UK, however facilitators may offer PD to other services they were not embedded in. The nature of CI(s) experienced by participants or for PD they facilitated included patient aggression, significant self-harm by patients, suicides of both patients and members of staff, and the COVID-19 pandemic.

Table 2

Participant demographics

	Facilitator (n = 7)	Staff (n = 4)
	Age	
21-30		2
31-40	1	
41-50	4	1
51-60	2	1
	Ethnicity	
White-British	6	4
White-Other	1	
	Professional discipline	
Clinical Psychologist	7	
Nurse		2
Occupational Therapist		1
Support Worker		1
	Qualification / years in service	
Mean (range)	16.4 (5-32)	2 (1-4)

Procedures

Data generation and analysis

Data were generated through semi-structured interviews, to allow space to explore issues as guided by participants. Interviews were schedule for an hour, and actual duration ranged between 41 minutes and an hour and 13 minutes. A £10 electronic voucher was offered to all participants as a token of gratitude.

Questions in the initial interview schedules (Appendix 5) for both staff and facilitators were designed to be broad, to allow participants to discuss areas they perceived as relevant, without being constrained by the researcher’s understanding of PD from the existing literature.

The development of the interview schedule was also supported by a HCW consultant (whose involvement was based on the 4Pi standards; Faulkner et al., 2015), who primarily offered feedback regarding the language and clarity of the interview schedule. Key topics covered in the interview schedule included participants’ perceptions of the impact of CIs on HCWs (for context-setting), their experiences of attending and/or facilitating PD, what they may find and/or believe to be helpful and unhelpful about PD, and alternative means of support that may be valued following CIs.

Interviews were conducted and recorded over an online video-conferencing platform, and transcribed by the researcher. Transcripts were anonymised, before being imported into Nvivo, an analysis software. Guided by grounded theory principles, the process of data collection and analysis proceeded concurrently. The first four transcripts were analysed using initial, line-by-line coding (example in Appendix 6), to produce codes grounded in the data (Charmaz & Thornberg, 2021). The interview schedule was then revised following the construction of tentative theoretical categories, in line with theoretical sampling.

Subsequent interview transcripts were analysed with focused and selective coding, informed by emerging theoretical constructs. The relationship between codes and categories, and within and between datasets were explored, using constant comparison.

Given that data saturation was described to be “a goal rather than a reality” (Willig, 2013, p.71), a decision was made to terminate data collection when it was believed that ‘conceptual depth' (Nelson, 2017) had been achieved, where no new categories could be identified, and existing data allowed a conceptual framework to be generated (Charmaz, 2014).

Throughout the process, the researcher made use of memo-writing (Birks et al., 2008; excerpts in Appendix 7) and supervision to support theoretical development. Additionally, the researcher's reflexivity throughout the study, including conceptualisation, data collection, analysis, and interpretation were held in mind, and reflected upon using memo-writing and a research journal (Mruck & Mey, 2019; excerpts in Appendix 8).

Ethical considerations

This study was granted approval by the Salomons Institute for Applied Psychology Ethics Panel (Appendix 9). Approval from the Health Research Authority was not required, as the recruitment methodology (i.e. participants contacting the researcher on their own accord following advertising) was not considered to be participant identification activity.

Given the sensitive nature of the study subject, while it was not an explicit exclusion criteria, individuals who were acutely distressed as a result of a CI were recommended not to participate in the study. The researcher checked in with participants at the end of each interview, and participants would be signposted for support should they express feeling distressed (information also available in the information sheet for their reference). This was not required.

Despite providing written consent for the interview, recording, and analysis prior to the interview (Appendix 10), participants were offered the opportunity to ask questions about their participation in the study before the interview. Issues addressed included how their data may be stored, procedures taken to maintain their confidentiality, and one participant requested to review the transcript of their interview. During the interview, the researcher used tentative language, such as “is it okay if I ask you a bit more about…” to remind the participants that answering was optional.

Participants were offered the option to withdraw their data from the study within a month after their interview (the point of the data being included in the analysis), without providing a reason. None opted for this.

A summary of the study findings (Appendix 11) was disseminated to the ethics panel, and participants who have requested a copy.

Results

Findings produced five categories and seventeen sub-categories (Table 3), which are connected diagrammatically in Figure 1.

Table 3

Categories and sub-categories

Categories	Sub-categories
Moderating threat	Feeling recognised and cared for
	Compassion towards patients
	Empowerment
	Containment of CI
	Time to process
	Coming together
Facilitator as a conductor/conduit	Dual roles facilitating connection
	Protecting the space, holding boundaries
Amplifying threat	Too much, too deep
	Too soon or too late
	Care without relationship
Providing care in different ways	Limitations of PD
	Meeting needs
	Wellbeing promotion
Supporting facilitators	Positive experience
	Structure and training
	Supported as staff

Sample quotes from staff and/or facilitator participants were included to illustrate the sub-categories (see Appendix 9 for additional supporting quotes).

Figure 1

Conceptual map: The moderation and amplification of threat within psychological debriefing

Moderating threat

Participants identified processes within PD that appear to have a moderating effect on their experiences of threat, as such promoting their wellbeing and recovery following CIs.

Feeling recognised and cared for

Participants spoke about how the lack of acknowledgement of the challenging nature of their work ("the volatileness of what's being asked of us"; Staff4) can be detrimental, and described the importance for their skills, resilience, and efforts during demanding situations to be recognised, either by staff themselves, the PD facilitator, or the organisation.

> "it was quite nice to acknowledge that actually we obviously did come together quite well, even in the middle of carnage." (Staff4)

Participants perceived the offer of PD to be a communication of care, which counteracts feeling undervalued when there is a lack of action from the organisation (“we were given nothing”; Staff4). Instead, PD allows staff to feel nurtured and valued.

> “‘when the patient got injured, everyone cares. When the nurse gets injured, nobody does.’ […] ‘it’s as if our lives are less important’.” (Facilitator3)
>
> “there is space to be upset, but people aren’t left to just drown in their upset, people are brought in and looked after […]” (Facilitator6)

One participant suggested the recognition and care can be further communicated when convening PD, giving examples of senior management going beyond standard practices to prioritise PD and invite HCWs to attend them, such as writing thoughtful emails to HCWs about the CI and subsequently PD, phoning HCWs individually, and covering HCWs’ expenses for them to attend PD on a non-work day (“it’s about the effort that people go to”; Facilitator7).

> “a recognition and an acknowledgement of the significance and the gravity of the incident, and that senior managers have recognised this, and have taken steps to arrange support for them. It’s something about the visibility of the difficulty of the job, […].” (Facilitator7)

Compassion towards patients

Participants discussed that following CIs, especially if they perceive the CI to be resulted from unresolved challenges that they have previously fed back on, they may experience anger and frustration towards, and may identify and attribute reasons contributing to CIs to colleagues, the organisation, and patients. However, they also acknowledged that these emotions and actions may be incongruent to their ethos of providing care and protecting patients from harm ("go against your whole drive to be in this field of work", Faciliator1; "moral injury", Facilitator6). In particular, one participant interpreted this as a way of HCWs managing experiences of responsibilities being placed onto them, where there may be a need for it to be handed over to someone else ("projected form of the paranoia from the investigation"; Facilitator1).

> "responsibility is pushed out to everybody around, […] So it's that experience of having all of that pushed out on you, you now hold the responsibility, and fear of blame, and the processes that have to go on around for you […]" (Facilitator1)

> "'well we told you that this wasn't acceptable and you did it anyway, and now we've taken the brunt of the aggression', so anger, frustration, some feelings of 'what's the point?'" (Facilitator4)

However, when HCWs are able to make sense of the patient's experiences, focus on their relationships with patients, and (re)connect with their compassion for them, they feel more in control and less threatened by CIs. This in turn allows them to be more compassionate towards themselves and their colleagues, inviting care for each other (as discussed in the previous sub-category), and hence promoting their wellbeing.

> "staff being able to see some of the vulnerability, or to mentalise the patient a bit […] putting different behaviours in context, in a way that's compassionate to themselves and to the patient" (Facilitator4)

Empowerment

Participants discussed underlying power imbalances amongst HCWs of different disciplines and responsibilities, created by the "hierarchical structure, due to the dominance of the medical model" (Facilitator4) and reinforced by social inequalities within wider society (e.g. gender, ethnicity, socioeconomic status). These power imbalances are understood to feed into HCWs' distress particularly in the aftermaths of CIs.

> "feeling like orders are passed down to them, […] You don't have much control, as a member of nursing staff." (Facilitator4)

Instead, participants valued processes within PD that reduce these power imbalances. These may include focusing on emotions, and more senior HCWs normalising and validating their less experienced colleagues.

> "people seeing their more senior colleagues as human beings […] to hear their manager saying, 'oh yes I was really scared when that happened' […]" (Facilitator4)

> "if you stick with feelings, it can be a bit of a leveller" (Facilitator7)

Additionally, beyond the reduction of power imbalances, some processes within PD even serve to empower HCWs, in turn promoting their wellbeing. These may include 1) respecting HCWs' choices around their attendance of, and whether they would like to contribute in PD, otherwise HCWs' would be left "feeling coerced with the process" (Facilitator2); and 2) respecting differences amongst the team.

> "there could be something about finding a voice in the debrief, which hopefully can give them a sense of power" (Faciltator4)

> "modelling and giving permission around disagreeing, or people having different experiences or opinions of things" (Facilitator4)

Time to process

In the context of high workloads and short-staffing, HCWs are often expected to return to their job tasks shortly following CIs, which may mean that HCWs are often disconnected from the potential emotional impact CIs may have on them ("so many of us are in action mode, we're not in thinking mode…"; Facilitator3). While the shifting away from emotional experiences and focusing on practical, concrete actions and resolutions may in the immediate term help HCWs cope with the adversity of CIs, it is also acknowledged that it may contribute to the hindering of wellbeing in the long-term.

> "when something like that happens, I think you can feel quite powerless, so to have some things you can do to help is really important." (Staff1)

> "staff not realising how much they had been impacted by an event […] maybe it's a way of coping with what's happened, and […] the practicality of even when an event happens, it's not like all the nurses can go home because they've still got a ward to tend to." (Facilitator4)

Instead, participants described PD as an opportunity for HCWs to set time away from their busy work ("luxury to have an hour"; Facilitator3), to "put together the whole picture" (Staff4), reflect, connect with emotions, and "just register" (Facilitator4) their experiences without necessarily acting on them. The act of taking time to process the CI and emotional experiences is understood to be "self-care" (Facilitator7) that supports the promotion of wellbeing.

> "when talking about it can let out some emotions that they may have thought they've dealt with, but they haven't" (Staff3)

> “debrief allows for people to stop, and think, and feel, and breathe, and not be watching the clock” (Facilitator5)

Coming together

Participants discussed the significance of “coming together” (Facilitator6) within PD, as they identified that further to disconnecting from emotional experiences, HCWs may also disconnect relationally from their patients, teams, and the organisation (“trauma severs connection”; Facilitator6).

Teams are (re)connected (i.e. social cohesion), through the sharing of and identifying with each other’s experiences, which is both normalising and validating, and promotes a sense of community and belonging.

> “the advice to lessen that sense of trauma sometimes is to be with, to feel a sense of connection…” (Facilitator6)

> “that’s how groups work, they’re listening to what other people are saying, and then sometimes at the end, they will be able to say that other people have put into words what they weren’t able to put into words.” (Facilitator7)

‘Coming together’ is both a process on its own, and an enhancement of the moderating processes mentioned above, as “everything is times 10 or times 20” (Facilitator7) when occurring in group settings.

> “in a shared context of being part of the team that is supporting each other, has had some unifying experiences around it […] they have enough strength to tolerate and manage difficult things, that actually this was hard, and it has been listened to and

> taken seriously, and any actions taken that are necessary to prevent it from happening next time, but also that as a team they can manage this, and they have enough support to do that.” (Facilitator4)

Facilitators discussed their observations that relational safety within the team could mean they are more ready to benefit from coming together, as it facilitates both physical (on the wards) and psychological safety (in PD); unhelpful group dynamics may mean people are not able to be open about their experiences and make use of PD meaningfully.

> “it’s quite contingent actually on the ongoing relationships between staff […] if the multidisciplinary team is quite communicative within itself, if there’s a healthy balance of power, […] generally speaking the group experience tends to be quite cohesive.” (Facilitator4)

Containment of CI

Last but not least, participants spoke about how the “broad structure” (Facilitator1) of discussing CIs in PD, where there’s an “end component” of the team discussing moving forwards, can promote a sense of closure, and that CI is contained within PD.

> “sometimes you’ve got to then be able to draw a line under it […]. No wounds heal when you’re constantly poking it […]” (Staff4)

Facilitator as a conductor/conduit

Dual roles facilitating connection

Participants described facilitators to hold dual roles, both as a representative of the organisation, and as a member of the team.

As representatives of the organisation, facilitators may promote connection (or reconnection) between the organisation and HCWs, by 1) communicating a non-blaming stance, 2) demonstrate that CIs and their impacts are recognised and taken seriously, and 3) reduce power imbalance by normalising and validating emotional experiences, some of which HCWs may avoid getting in touch with.

> "there's something about holding something for the organisation and being a senior member of staff, and spending time sitting with and thinking with people, and paying attention to their experience […] being heard by more managerial or senior presences" (Facilitator4)

As a team member, facilitators are able to hold a safe, trusting PD space for HCWs, that promotes relational safety, connection, and care more effectively, as there is an established relationship (and a belief that the facilitator 'cares'), and perception that the facilitator has an understanding of the nature of the work and its challenges, hence their input being helpful and relevant.

> "it's important that the person facilitating understands what's typical. […] that's our baseline, and then we'll talk about the extremes." (Staff4)

One participant suggested that some distance between the facilitator and the team may be beneficial, as the external facilitator could remain "impartial".

> "because then they are just listening to what's being said […], and then we could keep it specifically on the task of the incident." (Staff4)

Protecting the space, holding boundaries

Following CIs, HCWs may often feel unprotected and even blamed, which are reinforced by “the power of the wider system” (Facilitator6), such as various Trust processes, formal investigations, attending Coroners’ Court, and the perceived “blame culture” (Staff2), especially if there had been a lack of communication from the organisation.

> “if you’re not getting it from more senior levels […] you’re left to ruminate about something unnecessarily. (Staff2)

> “they don’t necessarily feel like the organisation will protect them.” (Facilitator6)

The facilitator plays a significant role part in separating and protecting the PD space from external procedures, and hence experiences of shame and blame that come with them, to allow moderating processes of threat to take place safely within PD.

> “the person who led it […] was quite good at bringing it back to ‘let’s not make speculation, let’s not make rumours, let’s not blame anyone […]’” (Staff3)

Participants described that facilitators, using their skillsets, hold the boundaries (physical and time), structure, and pace of PD, and keep or “reorientate” HCWs to the purpose and tasks of PD (e.g. processing the CI and emotional experiences, thinking about support resources). This appeared to facilitate a sense of safety, and containment.

> “holding the space. So being able to manage the time and the emotions in there, so that people feel safe and don’t feel rushed, and don’t feel like they need to shut things down really quickly” (Faciliator2)

Amplifying threat

Participants identified processes related to PD that may amplify experiences of threat. Some of these processes appeared to directly conflict moderating processes identified previously, for example, PD space being uncontained, or associated with investigative processes; breakdown of group cohesion (e.g. "the team turn on them" (Facilitator5); emotions being blocked or not tolerated, and poor PD facilitation (e.g. facilitators being directive).

> "ends up silences the room or tries to sugar-coat things, either too quickly, where there's this real sense of intolerance of upset, trying to move things" (Facilitator5)

Too much, too deep

Participants described it being a "delicate balance" (Facilitator4) for both facilitators and staff, regarding how much should be discussed within PD, as delving too much (e.g. past trauma) or too deep into issues that cannot (or should not; "it's not a therapy group") be addressed by PD may leave staff too vulnerable to return to their work shortly, but not addressing experiences of CIs enough may mean staff's distress is not processed.

> "if you can see someone is getting very distressed, you don't wanna go more into their distress, […] this person needs to walk out of this session in the next half an hour […] you don't wanna go too deep […]" (Facilitator2)

Too soon or too late

Participants described challenges negotiating "the good time frame" for PD (Facilitator5). Offering PD too soon appeared to interact with experiences of threat ("too raw"; Facilitator5), or may be confused with formal procedures and investigations; offering PD too late may 1) retraumatise HCWs, 2) leaves HCWs feeling uncared for and alone with their emotions, and

3) be perceived as "pointless" by HCWs (Staff4), as emotions may no longer feel pertinent, especially in the fast-paced work context.

> "if you leave it too long, people have already packed it away, you're just opening it up again and causing more pain" (Facilitator2)

Care without relationship

Participants also discussed some caveats of the organisation communicating care to HCWs; this could be experienced as ingenuine ("it's all lip service, none of it's meant"; Staff4) or meaningless ("motivational nonsense"; Facilitator3), and can further reinforce negative emotions, if there has not been a previously established relationship, and if the organisation is not perceived to understand the context of the work.

> "doesn't really understand what people need when they are struggling with their distress following an incident, and it almost feels like they are stealing some of the debriefing time for their own agenda […] activates feelings along the anger spectrum […] frustration, annoyance." (Facilitator3)

Providing care in different ways

Participants emphasised that PD should not be offered in one form, or on its own. Adaptions should be made, and other supportive processes ought to be offered "alongside", due to the significant impacts associated with CIs, limitations of PD, and there being different needs within services. Some of the ways of communicating care may be the presence of senior management on the wards, not expecting HCWs to stay on shift following CIs, and so on.

> "these incidents can devastate teams and a debrief, probably, alone, won't heal things." (Facilitator6)

Limitations of PD

Some of the limitations of PD were discussed, including 1) some HCWs not finding PD helpful, and PD not having the role or capacity in addressing practical or wider systemic issues, 3)

> "they (the organisation) think the debrief has happened, and therefore that's dealt with in terms of looking after staff wellbeing. […] I don't think the wider impacts and the damage of incidents help- they're always held on the mind of an individual." (Facilitator6)

Meeting needs

Facilitators identified that there may be varying, individual and group needs following CIs. For example, some HCWs may benefit from informal support (e.g. going for a walk with their team); some HCWs may benefit from other supportive spaces (e.g. reflective practice, Schwartz Rounds); some HCWs or teams may be more impacted by CIs, which may individual follow-up sessions, further PD, or additional support outside of PD.

> "If they need more, then I can refer them to the staff support through Occupational Health" (Facilitator7)

Facilitators gave examples of attempts to accommodate for the practical challenges when setting up PD (i.e. different shift patterns), to make PD accessible to all HCWs who would like to attend. This may include offering PD both virtually and in-person, on more than one occasion, not adhering to typical group boundaries, and so on. However, one facilitator expressed concerns that this may lead to PD being "not a safe contained group" (Facilitator3).

> "if people come in late, they're not turned away, […] we need to include them" (Facilitator7)

Wellbeing promotion

Facilitators also discussed the importance of promoting HCWs' general wellbeing, rather than only focusing on supporting them following CIs.

> "something about the wellness aspects of […] the wider system" (Facilitator6)

Supporting facilitators

Facilitators identified factors they found supportive of their delivery of PD.

Positive experience

Facilitators, while acknowledging the emotional intensity of PD, described positive experiences of facilitating them, and found their involvement to be "really meaningful" (Facilitator1) and "really humbling" to witness a team support each other through adversities (Facilitator5).

> "it has felt painful, but it has felt like something that has been really worthwhile" (Facilitator2)

Structure and training

Facilitators suggested their professional training in Clinical Psychology and experiences of facilitating groups offered them grounding to facilitate PD. Additionally, some of them identified finding it helpful to be guided by the structures of PD models, which they learnt through receiving PD training, or shadowing supervisors.

> "people assume because of our training that we know how to do it, and I think we have a notion of how to sit in the room with people, but having that structure I think is quite helpful" (Facilitator6)

Supported as staff

Facilitators identified occasions when they may not be able to facilitate PD, for instance if they were more involved with the patient in the CI, hence needing to be supported themselves (“I need it as well”; Facilitator3), or if they did not have the time capacity. Setting these boundaries could prove challenging, as one facilitator suggested that procedures of identifying PD facilitators within their organisation were unclear.

> “it’d be better if there was a rota system […] a clear idea of who should be available, when to do it, because now you’re in a position of feeling, […] ‘can I say no, even though I don’t really have time to do it?’” (Facilitator3)

Discussion

The theory was consistent with mechanisms of change proposed by Everly & Mitchell (2016) and Talbot and colleagues, and with the existing evidence around helpful elements of PDs (Richins et al., 2019; Scott et al., 2021). It also appeared to be congruent with four out of the five most common factors in PD that were valued and perceived to be useful from Scott and colleague's review (2022) (see Table 4).

Table 4

Comparison of categories and/or subcategories with Scott et al.'s review findings (2022)

Categories and/or sub-categories	Scott et al. (2022)
Time to process	Opportunities for reflection and joint understanding
Coming together	Shared experience
Facilitator as a conductor/conduit Structure and training	Facilitated by a trained mental health and peer representative
Feeling recognised and cared for Protecting the space, holding boundaries	Relaxed informal, non-judgmental atmosphere
N/A	Having an increased understanding of reactions to the event

Each theme within the emerging theory will be further discussed.

Moderating threat

Participants discussed disconnecting emotionally and socially, as a management strategy (in line with 'detachment and denial of emotions', Menzies Lyth, 1988). This disconnection is prominent in relevant literature; the repeated suppression of personal emotions over time may lead to burnout, detachment, depersonalisation of patients, and HCWs no longer noticing the distress of others. To counter this, participants identified that that social connectedness has a role in both moderating threat directly, and enhancing other moderating processes. This notion is in line with the group therapy literature (e.g. Yalom, 2005), which emphasised the harnessing of group cohesion to promote change. Indeed, when discussing models or theories for facilitation, Yalom (while acknowledging that PD is not a therapy group) and CISD (informed by Yalom's group theories, 2005) were referenced frequently.

Participants identified processes within PD that may moderate these experiences of threat, one of which is feeling recognised and cared for by the organisation. This reflects Pack's (2013) examination of managers' critical role in PD, and that modelling care for staff was vital to a successful outcome.

Facilitator as a conductor/conduit

Facilitators were described to hold dual roles, both as a representative of the organisation, and a team member (who has a relationship with, and understands the context). These roles appear to facilitate some connection between the organisation and HCWs, moderating some experiences of threat.

The facilitator also plays a part in protecting and differentiating the PD space from blame and external processes. Using their skillset from their professional training, facilitators keep the group on task, and create a boundary that facilitates restorative group processes.

The researcher is not aware of extensive work in this area, however Yalom discussed similar concepts of the facilitator being both the "technical expert" and "model-setting participant" in a group (2005, p.123). Delany and colleagues (2021) also discussed the specific facilitator skills that prevent PD from causing unintentional harm.

Amplifying threat

Participants discussed processes within or related to PD, that may amplify experiences of threat, for example delving too much into HCWs' emotional or past traumatic experiences, and offering PD too soon or too late. This is broadly in line with the dilemma around timings in the literature, and criticisms of PD and its potential iatrogenic effects (e.g. American Red Cross, n.d.); and expands further to explore processes that may amplify threat.

Participants discussed circumstances where care offered by the organisation may be perceived as ingenuine or meaningless, for example when the organisation has no relationship with HCWs, or do not appear to understand the work context. For instance, senior managers remote from the frontline are often perceived to have a poor understanding of the work (Totman et al., 2011). Literature also suggested that attempts to manage or change organisational culture could be viewed as compliance-oriented rather than genuine (Ogbonna & Harris, 2002).

Providing care in different ways

Consistent with literature recommendations that PD is not offered as a standalone, or mandatory intervention, to address the significant impacts of CIs, limitations of PD, and individual and group needs, participants suggested that PD should not be offered only in one form, or on its own. They discussed some of the possible adaptations to PD, HCWs being able to choose and voluntarily access other forms of supported (that should be offered in parallel), and the importance of promoting HCWs' general wellbeing. For instance, a study found that HCWs valued informal over formal support from managers, such as visible presence of leadership on the 'shop floor' (Totman et al., 2021).

Supporting facilitators

Facilitators described experiences of delivering PD to be emotional yet rewarding. They also identified their professional training to be supportive of their provision of PD, and some suggested finding structures of PD models and training to be helpful. Facilitators highlighted their needs to be supported as staff as well, if they had a closer relationship with the patient involved in the CI, and clearer procedures for identifying facilitators would allow them to set boundaries around their roles. There appears to be little work around facilitators' experiences, support, or training – the first evaluation of PD facilitator training, which reported positive impacts on facilitators' confidence, was published in 2023 by Johnson and colleagues.

Strengths

This theory considers the context of the NHS, its organisational culture context (e.g. power imbalances within the workplace, 'blame' culture; as discussed earlier) in which CIs occur, which illuminate factors affecting HCWs' wellbeing, that are addressed by processes within PD. The organisational 'blame' culture, and how HCWs may respond to it (e.g. holding others accountable and placing blame onto others; Bower, 2005), in turn amplifying threat experienced from CIs, are also in accordance with and supported by the defence techniques discussed by Menzies Lyth (1988), in response to the organisation failing to contain, or effectively manage the intense emotions of nursing tasks.

This theory does not differentiate or elevate any PD model. Rather than specific techniques, it proposes that the emphasis should be placed on the *processes* that moderate or amplify experiences of threat (from the organisational culture and CIs), that is, *how* PD is offered or facilitated. Consequently, instead of recommending specific procedures or tools, which may not apply universally to teams and services, and may lend to more tokenistic, or 'tick-box' practices, this theory supports organisations in considering whether support offered to HCWs facilitates processes that moderate experiences of threat, and allow HCWs to feel validated and cared for, thus promoting their wellbeing and recovery.

This theory describes a unique positioning of PD facilitators, in relation to their dual roles, and their part in either moderating or amplifying experiences of threat within PD. To the researcher's knowledge, there has not been extensive work exploring this concept in the literature.

Limitations

While this study aimed to shift the focus beyond one PD model (i.e. CISD), being the first proposed model of PD, CISD is seminal and underlies the development of further models (Mcleod, 1991) and practices of facilitators interviewed (even if not directly following the CISD manual). Hence, isolating this theory from CISD is not possible, and potential influences should be acknowledged.

Due to the time-limited nature of this study, compromises were necessary, especially regarding participant recruitment. Data saturation was limited to the dataset being analysed (Willig, 2013), and theoretical sampling was limited to the revision of interview schedules. Hence, the study is particularly limited in the following aspects, and interviews with a more diverse sample may have yielded further complexities:

1. While PD attendance was not an inclusion criterion for recruitment, no participants opting not to attend PD participated. Although potential reasons of not attending PDs were discussed within interviews, these hypothesised accounts may not fully capture or reflect those views and experiences.

2. Despite acknowledging that power imbalances within the workplace could be reinforced by social inequalities, participants were homogenous in ethnicity. This is similar to the PD literature – predominantly grounded in Americentrism and Eurocentrism, and there is little understanding of PD in other cultures (Regel et al., 2007).
3. Over 50% of participants were clinical psychologists (and facilitators of PD), who make up a minority in multidisciplinary mental health services, and whose training and nature of work (e.g. less exposure to CIs) are different from 'staff' who attend PD and do not have a background in clinical psychology. Hence, these participants may hold different beliefs and perspectives about PD from 'staff' about PD. Although 'facilitators' are also members of staff within services who may have previously attended PD, and one participant contributed both in their capacities as 'facilitator' and 'staff', it is possible that they may make use PD differently following experiences of facilitation.
4. 'Staff' participants leaned towards being younger in age or less experienced in their professions. More experienced HCWs may have reported different perceptions or experiences relating to CIs and PDs. For instance, they may be less subject to power imbalances, and may perceive action to be less important, as research suggested that the tolerance (or intolerance) of uncertainty may be influenced by sociocultural factors.
5. The 'organisation' (i.e. managers) is not involved in this study, which may reflect their actual or perceived distance from CIs, although could also be resulted from the inclusion criteria. As depicted in the conceptual map, the 'organisation', who were (and are) HCWs, are also subject to experiences of threat. Treisman (2021) discussed that organisations may cope by operating in "survival mode" (p.3), where they may be crisis-driven, emotionally-detached, and defensive; this may account for some of their responses (or lack of) experienced by 'staff' participants.

6. As all participants are mental healthcare workers within the NHS, research findings cannot be generalised to other settings, such as physical healthcare, or private or third-sector settings.

Clinical and research implications

1. Given its value in supporting HCWs, but also its potential in amplifying threat if inappropriately offered or facilitated, careful consideration should be given to the development and training for facilitators. This theory suggests that in addition to PD models, attention should focus on ensuring that processes moderating threat underpin the delivery of PD, echoing suggestions that PD should not be procedurally-driven (Rivett & Wood, 2023).
2. The range of participant opinion (particularly in relation to timeframes and ways of being inclusive) highlights that PD is not ‘one size fits all’; teams may make use of or respond to PD differently. Hence, scoping reviews (e.g. consulting HCWs) and/or quality improvement projects would be important when developing or improving PD for individual services.
3. Further research would benefit from exploring the processes within PD with staff-only and facilitator-only groups, as well as participants from similar backgrounds, experiences, disciplines, and or service settings (rather than merging the data), to uncover potential, distinct perspectives that various populations may have about PD.
4. Further research would benefit from investigation into the interplay between team characteristics and PD processes leading to better or poorer outcomes.
5. This theory suggests that PD, offered on its own, is likely to be insufficient. Supportive responses following CIs would benefit from a range of other processes offered in parallel to meet individual and group needs, and facilitate choice.

6. Provision of HCW support should not be limited to post-CI only, and consideration should be given to promoting general wellbeing, team functioning, and relationships between HCWs and the organisation.
7. Despite movement over recent years towards flatter structures (Meyer, 2017), the NHS continues to predominantly operate a hierarchical form of leadership (Fernandopulle, 2021). In accordance with recommendations from various inquiries (e.g. the Francis Inquiry), findings suggest that organisations should focus on the systematic influences on CIs, rather than managing individual behaviour, and shift from a ‘blame’ culture to a ‘learning’ culture (Department of Health, 2015). This should be reflected in both policy-making and the design of healthcare organisational systems (Lawlor, 2009).
8. Including the ‘organisation’ in future research may be beneficial in understanding the processes of PD, given the significance of their influence on CIs and PD.
9. Further research in the positioning and role of PD facilitators, and evaluation of their experiences and training, could prove enlightening.

Conclusion

This study drew on the insights of 11 HCWs with experiences of attending and/or facilitating PD to develop a grounded theory of how PD promotes or hinders HCWs' wellbeing and recovery following CIs. The preliminary theory illustrated how processes within PD, further enhanced by group processes, and protected by the unique positioning of facilitators, may moderate experiences of threat from CIs. However, when not offered or facilitated properly, some of the processes related to PD may also amplify these experiences of threat. Findings were broadly consistent with wider research, and clinical and research implications are suggested.

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Appendix 1 – Statistical Tests Used by Each Paper in Section A

Type of data	Type of statistical test	Statistical test used	No. of paper	Strength	Weakness
Continuous, interval, or ratio	Mean-comparison test	Dependent samples *t*-test, with Holm-Bonferroni adjustments to *p* value due to multiple pre-post comparisons	5	Adjusts for the increased chance of Type I error (Armstrong, 2014).	
			11	This is the only paper reporting to have tested for data normality using the Shapiro-Wilk test	
			1; 6; 9; 12		Did not report testing for data normality, and it cannot be determined whether researchers have neglected to test, or neglected to report this. There are mixed opinion regarding this; Kim (2015) suggested that valid conclusions can only be drawn from parametric statistical methods when the statistical assumptions are fully met, whereas Lumley and colleagues (2002) suggest that *t*-tests have sufficient statistical power even if they do not satisfy the condition of normality.
		Independent samples *t*-test	7		Did not report testing for data normality.
			14	Holm-Bonferroni adjustments to the *p* values due to conducting multiple pre-post comparisons.	

		Mann-Whitney *U*-test	13	Test adopted presumably due to data violating the assumption of normality, but this is not reported.	Only reported the *p* values, and neglected to report the means, medians, and the value of *U*, and did not report all the descriptive statistics – making it difficult to make further interpretations.
Nominal		Chi-square test	10		
		Fisher exact test	13		
Ordinal		Linear trend chi-square	10		
		Non-parametric Wilcoxon rank-sum test	3	Test adopted as data violated assumptions of normality.	
	Multiple regression analyses		6; 8	Controlled for baseline scores, and used vignette order as the dummy variable, hence removing confounding variables.	Sample sizes for training (45) and control (10) groups are unequal in paper 8, as such statistical power may not be maximized. There are circumstances when this loss of power could be negligible, (e.g. simple randomisation, or planned imbalance), whereas it is attributed to drop-outs or missing data this should be taken into account when interpretating the data. However the reason is not reported.
			2		Did not report method of statistical analysis used.

Appendix 2 – Examples of Survey Items Deemed to be Questionable in Validity

Training outcome	Paper no.	
Knowledge	1	The choice to adopt a two-item, multiple-choice survey as a measure of suicide-related knowledge in paper 1 was perceived to be a questionable choice.
	11	Defined the 'personal representation' dimension, a division of total knowledge, as "people's core beliefs on certain topics" (p.7), which may better reflect participants' self-efficacy or attitude towards suicide, however this could not be determined as survey items were not reported.
	13	Knowledge-items included items about empathy, which raised questions around both whether empathy is knowledge, and whether theoretical understanding of empathy translates to the communication of empathy in practice.
	14	This paper set out to measure "suicide-related knowledge", however grouped this with attitudes of stigma and reluctance in its outcome measurement.
Skills	3	The measure for skills consisted of two "composite-skill" items which were described to be related to participants' comfort, which may potentially be more related to participants self-efficacy. However this could not be determined as the survey items were not reported.
Self-efficacy	Overall	Terms appeared to be used interchangeably, where papers 1; 9; 12, and 14 used both confidence and self-efficacy; paper 13 discussed confidence and comfort; the aim described by paper 2 pointed to attitude, however later measured comfort and confidence; similarly paper 5 measured changes in attitude and confidence.
	9	Some of the survey items, e.g. "I believe that people who are experiencing suicidal thoughts can get better with help and support" may better reflect participants' attitude towards suicide.
	13	Some of the survey items appeared to be more related to an evaluation of the training (e.g. "I believe this training will help me assisting someone who is suicidal."

Appendix 3 – Research Promotion Material

Do you work in a mental health service in the NHS that offers psychological debriefing following critical incidents?

What was your experience?

What is this research about?

- Hello, my name is Alexis Ng, and I am a Trainee Clinical Psychologist at Salomons Institute for Applied Psychology (Canterbury Christ Church University).
- I am carrying out research to understand **experiences of psychological debriefing** following critical incidents, and what may or may not be helpful.

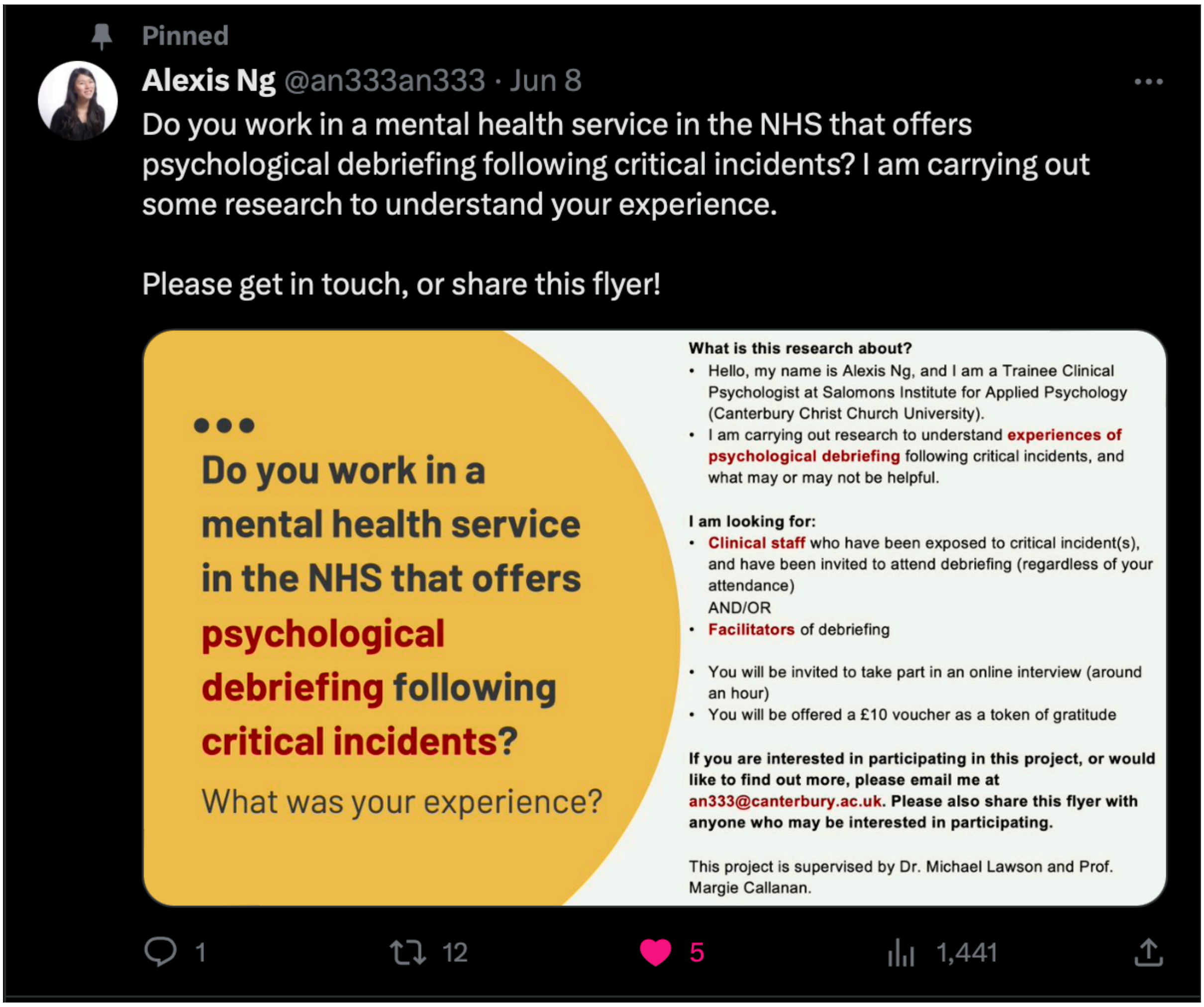
I am looking for:

- **Clinical staff** who have been exposed to critical incident(s), and have been invited to attend debriefing (regardless of your attendance)
  AND/OR
- **Facilitators** of debriefing

- You will be invited to take part in an online interview (around an hour)
- You will be offered a £10 voucher as a token of gratitude

If you are interested in participating in this project, or would like to find out more, please email me at an333@canterbury.ac.uk. Please also share this flyer with anyone who may be interested in participating.

This project is supervised by Dr. Michael Lawson and Prof. Margie Callanan.



Do you work in a mental health service in the NHS that offers psychological debriefing following critical incidents? I am carrying out some research to understand your experience.

Please get in touch, or share this flyer!

Do you work in a mental health service in the NHS that offers psychological debriefing following critical incidents?

What was your experience?

What is this research about?

- Hello, my name is Alexis Ng, and I am a Trainee Clinical Psychologist at Salomons Institute for Applied Psychology (Canterbury Christ Church University).
- I am carrying out research to understand **experiences of psychological debriefing** following critical incidents, and what may or may not be helpful.

I am looking for:

- **Clinical staff** who have been exposed to critical incident(s), and have been invited to attend debriefing (regardless of your attendance)
  AND/OR
- **Facilitators** of debriefing

- You will be invited to take part in an online interview (around an hour)
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If you are interested in participating in this project, or would like to find out more, please email me at an333@canterbury.ac.uk. Please also share this flyer with anyone who may be interested in participating.

This project is supervised by Dr. Michael Lawson and Prof. Margie Callanan.

Appendix 4 – Information Sheet

Information about the Research

Version Number: 5

Exploring processes and mechanisms of psychological debriefing following critical incidents in mental health services

Hello, my name is Alexis Ng, and I am a Trainee Clinical Psychologist at Salomons Institute for Applied Psychology. My supervisors Dr. Michael Lawson (Head of Psychology and Psychological Therapies, Forensic Healthcare CDS, Sussex Partnership NHS Foundation Trust), Prof. Margie Callanan (Director of Salomons Institute for Applied Psychology), and I would like to invite you to take part in a research study. Before you decide it is important that you understand why the research is being done and what it would involve for you. Talk to others about the study if you wish.

What is the purpose of the study?

Following critical incidents (distressing or threatening events at work), staff working within inpatient mental health settings are offered optional critical incident support (CIS) interventions, or debriefing. This is a protocol-based group or individual intervention offered by your Trust, as part of broader systems to support staff wellbeing, with the aim to support staff in managing the impact of the event, normalising stress responses, signposting help, and supporting wellbeing. We are interested in your experience of CIS interventions / debriefing, and what you have found to be helpful or unhelpful following a critical incident.

Why have I been invited?

You have been invited to participate in this study for the following reasons:

1) You are a member of staff who has regular clinical contact with service users
2) You are currently working in a mental health service that typically offers CIS interventions / debriefing
3) You have been previously exposed, either directly or indirectly, to at least one critical incident at your current job
4) You have been invited to a CIS intervention / debriefing at your current job, regardless of your attendance

OR

1) You have completed the CIS intervention / debriefing facilitators training (as required by your Trust)
2) You have facilitated at least one CIS intervention / debriefing in your current role

Do I have to take part?

Taking part in this study entirely voluntary. If you agree to take part, I will then ask you to sign a consent form. You are free to withdraw within a month of your interview, without giving a reason.

Do I have to attend CIS in order to take part in the study?

No, you may take part in the study regardless of your attendance at a CIS intervention / debriefing. They are entirely optional, and you do not have to attend if you do not wish to.

What do I need to do if I decide to take part?

You will be asked to undertake a semi-structured interview with me. The interview will be based on a structure that will have been developed before it takes place, and you will be invited to answer questions based on your experience of critical incidents and CIS interventions / debriefing. Interviews will take place via MS Teams and will last for up to an hour and half. Your interview may be slightly shorter if you have not participated in any CIS interventions / debriefing, but your views would be equally welcomed. Interviews will be recorded on MS Teams. The purpose of the recording is to allow me to capture all the information discussed during the interview, which is important for me to analyse later.

Expenses and payments

To thank you for your time and your participation, you will be given a £10 voucher.

What are the possible disadvantages and risks of taking part?
While we do not expect that participating in the interview will cause discomfort for the majority of people, you might be asked questions about topics that are potentially sensitive or stressful. You can take a break or refuse to answer any questions which you feel uncomfortable about, or you can ask to stop the interview at any time. If you are currently feeling acutely distressed as a result of a critical incident, we would recommend that you do not take part in this study.

In the unlikely event that participating in this study highlights any issues you may need further support with, we would recommend immediately withdrawing from participating, and contacting your line manager, or the Samaritans (116 123).

What if there is a problem?
If you have any concerns about any aspect of this study, please do not hesitate to contact me and I will do my best to address your concerns. You can email me at a.ng333@canterbury.ac.uk, or contact me by leaving a message on the 24-hour voicemail phone (01227 927070). Please leave your contact number and say that the message is for Alexis Ng, and I will get back to you as soon as possible. If you remain unhappy and wish to complain formally, you can do this through the NHS Complaints Procedure. Alternatively, you will be able to contact Dr. Fergal Jones, Research Director at Salomons Institute for Applied Psychology – fergal.jones@canterbury.ac.uk, tel: 01227 927070.

What will you do with information about me?
The information we have collected as paper copies will be stored electronically and can only be accessed with a secure password. All paper copies will be destroyed. Data from interviews will be recorded. The recorded conversation will be transcribed by me, and information will be coded and anonymised when transcribed. Once the transcription has been completed and checked for accuracy, the recording will be erased. Only I will have access to the full data. Dr. Michael Lawson (principal supervisor) and Prof. Margie Callanan (secondary supervisor) will only have access to the anonymised transcripts, and will not have access to any data that may allow them to identify you.

The data collected will be used only for the purpose of this research. They will be stored for ten years according to the Medical Research Council guidelines, and will be disposed securely after this period.

All information collected from or about you during the course of the project will be kept strictly confidential. The only time I would be obliged to pass on information about you to a third party would be if, as a result of something you told me, I were to become concerned about your safety or the safety of someone else. In the unlikely event where this would be the case, I will do my best to discuss with you beforehand.

What will happen to the findings of the study?
After the data has been analysed, the study will be written up to be submitted as part of a Major Research Project contributing to the lead researcher's doctoral degree. The results will also be published in psychological journals. However, please be assured that any data included will be anonymised and no individual participant will be identified.

What if I change my mind about taking part?
You are free to withdraw your participation within a month of your interview, without giving a reason. If you choose to withdraw before this point, any data collected from and about you will be destroyed / deleted and removed from any analyses used in the study.

Who is organising and funding the research?
This study was organised by the lead researcher (Alexis Ng) and supervised by from Dr. Michael Lawson (principal supervisor) and Prof. Margie Callanan (secondary supervisor), as part of the lead researcher's Clinical Psychology doctoral training at Salomons Institute for Applied Psychology. Canterbury Christ Church University is the sponsor, and will be funding the study.

Who has reviewed the study?

This study has been reviewed by the Salomons Ethics Panel, Salomons Institute for Applied Psychology, Canterbury Christ Church University.

Further information and contact details

If you would like to find out more about this study, have any questions about the study or your involvement, or would like to give feedback, please do not hesitate to email me at a.ng333@canterbury.ac.uk, or Dr. Michael Lawson at michael.lawson@spft.nhs.uk. Alternatively, you can leave a message for me on a 24-hour voicemail phone line at 01227 927070. Please say that the message is for Alexis Ng, and leave your contact number so that I can get back to you.

If you would like to be given a summary of the findings from this project, please indicate on the consent form.

Thank you very much!

Appendix 5 – Initial Interview Schedule

	Staff	Facilitators
1.	What is your current job role?	
2.	How does a critical incident affect you? - *Are you always affected in the same way?* - *What might make a difference?*	How do you think participants are affected by a critical incident?
3.	Have you attended debriefing at your current job? - *What led you to decide to / not to attend debriefing?* - *What are the factors that you may take into consideration when making this decision?*	/
4.	What has your experience been of debriefing?	What has your experience been of facilitating debriefing?
5.	What happens in debriefing? OR (If opt to not attend debriefing) What is your understanding of what happens in debriefing?	
6.	/	How do you see your role as a facilitator in debriefing?
7.	What do / did you find helpful about debriefing?	What do you think participants find helpful about debriefing?
8.	What do / did you find less or unhelpful about debriefing?	What do you think participants find less or unhelpful about debriefing?
9.	How do you feel after attending debriefing? - *Does how you feel change over time?*	What do you notice about how participants feel after attending debriefing?
10.	If you could change something about how debriefing is offered, what might it be?	If you could change something about how debriefing is offered, what might it be?
11.	(Especially if opted not to attend debriefing) Is there something you find more helpful than debriefing in supporting you after a critical incident?	Is there something you feel may be more helpful than debriefing in supporting staff after a critical incident?
12.	Any there any other comments you would like to make, e.g. regarding debriefing, staff support following a critical incident, etc.?	

Appendix 6 – Line-by-line Coding

[This has been removed from electronic copy]

Appendix 7 – Memo (Excerpts)

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Appendix 8 – Research Journal (Excerpts)

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Appendix 9 – Salomons Institute for Applied Psychology Ethics Panel Approval

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Appendix 10 – Consent Forms

Consent Form

Exploring processes and mechanisms of psychological debriefing following critical incidents in mental health services

Name of Researcher: Alexis Ng

Please write your initials in each box.

1. I confirm that I have read and understand the information sheet (version 5) for the above study. I have had the opportunity to consider the information, ask questions, and have had these answered satisfactorily. ☐
2. I confirm that I have regular clinical contact with service users. ☐
3. I confirm that I have been previously exposed, either directly or indirectly, to at least one critical incident (difficult or challenging situation) at my current job. ☐
4. Regardless of my attendance, I confirm that I have been invited to at least one critical incident support intervention (e.g. debriefing) at my current job. ☐
5. I understand that my participation is voluntary and that I am free to withdraw by (date) without giving any reason. ☐
6. I understand that the full data collected during the study may be looked at by Alexis Ng (lead researcher), and that the anonymised transcript may be looked at by principal supervisor Dr. Michael Lawson and secondary supervisor Prof. Margie Callanan. I give permission for these individuals to have access to my data. ☐
7. I understand that interviews I participate in will be recorded on MS Teams. ☐
8. I agree that anonymous quotes from my interview may be used in published reports of the study findings. ☐
9. I agree to take part in the above study. ☐
10. I would like to be given a summary of the findings from this project. My email address is: ……………………………………………………………………………………………… ☐

Name of Participant ………………………………………………………………………… Date ………………………

Signature …………………………………………..

Name of Person Taking Consent ……………………………………………………. Date ………………………

Signature …………………………………………..

Consent Form

Exploring processes and mechanisms of psychological debriefing following critical incidents in mental health services

Name of Researcher: Alexis Ng

Please write your initials in each box.

1. I confirm that I have read and understand the information sheet (version 5) for the above study. I have had the opportunity to consider the information, ask questions, and have had these answered satisfactorily. ☐
2. I confirm that I have regular clinical contact with service users. ☐
3. I confirm that I have been previously exposed, either directly or indirectly, to at least one critical incident (difficult or challenging situation) at my current job. ☐
4. Regardless of my attendance, I confirm that I have been invited to at least one critical incident support intervention (e.g. debriefing) at my current job. ☐
5. I understand that my participation is voluntary and that I am free to withdraw by (date) without giving any reason. ☐
6. I understand that the full data collected during the study may be looked at by Alexis Ng (lead researcher), and that the anonymised transcript may be looked at by principal supervisor Dr. Michael Lawson and secondary supervisor Prof. Margie Callanan. I give permission for these individuals to have access to my data. ☐
7. I understand that interviews I participate in will be recorded on MS Teams. ☐
8. I agree that anonymous quotes from my interview may be used in published reports of the study findings. ☐
9. I agree to take part in the above study. ☐
10. I would like to be given a summary of the findings from this project. My email address is: …………………………………………………………………………………………………… ☐

Name of Participant ………………………………………………………………………… Date ………………………

Signature …………………………………………..

Name of Person Taking Consent ….……………………………………………………. Date ………………………

Signature …………………………………………..

Appendix 11 – Initial Draft End of Study Summary to Participants

Dear [participant],

Thank you again for participating in my research project on the exploration of processes within psychological debriefing that promote or hinder healthcare workers' wellbeing or recovery following critical incidents at work.

I am writing to share with you a summary of the project's findings:

Four staff and seven facilitators, with experiences of attending and/or facilitating psychological debriefing following critical incidents were interviewed for this study. Grounded theory methodology was adopted to analyse the data, to develop a preliminary theory. The aim of the project was to explore the processes (i.e. how) psychological debriefing may promote or hinder healthcare workers' wellbeing or recovery following critical incidents at work.

Findings

These findings are based on my interpretation, as my project design takes a social constructivism approach: reality is a product of interactive processes, and there is not a singular objective 'truth'.

Five categories were identified from the data analysis, which are connected diagrammatically by a conceptual map:

Conceptual map: The moderation and amplification of threat within psychological debriefing

1. Moderating threat
   Healthcare workers suggest that processes within psychological debriefing, such as feeling 'cared for and recognised', having 'compassion towards patients',

‘empowerment’, the ‘containment of critical incidents’ within psychological debriefing, ‘having time to process’, and ‘coming together’ as a group, to moderate experiences of threat. In particular, ‘coming together’ further enhances all moderating processes.

2. Facilitator as a conductor/conduit
   Facilitators were described to hold dual roles, both as a representative of the organisation, and a member of the team, which allow them to facilitate connection between the organisation and healthcare workers. Facilitators also play a part in protecting and differentiating the psychological debriefing space from formal investigations and blame, for moderating processes to take place, and keep the group on task to the purpose of psychological debriefing.

3. Amplifying threat
   When psychological debriefing goes “too much, too deep” into healthcare workers’ emotional or past traumatic experiences, or is offered “too soon or too late”, it may instead amplify experiences of threat. When the organisation offers care without having a relationship with the team, or without showing that they understand the context of the work, this care can be perceived to be ingenuine or meaningless, and may reinforce negative feelings.

4. Providing care in different ways
   Limitations of psychological debriefing, meeting needs, wellbeing promotion
   Given the ‘limitations of psychological debriefing’, as well as the importance of meeting individual and group needs, and promoting general healthcare worker wellbeing (rather than focusing only on interventions following critical incidents), psychological debriefing should not be offered on its own, or in only one form. Rather, adaptations should be made, and there should be a range of other supportive processes offered in parallel for staff to choose, such that staff can choose and voluntarily access other forms of support.

5. Supporting facilitators
   ‘Positive experiences’ of delivering psychological debriefing, and facilitators’ professional training, were described to be supportive of the provision of psychological debriefing. Some facilitators suggested that structures of psychological models and related training can be helpful. They highlighted the need to be ‘supported as staff’, as they may not be able to facilitate psychological debriefing if they were close to the patient involved in the critical incident, or if they did not have capacity.

I would like to take this opportunity to express my gratitude, for your commitment to the incredibly hard work you do, and for taking time to share with me your insights and emotional experiences. It has been my privilege hear about your experiences, and I have enjoyed our conversations immensely. I hope you feel the findings reflect your experience, and this project leads to something that help you feel more supported and recognised.

Yours sincerely,
Alexis Ng
Trainee Clinical Psychologist

Appendix 12 – Additional quotes supporting sub-categories

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Appendix 13 – Author Information for the European Journal of Psychotraumatology

Instructions for authors

Thank you for choosing to submit your paper to us. These instructions will ensure we have everything required so your paper can move through peer review, production and publication smoothly. Please take the time to read and follow them as closely as possible, as doing so will ensure your paper matches the journal's requirements.

AUTHORSERVICES
Supporting Taylor & Francis authors

For general guidance on every stage of the publication process, please visit our Author Services website.

EDITINGSERVICES
Supporting Taylor & Francis authors

For editing support, including translation and language polishing, explore our Editing Services website

This title utilises format-free submission. Authors may submit their paper in any scholarly format or layout. References can be in any style or format, so long as a consistent scholarly citation format is applied. For more detail see the format-free submission section below.

Contents list

About the journal

European Journal of Psychotraumatology is an Open Access, international, peer reviewed journal, publishing high-quality, original research. Please see the journal's Aims & Scope for information about its focus and peer-review policy.

Open Access (OA) means you can publish your research so it is free to access online as soon as it is published, meaning anyone can read (and cite) your work. Please see our guide to Open Access for more information. Many funders mandate publishing your research open access; you can check open access funder policies and mandates here.

Please note that this journal only publishes manuscripts in English. However, we encourage authors to also submit their manuscript in their local language, which will then be included as supplementary material.

This journal accepts the following article types: Original basic & clinical research articles, Review articles, Short Communications, Case Reports, Study Protocols, Clinical Practice papers, Inaugural Lectures, Letters to the Editor, Book Reviews, Editorials, Conference Abstracts, Registered Reports.

In some cases the word limit can be exceeded as we are an online journal, but in principle this should be avoided.

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We will consider requests for discretionary waivers from researchers who aren't eligible under the above policies. **Please note that discounts must be applied at the Charges stage of the submission process when the APC quote is confirmed and may not be considered after submission.**

If you have any questions about eligibility, please use the Contact Us form.

A discount is available for members of the European Society for Traumatic Stress Studies (ESTSS). Please contact secretariat@estss.org to find out how to obtain this discount before you submit your article. Discount codes must be presented at quotation and cannot be applied retrospectively.

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Taylor & Francis is committed to peer-review integrity and upholding the highest standards of review. If you have shared an earlier version of your Author's Original Manuscript on a preprint server, please be aware that anonymity cannot be guaranteed. The journal highly encourages authors to post an earlier version of the paper on a preprint server. Preprints foster openness and are not considered as a duplicate publication. Further information on our preprints policy and citation requirements can be found on our Preprints Author Services page, as well as in our guidance about sharing different article versions.

Once your paper is submitted to the journal for peer review, it will be assessed for suitability by the editor, it will then be double anonymous peer-reviewed by independent, anonymous expert referees. Find out more about what to expect during peer review and read our guidance on publishing ethics.

When the journal receives a submission authored by either the editor-in-chief, an associate editor or a guest editor, the following processes will be used to evaluate the paper: papers submitted by an associate or guest editor will be assigned to another associate or guest editor. For papers submitted by the editor-in-chief, the editorial office will check the paper and will invite an associate or guest editor who will see it through the peer review process. The submitting editor will never be involved in any part of the review process for their own paper.

Preparing your paper

Article types and word limits

Please note, the final word count includes the abstract and reference section at the end of the paper, but is excl. tables/figures.

In some cases, for longer article, the word limit can be exceeded as we are an online journal, but in principle this should be avoided.

Supplementary material, like large tables, data sets, protocols, videos, questionnaires, non-English versions of the article can be uploaded as supplementary material (free of charge) and will thus also be available online.

- **Original basic & clinical research articles** that consolidate and expand the theoretical and professional basis of the field of traumatic stress (max preferably < 6000 words incl. abstract and references, excl. tables/figures)
- **Review articles** including meta-analyses (max preferably < 6000 words incl. abstract and references, excl. figures/tables)
- **Short Communications** presenting new ideas or early-stage promising research (max 3000 words, incl. abstract and references, excl. tables/figures)
- **Case Reports** examining a single individual or event in a real-life context (max 3000 words, incl. abstract and references, excl. tables/figures)
- **Study Protocols** that describe proposed or on-going research, including the rationale, hypothesis, and methodology of the study (max preferably < 6000 words incl. abstract and references, excl. tables/figures). If a proposed study protocol describes an RCT or Systematic Review, and it already has ethical approval (if required), has undergone independent peer-review from a funding body, it may be considered for publication without further peer-review (the Editor may request to see the peer-review reports and/or send out for further review). Please ensure all relevant declarations are made in the manuscript. In exceptional cases study protocols without external funding or ethics approval (or note of exemption) may be considered for publication.
- **Clinical Practice Papers** sharing experience from the clinic (max preferably < 6000 words incl. abstract and references, excl. tables/figures)
- **Letters to the Editor** that comment on published articles or research letters. The latter should have the same structure as a research article but are short and concise (max 1000 words). One table or figure may be included.
- **Book Reviews (**max 1000 words including references). One table or figure may be include.
- **Editorials** upon invitation only (max 3000 words incl. abstract and references, excl. tables/figures)
- **Conference Abstracts (**max 500 words including references)
- **Registered Reports** differ from conventional empirical articles by performing part of the review process before the researchers collect and analyse data. Unlike more conventional process where a full report of empirical research is submitted for peer review, RRs can be considered as proposals for empirical research, which are evaluated on their merit prior to the data being collected. For information on how to prepare Registered Reports (RR) submissions please see here.
- **Data Note** (no more than 3000 words) should be written with the following elements in the following order: title page; abstract; keywords; main text introduction, materials and methods, Data description, discussion; acknowledgments; declaration of interest statement; author contributions statement and ethics; data availability statement; references; appendices (as appropriate); table(s) with caption(s) (on individual pages); figures; figure captions (as a list); should contain an structured abstract of 250 words. The abstract structure should be as follows: Introduction, Methods, Results, Discussion. Should contain between 3 and 6 keywords. Read making your article more discoverable, including information on choosing a title and search engine optimization. Further information about this article type: Data Notes are a short, peer-reviewed article type that concisely describe research data (dataset) stored in a repository, prior to submission. Data Notes do not include any interpretation or conclusion of the data (see preparing your paper). Data Notes should only describe the data. The dataset of Data Notes can be either original (not previously published) or be issued from a published research article as long as the datasets have not already been published.Further to the data sharing policy for the journal, Data Note submissions must include a data availability statement and describe data available via a repository.
- **Method** (between 2500 and 4000 words) should be written with the following elements in the following order: title page; abstract; keywords; main text introduction, materials and methods, results, discussion; acknowledgments; declaration of interest statement; author contributions statement; references; appendices (as appropriate); table(s) with caption(s) (on individual pages); figures; figure captions (as a list). The abstract structure should be as follows: Introduction, Methods, Results, Discussion. Should contain between 3 and 6 keywords. Read making your article more discoverable,

including information on choosing a title and search engine optimization. Author Contributions Statement: Please provide an author contributions statement at the end of your article, before the references, that outlines which author(s) were involved in the conception and design, or analysis and interpretation of the data; the drafting of the paper, revising it critically for intellectual content; and the final approval of the version to be published; and that all authors agree to be accountable for all aspects of the work. Further information about this article type: Methods articles are a medium length, peer-reviewed article type that describes an advancement or development of current methods and research procedures. These should include adequate and appropriate validation to be considered. Any datasets associated with the paper must publish all experimental controls and make full datasets available where possible. If there are concerns about identifying factors in datasets, these should be discussed with the Editor-in-Chief prior to submission. Please note, that authors submitting protocol and methodology articles have the option to share their methods on protocols.io. Please note, this is not required for submission but is encouraged.

Format-Free Submission

Authors may submit their paper in any scholarly format or layout. Manuscripts may be supplied as single or multiple files. These can be Word, rich text format (rtf) or open document format (odt). Figures and tables can be placed within the text or submitted as separate documents. Figures should be of sufficient resolution to enable refereeing.

- There are no strict formatting requirements, but all manuscripts must contain the essential elements needed to evaluate a manuscript: abstract, author affiliation, figures, tables, funder information, references. Further details may be requested upon acceptance.
- References can be in any style or format, so long as a consistent scholarly citation format is applied. Author name(s), journal or book title, article or chapter title, year of publication, volume and issue (where appropriate) and page numbers are essential where available. All bibliographic entries must contain a corresponding in-text citation. The addition of DOI (Digital Object Identifier) numbers is essential where available.
- The journal reference style will be applied to the paper post-acceptance by Taylor & Francis.
- Spelling can be US or UK English so long as usage is consistent.

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Alt Text

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