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Psychological Trauma in Older Adult Services: Post-traumatic Stress Disorder (PTSD) Screening and Conceptualisation of Trauma Informed Practice.

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Portfolio Lay Summary

Psychological trauma is when a traumatic, abusive or neglectful event or multiple events happen in childhood or adulthood. Whether an event is traumatic depends on our own experience of the event, as well as how it negatively impacts on our feelings relationships, spiritual beliefs and physical health. Between 50 and 90% of older adults have experienced at least one trauma during their life. In older adults trauma is linked to problems with memory and thinking; physical and social issues; mental health difficulties; drug and alcohol use; and increased risk of suicide. However, there is not much research on how to assess and treat trauma in older adults.

The first part of this research looked at how to assess psychological trauma in older people using screening tools. Ten studies were reviewed. A main finding was that there was not a lot of research on this topic and more research needs to be carried out. The most common screening tool used was the Posttraumatic Stress Disorder Checklist (PCL), which was found to usable with older adults. The findings suggest that a lower score should be used when screening for psychological trauma with older adults.

The second part of this research looked at how staff members working in older adult community mental health teams work with older adults who might have experienced trauma using Trauma Informed Practice, this way of working aims to recognise how common trauma is and respond to the signs of trauma in a helpful and non-harmful way. Sixteen interviews were carried out with staff members. The results found that staff thought it was important to give both clients and the staff members' power and choice. It was found that to help with this, it was important that services include care and compassion, prioritisation of staff wellbeing, promotion of team connections and collaboration, and facilitation of ongoing learning. Staff thought an important part of working within older adult services was that sometimes trauma is often hidden and shared for the first time in older adult services. Staff thought that this process of sharing trauma was more complicated when older adults had difficulties with their memory and thinking. Pressures within the service and organisation were thought to be a barrier to Trauma Informed Practice.

The findings of this research suggest that further research is needed into the assessment of trauma in the older adult population. The second part of the research highlights important factors to think about when working with trauma within older adult mental health services and provides important considerations for future research and clinical practice.

Portfolio Abstract

Background

It is estimated that between 50 and 90% of older adults have been exposed to at least one type of potentially traumatic event. In older adults, trauma is associated with worse cognitive, physical and social functioning and elevated rates of mental health difficulties and substance use disorders, as well as increased risk for suicidal ideation and attempts. There is a large body of evidence available concerning the psychometric properties and utility of Posttraumatic Stress Disorder (PTSD) screening instruments for the general adult population, but their validity and reliability in the older adult population is still undetermined. Research suggests the identification of PTSD in older adults has specific challenges, causing a higher frequency of under-detection of trauma-related symptoms within this population. Trauma informed Practice (TIP) has been found to support recovery from mental health difficulties and improve people's experiences of care within healthcare services. However, the conceptualisation and implementation of TIP among healthcare professionals working in older adult services remains largely under-studied.

Objectives

Chapter 1 of this paper reviewed the relevant literature on screening instruments used to detect Post-traumatic stress disorder (PTSD) in older people in order to identify appropriate tools and cut-off scores with optimal performance based on sensitivity and specificity. Chapter 2 aimed to understand how healthcare professionals in older adult mental health services approach TIP, and the barriers to and facilitators of this.

Method

A systematic review of studies assessing the use of PTSD screening instruments in the older adult population was completed using an electronic search to apply key search terms. Selection and assessment of articles was conducted by following a structured approach and utilising predetermined

quality criteria. A Constructivist Grounded Theory approach was used to carry out 16 in-depth interviews with staff members working within older adult mental health services about their experiences of working with people who have experienced trauma and providing trauma informed care. Data were analysed in an iterative process to construct a model grounded in the data.

Results

The systematic review identified 10 studies which satisfied the inclusion criteria. There was significant heterogeneity of screening instruments across studies. A key finding was the paucity of research in this area and that there is a need for further research identifying the validity and reliability of screening tools based on the PTSD criteria in the Diagnostic and Statistical Manual of Mental Disorders fifth edition (DSM-V). From the studies that were available, the screening instrument most frequently studied was the Posttraumatic Stress Checklist (PCL) (based on DSM-IV), which was found to be valid within the population. The findings suggest that for the PCL a cut-off score in the mid thirties is most appropriate.

The conceptual model developed reflected staff members' beliefs that "choice and power" are central elements to being trauma informed in older adult community mental health services. Staff perceived a unique element of working within older adult services was "hidden trauma" which identified a high level of previously undisclosed trauma in clients. The model established the core factors that were perceived to facilitate choice and power within services were care and compassion, prioritising staff wellbeing, promoting team connections and collaboration, and facilitating continuous learning. There was a complex relationship between client cognitive impairment and choice and power. System pressures were perceived by staff members to be a barrier to TIP.

Conclusion

Further research is required into the screening instrument which would be best fit for use in the older adult population and particularly exploring the use of screening instruments that reflect DSM-V criteria. The conceptual model highlighted important considerations for TIP within older adult mental health services and provided suggestions for future research and service implementation.

Chapter 1: Systematic Review

Post-Traumatic Stress Disorder (PTSD) Screening in Older Adults: A Systematic Review of PTSD Screening Measurement Tools in the Older Adult Population.

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This article is written according to guidelines for Aging and Mental Health (Appendix 1), with the exception of the word count which was increased to ensure that the authors understanding of the topic and process are evident for the purpose of doctoral submission.

Article word count: 9340 (including tables, references and figure or table captions).

Abstract

Objectives

There is a large body of evidence available concerning the psychometric properties and utility of Posttraumatic Stress Disorder (PTSD) screening instruments for the general adult population, but their validity and reliability in the older adult population is still undetermined. This study aimed to identify appropriate PTSD screening instruments and cut-off scores with optimal performance based on sensitivity and specificity.

Methods

A systematic review assessed the use of PTSD screening instruments in the older adult population using an electronic search to apply key search terms. Selection and assessment of articles was conducted by following a structured approach by utilising predetermined quality criteria.

Results

Ten studies satisfied the inclusion criteria. There was heterogeneity of screening instruments across studies. Amongst the included studies, the screening instrument most frequently studied was the Posttraumatic Stress Checklist (PCL) (based on DSM IV), which was found to be valid within the population. For the PCL a cut-off score in the mid thirties was suggested as most appropriate.

Conclusion

There is a need for further research identifying the validity and reliability of screening tools based on the PTSD criteria in the Diagnostic and Statistical Manual of Mental Disorders fifth edition (DSM-V).

Key words: Older adults; Post-traumatic stress disorder (PTSD); screening instrument; cut-off point; sensitivity; specificity

Introduction

Post-traumatic stress disorder (PTSD) in older adults (>60 years) has a prevalence of between 1.5% and 4%, according to community studies (Alamdari & Laganà, 2015). It is estimated that between 50 and 90% of older adults have been exposed to at least one type of potentially traumatic event (Pless Kaiser et al., 2019; Spitzer et al., 2008). Most research on PTSD in older adults comes from male veterans. The prevalence within this population is higher, with an estimated pooled prevalence of 8.4% (Williamson et al., 2018).

Some studies of community-dwelling adults have found decreasing rates of PTSD with age (Reynolds et al., 2016), however others have found no difference in rates between young, middle-aged and older adults (Kessler et al., 2017). There are a number of possible reasons underlying these discrepant findings as to PTSD prevalence. They may in part reflect differing measurement strategies or the use of varying versions of the DSM (Pless Kaiser et al., 2019). Another potential explanation is the difference in attitudes and conceptualisations of psychological trauma in older people. Hiskey and McPherson (2013) found that often traumatic events may remain undisclosed as a form of coping, with older people having learnt that an emotional response following an event may convey messages of personal weakness and could lead to negative societal consequences. They found that symptoms of trauma within this population are often not given significant weight or are misinterpreted, particularly if staff do not have the specific knowledge or skills to assess trauma within the older adult population. Another consideration is that PTSD was only included in official diagnostic guidelines from 1980 (Turnbull, 1998), therefore individuals who may have met criteria for PTSD in prior years would not have been diagnosed (Pless Kaiser et al., 2019; Thorp et al., 2011). Furthermore, the understanding of the effects of traumatic experiences would have been less prevalent within that generation. Hiskey and McPherson (2013) found that “trauma”, in relation to psychological distress is a relatively modern term and one that is not embraced, value-free, by older adults as it is often associated with significant stigma and shame. A final consideration is that there may be survival bias in the prevalence rates, it is

known that there is an increased mortality risk among people with PTSD relative to those who do not meet diagnostic criteria (Johnson et al., 2004) and therefore these individuals may be less likely to reach older adulthood.

Rates of sub-threshold PTSD range from 7% to 13% within the older adult population (Moye et al., 2022). It has been suggested in the literature that sub-threshold PTSD in older adults may represent an emergence or re-emergence of PTSD symptoms later in life due to stressors associated with ageing that can exacerbate PTSD symptom, for example, bereavement, changes in role and identity, increased physical issues, increased reliance on others, retirement and compromised coping resources (Hiskey et al., 2008; Krause, 2004; Pless Kaiser et al., 2019; Marjorie & Dow, 2022). Another suggestion has been that it reflects the developmental task of meaning-making through the review of old memories which has been found to cause reactivation of old trauma memories (Davison et al., 2016; Pless Kaiser et al., 2019). Davison (2016) developed the conceptualisation of later-adulthood trauma re-engagement (LATR). This suggests that in later life many veterans confront and re-work their wartime memories in an effort to find meaning and build coherence. Through reminiscence and life review, they engage with experiences they avoided or managed successfully earlier in life, perhaps without resolution or integration. The model suggests that reminiscing will not always result in distress but can result in problems if an individual becomes stuck in the process in some way. It has also been suggested that late-life disclosure might represent older adults feeling a greater sense of safety and emotional stability allowing them to share past traumatic experiences. A review paper suggested that emotional regulation improves with age and decline in emotional regulation occurs only at the very end of life, due to cognitive and physical difficulties that precede death in very old age (Charles & Carstensen, 2003).

In older adults, PTSD is associated with worse cognitive, physical and social functioning and is associated with elevated rates of mental health difficulties and substance use disorders, as well as an

increased risk for suicidal ideation and attempts (Ford et al., 2007; Moye et al., 2022; Schnurr et al., 2006). Identification of PTSD in the older adult population is important in healthcare services to ensure appropriate allocation of resources, preventative measures to reduce negative mental and physical health outcomes and implement an optimal treatment approach (Hegel et al., 2005; Thorp et al., 2017).

Clinician administrated interviews are viewed as the most effective diagnostic tool, however, they are time consuming and costly (Basco et al., 2000; Jiang et al., 2021). Self-report PTSD screening instruments provide information about how respondents view their symptoms relatively inexpensively that can indicate whether further assessment is required (Forkus et al., 2022; Magwood et al., 2023). There is a large body of evidence concerning the psychometric properties and utility of PTSD screening instruments for the general adult population (Brewin, 2005), but their validity and reliability in the older adult population, particularly in community-dwelling populations, is still undetermined (Pless Kaiser et al., 2019).

Research suggests the identification of PTSD in older adults has specific challenges, causing a higher frequency of under-detection of trauma symptoms within this population (Maschi et al., 2011). PTSD symptoms may be expressed differently in older adults, as indicated by more frequent reports of poor health, loss of appetite, sleep difficulties, chronic pain and cognitive impairment (Thorp et al., 2011). It has been suggested that older adults may be more willing to disclose somatic complaints than mental health concerns, potentially due to generational stigma related to mental health problems, as well as suspicion about institutions after war and repatriation experiences (Hiskey & McPherson, 2013). Older adults may present with symptoms that are less obvious or less specific to PTSD and these symptoms may be mistaken for other mental health difficulties, such as depression (Böttche et al., 2012). One explanation for this is that older adults who have many years of experiencing, coping with, and perhaps suppressing intrusions, may report few intrusive symptoms. Therefore symptoms may

present more similarly to other mental health difficulties and lead to misdiagnosis (Pless Kaiser et al., 2019).

In evaluating the accuracy of screening instruments, sensitivity and specificity are important. In studies of diagnostic accuracy, an optimal cut-off point is usually chosen based on the trade-offs between sensitivity and specificity (Unal, 2017). Given the reported differences in PTSD symptomology within the older adult population, there are likely also to be differences in the sensitivity and specificity of tools when used in this population. This has important implications in clinical decision making of the most appropriate PTSD screening instrument and the optimal cut-off point to use.

Objectives

PTSD screening instruments have primarily been developed and tested within the younger adult population (Cook & Niederehe et al., 2007). There have been conceptual reviews looking at the literature regarding the assessment of PTSD in older adults (Böttche et al., 2012; Pless Kaiser et al., 2019), however the use of PTSD screening instruments is yet to be systematically reviewed within the older adult population. The aim of this systematic review is to provide a critical evaluation regarding the status of evidence-based instruments used to screen PTSD in older adults across settings, with the purpose of establishing which tools can be appropriately used within this population and the cut-off scores providing optimal utility.

Materials and Methods

Protocol and Registration

The systematic review was registered on PROSPERO (CRD42023389983; Appendix B) (Schiavo, 2019). The systematic review was reported according to the Preferred Reporting Items for Systematic Reviews and Meta Analyses reporting checklist Diagnostic Test Accuracy extension (PRISMA-DTA) Page et al., 2021).

Eligibility Criteria

Table 1 describes the eligibility criteria for the study according to the PICO framework (PubMedHealth, 2018). Due to feasibility, studies in languages other than English were not eligible. No date limitation was applied. Studies were not included if the full text could not be accessed.

Table 1. *Eligibility criteria*

Variable	Criteria
Patient or problem	Studies were included that assessed the diagnostic accuracy of screening instruments for PTSD in the older adult population (defined as a mean age of participants of 60 or older) or a clearly defined sub-group of older people.
Intervention or exposure (Diagnostic test)	Each study had to utilise a screening instrument with the purpose of detecting PTSD.
Comparison	The screening instrument had to be compared with a quality reference standard i.e. “Gold Standard”.
Outcome Measure	Studies had to report sensitivity and specificity statistics for the screening instrument.

Information Sources

A search strategy was developed in consultation with an academic support librarian at The University of Edinburgh to search the following bibliographic databases: PsycINFO, MEDLINE, EMBASE, CINAHL, PTSDPubs (previously PILOTS), the Cochrane Central Register of Controlled Trials (CENTRAL). The databases were searched from inception up to 30th June 2023.

Search Strategy

Table 2 describes the search strategy, according to the PICO framework (PubMedHealth, 2018), used to identify articles by searching the abstract, title, and key term fields.

Table 2. *Search strategy*

Variable	Criteria
Patient or problem	"Older adult*" OR Geriatric* OR Elder* AND PTSD OR "Posttraumatic Stress Disorder" OR "Post Traumatic Stress Disorder*" OR "Psychological Trauma*"OR "Trauma"
Intervention or exposure (Diagnostic test)	Assess* OR Psychometric* OR Diagnos* OR Measur* OR screen* OR Instrument* OR test*
Comparison	Gold standard test (no specific terms)
Outcome Measure	Valid*" OR Reliab* OR Respon* OR Utilit* OR Cut-off*

Study Selection and Data Collection

The review management tool Covidence (Veritas Health Innovation, 2018) was used to manage identified studies and facilitate title/abstract and full-text screening. Duplicates were removed from the initial search. An initial screening of titles and abstracts of retrieved studies took place using the inclusion and exclusion criteria. Abstracts that seemed to satisfy the criteria or did not provide enough information to rule them out were reviewed in full text. This process was carried out by the first author. Any studies not freely available were requested through the University of Edinburgh library or by the author directly. The bibliographies of the full text articles were checked for any further articles that may satisfy the criteria; no further studies were identified. A second reviewer then independently reviewed 30 percent of the full text articles. Any discrepancies were discussed between the reviewers and resolved, an independent third reviewer was available to review any articles that were disagreed on but this was not needed.

Definitions for Data Extracted

The following data was extracted from the included studies and entered on to a spreadsheet comprising of the following areas:

- Study characteristics (title, first author, date of publication, setting, sample size).
- Study population (sex, country of study, mean age).
- PTSD screening instrument (tool properties: name, source, cut-off score employed, symptoms measured and outcomes reported).
- Reference standard ('gold standard').
- Sensitivity and specificity of the screening instruments recommended cut-off score.
- Sensitivity and specificity of optimal cut-off score within the study population.

Quality Assessment

The QUADAS-2 (Quality Assessment of Diagnostic Accuracy Studies 2; Appendix C) (Whiting et al., 2011) was used to review the methodological quality of studies included in the review. The QUADAS-2 consists of four key domains: patient selection, index test, reference standard and flow and timing. Each is assessed for risk of bias and the first three for applicability concerns. Signalling questions are included to assist in judgements about risk of bias. A second reviewer then independently reviewed all of the included studies. Any discrepancies were discussed between the reviewers and resolved, an independent third reviewer was available to review any articles that were disagreed on but this was not needed.

Synthesis of Results

Narrative summaries were produced to provide a brief synopsis of the appraised evidence for each screening instrument. Data on sensitivity and specificity of cut-off scores for each instrument was reviewed. The sensitivity of an instrument refers to the proportion of those that are identified as having PTSD according to the reference standard, that also are identified as such using the screening instrument. Specificity of an instrument refers to the proportion of those that are identified as not having PTSD according to the reference standard, that are also identified as such using the screening instrument. Subsequently these findings were summarised providing insights into the appropriateness of each measure, including the strengths and concerns within the older adult population.

Results

The search retrieved 3475 citations. After removal of duplicates, titles and abstracts were independently screened against the inclusion criteria. 67 citations were identified for full text review,

of which 10 met all inclusion criteria. Study flow and reasons for exclusion for all studies assessed in full text are reported in figure 1.

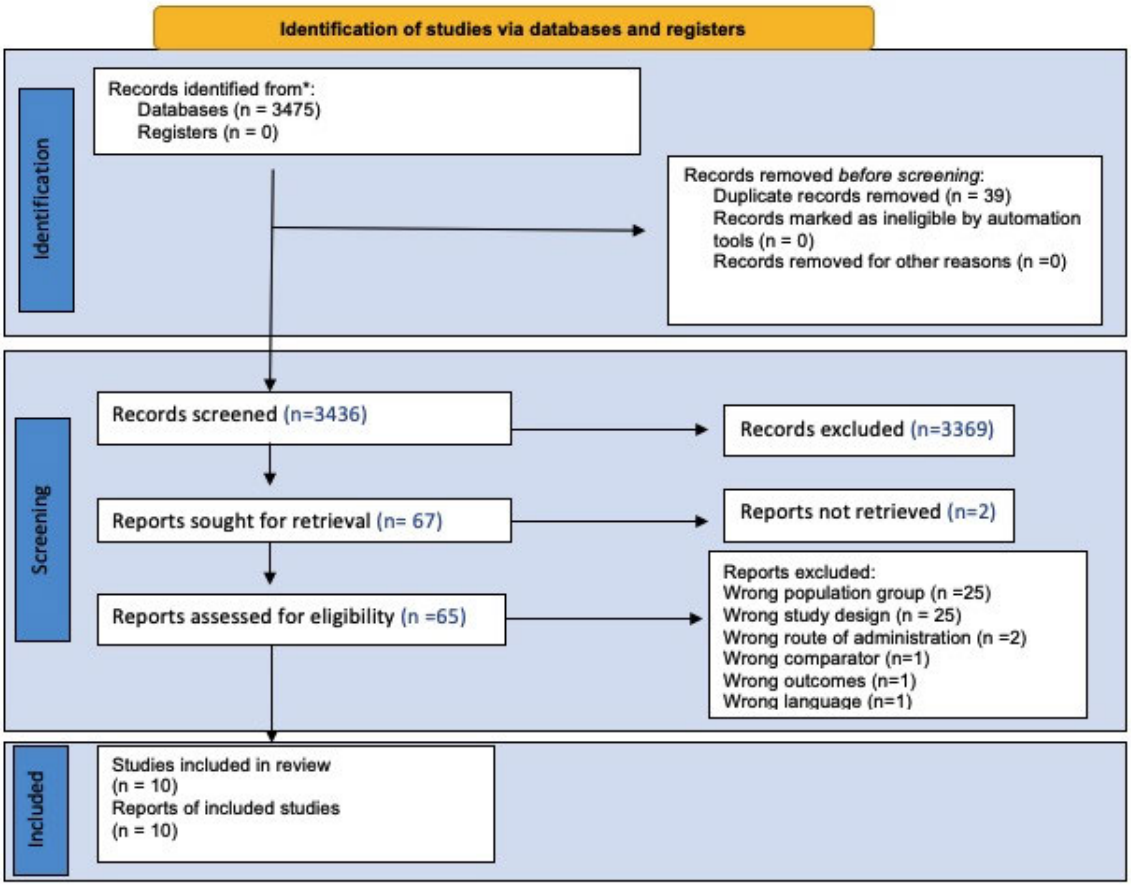

Figure 1. *PRISMA flowchart*

Study Characteristics

Ten studies were included in the review (see Table 3). Four studies were based in the United States (USA), two studies in the United Kingdom (UK), and one study each in Japan, Vietnam, Quebec and the Netherlands. Studies were carried out across a range of populations including veterans, survivors of Hanshin earthquake, inpatients for medical and/or psychiatric conditions, ex-prisoners of war, Hurricane Ike survivors, people in primary health clinics and community residents. The mean age of participants ranged from 61.1 to 82.0 years old.

There were nine different PTSD screening instruments examined across the 10 studies, some of the studies involved the examination of multiple tools. The most frequently examined tool was the PTSD Checklist (PCL) for DSM-IV which was included in four studies, the civilian version (PCL-C) in two, the specific version (PCL-S) in one, version unspecified in one (Weathers et al., 1993) . The Minnesota Multiphasic Personality Inventory (MMPI Pk PTSD Scale) (Keane et al., 1984), Mississippi Scale for Combat-Related PTSD scale (M-PTSD) (Keane et al., 1988)and the Impact of Event Scale (IES) for DSM-III-R (Horowitz et al., 1979) were examined in two studies. Other instruments that were examined in only one study were: Primary care PTSD screen (The Korean Version; PC-PTSD)(Prins et al., 2003); Single-item Post-traumatic Stress Disorder Screener (The Korean Version; SIPS-K) (Gore et al., 2008); the Post Traumatic Stress Syndrome Scale (PTSS) (Préville et al., 2014); the Vietnam Era Twin Registry (VET-R) PTSD Scale (Eisen et al., 1987); the Simplified PTSD Screen (S-PTSD); and the Self-Rating Inventory for Posttraumatic Stress Disorder (SRIP) (Van Zelst et al. 2003).

Across the 10 studies the following instruments were used as reference standard tools: three studies used the Clinician Administered PTSD Scale (CAPS) for DSM-IV (Blake et al., 1995), one of which used the Japanese translation; one study used The Clinician Administered PTSD Scale (CAPS-1) for DSM-III-R (Blake et al., 1995); two studies used the CIDI for DSM-IV (Wittchen, 1994), one of which used the Dutch translation; one study used the Structured Clinical Interview for DSM-III-R (SCID) (Spitzer et al., 1990), one of which used The Korean version; two studies used the DSM-IV Criteria (American Psychiatric Association, 1994).

Table 3. *Study characteristics*

Authors *And Country of study*	*n*	% Female	Mean age	Population	Instrument	Reference Standard Tool	Analysis
Engdahl et al. (1996) *United States of America (USA)*	330	-[b]	73.0	WWII combat veterans at the Veterans Affairs Medical Center at Minneapolis.	Mississippi Scale for Combat-Related PTSD (M-PTSD) Minnesota Multiphasic Personality Inventory (MMPI Pk PTSD Scale) Impact Event Scale (IES)	Structured Clinical Interview for DSM-III-R (SCID)	Sensitivity and specificity
Hudson et al. (2008) *United Kingdom (UK)*	100	58.0	82.0 (SD[a] = 8)	Inpatients and day patients being treated for medical and/or psychiatric conditions.	Posttraumatic Disorder Checklist (PCL)	The Clinical Administered PTSD Scale for DSM-IV (CAPS)	Sensitivity, specificity and predictive values. The receiver operating characteristics (ROC) curve – optimal cut point.
Jang et al. (2016) *Vietnam*	140	0	-	Vietnamese veterans	Primary care PTSD screen (The Korean Version) Single-item Post-traumatic Stress Disorder Screener (The Korean Version)	The Korean version of the Structured Clinical Interview for DSM-IV-IV	Sensitivity, specificity and predictive values. The receiver operating characteristics (ROC) curve – optimal cut point.
Magruder et al. (2015) *USA*	5141	0	61.1	Vietnam- Era Veterans (VET-R – database of male twins from all branches who served on active duty during Vietnam Era).	PTSD Checklist (PCL) Vietnam Era Twin Registry (VET-R) PTSD Scale	CIDI according to the DSM-IV	Sensitivity, specificity and predictive values. The receiver operating characteristics (ROC) curve – optimal cut point.

Neal et al. (1995) *UK*	30	3.3	75.4 (SD=3.5)	World War II Far East Prisoners of war	Impact of Event Scale MMPI PTSD subscale Mississippi Scale for Combat Stress Disorders	The Clinician Administered PTSD Scale (CAPS-1) for DSM-III-R	Sensitivity, specificity and predictive values
Pietrzak et al. (2012) *USA*	206	46.7	69.0 (Age range 60-92)	Adults who resided in the Glaveston Bay area when Hurricane Ike struck in September 2008.	PTSD Checklist (PCL)	PCL and DSM-IV criteria	Sensitivity, specificity and predictive values. The receiver operating characteristics (ROC) curve – optimal cut point.
Preville et al. (2014) *Quebec*	1765	57.3	73.2	Older adults waiting for medical services in primary health clinics.	Post Traumatic Stress Syndrome tool (PTSS)	DSM-IV criteria	Sensitivity, specificity and predictive values. The receiver operating characteristics (ROC) curve – optimal cut point.
Schuitevoerder (2011) *USA*	70	8.6	63.8 (SD=5.40) Age range = 60-82 years old	Combat veterans	Simplified-PTSD (S-PTSD) screen	The Structured Clinical Interview for DSM (SCID) The Clinician Administered PTSD Scale (CAPS) for DSM-IV	Sensitivity, specificity and predictive values.
van Zelst et al. (2003) *The Netherlands*	1721	54.0	Female = 74.1 Male= 73.5	Elderly community residents	Self-Rating Inventory of Posttraumatic Stress Disorder (SRIP)	CIDI – according to the DSM-IV criteria	Sensitivity, specificity and predictive values. The receiver operating characteristics (ROC) curve – optimal cut point.
Yeager and Magruder (2014) *USA*	Total = 855 Over 65= 332	20.9	-	Veterans	PTSD Checklist (PCL)	The Clinician Administered PTSD Scale (CAPS) for DSM-IV	Sensitivity, specificity and predictive values. The receiver operating characteristics (ROC) curve – optimal cut point.

[a]SD = Standard Deviation, [b]Empty cells = information not available or insufficient.

Quality Assessment

Table 4 presents the results of the quality assessment regarding risks of bias and applicability concerns using the QUADAS-2. The main strengths of the quality appraisal were that most studies used a consecutive or random sample of participants and only had exclusions that seemed necessary and were specific. For example, most studies excluded individuals with significant cognitive difficulties, but this was deemed appropriate. The risk of bias in patient selection was found to be high in one study (10%), the reason for this was the recruitment of a non-random sample. There were no applicability concerns in patient selection across all 10 studies. The risk of bias related to the index test was unclear in nine (90%) of the included studies. For all nine, it was unclear whether results were interpreted without knowledge of the results of the reference standard. Interpretation of index test results could be influenced by knowledge of the reference standard or vice versa. There were applicability concerns of the index test in two studies. One due to un-standardised application of the tool and the other due to the screening tool having been developed for posttraumatic stress syndrome (PTSS) rather than PTSD. The risk of bias associated with the reference standard was unclear in nine (90%). The primary reason again being, that it was not specified whether the previously mentioned "blinding" procedure had been implemented. There were applicability concerns of the reference standard in two studies, both due to not using a structured clinical interview tool as the gold standard measurement of PTSD. The risk of bias for flow and timing was high in one study (10%). The main reason for high risk of bias was the index test and reference standard data were collected at different times, increasing the chance of misclassification due to recovery or deterioration of the condition.

Table 4. *Quality assessment*

First Author and Year	Risk of bias				Applicability concerns		
	Patient selection	Index test	Reference standard	Flow and Timing	Patient selection	Index test	Reference standard
Engdahl et al. (1996)	☺	?	?	☺	☺	☺	☺
Hudson et al. (2008)	☺	?	?	☺	☺	☺	☺
Jang et al.(2016)	☺	?	?	☺	☺	☺	☺
Magruder et al. (2015)	☺	?	?	☺	☺	☺	☺
Neal et al. (1995)	☺	?	?	☺	☺	☺	☺
Pietrzak et al. (2012)	☹	?	?	☺	☺	☹	☹
Preville et al. (2014)	☺	?	?	☺	☺	☹	☹
Schuitevoerder (2011)	☺	?	?	☺	☺	☺	☺
van Zelst et al. (2003)	☺	?	?	☹	☺	☺	☺
Yeager and Magruder (2014)	☺	☺	☺	☺	☺	☺	☺

Synthesis of Findings

PCL Summary

Table 5 summarises the articles that looked at the diagnostic performance of the PCL within the older adult population. All studies concluded the PCL could be used within this population. However, the recommended cut-off score of 50 produced low sensitivity within this population. To produce a more balanced sensitivity and specificity, a lower cut-off score was required and the studies found that an optimal cut-off score ranged from 24-44.

The two studies examining the PCL-C were both of good quality and both found high specificity (0.95-0.97) but low sensitivity (0.40-0.52) using the recommended cut-off score of 50. The optimal cut-off score was found to be between 31-33 within a veteran population, with a sample size of 5141. The optimal cut-off score was found to be 36 in a patient (psychiatric and medical) population with a sample size of 100. The one study examining the PCL-S was of questionable quality. The main concerns were firstly in the patient selection domain because it included a non-random sample and secondly in the index test applicability domain because the index test was not self-administered. It found high specificity (0.98) but low sensitivity (0.53-0.65) using the recommended cut-off score of 50. The optimal cut-off score was found to be between 41-44 in a civilian population who had been in the local area of a natural disaster, with a sample size of 206. One study did not specify the version of PCL used, it had very good quality and high specificity (0.99) but very low sensitivity (0.29) using the recommended cut-off score of 50. The optimal cut-off score was found to be 24 in a veteran population, with a sample size of 332. This study found that cut-off scores varied considerably between age groups. The optimal PCL cut-off score for ages 21-29 was 43 and for ages 50-64 the optimal score was 34.

Other Measures Summary

Table 6 summarises the articles that looked at the diagnostic performance of the remaining screening instruments. All studies concluded the screening instruments could be used within the older adult population but suggested variations in optimal cut-off score.

Mississippi Scale for Combat-Related PTSD (M-PTSD)

The two studies examining the M-PTSD were both of good quality. One study assessed the recommended cut-off score of 107 and found that this yielded optimal specificity (1.00) but very low sensitivity (0.33). Both studies calculated the cut-off score that would yield optimal sensitivity and specificity. This was indicated to be 81 in an ex-prisoner of war population, with a sample size of 330 and 91 in a veteran population, with a sample size of 30.

Impact of Event Scale (IES)

The two studies examining the IES were both of good quality. One study assessed the recommended cut-off score of 35 and found that this yielded a moderate specificity (0.57) and sensitivity (0.67). They then calculated an optimal cut-off score that avoided any false negatives (sensitivity = 1.00), which yielded a cut-off score of 16 but at the expense of low specificity (0.38) within an ex-prisoner of war population, with a sample size of 330. The other study calculated the optimal cut-off score based on the best balance between sensitivity (0.78) and specificity (0.82), which yielded a cut-off score of 38 in a veteran population, with a sample size of 30.

MMPI-PTSD summary

The two studies examining the MMPI-PTSD were both of good quality. One study assessed the recommended cut-off score of 17 and found that this yielded a moderate specificity (0.62) and good sensitivity (0.89). They then calculated an optimal cut-off score that avoided any false negatives (sensitivity = 1.00), which yielded a cut-off score of 13 but at the expense of low specificity (0.42) within an ex-prisoner of war population, with a sample size of 330.The other study calculated the

optimal cut-off score based on the best balance between sensitivity (0.60) and specificity (0.84), which yielded a cut-off score of 14 within a veteran population with a sample size of 30.

The Korean Version of the Primary Care PTSD Screen (PC-PTSD)

The one study that examined the PC-PTSD was of good quality. The recommended cut-off score of three was found to be the optimal cut-off score within this population, producing good sensitivity (0.90) and specificity (0.87) with a Vietnamese veteran population, with a sample size of 140.

Single-item PTSD Screener (SIPS)

The one study that examined the SIPS was of good quality. The recommended cut-off of "bothered a little" yielded a high sensitivity (0.95) but at the expense of a relatively low specificity (0.50). The optimal cut-off was found to be "bothered a lot" which yielded good sensitivity (0.85) and specificity (0.90) within a Vietnamese veteran population, with a sample size of 140.

Self-Rating Inventory of Posttraumatic Stress Disorder (SRIP)

The one study that examined the SRIP was of questionable quality. The main concern was the index test and reference standard were collected at different times, increasing the chance of misclassification due to recovery or deterioration of the condition. The recommended cut-off score was 52 when weighted to ensure that true proportions of the different groups recruited were reflected in the analysis which yielded a low sensitivity of (0.23) but high specificity (0.98) and un-weighted moderate sensitivity (0.53) and high specificity (0.92). The optimal cut-off score was found to be 39, yielding a high sensitivity (0.74) and high specificity (0.81) within a community population, with a sample size of 1721.

The Posttraumatic Stress Syndrome Scale (PTSS)

The one study that examined the PTSS was of questionable quality due to applicability concerns; Posttraumatic Stress Syndrome was measured rather than PTSD and the DSM-IV criteria were used as the reference standard rather than a structured clinical interview tool. The optimal cut-off score was found to be 10, yielding high sensitivity (0.94) and specificity (0.92) in a community sample waiting for medical service in primary health clinics, with a sample size of 1765.

Vietnam Era Twin Registry (VET-R) PTSD Scale

The one study that examined the VET-R PTSD scale was of good quality. The recommended cut-off score of 39 yielded a high specificity (0.91) and moderate sensitivity (0.66). The optimal cut-off score was found to be 31, yielding a high sensitivity (0.82) and high specificity (0.81) within a veteran population, with a sample size of 5141.

Simplified-PTSD (S-PTSD) screen

The one study that examined the S-PTSD was of good quality. The optimal cut-off score was found to be 16, yielding a high sensitivity (0.90) and moderate specificity (0.50) within a veteran population, with a sample size of 70.

Table 5. *PCL cut-off point sensitivity and specificity*

Study	PCL version	Recommended cut-off score	Sens[a] (95% CI)	Spec[b] (95% CI[f])	PPV[c]	NPV[d]	Optimal cut-off	AUC[e]	Sens	Spec	PPV	NPV
Hudson et al. (2008)	PCL- C	50	0.40	0.97	0.57	-[g]	36	0.94	0.97	0.87	0.45	-
Magruder et al. (2015)	PCL-C	50	0.52	0.95	0.48	0.96	31-33	0.89	0.82 -0.86	0.81-0.83	0.27-0.29	0.98
Pietrzak et al. (2012)	PCL-S											
	Worst event-related PTSD	50	0.65	0.98	0.89	0.93	41	0.98	0.96	0.92	0.69	0.99
	Hurricane Ike-related PTSD	50	0.53	0.98	0.71	0.95	44	0.98	1.00	0.90	0.51	1.00
Yeager and Magruder (2014)	PCL	50	0.29	0.99	-	-	24	-	0.77	0.80	-	-

[a]Sens = Sensitivity, [b]Spec = Specificity, [c]PPV = Positive Predictive Value , [d]NPV = Negative Predictive Value, [e]AUC = Area Under the Curve, [f]CI = Confidence Interval [g]Empty cells = information not available or insufficient.

Table 6. *Cut-off point sensitivity and specificity*

Tool *and Study*	Recommended cut-off score	Sens[a] (95% CI)	Spec[b] (95% CI[f])	PPV[c]	NPV[d]	Optimal cut-off	AUC[e]	Optimal Sens	Optimal Spec	Optimal PPV	Optimal NPV
M-PTSD											
Neal et al. (1995)	**107**	0.33	1.00	-[g]	-	**81**	-	0.78	0.57	-	-
Engdhal et al. (1996)	**107**	-	-	-	-	**91**	-	0.66	0.87	-	-
IES											
Neal et al. (1995)	**35**	0.67	0.57	-	-	**16**	-	1.00	0.38	-	-
Engdahl et al. (1996)	**35**	-	-	-	-	**38**	-	0.78	0.82		
MMPI-PTSD											
Neal et al. (1995)	**17**	0.89	0.62	-	-	**13**	-	1.00	0.42	-	-
Engdhal et al. (1996)	**17**	-	-	-	-	**14**	-	0.60	0.84	-	-
PC-PTSD-K											
Jang et al (2016)	**3**	0.90	0.87	0.74	0.96	**3**	0.92	0.90	0.87	0.74	0.96

SIPS-K											
Jang et al. (2016)	**'Bothered a little'**	0.95	0.51	0.44	0.96	**'Bothered a lot'**	0.89	0.85	0.90	0.78	0.4
SRIP											
van Zelst et al. (2003)	**52**	0.23	0.98	0.17	0.98	**39**	0.85	0.74	0.81	0.07	0.99
PTSS											
Preville et al. (2014)	-	-	-	-	-	**10**	-	0.94	0.92	-	-
VET-R											
Magruder et al. (2015)	**39**	0.66	0.91	0.38	0.97	**31**	0.88	0.82	0.81	0.27	0.98
S-PTSD											
Schuitevoerder (2011)	**-**	-	-	-	-	**16**	-	0.90	0.50	-	-

[a]Sens = Sensitivity, [b]Spec = Specificity, [c]PPV = Positive Predictive Value , [d]NPV = Negative Predictive Value, [e]AUC = Area Under the Curve, [f]CI = Confidence Interval [g]Empty cells = information not available or insufficient.

Discussion

The findings of the systematic review highlight the paucity of research in this area. There was heterogeneity in the screening instruments used which limited the conclusions that could be drawn. Studies were carried out across a range of populations with: four studies being based in the USA, two studies in the UK, and one study from Japan, Vietnam, Quebec and the Netherlands. Six studies had a veteran study population and four studies used a community population. Across the majority of studies and measures the optimal cut-off for older adults was below recommended published cut-offs, with the exception of the IES-R and PC-PTSD. The majority of studies were found to be of good quality, with the exception of three: Pietrzak et al. (2012) (PCL); Preville et al. (2014) (PTSS); and van Zelst et al. (2003) (SRIP). The main concerns in these studies were related to non-random sampling and concerns about the length of time between the index test and reference test being completed, meaning the interpretation of the index test results may have been influenced by knowledge of the reference standard or vice versa.

The findings suggest that the PCL can reliably and validly screen for PTSD within this population. The recommended cut-off score of 50 was not found to be optimal. For a more balanced sensitivity and specificity, the best screening performance for the PCL-C was found to be with a cut-off score in the range of 31-36. The PCL-S was found to have a higher recommended cut-off score of between 41 and 44. The quality appraisal identified that this study employed disproportionate stratified cluster sampling to acquire samples in areas that experienced more damage from Hurricane Ike and that were more likely to be exposed to hurricane related traumas. This may in part explain why the findings showed greater sensitivity of the PCL because there may be a higher base rate in the sample used within the study. Therefore, a cut-off score in the forties may lead to underestimation of PTSD within a general population sample following exposure to a specific event.

The studies of the PCL included in the review used 50 as the recommend cut-off score as this was the original recommendation for the instrument (Weathers et al., 1993). However, the initial research was

a standardised study of 123 combat veterans. More recent literature has suggested cut-off scores of 30-35 for general community populations, 36-44 for medical populations and 50 for clinical or veteran populations (Boscarino, 2006; Lang et al., 2003; Yeager et al., 2007). One explanation for this is that treatment-seeking combat veterans are likely to have more prominent PTSD symptoms than community populations and therefore a higher base rate. However, this does not fully explain age-related differences in optimal cut-off scores. Yeager and Magruder (2015) looked at cut-off scores across 3 different age groups and found that the optimal cut-off scores systematically reduced as participants increased in age. One explanation suggested by the author was that reporting styles in older clients may be different causing symptoms to be minimised. This is supported by research that found that often traumatic events may remain undisclosed by older adults as a form of coping, having learnt that an emotional response following an event may convey messages of personal weakness and could lead to negative societal consequences. In this context, symptoms of trauma within this population are often not given significant weight or are misinterpreted (Hiskey et al., 2008; Hiskey & McPherson, 2013). This may impact how older adults respond to screening instruments.

The remaining screening instruments were all analysed in just one or two studies and therefore it is difficult to draw conclusions about their performance. Taken as a whole there appears to be a general finding that most studies find lower optimal cut-offs than those recommended in the general literature. However, two studies found a higher optimal cut-off score within the study population compared to the cut-off score within the literature. Engdahl et al. (1996) examined the IES based on DSM-III and concluded that 38 yielded an optimal cut-off score, in comparison to the cut-off score of 35 recommended in the literature. Neal et al. (1995) also studied the IES DSM-III version and found a cut-off score of 16. This study required a sensitivity of 1 (no false positives), which yielded a low specificity (0.38). The authors found that when using the recommended cut-off score of 35, there was a more even balance between sensitivity (0.67) and specificity (0.57). Notably, this study only had a sample size of 30 participants which could reduce the accuracy of the findings. The version of the IES used in the studies needs to be taken into account when considering how this may be translated to

the use of the current version most commonly used, the IES-R. There were significant changes made from the DSM-III to the DSM-IV which were reflected in the IES-R, these included the need for intense fear, hopelessness and horror to be experienced, clinically significant distress and impairment to be reported, as well as hyper-arousal being added as a core criterion (Weiss & Marmar, 1997). The research suggests that older adults with PTSD may report lower levels of hyper-arousal due to age-related changes that affect the experience and expression of anxiety (Frueh et al., 2004; Kogan. Edelstein, & McKee, 2000; Lau, Elderstein, & Larkin, 2001). Therefore, applying such high cut-off scores for older adults using new versions of the IES might lead to under recognition of PTSD within this population. There is however contrary research which suggests no difference in hyperarousal between younger and older adults (Macleod, 1994; Rutherford et al., 2021) and therefore more research is necessary to draw conclusions. The optimal cut-off for SIPS was found to be "bothered a lot", rather than "bothered a little" as found in younger populations. The options within this assessment measure were "not bothered", "bothered a little" or "bothered a lot". These options require a level of subjective understanding of what is considered "a little" or "a lot" and therefore may lead to variation in responses which might account for the differences found in this measure.

Hudson et al. (2008) was the only study to analyse the specific symptom profile of PTSD within the older adults in their research. They suggested that most participants meeting the criteria had re-experiencing symptoms and arousal symptoms, while fewer had corresponding avoidance symptoms. This pattern of symptoms in older adults has been previously described in a group with reactivated PTSD in later life (Macleod, 1994) and within a recent study that examined symptom differences among older and younger people with PTSD (Rutherford et al., 2021). One way of understanding this is by considering strategies that older adults may have developed over a lifetime that may become more difficult to maintain later in life. The literature suggests that internal and external avoidance-based coping strategies that are effective for managing trauma symptoms earlier in life (e.g. engagement/focus on career, parenting, social connections) may be less available or effective as individuals age (Kaiser et al., 2020; Pless-Kaiser et al., 2019).

There is a notable bias towards male participants within the PTSD literature, including the studies in this review, despite the evidence that the lifetime prevalence rate for women is at least twice that of men (McLean et al., 2011). Research suggests an existence of gender differences in the prevalence, presentation and even aetiology of PTSD. Research suggests that women may present with more generalised distress, as opposed to PTSD-specific distress and experience comorbid depression and anxiety (Armour et al., 2011). Preville et al. (2014) was the only study included in this review that looked at gender differences and found that females were more at risk to report posttraumatic stress syndrome than men (Préville et al., 2014), which is consistent with findings from other community studies (Stein et al., 2000). Some research has found that females score higher on PTSD measures with a small study of female primary care veterans finding an optimal cut-off score of 50 (Lang & Stein, 2005). Research has suggested that higher distress levels may be more prominent in females due to the increased likelihood of them experiencing specific types of traumas i.e. sexual assault (Pedersen et al., 2014). More research needs to be done on the presentation of PTSD in older women and this should be taken into consideration when screening for PTSD.

Limitations

A limitation of this study was that there were no studies identified that had been completed since the introduction of the DSM-V released in 2013. The DSM-V made several changes to the PTSD diagnostic criteria, including new symptoms, modifying existing symptoms, and dividing the avoidance cluster into avoidance and negative alterations in cognitions in mood (Pai et al., 2017). The PCL for DSM-V (PCL-5) was adapted to reflect the changes made to the DSM criteria (Leardmann et al., 2021). Within this re-organisation, at least one avoidance symptom is now required for an individual to meet diagnostic criteria in the DSM-V in contrast to DSM-IV criteria which permitted a PTSD diagnosis even if no avoidance symptoms were endorsed. Given the evidence that suggests reduced avoidance symptomology within older adults, this change may have affected the applicability of the PCL-5 within the older adult population (Pai et al., 2017). However, there has been some research to suggest that this is not the case. Examination of the dimensional structure of PTSD in older adults found support

for factor models that map onto the DSM-V criteria closely (Pietrzak et al., 2012; Schinka et al., 2007). Furthermore, the literature suggests that the PCL-5 can be used to estimate DSM-IV PTSD criteria and PCL-C can be used to estimate DSM-V PTSD (Leardmann et al., 2021)

Other limitations to the research included heterogeneity of instruments precluded the conduction of additional analyses and limited the conclusions that could be drawn from the data. Also, some research suggests that reference standards may have limitations or drawbacks in an older adult sample (Rutherford et al., 2021). Therefore using these as comparators may lead to invalid results. Additionally, there were varying exclusion criteria for cognitive impairment. Although moderate to severe cognitive impairment was consistently excluded, some studies permitted participants with milder impairment; which may have a confounding effect.

A further limitation to the research is that the search terms used to capture older adults ("Older adult*" OR Geriatric* OR Elder*) may not fully have captured all terms used to describe this population. It is possible that other terms such as old age*, senior citizen* or later life could have been used within the literature to describe the target population. A scoping search found that the literature in this area most commonly used language such as older adult and elderly but it is possible that some studies may have been missed if other terms were used.

Future Research

The focus of the current review was the identification of screening instrument optimal cut-off scores based on sensitivity and specificity. It would be beneficial for future research to review other elements of validity and reliability. It would also be beneficial for research to be done on how mild cognitive impairment influences the assessment of PTSD. The subject of age-specific cut-off scores still needs further exploration, particularly on the use of screening instruments based on the DSM-V, in order to comprehensively understand how screening instruments perform across the age span. Additionally, research suggests that there could be differences in subgroups of older adults and future research

should look at whether there are differences between the young-old (ages 65-74), middle-old (ages 75-84) and old-old (ages 85 and older) (Pedersen et al., 2014).

Conclusion

More research needs to be conducted to draw conclusions regarding screening for PTSD within the older adult population. These findings suggest that for the PCL a cut-off score in the mid thirties is most appropriate but further research needs to be conducted on the PCL-5. The instruments recommended cut-off should not be used as a standard rule, the assessment's purpose and population should be considered. Arguably, high sensitivity is more necessary for a screening instrument used in a clinical setting than high specificity. The screen then identifies anyone who may be at risk for PTSD to then be referred for further diagnostic assessment. Research suggests that lower cut-off scores are useful with populations with lower base rates of PTSD and when there is likely to be symptom underreporting, both of which have been demonstrated in the older adult population.

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Appendices

Appendix 1 – Journal Guidelines

Review Article

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; references; appendices (as appropriate); table(s) with caption(s) (on individual pages); figures; figure captions (as a list)

Should be between 7,000 and 8,000 words, inclusive of:

Tables

References

Figure or table captions

Should contain a structured abstract of 200 words.

Objectives, Methods, Results, Conclusion

Should contain between 5 and 7 **keywords**. Read making your article more discoverable, including information on choosing a title and search engine optimization.

A typical paper for this journal should be no more than 7,000 words for quantitative papers and 8,000 words for qualitative papers, appendix excluded.

All revised papers could have extra 500 words allowance.

Style Guidelines

Please refer to these quick style guidelines when preparing your paper, rather than any published articles or a sample copy.

Any spelling style is acceptable so long as it is consistent within the manuscript.

Please use single quotation marks, except where 'a quotation is "within" a quotation'.

Please note that long quotations should be indented without quotation marks.

All revised papers should have a clean version.

If there is more than one corresponding author, please unsubmit the paper and visit here.

If there is more than one first author, unsubmit the paper.

All papers should include a statement on ethical approval (with blinded affiliate information). All clinical trials must have been registered in a public repository and trial registration numbers should be included in the abstract, with full details in the methods section.

Formatting and Templates

Papers may be submitted in Word format. Figures should be saved separately from the text. To assist you in preparing your paper, we provide formatting template(s).

Word templates are available for this journal. Please save the template to your hard drive, ready for use.

If you are not able to use the template via the links (or if you have any other template queries) please contact us here.

References

Please use this T&F standard APA reference style when preparing your paper. An EndNote output style is also available to assist you.

Appendix B – Prospero Registration Confirmation

Dear Esther,

Thank you for submitting details of your systematic review "Psychological trauma measurement in older adults: a systematic review of trauma measurement tools in the older adult population" to the PROSPERO register. We are pleased to confirm that the record will be published on our website within the next hour.

Your registration number is: CRD42023389983

You are free to update the record at any time, all submitted changes will be displayed as the latest version with previous versions available to public view. Please also give brief details of the key changes in the Revision notes facility and remember to update your record when your review is published. You can log in to PROSPERO and access your records at https://www.crd.york.ac.uk/PROSPERO.

Comments and feedback on your experience of registering with PROSPERO are welcome at crd-register@york.ac.uk

Best wishes for the successful completion of your review.

Yours sincerely,

Connor Evans
PROSPERO Administrator
Centre for Reviews and Dissemination
University of York

Appendix C – QUADAS-2 tool

DOMAIN 1: PATIENT SELECTION

A. Risk of Bias

Describe methods of patient selection:

- ❖ Was a consecutive or random sample of patients enrolled? Yes/No/Unclear
- ❖ Was a case-control design avoided? Yes/No/Unclear
- ❖ Did the study avoid inappropriate exclusions? Yes/No/Unclear

Could the selection of patients have introduced bias? **RISK: LOW/HIGH/UNCLEAR**

B. Concerns regarding applicability

Describe included patients (prior testing, presentation, intended use of index test and setting):

Is there concern that the included patients do not match the review question? **CONCERN: LOW/HIGH/UNCLEAR**

DOMAIN 2: INDEX TEST(S)

If more than one index test was used, please complete for each test.

A. Risk of Bias

Describe the index test and how it was conducted and interpreted:

- ❖ Were the index test results interpreted without knowledge of the results of the reference standard? Yes/No/Unclear
- ❖ If a threshold was used, was it pre-specified? Yes/No/Unclear

Could the conduct or interpretation of the index test have introduced bias? **RISK: LOW /HIGH/UNCLEAR**

B. Concerns regarding applicability

Is there concern that the index test, its conduct, or interpretation differ from the review question? **CONCERN: LOW /HIGH/UNCLEAR**

DOMAIN 3: REFERENCE STANDARD

A. Risk of Bias

Describe the reference standard and how it was conducted and interpreted:

- Is the reference standard likely to correctly classify the target condition? Yes/No/Unclear
- Were the reference standard results interpreted without knowledge of the results of the index test? Yes/No/Unclear

Could the reference standard, its conduct, or its interpretation have introduced bias? **RISK: LOW /HIGH/UNCLEAR**

B. Concerns regarding applicability

Is there concern that the target condition as defined by the reference standard does not match the review question? **CONCERN: LOW /HIGH/UNCLEAR**

DOMAIN 4: FLOW AND TIMING

A. Risk of Bias

Describe any patients who did not receive the index test(s) and/or reference standard or who were excluded from the 2x2 table (refer to flow diagram):

Describe the time interval and any interventions between index test(s) and reference standard:

- Was there an appropriate interval between index test(s) and reference standard? Yes/No/Unclear
- Did all patients receive a reference standard? Yes/No/Unclear
- Did patients receive the same reference standard? Yes/No/Unclear
- Were all patients included in the analysis? Yes/No/Unclear

Could the patient flow have introduced bias? **RISK: LOW /HIGH/UNCLEAR**

Chapter 2: Original Research Article

Conceptualisation of Trauma Informed Practice in Older Adult Mental Health Services: A Grounded Theory Exploration of the Experiences and Insights of Staff in Multidisciplinary Teams

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This article is written according to guidelines for The Gerentologist (Appendix A); with the exception of the word count which was increased to ensure that the authors' understanding of the topic and process are evident for the purpose of doctoral submission.

Word count: 13,533 (excluding references)

Abstract

Background and objectives

Trauma Informed Practice (TIP) has been found to support recovery from mental health difficulties and improve people's experiences of care within healthcare services. However, the implementation of TIP among healthcare professionals working in older adult services remains largely under-studied. This study aimed to understand how healthcare professionals in older adult mental health services approach TIP, and the barriers to and facilitators to TIP.

Research design and methods

A Constructivist Grounded Theory approach was used to carry out 16 in-depth interviews with staff members working within older adult mental health services about their experiences of working with people who may have experienced trauma and working in a trauma informed approach. Data was analysed following an iterative process to construct a model grounded in the data.

Results

A conceptual model was developed that reflected staff members' beliefs that "choice and power" were central elements to being trauma informed in older adult services. Staff perceived a specific element of working within older adult services was "hidden trauma", identified as a high level of previously undisclosed trauma in clients. Age-related vulnerability and client cognitive impairment were found to have a complex interaction with TIP. The model established the core factors that were perceived to facilitate TIP within services were care and compassion, prioritising staff wellbeing, promoting team connections and collaboration and facilitating continuous learning. Finally, system pressures on staff members were perceived to be a barrier to TIP.

Discussion and Implications

These findings highlight important considerations for TIP within the context of older adult mental health services. The study recommends a greater focus on exploring the implementation of TIP when working with older adults who have cognitive impairment, as well as understanding how facilitators of TIP can be strengthened and system pressures can be mitigated. This model requires further exploration of older adult clients' experiences of trauma informed services.

Key words: Clinical practice improvement, Cognitive impairment, Mental health care

Background and Objectives

Trauma

Psychological trauma is a broad term which has a diverse range of definitions. In the DSM-V, trauma is understood as being triggered by an external event such as exposure to actual or threatened death or sexual violence, directly or indirectly, through witnessing or experiencing serious injury (American Psychiatric Association, 2013). Other definitions acknowledge the role of social traumas. For example the Substance Abuse and Mental Health Services Administration (SAMHSA's) conceptualisation encompasses the trauma event which not only includes threats to life but threats to our psychological or social integrity, the way in which the event is experienced and its effects (SAMHSA, 2014). The definition used for the purpose of this study took a broad perspective encapsulating the wide range of events and responses that can be constituted as traumatic: "the term trauma can refer to a wide range of traumatic, abusive or neglectful events or series of events including Adverse Childhood Experiences (ACEs) and trauma in adulthood. Whether an event is traumatic depends on our individual experience of the event, as well as how it negatively impacts on our emotional, social, spiritual and physical wellbeing" (NHS Education Scotland, 2019). Trauma is commonly categorised into Type 1 and Type 2. Type 1 typically involves isolated incidents like assaults, rapes, or serious accidents. Type 2, known as "complex trauma", is typically interpersonal and prolonged, usually with an early onset (Kliethermes et al., 2014).

It is well established in the literature that marginalised groups, such as those experiencing poverty, belonging to ethnic minority groups or those who are incarcerated, face increased likelihood of encountering traumatic events (Sweeney & Taggart, 2018). Both single incident and complex trauma have been found to hold clinical significance due to their associated outcomes, including changes in both brain structure and function (Ganzel & Morris, 2016), increased occurrence, frequency and severity of mental health difficulties (Dillon et al., 2014), and adverse health outcomes including cardiovascular disease and chronic pain (Mcfarlane, 2012). Trauma often leads to frequent contact

with the health care system. A systematic review estimated that around half of mental health service users have experienced physical abuse and more than one-third have experienced sexual abuse (Mauritz et al., 2013). Importantly, complex trauma substantially increases the risk of developing prolonged psychological difficulties and is associated with poor mental health, especially when the traumatic event involves physical or sexual violence (Kessler et al., 2017). This is thought to be because complex trauma exposure results in a loss of core capacities for self-regulation and interpersonal relatedness. Children exposed to this type of trauma often experience lifelong problems that place them at risk for additional trauma exposure and cumulative impairment across the life span (Cook et al., 2005). Research looking at the impact of different types of traumatic events in women found that multiple interpersonal exposures were the category associated with the highest risk of distress (Green et al., 2000).

Trauma Informed Practice

Trauma Informed Practice (TIP) is a broad concept of organisational change, focused on recognising the pervasiveness of trauma, responding to the signs of trauma in all members of the system and seeking to prevent re-traumatisation (SAMHSA, 2014). A fundamental shift in providing support using a TIP approach is to move from thinking 'what is wrong with you?' to considering 'what happened to you?' (Sweeney & Taggart, 2018). The concept originated from initial research into the Adverse Childhood Experiences (ACEs) study, which revealed that the greater the number of adverse events experienced during childhood, the more significant the impact on both physical and mental health (Felitti et al., 1998). Individuals with histories of trauma are more likely to require health services at a disproportionate rate and there is an increasing recognition of how these services themselves can inflict harm on individuals with a trauma background. Research looking at organisational stress and trauma informed services described this as a 'parallel process' that can cause re-traumatisation and prevent recovery. The paper describes complex interactions between traumatised clients, stressed staff, pressured organisations and a social and economic environment that is frequently hostile to the aims of recovery and is often the opposite of what was intended (Bloom, 2010).

TIP guidelines suggest that practice should encompass elements of safety, choice, collaboration, trustworthiness, and empowerment (Fallot & Harris, 2009):

- Safety – Ensuring physical and emotional safety of clients and staff.
- Trustworthiness – maximising trustworthiness through task clarity, consistency and interpersonal boundaries.
- Choice – maximising client choice and control throughout as many aspects of the service as possible.
- Collaboration – maximising collaboration and sharing power. The client is treated as the expert of their own life.
- Empowerment – prioritising empowerment and skill-building. Highlighting clients' coping strategies and presence of personal strength and resilience.

Local Context – Scotland National Trauma Training Programme

In 2016 NHS Education for Scotland was asked by the Scottish Government to develop a set of resources to promote and implement TIP within Scotland which led to the development of the National Trauma Transformation Programme (NTTP) (formally the National Trauma Training Programme) (NHS Education Scotland, 2019). The vision of the NTTP is that it is informed by people with lived experience, recognises the importance of wellbeing in the workforce, recognises where people are affected by trauma and adversity, responds in ways that prevent further harm, supports recovery and can address inequalities and improve life chances. The training programme is based on the national trauma framework which aims to implement TIP across Scotland, emphasising staff skills, knowledge and wellbeing (NHS Education Scotland, 2019). The framework specifies four practice levels including trauma informed (level 1), trauma skilled (level 2), trauma enhanced (level 3) and trauma specialist (level 4). The framework is future-focused with the aim of all members of the workforce having knowledge and skills at a 'trauma informed practice' level which includes: knowledge of the widespread occurrence and nature of trauma; recognition of the different ways in which trauma can

affect people; prevention of traumatisation as much as possible; and provision of support for people affected by trauma and for the staff working with them. As part of this project a trauma informed toolkit was developed to support organisations, departments and teams across all sectors of the workforce in planning and developing trauma informed services. The five key principles of: safety, trustworthiness, choice, collaboration and empowerment (Fallot & Harris, 2009) underpin the trauma informed toolkit. The skills and knowledge required increase as the frequency of contact, complexity of cases and the direct nature of contact increases. Key trauma training resources and training workshops are openly available to help reach this goal.

Trauma and Older Adults

It is estimated that 70-90% of adults aged 65 and over have experienced one or more traumatic events (Pietrzak et al., 2012; Reynolds et al., 2016). Older adults are prone to having encountered multiple traumas as a result of their longer lifespans (Ogle et al., 2014). Recent research indicates that being exposed to multiple traumatic events, as opposed to single discrete trauma, leads to more severe posttraumatic outcomes (Schnurr et al., 2006; Turner & Lloyd, 1995). Age-related changes, such as declines in social networks, physical and cognitive abilities, shifts in roles and identities and increased dependence on caregivers may compromise coping abilities, potentially leading to the re-emergence or worsening of trauma in later stages of life (Hiskey & McPherson, 2013; Marjorie & Dow, 2022). The literature proposes that a key developmental task in normal aging involves finding meaning through reflecting on memories and therefore for those who have experienced trauma. This process can potentially trigger the reactivation of old traumatic memories (Davison et al., 2016; Yalom, 2008). A large epidemiological study in the USA (Pietrzak et al., 2011) estimated a 6.5% rate for posttraumatic stress disorder (PTSD) in older adults, a rate that is lower than the typical 8%-10% rate for younger adults (Kessler et al., 2005). This is lower than might be expected given the evidence that older adults are likely to have experienced trauma throughout their life span and that age related changes may increase vulnerability to distress in relation to trauma. The literature suggests that currently assessment of trauma can be challenging with older adults for reasons including comorbid mental and

physical health difficulties and potential cognitive decline (Pless Kaiser et al., 2019). Some researchers have suggested that psychological trauma might present itself differently in older adults, as evidenced by increased reports of declining health, chronic pain, and cognitive impairment (Graziano, 2004). A recent study investigated the attitudes and understanding of trauma among older individuals (Hiskey & McPherson, 2013). They discovered that the term “trauma“, concerning psychological distress, is relatively contemporary and not readily accepted by those from earlier generations and it often carries considerable stigma and shame. They proposed that symptoms of trauma in this demographic are frequently overlooked or misunderstood especially when staff lack specific knowledge or skills.

Re-traumatisation and trauma responses are usually an external expression of internal fear and distress but can seem as though they are unrelated or unprovoked to care providers. These behaviours can range from withdrawal to agitation and aggression (Hennessy et al., 2023). It is thought that in older adult services, trauma reactions can be confused for behavioural and psychological symptoms of dementia (Flannery, 2002). Research suggests that there is a nuanced and complex interconnection between trauma and cognitive impairment that often goes unrecognised by staff (Qureshi et al., 2010). Studies have shown that the onset of dementia can be a risk factor for developing delayed-onset trauma response, which can also be triggered by age related stresses (Greenberg et al., 2014; Raza et al., 2021). Other studies have found that people who have experienced trauma have a higher likelihood of developing dementia (Bougea et al., 2022).

Current study

TIP has been found to support recovery from mental health difficulties (Hales et al., 2019; Lietz et al., 2014) and improve people's experiences of care within healthcare services (Green et al., 2016). However, how TIP is conceptualised and implemented by healthcare staff working in older adult services remains largely under-studied. The research suggests trauma may present differently within older adult services and pose specific challenges to working with individuals who have experienced

trauma within this population. It is therefore important to establish how TIP is understood and implemented by staff in older adult services.

Objectives

This study aims to understand how healthcare professionals in older adult mental health services approach TIP in their practice and the factors that act as barriers and facilitators to TIP.

Research Design and Methods

Methodological approach

A Constructivist Grounded Theory (CGT) approach was used to understand how staff currently conceptualise and implement TIP in older adult mental health services. This approach provides an exploratory qualitative design that focuses on generating new theory. Using this approach, theories are constructed rather than discovered (Charmaz, 2014). CGT is suitable for research on topics with a paucity of existing research. It is an inductive constructivist approach that means that theory is generated from an understanding of complex social processes from the perspective of the participants (Corbin & Strauss, 1990). This was applicable to this topic because although there is awareness of the principles that underlie TIP in the literature, the study aimed to understand how TIP was understood, experienced and delivered in practice from a constructionist perspective. The constructionist approach assumes that neither data nor theories are discovered but instead are constructed through shared experiences among researchers and participants (Charmaz, 2006). The resulting model represents a construction of reality, providing plausible interpretations and explanations rather than objective knowledge.

Ethical considerations

Ethical approval

Sponsorship and Ethical Approval were granted through Edinburgh University Health in Social Science ethics committee (CAHSS2210/02). The local NHS health board provided Research and Development Approval (2023/0006) (Appendix B).

Informed consent

A Participant Information Sheet (Appendix C) was provided to all potential participants which included: the purpose of the study, inclusion and exclusion criteria, withdrawal information, study procedure, benefits and risks of taking part, confidentiality information, plans for the outcomes of the research and contact information for the research team. Before the interview, a consent form was completed for all participants (Appendix D). Consent for recording was repeated verbally at the beginning of each interview.

Debrief

Participants were provided with a Debrief Information Sheet after completing the interview (Appendix E). This included links to support that can be accessed in relation to the topics discussed within the interview.

Recruitment Procedure and Theoretical Sampling

In CGT research, initial sampling establishes the criteria for how data will be first collected, "providing a point of departure" (Charmaz, 2006, p.100). In this study the inclusion criteria were broad and included permanent staff working within Older Adult Community Mental Health Teams over the age of 18. The recruitment stream was initially through NHS Lothian Older Adults Community Mental Health Teams (CMHTs). Service managers were contacted to discuss the purpose of the research and the recruitment process. An agreement was reached for staff to participate in the research during work time meaning further approval from managers did not need to be gained for each participant, reducing

the risk of potential coercion and loss of anonymity. The lead researcher presented the study at CMHT meetings. Participant Information Sheets (Appendix C) were distributed across Older Adults CMHTs. Managers were asked to communicate information within meetings across the services. Interested participants contacted the lead researcher via NHS email. Information was shared concerning the format of the individual semi-structured interview, the topics to be covered and length and location options. Any additional questions that the staff member had were also answered. If the participant was still agreeable to taking part, an interview time was arranged either via Microsoft Teams or in person at the staff member's work base.

Charmaz (2014) suggests the appropriate number of participants depends on the "analytic level to which the research aspires" (Charmaz, 2014, p.106). The exact participant number requirement for a grounded theory study has been debated. Many articles recommend guidance, and it has been suggested that anywhere from 5 to 50 participants is adequate (Morse, 2000; Thomson, 2010). Factors said to be important include the quality of data, the usefulness of the information gained from each participant, the scope of the study and the nature of the topic (Morse, 2000). In this study, theoretical saturation was used to determine the sample size. This refers to "when gathering fresh data no longer sparks new theoretical insights, nor reveals new properties of your core theoretical categories" (Charmaz, 2006, p.113) and thus data collection can cease. Pragmatic considerations were also taken into account due to the time constraints of the project, however, after the completion of 16 interviews all categories of the theory seemed to be well developed and no further theoretical insights were produced.

Theoretical sampling was used whereby the sample population was continuously reconsidered based on the data collected. Sampling was used in an attempt to refine evolving interpretations by seeking confirming and disconfirming views and to test the authenticity and credibility of tentative research findings. An example of theoretical sampling in this study was widening the recruitment criteria to include staff from the Memory Assessment and Treatment Service (MATS) and specifically sampling

those who often work with people with cognitive impairment due to frequent codes suggesting a difference in TIP when working with those with and without cognitive impairment.

Demographics

Participants completed a demographic information sheet (Appendix E) to gather information including current job role, length of time spent working in older adult services and completion of trauma informed training. Information gathered about participants was minimal to limit the chance of identification of participants due to recruitment from a small workforce.

Interview Procedure

Data was gathered in semi-structured interviews that lasted 40-60 minutes. Open-ended questions were designed to guide discussion around the participants' understanding and experiences of work with older adults in CMHTs who may have experienced trauma, enabling them to share their practice experience and discuss issues relevant to the aims of the study (see Appendix G for sample interview schedule). Prior to formal data gathering, a pilot study was conducted with the project clinical supervisor who worked within older adult CMHTs but would not be participating in the study. This pilot study informed the implementation of interview questions and technique. Interviews were carried out between May 2023 and February 2024. Field notes were taken during the interviews and, once the interview was completed, these were then developed into memos. Interviews were audio-recorded and transcribed verbatim. All identifying information was removed from the transcripts prior to analysis and stored in line with NHS research and development confidentiality guidelines.

Data Analysis

Constructing Grounded Theory: A Practical Guide through Qualitative Analysis (Charmaz, 2014) was used to guide the analysis process. The approach aimed to generate a theoretical understanding of social phenomenon that is based on empirical data rather than predetermined concepts (Glaser & Strauss, 1967). The researcher engaged in a systematic process of data collection and analysis to generate theoretical insights. The approach did not aim to uncover a single objective truth, rather

acknowledge the subjective nature of reality and focus on understanding the multiple perspectives and interpretations of participants (Charmaz, 2014). There is acknowledgement of a co-constructed reality between both the participants as well as the researchers. Therefore, the final analysis is a "interpretive portrayal" not an exact picture (Charmaz, 2006). A core aspect of the approach is that analysis occurs alongside and informs the data collection in an iterative process (Charmaz, 2014). The process uses a simultaneous approach of data collection and analysis. This comparative approach allowed the interview questions to be flexibly revised and adapted based on what was brought by participants and the need for topics to be further explored (Charmaz, 2014).

Each transcript was stored on Dedoose (Dedoose version 8.3.35, 2019), which supported data analysis. Line by line coding was carried out where the transcript was broken down into sections and each line analysed to allow the researcher to become immersed in the data and gain an initial sense of it by defining what was happening through descriptive and exploratory codes (Charmaz, 2006) (see Appendix H for a coding extract example). This provided preliminary directions for constant comparison (Charmaz, 2014). Following this, focused coding was used to assess the empirical properties of the initial codes generated and assumptions associated with these codes were considered. Focused coding required identifying the most significant and frequent earlier codes to synthesise and explain larger segments of data (Charmaz, 2006, p57). This required decisions about which initial codes made the most analytic sense to categorise the data comprehensively. Categories were then developed through grouping together codes based on similarities. A constant comparison was carried out whereby each new code was compared with existing codes and categories to define and refine their characteristics. Theoretical coding was then used to integrate the categories together, considering what the relationship between them is and ultimately raising categorisation of patterns to a theoretical level, forming abstract explanations for the process. Glaser (1978) described theoretical codes as conceptualising how the substantive codes may relate to each other as hypotheses to be integrated into a theory. This initial theory was then compared to new data generated. Further

evolutions refined theoretical codes. Appendix I, J and K provide examples of the methods used in the process of model formation.

Memos

Alongside the coding process, the researcher kept memos reflecting on the interviews' contextual aspects not captured by the recording and also documented thoughts, new insights and reactions to the data collected. Memo writing is seen as a crucial method in grounded theory because it prompts analysis of data and codes early in the research process and functions as the pivotal intermediate between data collection and the final theory (Charmaz, 2006). Memo writing served multiple purposes including: allowing the researcher to keep involved with the analysis and increase the abstraction of ideas; documentation of ideas, insights, questions and connections that arose during interviews and analysis; reflection and sense-making through identification of patterns; integration of data and theory through the connection of specific examples or quotes from the data to broader theoretical concept; and the iterative analysis and revisions which helped to refine interpretations in light of new insights and emerging patterns in the data (Charmaz, 2006). Diagrams were drawn to aid the process of analysing the relationships between categories and constant comparison of the data as suggested by Glaser and Strauss (1967) (Appendix K). An example of a memo can be found in Table 1.

Table 1. *Memo example*

Hidden Trauma
003 spoke about the stigma and shame related to trauma within the older adult population *"when I worked in adults...younger adults erm seemed freer to talk about these things than older adults but maybe there was a greater deal of stigma or shame or seen as a weakness or not coping so I definitely think there is more of a cultural erm people are more ashamed."* 003's observation and perception of older adult's experiences of trauma makes me think of trauma as something that was almost hidden. Hidden from other people but in a way also hidden from themselves due to some sort of belief that it shouldn't be experienced because of the stigma and shame that is attached to trauma. These views seem to be similar to participant 002's observations.

Study rigour

The researcher took a reflexive stance throughout the data analysis process to enhance the rigour and trustworthiness of the research. This involved the researcher considering their own biases, preconceptions and assumptions and how these might influence the process through the use of reflexive memos.

Literature suggests that an approach which is grounded in a practice which maximises researcher data interaction in a variety of learning modalities ensures the analysis process is rigorous and productive (Maher et al., 2018). As part of the current research, a number of modalities were used to analyse research including: Dedoose software, memos (Table 1), pen and paper diagrams (Appendix K), sticky note code mapping (Appendix I) and coding tables (Appendix J).

Charmaz (2006, p182) proposed that rigour can be demonstrated through the criteria of credibility, originality, resonance and usefulness. Credibility can be improved through triangulation. Therefore data was collected from a range of sources e.g., different professions and across different CMHTS and

MATS; a range of methods were used to analyse the data; and systematic comparison was made between observations and categories. Reflexivity was also used to ensure credibility by reflecting on the impact of the researcher's influence on methodological decision, participant interactions, data collection, analysis, writing and the influence of the research on the researcher (Olmos-Vega et al., 2023). Originality was provided in the research by offering new insights into an area that had previously been under-studied. Resonance was demonstrated through theoretical saturation and member checking, allowing participants to access their own data and to provide feedback to ensure that the grounded theory makes sense to the participants. Usefulness was demonstrated through the findings offering interpretations that could benefit clinicians as well as policy makers and provides suggestions for future work.

Reflexive Statement

Reflexivity has been described as the ability to take account of one's self and the effects of personality or presence of the researcher on the investigation (Holland, 1999). This is particularly important in CGT as the findings are a reality constructed between participants and researchers (Charmaz, 2014). The researcher engaged in reflexivity through self-conscious critique, appraisal and evaluation of how their subjectivity and context influenced the research, consistent with guidance published by Olmos-Vega et al. (2023) which recommends reflection regarding personal, interpersonal, methodological and contextual factors throughout the research process.

An example of a personal factor, is the beliefs that the researcher held regarding the research topic prior to completing the research. The researcher reflected on the project being part of a clinical psychology doctorate and therefore knowledge and experience of psychological trauma gained from clinical training was relevant to the researcher's conceptualisation of trauma and approach to TIP. One example is that the researcher was aware of trauma informed guidelines which suggest that TIP practice should encompass elements of safety, choice, collaboration, trustworthiness, and empowerment. On reflection the researcher held some assumptions that TIP practice in older adult

services would also include all of these elements. However, through the research process it became evident that although most of these elements were considered to some extent within participants practice, staff had different priorities based on specific elements of the older adult experience. For example the impact that cognitive impairment can have on the choice and power available to clients. This is an element that was not considered prior to starting the study and was a surprise to the researcher, only through remaining close to the data was it possible to identify these nuances. Another example of a personal factor considered in the research is that psychologists take a formulation-based approach whereas other professions may consider trauma from a medical perspective. This also relates to contextual reflexivity by locating the project in its cultural and historical context (Walsh, 2003). It became clear that many staff members perceived that the older people that they worked with also saw their difficulties through a more medical lens. Keeping alert to different perspectives, and using journaling to reflect on potential biases, the researcher did not prioritise psychological viewpoints to ensure that the final conceptual model was grounded in the data.

An example of an interpersonal consideration made was about power differentials and dynamics between participants, researchers and services. The researcher and supervisor reflected on the possibility of identification of participants within a relatively small recruitment pool. It was decided that prior to recruitment, consent would be gained from service managers to allow participants to complete the research during work time rather than participants having to request this individually. This was an ethical decision to ensure anonymity and minimise bias in recruitment due to concern about being identified. As the research progressed, the researcher reflected on the importance of this methodological decision as many participants voiced difficulties related to service pressures which they may not have felt comfortable doing otherwise.

It was important for the researcher to reflect on their pragmatic orientation from the outset of the project as part of methodological reflexivity. The researcher is aligned with a social constructivism

approach in which human development is considered to be socially situated and knowledge constructed through interaction with others. This alignment was developed through previous clinical work, in particular a previous role in a systemic therapy service which focused on setting the individual or family and their problems in the relational context of conversation and social discourses. This was seen as beneficial to the research process, as the researcher was naturally immersed in the approach and this supported the alignment of methodological choices with the paradigm. The main method of reflexivity used was reflexive writing where questions such as 'In what way might my experience shape my participation in the project?' 'What is my orientation to qualitative research?' 'What theories do I tend to favour while analysing data?' were used as prompts for reflection (Olmos-Vega et al., 2023). Space was also provided in the researcher's academic supervision for the researcher to reflect on the decisions and their influences.

Results

Participant Characteristics

16 participants were recruited and interviewed as part of the research; 4 males and 12 females. Participant demographic characteristics are presented in table 2. The most common discipline was psychologist and the second most common was Community Psychiatric Nurse. Experience in older adult services ranged from 2 months to 17 years with an average of 6.6 years. 62.5% of the participants reported having received formal trauma informed training. The trauma training most commonly completed was the NES Level 2 Trauma Skilled Practice training. 3 interviews were conducted face to face and 13 were conducted via video call. The average length of the interviews held face to face was 63 minutes, in comparison to via video call which were on average 48 minutes. Table 3 presents a sampling grid comparing the variables of years of experience in older adult services and staff discipline which suggests participants from a medical or nursing background overall were the participants with the longest experience in these services.

Table 2. *Participant Characteristics*

Participant characteristic	Number of Participants (N=16)
Staff Discipline	
Community Psychiatric Nurse	4
Community Dementia Nurse	1
Occupational Therapist	3
Psychologist	5
Psychiatrist	2
Dementia Link Worker	1
Years of experience in older adult services	
<1	1
1-5	9
6-10	3
11-15	2
>15	1
Previous Trauma Training	
NES Level 1 Trauma Informed Practice Training	3
NES Level 2 Trauma Skilled Practice training	4
NES Level 3 Trauma Enhanced Practice training	1
Trauma Focused CBT Training	2

Table 3. *Sampling grid comparing the variables of years of experience in older adult services and staff discipline.*

Staff Discipline	Years of experience in older adult services				
	<1	1-5	6-10	11-15	>15
Psychology	0	4	1	0	0
Medical and Nursing	0	3	2	1	1
Other (Occupational Therapy and Dementia Link Worker)	1	2	0	1	0

Analytic findings

The Conceptual model

The staff members understanding of TIP and their perceptions of the barriers and facilitators to implementation were drawn together to offer a conceptual model to understand practice in older adult mental health services. The model describes what TIP means from the perspective of the staff members and considers implementation from an individual practice perspective while also considering systemic impacts.

The model provides insights into the considerations that staff members made within an older adult service context, particularly staff experiences of the disclosure of traumatic events. The model establishes choice and power as central to TIP. Factors that staff believed facilitated the provision of TIP included: care and compassion, prioritising staff wellbeing, promoting team connections and

collaboration, and facilitating continuous learning. Staff members expressed that a barrier to choice and power in TIP was the pressures within services and wider NHS systems. 'Hidden trauma' was seen as an important element of the model. Factors that were experienced as crucial in influencing choice and power in the transition from hidden trauma to disclosure of trauma included, cognitive impairment and age-related vulnerability. Staff beliefs about how much consideration should be made about trauma in clients presenting with cognitive impairment, as well as lack of service provisions were seen as key influences of choice and power in clients presenting with cognitive impairment.

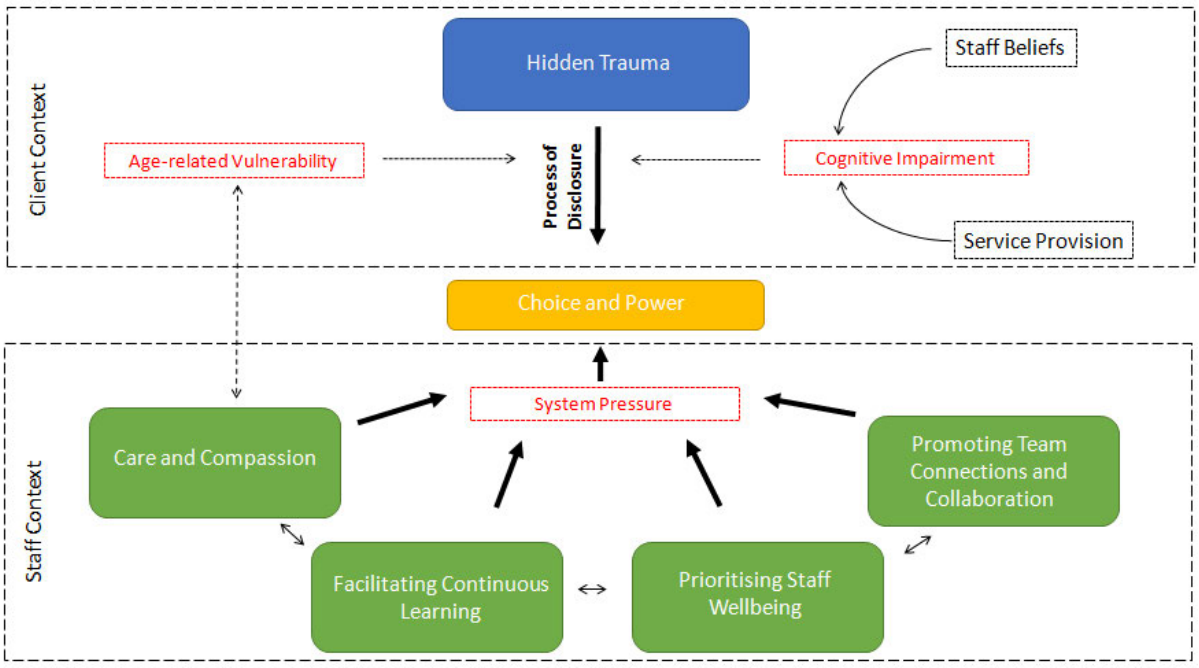

Figure 1: *A visual representation of the study's grounded theory conceptual model*

Choice and Power

The conceptual model positions choice and power as central elements of TIP in older adult community mental health services. The model separates considerations of TIP into the client context and staff context. Choice and power in the context of the client had two main elements: older adults having the opportunity to have space to share their story and choice over further trauma focused interventions.

Choice and power in the context of staff had one main element which was the conflict between ideal and reality in clinical practice.

The first element contained beliefs that providing space for older adults to share their story and for their experiences to be acknowledged and validated appeared to be an important notion. Staff members discussed their different professional roles with clients, which consisted of a mix of direct and indirect focus on trauma. Regardless of role there was agreement across the interviews about the importance of respecting the strategies of coping developed by older adults from the environments and culture they were raised in.

"For other people they maybe have a well worn patterns in their head but have never shared it with anybody else... the lady I spoke with this afternoon told me something she said that she had never told anybody...she needed to let that out and she was really happy that someone had heard that and that's what she wanted"(007)

*"well I think just kind of someone to listen to her story and to give her the opportunity (PAUSE) to say how it makes her feel so her and I have spoken at length we don't set an agenda for what we're talking about I'll leave it to *her* to decide what she wants to talk about " (009)*

The second element contained beliefs that giving older adults the choice to explore past traumatic experiences with psychological staff in more detail was important but often clients did not take up this opportunity. Non-psychology staff described commonly offering a referral on to psychology colleagues but this rarely being accepted. Psychology staff described therapeutic work mostly not having a focus on the specific trauma but more commonly on present day difficulties as this was often the preference of clients. The generation and cultural context that older adults were brought up in was perceived to have an influence on clients' personal management of traumatic experiences. Coping methods commonly used were described as internal avoidance and minimisation. Some nurses and occupational therapists thought that psychology and psychiatry provided a useful role in providing

advice on how to support people who have experienced trauma if direct intervention was not appropriate or desired.

"I don't know that felt like quite a (PAUSE) not knowing what on earth I was meant to do in that situation because actually I don't think she wanted help really I think she just wanted to say it out loud yeah erm (PAUSE) so I guess again that was a very quick lesson for me but actually she had that choice and she didn't want to take it any further"(013)

"It doesn't mean always that the person will automatically need an actual clinical psychologist but erm knowing where to go sometimes to sort of say this is the sort of situation I've got what do you think would be most appropriate. That sort of ability to go to the resource and get that kind of advice"(005)

The final element contained beliefs that there was a conflict between ideal and reality for staff members. This highlights that staff members felt that choice and power was not only important for clients but also for themselves. Flexibility and choice in the way that they worked was deemed as important but this way of working was perceived as limited by wider organisational policy and resources. This view was present across professions. Some participants felt that this meant that at times the services' way of working was incongruent with their values. 014 mentioned the importance of expressing these conflicts: "I think (we) just kind of like live with the incongruence everyday but it's nice to just at least say (LAUGHS) that it's not how you want it to be". 011 and 007 discussed the challenges related to choice when working in the NHS: "It's probably not that great there's obviously a mismatch between you know how we would conduct a consultation and the written communication from the NHS body"(011) and"I struggled hugely coming back into the NHS erm with this and with working out what we did what was consistency what was choice what had to happen"(007).

Client Context

The model identified that there were significant considerations that were made about choice and power in TIP in the context of the client, in particular the transition from hidden trauma to disclosure. How this process is impacted by age-related vulnerability and cognitive impairment is explored in more detail below.

Hidden Trauma

There was recognition from staff members of the different ways that past trauma can be "hidden". This included three elements: beliefs about trauma in the generational context; stigma and shame about trauma; and the differing conceptualisations of trauma.

The first element contained beliefs such as "keep calm and carry on" or "just get on with it" as prominent cohort beliefs from the older adults in the services. This meant that staff perceived that often older adults have developed sophisticated and unique ways of coping with distressing experiences and often traumatic incidents had remained undisclosed for long periods of time.

"mental health is a weakness or you know if you cry you're weak kind of thing, all of that I suppose shapes a person and we can then begin to understand how maybe that person is maybe responding to traumatic incidence in their own life"(004)

"I come back to a lot is that erm that I experience quite a lot with people that I'm working with is this sort of keep calm and carry on type of mentality erm (PAUSE) and so I guess if you think about the way that shows up in terms of trauma it's a lot of like avoidance a lot of not being willing to talk about difficult experiences it's a lot of (PAUSE) I just got on with things that didn't affect me"(010)

The second element included the identification of commonly occurring shame and stigma about mental health difficulties seen within the older adult generation identified by staff members. This was

perceived as impacting clients' decisions regarding disclosing traumatic experiences throughout their lives, as well as the choices made by clients about receiving support for trauma in services.

"When I worked in adults..younger adults erm seemed freer to talk about these things than older adults but maybe there was a greater deal of stigma or shame or seen as a weakness or not coping so I definitely think there is more of a cultural erm people are more ashamed" (003)

"I's just this kind of stiff upper lip I mean like the like you know their parents would have dealt with you know world war 2 by kind of like keeping calm and carrying on and I think that's kind of the mentality that people are kind of raised with so (PAUSE) so I think there would be shame if (PAUSE) the kind of (PAUSE) like core belief around needing to be emotionally in control were violated if that makes sense"(014)

The third element included beliefs that the experiences that staff members defined as "trauma" were not often seen in this way by the older adults they work with. Staff members perceived that often older adults did not relate the distress they were experiencing to past potentially traumatic events. Whether staff members chose to provide clients with an alternative view point to clients depended on their confidence, training and support from team members.

"you had a car accident that's left you feeling you know left you with flashbacks or something, often people tend to offer up that information because it's been a kind of significant event in their life but I suppose those more subtle interpersonal dynamics that can be difficult for a person, or often, you know they might not see it as trauma." (004)

"When you speak to the patient the traumas erm often minimised and the link between current illness and past trauma is not counted as an important factor to the patient…it doesn't seem to be quite as important to them or as willing to explore it as part of the information" (011)

Age-related Vulnerability

A common perception from staff members was that that older adults had often found ways of coping with traumatic incidents throughout their lives. However, the significant life changes and vulnerability that often occur with ageing can mean that their previously successful coping strategies are sometimes less functional, leading to emergence of symptoms related to trauma and first time disclosures of trauma within older adult services. 002 discussed the relationship between coping strategies and age "they (traumatic memories) come back and the strategies that we have to cope with it don't apply any longer so that's sort of the basic model how I tend to see it and trauma in that sense comes up". Several other participants discussed the impact of age related vulnerability, including 004.

"if you're not able to get out of the house, if you've lost a bit of your independence or if you've lost important people, significant people in your life through death or otherwise then that is going to compound the effect of trauma for people over time"(004)

Cognitive Impairment

When disclosure of trauma is in the context of a client having cognitive impairment, this was found to influence the choice and power available to clients. Some staff members described that clients with cognitive impairment may have less control over how trauma is disclosed due to disinhibition and repetitively sharing information about past traumatic experiences. Some staff members felt that this removed some of the choice and power that clients had over what they shared with staff members, as well as family and carers.

"whether his (PAUSE) dementia his cognitive changes had meant that actually he was struggling to regulate how much information to share erm so (PAUSE) it almost being this kind of all or nothing so so it was maybe kind of cognitively a challenge for him to filter out the details or to give a brief summary...yeah so I was kind of thinking about how we continue to offer that kind of choice and

collaboration when actually it is harder for him to maybe make some of the decisions around how much he shares and how much he doesn't"(016)

Furthermore, staff members' beliefs about whether the impact of trauma can or should be considered for people diagnosed with cognitive impairment influenced the choices available to the client. A subset of staff members reported that when clients were referred to services due to cognitive impairment, this should be the focus of the input however support for trauma was no longer considered because practical care was seen as the priority or support for trauma was seen as "inappropriate". 006 provided an example of this "now I know (PAUSE) she's kind of actually rapidly gone downhill in terms of her memory difficulties so I would say she won't get any support with trauma stuff because it's now not really appropriate". Staff members that held the belief that trauma was an important consideration for all older adults expressed that they thought about trauma in their work with people diagnosed with cognitive impairment and considered the choices available for support however commonly deemed service provision as lacking for individuals with both a cognitive impairment and distress related to trauma. In particular for those who were too impaired to receive direct psychological support but were not receiving support from an inpatient ward or care facility.

Staff Context

The model identified four factors: care and compassion; prioritising staff wellbeing; promoting team connection and collaboration; and facilitating continuous learning as essential to providing TIP in the staff context. The data suggests that these factors do not function in isolation but instead impact each other. The pressure that services are under was highlighted as a significant challenge to implementing these factors and therefore a barrier to providing TIP within each of these categories. The elements within these four categories and how they are influenced by service pressures is explored below.

Care and compassion

There was recognition of the importance of compassion within older adult services. This included four elements: high level of compassion in older adult services related to the vulnerability witnessed;

personal identification; inherent compassion in staff members; and conflict between care that staff would ideally like to provide and the reality of what they are able to. The model directly connects age-related vulnerability with the category of care and compassion to represent the dynamic link between clients and staff members, in which staff members' perception of vulnerability in clients increased their compassion and motivation to provide care.

Participants identified that a key difference in older adult services compared to younger adult services was the vulnerability of clients due to the significant life changes that older adults go through including physical health problems, loneliness, loss of people, loss of social connections and loss of independence. Many staff members expressed compassion in relation to these vulnerabilities.

"loneliness to me is a trigger for depression anxiety because they're anxious about being on their own and it's even a trigger for suicidal ideation it's life worth living I'm sitting here by myself nobody's come to see me why am I here so yeah" (013)

"I've said countless times over the years now I'm sure but if you put your average 30 or 40 year old through the changing life events that happen in life events they would be on the floor, they literally would be on the floor but we don't think that at that point because we are used to coping and we just see this as we can't cope etcetera so that's how kind of trauma comes forward in later life"(007)

The second element contained beliefs that one of the reasons older adults elicit compassion was because of personal identification prompting staff members to think of older family members such as parents or grandparents which elicit a desire to provide good care. This included the knowledge that we will all one day reach old age.

"certainly the older patients with bereavements and loss and physical ill health its very easier to feel compassionate towards them erm (PAUSE) whether its I suppose I I guess (PAUSE) maybe we all know that we're gonna be there one day or you know a lot of people have quite warm memories of grandparents that could be whats at play there"(011)

"I've definitely felt really touched many times by people that I've seen in this service where you know you're seeing that loss you're seeing maybe (PAUSE) people in your own life you know my parents are a bit older now so seeing that maybe through the lens of yourself and your own your own family your own experiences"(010)

The third element contained beliefs that many staff members pursued their careers because they had a motivation to want to care for others and inherently perceived themselves as compassionate. This was seen as a motivating factor to advocate for and empower clients, for example "you do this job because you are a certain type of person and I think (compassion is) absolutely one of the words that you need to have an element of absolutely"(013).

"I would like to think that I am a very compassionate person I would like to think that everyone who works here is very compassionate erm (PAUSE)…I would like to think that compassion is something that comes very naturally and if it doesn't come naturally that you fake it till you make it and you have those skills there to at least come across and be perceived as compassionate erm I think it's our responsibility to be compassionate it's the foundation of what we do"(005)

The final element contained beliefs that at times service requirements and pressures such as time constraints conflicted with a compassionate approach that staff members felt was fundamental to a trauma informed approach. This links with the category of staff wellbeing as staff members described this leading to at times not being able to provide the care that they would like to and this conflicting with their values.

"it feels maybe like what what gets encouraged is maybe quantity over quality and when I would think about that work quality in terms of our conversation it would be that it would be sort of trauma informed and responsive and being able to sort of hold the sort of space for someone and to be able to respond emphatically and compassionately so I guess what we're talking about so what

I'm touching on here is that can the system be counterproductive to you know being trauma informed in your practice"(010)

"I think erm (PAUSE) time constraints would be the biggest one erm perhaps that's why I might not ask or minimise my screening questions for trauma because I've got the appointment and I've got an end goal and if someone does disclose trauma that might take up the whole rest of the consultation" (011)

Prioritising Staff Wellbeing

The data suggests that prioritising staff wellbeing was perceived as an essential aspect of TIP particularly since staff members are working with a high level of emotional intensity. This included three elements: lack of resource to facilitate staff wellbeing; varying needs for further formal support; and an increasing pressure to be trauma informed.

The first element contained beliefs that there seemed to be an organisational-wide agenda to improve staff wellbeing but a lack of resources to facilitate this. Some participants reported feeling frustrated that there was increasing pressure within services to do more without being given the resources to do so, leaving them with a sense that they are not doing enough. *014 expressed this frustration: "erm but I think I mean sometimes you see these kind of like do 20minutes of yoga over your lunch break and things like that and it's like no reduce our workloads".*

"yeah, and then the double-edged sword of well then you should have bloody well found the time to go and look at it yourself (LAUGHS) because that's the whip we all hold. I should have found more time to do more but you (BREATHE IN) you just can't I think we're very much we all work so hard that we don't get a chance day to day to do the wellbeing but I am aware there is currently a huge move towards it and we are all meant to be (PAUSE) now that I've been beating myself up about that quite nicely for the entire time that I've been in the job" (007)

The second element contained varying opinions on whether further formal support would be beneficial to staff. Many participants felt that there was enough formal support available to them within their teams and this support empowered them in their practice. For staff members who felt that there was not enough formal support, a key factor that affected this was reductions in staff and increased workloads. Some participants reported that they felt less comfortable requesting support from managers because they were aware of the pressures that their colleagues were under.

"that was hugely supportive in that we'd have weekly group supervision, we'd have regular 1 to 1 supervision as well you know, peer supervision as well so you do feel well I certainly feel that the loss of that and in particular I found group supervision immensely helpful erm..." (002)

"I don't have that at the moment because there's been so many staff changes erm and people on holiday and also I used to have a supervisor out with the team (PAUSE) and that was quite helpful because you were able to talk about the person you were working with but also about whether you felt able to go and ask your immediate colleagues about stuff but I've not had that the last nearly a year because my supervisor went on maternity leave and no one replaced them"(006)

The third element contained beliefs that there was an increasing pressure to consider trauma in their clients but without any additional support for staff to help deal with the emotional impact of this. This support seemed particularly important for staff members who have been through traumatic incidents themselves.

"erm I guess you know (PAUSE) there's a huge move towards trauma informed care but there hasn't really been any (PAUSE) erm I guess kind of consideration of how talking more about trauma might impact on staff daily or how that might feel day in and day out for staff members"(014)"you know staff have their own life and their own personal circumstances and their own difficult situations, possibly their own traumas to cope with and I'm not sure..maybe there's a way of kind of trauma (PAUSE) trauma (PAUSE) well what's the word kind of thinking about the wellbeing of staff

and for increasing the awareness of trauma that's probably an important thing that we're maybe not looking at." (004)

Promoting team connections and collaborations

The data suggested that team connections are essential to the care that can be provided. The culture of connection within older adult teams was described by most participants as being generally strong and this was seen as a facilitator of TIP through multidisciplinary working and sharing of experiences. However, when this was not possible due to time constraints and practical limitations, staff perceived this to adversely impact their wellbeing and reduced the sharing of knowledge, which in turn adversely impacted their practice. This included two elements: emphasising the importance of close connections within the CMHTs; and multidisciplinary teamwork.

The first element contained beliefs that supportive team structures made working with trauma and distressed clients more manageable for staff. Most participants felt that they had a supportive team, this was perceived to provide them with both practical advice which helped them to make choices about their work with clients but also emotional support. Some participants shared the impact of the coronavirus pandemic and reflected on how this affected their connection with the team and furthermore their wellbeing.

"I feel really lucky to have that it certainly doesn't feel like that's (PAUSE) erm (PAUSE) just the norm erm you know speaking to friends who work in other services you know there in a room on their own all day and then they go and get their lunch and there's not really anywhere to have lunch and it's like you know just even that human contact of seeing other people maybe you're not even chatting to them but just having people around there's safety in that isn't there so (PAUSE)" (010)

"I think that's what we have always said that we notice very much during the pandemic although we were still coming into work it was very much the numbers of people in the office weren't the same there could be some days where it was you and another person kind of thing and we definitely did all miss that that being able to kind of just talk face to face"(013)

The second element contained beliefs about the importance of multidisciplinary team working. Staff members shared that there perception was that often older adults did not want direct intervention for past trauma and it was therefore thought that psychology and psychiatry provided an important role in giving advice and consultation. 006 and 001 discussed the roles that psychology and psychiatry can provide: "we would go to speak to psychology if there was something maybe because then it might be appropriate to refer to them or maybe just for us to have guidance on how to approach something" (006), "usually if it's very complex then I'll speak to the psychiatrist and they usually give quite good advice and my colleagues will say you know try and manage this person like this and sometimes you know I'll go with that and sometimes not"(001).

Facilitating continuous learning

The data suggests a desire from staff for ongoing learning, particularly developing confidence in how to respond to disclosures of trauma. However, this was found to be limited by the training that was available and the time that staff had available to complete training. Staff described this influencing their perceived level of skill, confidence in working with people who have experienced trauma, as well as, the choices and interventions available for them to offer. This included three elements: staff confidence in responding to trauma disclosures; the recognition of the importance of ongoing learning about trauma; and the lack of resources that influence the possibility of this.

The first element includes the complex relationship between staff members' confidence in responding to disclosures of trauma and the impact that this could have on the client. Staff members who had received more extensive training on trauma reported having more confidence that their approach would not cause damage to clients. This links with the care and compassion category as staff members expressed concerns over how responding incorrectly to trauma disclosures could impact their relationship with the client and therefore made them less likely to approach the topic.

"I suppose I do still in the moment think actually you know could this escalate could you know am I (PAUSE) almost allowing somebody to potentially get to a point where they become really

upset or you know wherever it might lead to and actually how would I handle that what would it look like... I suppose for me it would be about (PAUSE) ok so what do I now do to (PAUSE) to at least learn how to (PAUSE) help in those immediate situations."(013)

"yeah and I think it's just that that fear of triggering or re-traumatising or something but to have a few tools to be more confident about erm not doing harm would be quite I think it would be useful yeah."(003)

"No! I Don't think so I think I feel confidence in my approach which is respective and gentle and thoughtful I think I I don't feel (PAUSE) that (PAUSE) yeah I don't tend to sort of enforce things on people or take control so I I I hope that's enough to not be re traumatising"(008)

The second element included staff members' desire for further opportunities for learning and the benefits of this. Many staff members said that their current knowledge came from colleagues, learnt on the job or from previous experience. Even staff members who had received previous trauma training or trauma informed training reported that ongoing learning in this area would be beneficial.

"I think a lot of it has been (PAUSE) learning as I go erm (PAUSE) so I no certainly when I erm when that training came up I thought actually that that would be really helpful because I am as I say its not all that often but you know I am seeing these kind of types of conversations come up so erm so yeah hopefully kind of in a bit more formally I'll be able to kind of learn a bit more to potentially put into practice" (001)

"I feel awful (LAUGHS) I'm a psychiatrist so I should be fully trauma informed but I I (PAUSE) in terms of that word and what it means for me and for my practice and for the trust it would be good to get kind of guidance on it" (011)

The third element contained beliefs that there was a lack of available opportunities for training in trauma or TIP. This perception was seen across all staff disciplines and spoke to the general lack of resources available in services.

"the opportunities often feel really limited to build on those skills and to to turn the drive and the will erm (PAUSE) into something more pragmatic and more informed so its all very well this sort of reigning on high that you are trauma informed and that you are trauma responsive erm I think the obvious learning here is that sometimes its not quite sufficient to deal with someone disclosing something that is hugely traumatic"(005)

*"I do think more training would be helpful and I know the person who was my supervisor out with the team actually when I had mentioned to her before she was on amt leave I was saying oh I'm going to do this training that *** had offered she was like oh that will be great I've been trying to get on a training like that but I've not managed it"(006)*

Discussion

This study provides novel insights and the development of a new conceptual model to understand how healthcare professionals, in the context of older adult mental health services, approach and implement TIP and the barriers and facilitators to the elements identified as central to the provision of TIP: choice and power. These new insights have implications for clinical practice and service development.

It was found that a flexible way of working where clients were able to have significant input and choice in the decisions made about their care was seen as essential by mental health staff. This finding mirrors recent research which sought to describe the mental health information preferences from the perspective of older adult clients (Reynolds et al., 2023). The importance of empowering older adults to participate in shared decision-making in mental health help-seeking was highlighted. They found a desire from older adults to obtain detailed information on mental health problems and treatment. Other research found that older adults preferred significantly less choice than their younger counterparts and described a narrative of "muddling through" the mental health service process (Berard et al., 2020; Mikels et al., 2009; Reynolds et al., 2020). It has been suggested that this may reflect paternalistic approaches to healthcare treatment decision making often seen within older

adults, in which medical diagnoses and decisions are made by medical professionals and followed passively by service users (Reynolds et al., 2023). Research has found that older adults reported family, friends and mental health-care professionals as preferred information sources about their care; they also preferred discussion with health-care providers and information in written form as their preferred information format (Reynolds et al., 2023). The format that information is shared in may be a key consideration to be kept in mind when collaborating with older adults to make choices about their care, enabling empowerment to be prioritised.

The TIP literature and NES toolkit guidelines place safety, trustworthiness, choice, collaboration and empowerment as central elements of trauma informed practice. It is noteworthy that although the majority of participants were not explicitly aware of the principles, many of these elements were encompassed in the core concept of choice and power identified by staff members in this study. Although "collaboration" was not overtly stated, the literature describes that a key feature of collaboration is the sharing of power between staff and clients and respect for the clients' life experiences and history (Fallot & Harris, 2009). A core element of the choice and power concept in the current research was respecting the strategies of coping developed by older adults from the environments and culture they were raised in which mirrors this domain. Considerations of safety and trust were less frequently shared by staff members as elements considered within their practice. The model is not suggesting that these aspects of TIP are not important elements to consider within older adult services but rather that the importance of "choice and power" was particularly highlighted by staff members in this study. This may reflect that these areas require a specific focus within the context of older adult services, however, it could also reflect the need for further training on TIP within services to increase knowledge of the importance of safety and trust.

Participants identified that trauma is often 'hidden' within the older adult population reflecting a view that clients were commonly disclosing trauma for the first time in older adult services. Participants reported that trauma had often been "hidden" due to generational conceptualisations and beliefs about trauma which are commonly associated with stigma and shame. These feelings of shame were

perceived by staff as encouraging internal coping strategies such as mental avoidance, suppression and minimisation, as well as external strategies such as keeping busy. This finding is supported by previous research from Hiskey & McPherson (2013) that found that older adults commonly regard significant adversity as just part of life. They found a collective understanding of non-disclosure through avoidance or limited support-seeking as methods of emotional management due to cultural and historical scripts that convey messages of personal weakness and perceived risk in relation to disclosure of trauma. Many of the older adults seen within these services will have lived through a generational context with few legal structures and services in place to support individuals who had experienced interpersonal trauma. An example of this is the progression of child protection across the UK which saw major changes to child welfare policies with the introduction of the Children Act 1989, which provided a framework for child protection systems and law (Mitchels, 1989). For many of the clients in older adult services, during their childhood there will have been little in place as legal protection and the impact of these experiences will have been recognised less.

A key perception in the current study is that trauma was being reported for the first time within older adult services. One influencing factor may be the significant life changes and vulnerability that often occur during ageing such as physical health problems, loneliness, loss of people, loss of social connections and loss of independence. There was a perception from the mental health staff in this study that this had an impact on the availability of previously successful coping strategies, making them less functional and leading to emergence of trauma symptoms and help seeking. These perceptions are supported by the age-related differential vulnerability hypothesis which suggests that when people become older, they become more vulnerable (Fillenbaum, 1977). Through ageing, adaptive capacities, coping resources and external resources reduce, while exposure to traumatic events or illness increases (Cook & Simiola, 2017; Tanner, 2010). There is however an opposing 'inoculation hypothesis' which suggests that older adults are better at coping with traumatic events due to resistance developed from subsequent stress (Eysenck, 198; Avidor et al., 2021; Palgi, 2015). A review paper suggested that emotional regulation improves with age and decline in emotional

regulation occurs only at the very end of life, due to cognitive and physical difficulties that precede death in very old age (Charles & Carstensen, 2003). This research suggests that older adults might not be disclosing past trauma because they no longer have functional coping strategies but conversely they have developed emotional regulation capacities over time and in older adulthood feel able to share past traumatic experiences.

The process of disclosure was associated with varying levels of choice and power depending on whether an individual had cognitive impairment. Many staff members reported that cognitive impairment seemed to trigger the disclosure of trauma and there seemed to be reduced control over how this was disclosed due to cognitive disinhibition and repetitiveness. A recent systematic review concluded the current evidence suggests that PTSD and dementia have a bidirectional relationship where PTSD increases the risk for late-onset dementia and dementia increases the risk for delayed-onset PTSD in those who experienced significant trauma earlier in life (Desmarais et al., 2020). The onset of cognitive deficits can precipitate the development of trauma symptoms in older adults, such as recurrent and intrusive distressing memories from the past and nightmares related to previously experienced traumas (Johnston, 2000; Mittal et al., 2001). Research has also found short intervals of time between the emergence of trauma symptoms and the later onset of dementia suggesting that PTSD manifestations in older adults may represent a prodromal stage of dementia (Bonanni et al., 2018; Wang et al., 2016). The possible causal mechanisms underlying the relationship between dementia and subsequent emergence or worsening of trauma symptoms manifestations are not well understood. However, impairment in different areas of the brain associated with dementia have been linked to an increase in trauma symptoms including impairment in the pre-frontal lobe processes associated with executive function have been hypothesised to contribute to delayed onset PTSD through a decrease in inhibition of the amygdale (Mittal et al., 2001; Van Achterberg et al., 2001) and neurodegeneration of limbic structures such as the amygdale and hippocampus are associated with emotional regulation (Mittal et al., 2001; Ruzich et al., 2005).

Inhibitory control refers to the ability to selectively suppress thoughts or behaviours that are not adaptive or appropriate in the current context (Diamond, 2013). It was the perception of several participants that some clients were sharing more about their past traumatic experiences than they meant to or might have prior to cognitive impairment. Loss of inhibitions can be common in dementia, particularly in frontotemporal dementia (Jenkins et al., 2022; Starkstein et al., 2004). It may be that participants are disinhibited and therefore have less choice in how much they share about traumatic incidents, potentially causing distress. Considering how this can be handled in a trauma informed way is important. One participant suggested that it could be beneficial for staff to externally regulate how much the participant shares by prompting the client by asking them to pause and assessing whether they would like to continue. This is not dissimilar to aspects of the approach described in the management of 'stress and distress' in dementia which might provide guidance on how to support regulation of potentially unwanted disclosures (Jackman & Beatty, 2015). This includes the importance of getting to know the person in order to recognise the potential triggers for stress and distress and the early warning signs of distress to support the development of risk reduction and coping strategies on an individual needs basis. Family and carers are considered essential to responding to distress as they will have the greatest insight to the person and their potential triggers (Alzheimer Scotland, 2018).

The findings suggest that some staff members expressed less consideration about how someone is supported with trauma once cognitive impairment has been identified. A gap was identified in the psychology support provided for older adults diagnosed with cognitive impairment who could no longer engage with one-to-one therapy, but their cognitive impairment had not progressed to the point of receiving indirect 'stress and distress' approaches for the management of behaviours that challenge in a care home or inpatient dementia settings (Jackman & Beatty, 2015). Research suggests that some of the behaviours associated with dementia (e.g., impairment in memory, concentration, hyperarousal, anger, response to environmental triggers) may also be symptoms of posttraumatic stress (van Dongen et al., 2022). As such, it can be difficult to differentiate what is driving such

behaviours. Clients with dementia displaying behavioural difficulties may be identified as having dementia related symptoms when they are actually experiencing symptoms of trauma (Amano & Toichi, 2014; Martinez-Clavera et al., 2017). Health professionals' knowledge and understanding of this is important so that posttraumatic stress responses are not dismissed or overlooked as part of the dementia presentation and appropriate support and intervention can be provided.

There were four core elements perceived to be essential to facilitate power and choice within services: care and compassion; prioritising staff wellbeing; promoting team connection; and facilitating collaboration and continuous learning. There was a high level of compassion reported within older adult services. This was identified as particularly prominent within this population group due to the vulnerability of clients. This influenced staff to be motivated to provide care for clients but the system limited this. A distinction was made between the care that participants would ideally like to be able to provide and the care that they were able to, which was at odds with many participants' values.

The system pressures identified were lack of resources, lack of staff training/learning opportunities, lack of prioritisation of staff wellbeing and time constraints. Such views reflect the developing literature which has cited system pressures as a barrier to implementing TIP within services. Barriers related to working in the UK public sector have been cited as austerity, underfunding and lack of resources (Sweeney et al., 2018). The 2022 United Kingdom Health System Review (Anderson et al., 2022) reported that a key issue for mental health services is the low political priority afforded to mental health compared with physical health since the NHS's inception and historical disparities in funding. This has meant that despite growing needs, funding for mental health services has often not kept pace with funding for physical health services (Anderson et al., 2022). From 2010 to 2019, the UK government enacted an official policy of austerity following the 2008 financial crisis and subsequent recession. Although the NHS in Scotland (and the rest of the UK) received a progressive increase in funding during this time, health boards still had to implement cost-cutting measures due to increased demands on services, in part due to the Coronavirus pandemic (Buchan et al., 2016; Needham & Hall,

2023). People over 65 years old now make up around 20 per cent of the population and birth rate has fallen (Office for National Statistics, 2018), meaning there are fewer people of working age to practically and financially support the care of older generations. Audit Scotland released a report finding that the mental health workforce is under pressure and 'struggling to meet demand'. Vacancies for mental health nurses have "more than doubled" since 2017 and turnover rate remains at a high of 12%, while consultants in general psychiatry currently have the highest vacancies of all consultant roles in Scotland (Audit Scotland, 2023).

Adding to the support of the perception that system pressures are a barrier to TIP is a recent paper which identified factors affecting the implementation of TIP in the UK at the organisational level (Emsley et al., 2022). They found that unsupportive organisational culture and high-pressure environments were perceived as a barrier, as well as inadequate funding and commissioning of services. This is consistent with other research that found participants rated time constraints as the most significant barrier to TIP, as well as need for training, confusing information and evidence on TIP, and worry about further upsetting or re-traumatising patients (Bruce et al., 2018). Research on TIP suggests that individuals implementing TIP, alone does not influence outcomes for clients and it is TIP implemented at an organisational level that leads to significant change (Sweeney et al., 2018). Therefore, if resources and funding are not available to support the infrastructure it is not possible for staff to truly implement TIP.

Strengths and limitations

A strength of the study is that it offers originality by developing a conceptual model which provides insights into how healthcare professionals in older adult mental health services approach and implement TIP and the barriers and facilitators to this. Firstly, the study looks at the challenges of working with people both with and without cognitive impairment within older adult services. Secondly, it provides insights into factors that influence the staff's ability to be trauma informed and

builds on previous research which has established system pressures as a key barrier to this way of working.

Another strength is that the conceptual model supports staff to consider the specific factors of working with trauma in older adult populations, including generational beliefs, age-related vulnerability and cognitive impairment. It can also help service providers and policy makers to consider the factors required to provide TIP in older adult services and furthermore the current barriers to this so that changes at an organisational level to support staff to provide TIP can be considered.

Steps were taken to enhance the rigour of the study and a reflexive and open approach was taken to enhance transparency of the research process and decisions made. The appendix provides evidence of the multiple interactions with the data used to enhance the study's rigour including Dedoose software, memos (Table 1), pen and paper diagrams (Appendix K), sticky note code mapping (Appendix I) and coding tables (Appendix J). Data was collected from a range of sources including different professions, across different services to improve credibility of the research. A summary of the results was sent to participants to allow them to have access to the work and provide feedback on whether the findings accurately represented their experiences. Only 3 participants responded which may have been due to only providing 2 weeks for participants to respond. Some examples of the feedback were that the model provided “a lot of interesting insights” and had the potential to “help support patients and staff going forward”. None of the participants reported that the model did not reflect their experiences.

There were some limitations to the study. Firstly, although there was a degree of triangulation this could have been improved. The initial aim had been to include focus groups as well as individual interviews, as a means to acquire a different perspective in data collection. Unfortunately, insufficient people chose this option for it to be meaningfully included. Another triangulation option that could have been considered was to have included the perspectives of service users in understanding how

TIP is implemented in practice. There was not the scope for this in the current research but this could be considered in future research.

Another limitation is that the research was only carried out within one NHS health board within Scotland which somewhat limits the generalisability of the findings. Particularly since TIP relies heavily on organisational influence and this may differ across health boards in Scotland and even more so internationally. However, this does not prevent this model being transferable for service providers in other older adult services to consider the specific factors of working with trauma in this population and how well the system is set up to facilitate the factors needed for staff to provide TIP.

A further limitation is that there was only a limited range of demographic information collected from participants. This was done in an attempt to preserve anonymity of participants but further demographic data could have provided beneficial information on the impact of participant variables such as age on the findings.

Future research and service implications

One implication of this research is the identification of what staff perceived as important facilitators of TIP. Of particular note is the need for staff to feel confident to respond to client experiences of trauma. Staff members who had received less training on trauma reported feeling less confident in discussing trauma for fear of how this would impact the client and the interpersonal dynamic. Staff members with more training reported feeling confident that a compassionate and empathetic approach would not be harmful to clients. This highlights the importance of services supporting staff members to feel confident in their practice and providing opportunities for training on TIP.

Another implication of this study is the suggestion that a greater focus needs to be placed on how community mental health services can provide TIP for older adults with cognitive impairment. During the research period, NES released tools to support staff to consider TIP in dementia settings. It would be interesting to see what impact this has on staff approaches.

A significant barrier to implementing TIP is system pressures. The data emphasises that NHS mental health services continue to be underfunded. This study suggests this is leading to detrimental effects on staff well-being, learning opportunities, team collaboration and the care provided to clients. It would be useful to carry out research with service stakeholders to explore organisational prioritisation and the impact on TIP.

The current research considers important insights from staff members but for the research itself to be fully trauma informed then clients' voices must be included. Therefore, a recommendation for further research is to explore older adult clients' insights into their experience of TIP within mental health services.

Conclusions

The results indicated that staff felt that considering the impact of trauma was an important part of their work. The availability of choice and power for clients and staff members was seen as particularly important in TIP. Staff perceived a specific element of working within older adult services was "hidden trauma", identified as a high level of previously undisclosed trauma in clients. Age-related vulnerability and client cognitive impairment were found to have a complex interaction with TIP. The model established the core factors that were perceived to facilitate TIP within services were care and compassion, prioritising staff wellbeing, promoting team connections and collaboration, and facilitating continuous learning. System pressures on staff members were perceived to be a barrier to TIP. The study recommends a greater focus on establishing ways of implementing TIP when working with older adults who have cognitive impairment, as well as understanding how system pressures can be mitigated. This model requires further exploration of client's experiences of trauma informed services.

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Appendices

Appendix A – Journal Guidelines

Qualitative and Mixed Methods Research Articles

The Gerontologist is committed to publishing high quality qualitative and mixed-methods research and welcomes studies across the range of qualitative methodologies. This type of submission may not exceed 7,000* words.

Qualitative studies are essential to advancing our understanding of lived experiences surrounding aging, and related health interventions, processes, and policies. Qualitative studies are particularly useful in exploring areas where knowledge is just developing, yielding in-depth descriptions of phenomena or lived experience, examining subtle influences of context, studying social processes, or generating theory. However, as use of qualitative approaches has increased across diverse disciplines and techniques, inconsistent use of terminology to describe methods has also increased. For this reason, it is important for authors to include in the paper sufficient details of how the study was conducted to provide an unambiguous understanding of these procedures to readers. As needed, these details can be provided as supplementary material to manage word count. This option allows qualitative researchers to provide clear examples of data collection strategies, coding and category development, interview guides, and examples of how interviews may have evolved in response to ongoing analysis or development of themes. Our intent is to acknowledge and embrace the flexibility, diversity, and creativity of qualitative methodologies while ensuring rigor, transparency, and trustworthiness.

Qualitative research is valuable in many contexts, including to inform development of, and examine feasibility of, various investigational or interventional strategies. However, we are most interested in submissions that apply qualitative methodology to advance substantive research questions relevant to the overall mission and focus of *The Gerontologist,* including in-depth examination of health experiences, care delivery processes, and exploration of complex or nascent aging phenomenon well suited to qualitative inquiry.

Some specific issues to consider before submission include:

Although hypothesis testing is often not appropriate for qualitative studies, justify the selection of the specific research methodology and the topical focus, or research question, and place it in the context of a body of knowledge.

Address reflexivity and positionality as appropriate for varying methodological approaches.

If theory or a conceptual framework guided the study, the methods and results should illustrate exactly how the framework was used.

Clearly identify the methodology used. Avoid a general description of the methodology and instead provide details in the Research Design and Methods section about how the authors implemented the methodology in this particular study.

Be sure that the named methodology matches what was actually done in the study, and that appropriate references are provided.

References for methods should include methodological papers, not only published papers that used the methodology.

Describe whether and how the methods used in the study deviated from established approaches and provide the rationale for doing so.

Understand the meaning of “inductive” analysis and use a different term if the final themes or codes reflect concepts embedded in the interview questions.

Provide details about how focus groups, interviews, or observations were conducted or how other types of data sources, such as documents and other materials, were collected or used.

Provide illustrations of coding that demonstrate how analytic procedures were applied to data segments

If ‘key’ codes are identified, clearly explain what made these codes ‘key’.

Quotations are raw data that should be used strategically to support categories. The results section should not be predominantly quotations.

If claiming “saturation,” clearly explain what type of saturation and/or provide support for the claim.

Our overall expectation is methodological clarity, particularly in terms of the analysis. Creativity and flexibility are strengths of qualitative research and are encouraged, as long as there is transparency, a clear description of process, and rationale. Qualitative research papers should avoid the subheading "A Qualitative Study." For additional guidance, see the following editorials:

Schoenberg, N., & McAuley, W. J. (2007). Promoting qualitative research. *The Gerontologist, 47*(5), 576–577. https://doi.org/10.1093/geront/47.5.5767; and

Schoenberg, N.E., Miller, E.A., & Pruchno, R. (2011). The qualitative portfolio at The Gerontologist: Strong and getting stronger. *The Gerontologist, 51*(3), 281–284. https://doi.org/10.1093/geront/gnr032.

Inclusion and Equity

To further our goal to promote scientific and scholarly actions to address the above-referenced inequities, and to create a platform that is inclusive and respectful to all stakeholders, we offer the following guidance for authors to consider in submitting their manuscripts:

Commitment to equity and inclusion is expressed in inclusive, specific, and people-first language used to describe samples, participants, populations, prior research, and other researchers. *The Gerontologist* follows the style guidelines of the American Psychological Association (APA), which include specific guidance with respect to describing age, gender, race, disability, sexual orientation, gender identity, and socioeconomic status. Please review these before submitting your article. Note that GSA guidance from the Reframing Aging initiative supersedes other guidance related to age; links to additional guidance are provided below.

In accordance with the guidelines for bias-free language in the Publication Manual of the APA (7th ed.), the journal requests that authors use the term “older adult” when describing individuals aged 65 years and older. Authors also are asked to provide a specific age range (e.g., “older adults aged 75 to 85 years”) when describing their research or making recommendations about patient care or the health of the population. Terms such as “(the) aged,” “elder(s),” “(the) elderly,” and “seniors” should not be used because such denominations connote discriminatory and negative stereotypes that may undercut research-based recommendations for better serving the needs of individuals and populations. More details are provided in the Reframing Aging Journal Manuscript Guidelines.

When writing about people with disabilities, the author should approach the subject with sensitivity, respect, and accuracy. APA strongly recommends using Person-First Language to prioritize the individual over the disability. For example, use "person with a disability" instead of "disabled person" to emphasize the personhood of individuals with disabilities.

When discussing case studies, stories, or data involving individuals with disabilities, ensure that their representation is respectful and dignified. Use language that acknowledges and respects the diversity within the disability community. Disabilities can vary greatly in nature and impact, and it's important to recognize this diversity. For additional information consult APA at Disability (apa.org).

Authors may further want to consult guidelines on race and ethnicity published by the American Medical Association: Flanagin, A., Frey, T., Christiansen, S.L., & Bauchner, H. (2021). The reporting of race and ethnicity in medical and science journals: Comments invited. *JAMA*, 325(11), 1049-1052. https://doi.org/10.1001/jama.2021.2104.

See also: Federal Committee on Statistical Methodology SOGISC Interest Group and CDC Statistical Brief on Using Secual Orientation, Gender Identity, Sex, and Sex-at-Birth Variables in Analysis for guidance on measuring and/or analyzing sexuality and gender identity variables.

See ADA National Network Guidelines for Writing About People With Disabilities for guidance on writing about ability/disability.

See Dementia Australia’s Dementia Language Guidelines for guidance on writing about people living with dementia.

Inclusion and exclusion criteria are important design considerations for any empirical study, and these include demographic and identity characteristics. Authors of empirical manuscript submissions should explicitly note and discuss the purpose, contributions, and limitations of their sampling. Authors should be mindful of what demographic groups are, and are not, included in their samples, including final analytic samples, and how sampling choices affect the relevance and generalizability of their data.

Articles should report comprehensive demographic information on all samples. The variables collected should be listed in the Methods, and characteristics reported in Results. Demographic characteristics of the sample should be briefly summarized in the Abstract. When demographic data are collected but not reported, or groups are excluded, authors should state why.

If collected, authors should specify how information on race/ethnicity, sex, gender, gender identity, and sexual orientation are assessed or used in analyses (e.g., what categories, sources for the

classification, and who made the designations). The reasons for collecting the data should be clear in the Methods section.

For further guidance, please see our Inclusion and Equity FAQs.

Style

Manuscripts should be prepared carefully according to the *Publication Manual of the American Psychological Association*, 7th ed. (2020).

In-text References and Citations.

Refer to the *Publication Manual of the American Psychological Association* (7th ed.) for style and see the FORMATTING section above. References in text are shown by citing in parentheses the author's surname and the year of publication. Example: ". . . a recent study (Jones, 1987) has shown. . ." If a reference has two authors, the citation includes the surnames of both authors each time the citation appears in the text. When a reference has more than two authors and fewer than six authors, include the name of only the first author plus “et al.” in each citation, including the first citation, unless doing so would create ambiguity. Multiple references cited at the same point in the text are in alphabetical order by author's surname.

Abbreviations

Frequent use of abbreviations can diminish readability. Minimize the use of abbreviation, especially for common terms such as "older adults" or “persons with dementia” that refer to people. Ensure that the use of abbreviations is clear and that each one is defined in the text at its first mention only.

Components of the Manuscript

Please carefully review the STYLE section as you prepare the manuscript. Note that there are some journal-specific requirements below that are optional in the APA style (7th ed.).

Cover Letter (Optional)

Note: The cover letter for manuscripts will NOT be shared with reviewers.

Title page

A title page should be a completely separate page that includes the following:

Title of the manuscript, APA recommends that a title be no more than 12 words. Although we recognize that 12 words may be too restrictive for some papers, please try to be concise in your title.

All authors' full name(s) with academic degree(s), affiliations, and email addresses.

The corresponding author should be clearly designated.

Abstract and Keywords

On a separate page, each manuscript must include a brief abstract. Structured abstracts for research articles, review articles, and measurement articles should be no more than 250 words and must

include the following headings: Background and Objectives, Research Design and Methods, Results, and Discussion and Implications. Forum manuscripts must also include an abstract of no more than 200 words, which may be without structured headings. Articles using humanities and arts-based methods (as opposed to articles that are aimed at evaluating an intervention) should include a 250-word non-structured abstract that presents the overall research question, the source of data, the basic interpretative or analytical method, and the finding or conclusion as appropriate for the submission.

Graphical Abstract

Authors are able to submit a graphical abstract as part of the article, in addition to the required text abstract. The graphical abstract should clearly summarize the focus and findings of the article and will be published as part of the article online and in PDF. The graphical abstract should be submitted for editorial review as a separate file, selecting the appropriate file-type designation in the journal's online submission system. The graphical abstract should be distinct from any of the submitted figures. The file should use simple labels and employ text sparingly. The file should be clearly named, e.g. graphical_abstract.tiff. Specifications include a high-resolution figure file (300 DPI). If graphical abstracts figures are submitted at a wider width, 170mm maximum or 6.5 inches, the journal reserves the right to reduce the size. It is important that all text be legible when the figure is sized according to the journal's dimensions. The font size should be at least 8pt, and all text should be legible at 100% zoom. . Please also see *Figure guidelines* for guidance on appropriate file format and resolution. *This article has a good example of a graphical abstract*. Please ensure graphical abstracts are in landscape format.

Below the abstract, authors should supply three to five keywords that are NOT in the title. Please avoid elders, older adults, or other words that would apply to all manuscripts submitted to *The Gerontologist*. Note: Three keywords from the pick list must be entered to move forward in the online submission process; these are used for peer review purposes and do not necessarily have to match the ones provided in the manuscript file.

Text

The text of Research Articles, Review Articles, and Measurement Articles submissions should follow the headings included in the structured abstract (see above Abstract and Keywords). Forum and Humanities and Arts manuscripts should also be divided into headings, as appropriate for the submission. Articles may need subheadings within some sections to clarify their content. The Implications should not merely restate the results but should interpret the results and specify the policy and/or practice implications.

The word counts for the different types of publications considered by the Journal are presented above and are inclusive of the abstract, text, and references.

If manuscripts greatly exceed these word count limits, your manuscript may be returned to you for correction BEFORE the peer review process can begin. If you would like to appeal the word count limit for the text of the manuscript, permission must be granted by the Editor- in-Chief prior to submission. When submitting, please indicate in your cover letter that permission has been granted.

Footnotes/Endnotes

Per journal policy, footnotes and/or endnotes are not allowed. Integrate the material into the text or provide the numbered notes in a section titled “Author Notes” following the text of the manuscript.

Funding

Details of all funding sources for the work in question should be given in a separate section labeled "Funding." This should appear before the Acknowledgments section.

The following rules should be followed:

The sentence should begin: "This work was supported by ..."

The full official funding agency name should be given, i.e. "National Institutes of Health," not "NIH" (full RIN-approved list of UK funding agencies) Grant numbers should be given in brackets as follows: "[grant number xxxx]"

Multiple grant numbers should be separated by a comma as follows: "[grant numbers xxxx, yyyy]"

Agencies should be separated by a semi-colon (plus "and" before the last funding agency)

Where individuals need to be specified for certain sources of funding the following text should be added after the relevant agency or grant number "to [author initials]."

An example is given here: "This work was supported by the National Institutes of Health [AA123456 to C.S., BB765432 to M.H.]; and the Alcohol & Education Research Council [hfygr667789]."

Oxford Journals will deposit all NIH-funded articles in PubMed Central. See OUP’s Complying with funder policies on open access page for details. Authors must ensure that manuscripts are clearly indicated as NIH-funded using the guidelines above.

If there is no funding source to declare, please state “None reported.”

The funding section should be removed from the anonymous version of the manuscript.

CrossRef Funding Data Registry

To meet their funding requirements, authors are required to name their funding sources, or state if there are none, during the submission process. For further information on this process or to find out more about the CHORUS initiative please visit OUP’s Complying with funder policies on open access page.

Conflict of Interest

At the point of submission, each author should reveal any financial interests or connections, direct or indirect, or other situations that might raise the question of bias in the work reported or the conclusions, implications, or opinions stated - including pertinent commercial or other sources of funding for the individual author(s) or for the associated department(s) or organization(s), personal relationships, or direct academic competition. When considering whether you should declare a conflicting interest or connection please consider the conflict of interest test: Is there any

arrangement that would embarrass you or any of your co-authors if it was to emerge after publication and you had not declared it?

As part of the online submission process, corresponding authors are required to confirm whether they or their co-authors have any conflicts of interest to declare, and to provide details of these. It is the corresponding author's responsibility to ensure that all authors adhere to this policy. If there is no conflict of interest, please include the statement: "We have no conflict of interest to declare."

Acknowledgments

See “Transparency Openness Promotion” under Additional Policies and Considerations for details on information required in this section. Other acknowledgments and details of support also may be provided; personal acknowledgments should precede those of institutions or agencies. Please note that acknowledgment of funding agencies should be given in the separate Funding section. The self-identifying acknowledgments should be removed from the anonymous version of the manuscript.

Reference List

Arrange alphabetically by author's surname; do not number. The reference list includes only references cited in the text. Do not include references to private communications or submitted work. Consult the *Publication Manual of the American Psychological Association* (7th ed.) for correct form.

Examples:

Journals: Kaskie, B., Imhof, S., Cavanaugh, J., & Culp, K. (2008). Civic engagement as a retirement role for aging Americans. *The Gerontologist,* 48, 368–377. https://doi.org/10.1093/geront/48.3.368

Books: Quadagno, J. S. (1982). Aging in early industrial societies. Academic Press.

Tables

Tables are to be numbered consecutively with Arabic numbers and have a brief title for each. Place table footnotes immediately below the table, using superscript letters (a, b, c) as reference marks. Asterisks are used only for probability levels of tests of significance (*p<.05). Tables should be placed at the end of the anonymous and non-anonymous manuscripts following the references in a section labeled “Tables/Figures”, not embedded in text.

Figures/Illustrations

Please include your figures at the end of the anonymous and non-anonymous Word processing file. The Journal reserves the right to reduce the size of illustrative material. Each figure should be at sufficient resolution (i.e., 300 dpi at 5 in.) and should be clear sharp images. Figures must be professionally lettered in a Sans-Serif type (e.g., Arial or Helvetica). All labels used in figures should be in upper case in both the figure and the caption. Figures should be placed at the end of the anonymous and non-anonymous manuscripts following the references in a section labeled “Tables/Figures”, not embedded in text.

Length Limit for Tables and Figures

Tables and figures are limited to five (5) pages for all submission types except for Review Articles, for which 10 pages are allowed.

Captions for Tables and Illustrations

Type table titles and figure captions on a separate page following the references in the main document with numbers corresponding to the tables and illustrations. Table titles and figure captions should provide sufficient information so that the reader can understand the tables and figures with minimal reference to the text. Explain symbols, arrows, numbers, or letters used in illustrations. Explain internal scale and identify staining method in photomicrographs.

Supplementary Material

Supplementary material is made available by the publisher and linked to the published article. This material includes supporting material that is not essential for inclusion in the full text to understand the conclusions of the paper but contains data that are complementary and directly relevant to the article content, or help increase transparency of methodology, and therefore may benefit the reader. Such information might include more detailed methods, extended data sets/data analysis, or additional figures.

Appendices

Appendices will be made available as supplementary material. All text and figures must be provided in suitable electronic formats. All material to be considered as supplementary material must be submitted for peer review at the same time as the manuscript and included in the anonymous and non-anonymous versions of the manuscript (do not upload the material as separate files) and indicated clearly as supplementary material. Also ensure that the supplementary material is cited in the main manuscript where necessary, for example, "(see Supplementary Material)" or "(see Supplementary Figure 1)." The material cannot be altered or replaced after the paper has been accepted for publication, and it will not be copy edited.

Appendix B - Approvals

Lothian NHS Board

NHS Lothian

Queen's Medical Research Institute
47 Little France Crescent, Edinburgh, EH16 4TJ

Research & Development
Room E1.16
Tel: 0131 242 3330

Email:
accord@nhslothian.scot.nhs.uk

Director: Professor Alasdair Gray

FM/NL/approval

28 April 2023

Miss Esther Matupi
NHS Lothian
Waverley Gate
2-4 Waterloo Place
Edinburgh

Dear Miss Matupi

Lothian R&D Project No: 2023/0008 **REC No:** N/A

Title of Research: What is 'Trauma Informed Care' in Older Adult Services? A Grounded Theory Exploration of the Experiences and Insights of Multidisciplinary Teams

Sponsor Reference: CAHSS2210/02

Participant Information Sheet (Interview, Focus Group):
Version 2, dated 17th February 2023

Consent Form (In Person, Focus Group, Online Research):
Version 2, dated 17th February 2023

Protocol: Version 3, dated 24th March 2023

Approved Location(s) within NHS Lothian: NHS Lothian

I am pleased to inform you this letter provides Site Specific approval for NHS Lothian for the above study and you may proceed with your research, subject to the conditions below.

We note that this study has obtained approval from NHS Lothian Information Governance/IT Security for those aspects of the study that involve collection and/or transfer of identifiable information. You are responsible for informing the NHS Lothian R&D Office if there are any changes to the study that impact the terms of this approval.

We note that this project includes a researcher who will require a Letter of Access from NHS Lothian. The individual concerned Dr Sue Turnbull should contact our offices with a view to applying for the necessary documentation. Please note all final paperwork will have to be signed and returned to our R&D offices before the researcher can commence work on the project.

Please note that the NHS Lothian R&D Office must be informed of any changes to the study such as amendments to the protocol, funding, recruitment, personnel or resource input required of NHS Lothian.

Substantial amendments to the protocol will require approval from the ethics committee which approved your study and the MHRA where applicable.

Data controllers and processors have a legal obligation to hold a register of all their information assets (e.g. personal information (data) and/or special categories of personal data held in paper or electronic format for the purpose of clinical research). This R&D management approval is given on

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the understanding that you, as a potential information asset owner, will register any information assets associated with this research project with your employing organisation (where the data is held) in accordance the Data Protection Act 2018.

Please keep this office informed of the following study information, **which is a condition of NHS Lothian R&D Management Approval**:

1. Date you are ready to begin recruitment, date of the recruitment of the first participant and the monthly recruitment figures thereafter.
2. Date the final participant is recruited and the final recruitment figures.
3. Date your study / trial is completed within NHS Lothian.

I wish you every success with your study.

Yours sincerely

Ms Fiona McArdle
Deputy R&D Director

CC: Mr Nick Clater, Senior Manager (MH), West Lothian, NHS Lothian
Ms Tracey McKigan, Services Director, Psychiatry, NHS Lothian
Ms Morag Barrow, Joint Director, Health and Social Care, NHS Lothian
Ms Judith Proctor, Chief Officer, Waverley Court, NHS Lothian
Ms Alison White, Chief Officer, NHS Lothian
Ms Fiona Wilson, Head of Health, West Lothian Health and Social Care Partnership

The applicant's response to our request for further clarification or changes has now satisfied the requirements for ethical practice and the application has therefore been given a favourable opinion.

Signature:

Position: Deputy Director of Research - Research Ethics and Integrity

Date: 21.11.2022
that a favourable opinion has been provided for this project (for example as an attachment to MSc dissertations).

NOTE: Once reviewed please include the page on which this box appears as a formal document demonstrating that favourable opinion has been provided for this project (for example as an attachment to MSc dissertations).

Appendix C – Participant Information Sheet

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Please note that you can only withdraw your data up to one week after taking part. After this time, it will be anonymised, and it will no longer be possible to identify your responses to withdraw them.

WHAT WILL HAPPEN IF I DECIDE TO TAKE PART?

If you do decide to take part, please keep this Information Sheet. You will be asked to complete an Informed Consent Form to show that you understand your rights in relation to the research, and that you are happy to participate.

As part of the interview you will be asked a number of open-ended questions designed to guide discussion around your understanding and experiences of working with older adults in CMHTs who have experienced trauma. The individual interviews will take place either face to face in a private location at your CMHT base, at a time that is convenient to you or over video call via MS Teams. Approval has been gained from service managers to ensure that it is your choice whether you would like to complete the interview during work time or outside of work. If you wish to participate during work time you will have the option to complete this either face to face or over video call, if you wish to participate outside of work time, this will be completed over video call. The interview should take around 60 minutes to complete.

Once analysis of the interviews is complete, if you wish to, you will have the opportunity to review a draft of the analysis to provide further comment or elaborations. You could be contacted to do this up to 10 months after your participation in the interview or focus group.

WHAT ARE THE POSSIBLE BENEFITS OF TAKING PART?

By sharing your experiences with us, you will be helping Esther Matupi and the University of Edinburgh to better understand how to implement Trauma Informed Care in Older Adult Services, which could lead to changes and improvements in the research area, based on the experience and knowledge that participants have brought to the research project. The project may be empowering for participants to share knowledge and experiences, by providing a platform for these to be shared. The project provides a chance for participants to develop a new perspective of their experiences through co-creation of the interview process, helping to develop different ways of thinking.

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PARTICIPANT INFORMATION SHEET – 1:1 Interview

What is 'Trauma Informed Care' in Older Adult Services?: A Grounded Theory Exploration of the Experiences and Insights of Multidisciplinary Teams.

You are being invited to take part in research on Trauma Informed Care in Older Adult Services. Esther Matupi, Trainee Clinical Psychologist, at the University of Edinburgh is leading this research. Before you decide whether to take part it is important you understand why the research is being conducted and what it will involve. Please take time to read the following information carefully.

WHAT IS THE PURPOSE OF THE STUDY?

The purpose of the study is to explore how staff experience and approach Trauma Informed Care (TIC) in Older Adult Mental Health Services. TIC focuses on developing services to support those with past trauma and prevent re-traumatisation. There has been work looking at how best to develop TIC in mental health services that help several different populations. There is evidence that suggests that older adults deal with unique experiences but there has been little research exploring how older adult services are implementing TIC. This research will explore how services are currently conceptualising, implementing and experiencing TIC.

WHY HAVE I BEEN INVITED TO TAKE PART?

You are invited to participate in this study because you are a staff member working in NHS Lothian Older Adults Community Mental Health Services (CMHTs) and therefore may have insights into this study area.

DO I HAVE TO TAKE PART?

No – it is entirely up to you. If you do decide to take part, you are still free to withdraw at any time and without giving a reason. Deciding not to take part or withdrawing from the study will not affect your employment.

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ARE THERE ANY RISKS OR DISADVANTAGES ASSOCIATED WITH TAKING PART?

There are no significant risks associated with participation. However, there is the possibility that distressing topics could be discussed during the process of the interview. We ask you to use your professional judgement, when deciding whether you will have the capacity to manage the potential emotional demands of the interview/focus group process. After participation, you will also be provided with a debrief sheet which will include sources of support available to you e.g. psychological support through NHS Lothian or voluntary organisations.

Please not that if criminal or other disclosures requiring action are raised during the interview, relevant action will be taken.

COVID-19 - WHAT IF I AM UNWELL?

If you feel unwell or have been in contact with a COVID-19 positive individual in the past 14 days, then please contact the researcher (esther.matupi@nhslothian.scot.nhs.uk) and we will postpone or cancel the research interaction.

WILL MY TAKING PART BE KEPT CONFIDENTIAL?

All the information we collect during the course of the research will be kept confidential and there are strict laws which safeguard your privacy at every stage.

HOW WILL WE USE INFORMATION ABOUT YOU?

We will need to use information from you for this research project.

This information will include your name, job role, length of time spent working in older adult services and mandatory and completion of voluntary TIC training. People will use this information to do the research or make sure that the research is being done properly.

People who do not need to know who you are will not be able to see your name or contact details. Your data will have a code number instead.

We will keep all information about you safe and secure.

If you consent to being audio recorded, all recordings will be destroyed once they have been anonymised and transcribed. Your data will only be viewed by the

researcher/research team. All electronic data will be stored on a password-protected file and all paper records will be stored in a locked filing cabinet. Your consent information will be kept separately from your responses in order to minimise risk.

Once we have finished the study, we will keep some of the data so we can check the results. We will write our reports in a way that no-one can work out that you took part in the study.

WHAT ARE MY CHOICES ABOUT HOW YOUR INFORMATION IS USED?

- You can stop being part of the study at any time, without giving a reason, but we will keep information about you that we already have.
- We need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you.

WHERE CAN I FIND OUT MORE ABOUT HOW MY INFORMATION IS USED?

You can find out more about how we use your information at https://www.ed.ac.uk/records-management/privacy-notice-research

- by asking one of the research team
- by sending an email to the University of Edinburgh Data Protection Officer at dpo@ed.ac.uk

The University of Edinburgh is the sponsor for this study based in the United Kingdom. We will be using information from you in order to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. The University of Edinburgh will securely store your information. This will be transferred to the University of Edinburgh's long-term data storage for a minimum of 10 years.

WHAT WILL HAPPEN WITH THE RESULTS OF THIS STUDY?

The results of this study may be summarised in published articles, reports and presentations. You will not be identifiable from any published results. Quotes or key findings will always be made anonymous in any formal outputs unless we have your prior and explicit written permission to attribute them to you by name. With your consent, your anonymised information may also be kept for future research.

Summary of the findings from the study will be made available to participants who indicate they would like to receive this. This summary will be sent to participants by email.

WHO IS ORGANISING AND FUNDING THE RESEARCH?

This study has been organised by Esther Matupi, as part of their, Doctorate of Clinical Psychology at the University of Edinburgh and sponsored by the University of Edinburgh.

WHO HAS REVIEWED THE STUDY?

The study proposal has been reviewed by the School of Health in Social Science Ethics Committee at the University of Edinburgh. NHS management approval has also been obtained.

WHO CAN I CONTACT?

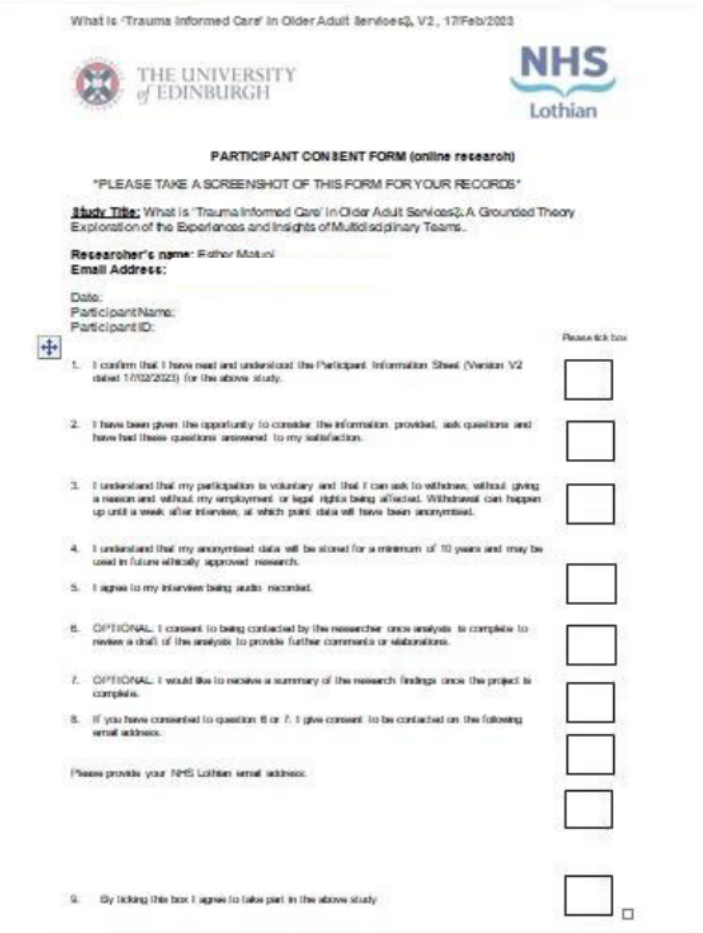
If you have any further questions about the study, please contact the lead researcher, Esther Matupi ( ) or Academic Supervisor, Sue Turnbull (.

If you would like to discuss this study with someone independent of the study please contact Tim Bird (_____)

If you wish to make a complaint about the study, please contact:

Tim Bird (timothy.bird@ed.ac.uk) or the CAHSS Research Governance Team (cahss.res.ethics@ed.ac.uk).

Appendix D – Consent Form



What is 'Trauma Informed Care' in Older Adult Services?, V2., 17/Feb/2023

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PARTICIPANT CONSENT FORM (online research)

PLEASE TAKE A SCREENSHOT OF THIS FORM FOR YOUR RECORDS

Study Title: What is 'Trauma Informed Care' in Older Adult Services?: A Grounded Theory Exploration of the Experiences and Insights of Multidisciplinary Teams.

Researcher's name: Esther Maturi
Email Address:

Date:
Participant Name:
Participant ID:

Please tick box

1. I confirm that I have read and understood the Participant Information Sheet (Version V2 dated 17/02/2023) for the above study.
2. I have been given the opportunity to consider the information provided, ask questions and have had these questions answered to my satisfaction.
3. I understand that my participation is voluntary and that I can ask to withdraw, without giving a reason and without my employment or legal rights being affected. Withdrawal can happen up until a week after interview, at which point data will have been anonymised.
4. I understand that my anonymised data will be stored for a minimum of 10 years and may be used in future ethically approved research.
5. I agree to my interview being audio recorded.
6. OPTIONAL: I consent to being contacted by the researcher once analysis is complete to review a draft of the analysis to provide further comments or elaborations.
7. OPTIONAL: I would like to receive a summary of the research findings once the project is complete.
8. If you have consented to question 6 or 7, I give consent to be contacted on the following email address.

Please provide your NHS Lothian email address:

9. By ticking this box I agree to take part in the above study

Appendix E – Debrief Form

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DEBRIEF FORM

Research Project Title: What is 'Trauma Informed Care' in Older Adult Services?

Thank you for your time and participation in this study. The purpose of the study was to explore how staff experience and approach Trauma Informed Care (TIC) in Older Adult Mental Health Services. TIC focuses on developing services to support those with past trauma and prevent re-traumatisation. There has been work looking at how best to develop TIC in mental health services that help several different populations. There is evidence that suggests that older adults deal with unique experiences but there has been little research exploring how older adult services are implementing TIC. This research aimed explore how services are currently conceptualising, implementing and experiencing TIC. It is hoped that this research will lead to improvements in care for those accessing older adult services.

If you have any concerns or require any additional information, please feel free to ask any questions at this time or contact a member of the University of Edinburgh research team or an independent member of staff using the contact details provided at the end of this form. Please note that you are free to withdraw your data up until one week after the interview or focus group (following this time your interview will be transcribed and made anonymous). If you are interested in learning more about this topic, you may wish to access information on the NHS Education for Scotland Website.

NHS Education for Scotland: https://transformingpsychologicaltrauma.sc.ot/

Who can I contact?

If you have any further questions about the study, please contact the supervisor, Dr Sue Turnbull; Email:

If you want to ask any questions or advice from someone external from the study then please contact an independent researcher, Dr Tim Bird;
Email:

If you wish to make a complaint about the study, please contact: Dr Tim Bird;
Email:

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In your communication, please provide the study title and detail the nature of your complaint.

For general information about how we use your data go to:

https://www.ed.ac.uk/records-management/privacy-notice-research

If you feel affected in any way by any of the information provided here, you can find more information and/or support through the following websites. Also please remember that you can always go to your GP if you feel you need further support:

Support:

- NHS Lothian Staff Wellbeing Helpline. All NHS and Health and Social Care staff can access free, fast and confidential wellbeing and psychological support from Here 4 U: call 0131 451 7445 or email Here4U@nhslothian.scot.nhs.uk
- Samaritans provides confidential non-judgmental emotional support for anyone who is struggling to cope: call 116 123, text 07725 90 90 90, or email jo@samaritans.org
- Breathing Space is a free, confidential phoneline service for any individual who is experiencing low mood and depression, or who is unusually worried and in need of someone to talk to: call 0800 83 85 87
- The big white wall is an anonymous online community which offers mental health support: https://www.bigwhitewall.com/v2/LandingV2.aspx?ReturnUrl=%2f
- Counselling Directory provides information to help people find a qualified counsellor or psychotherapist in their local area: https://www.counselling-directory.org.uk/

Appendix F – Demographic Information Sheet

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Demographic Information Sheet

Study Title: What is 'Trauma Informed Care' in Older Adult Services?; A Grounded Theory Exploration of the Experiences and Insights of Multidisciplinary Teams.

Researcher's name: Esther Matupi
Email Address:

Participant ID:

1. What is your current job role?

2. a. How long have you spent working in Older Adult Services (all prior posts, not just your current service) to the nearest month?
   _____ Years _____ Months

   b. Which older adult services have you previously worked in?

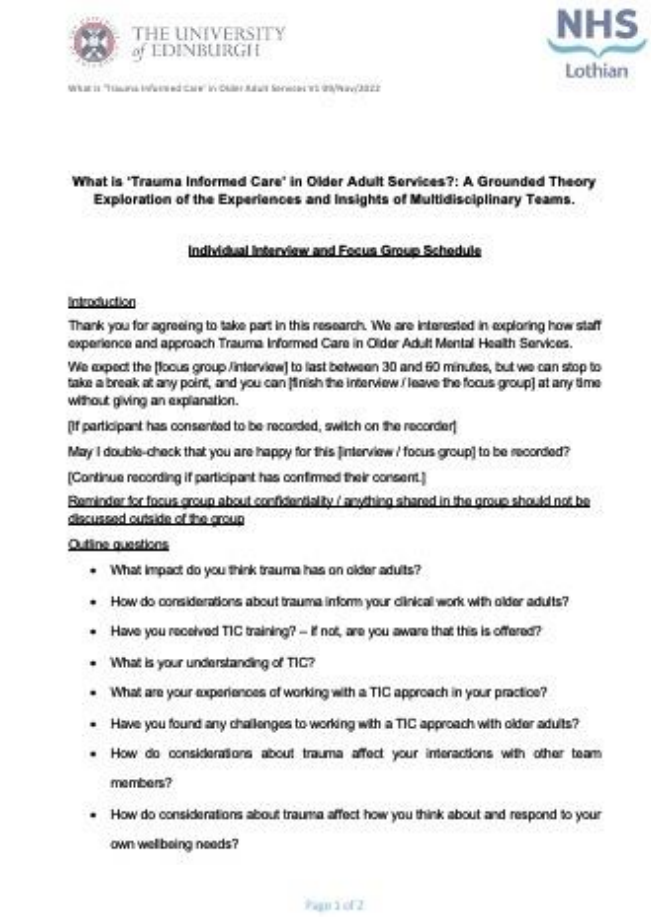
3. How long have you spent working in your current post to the nearest month? _____ Years _____ Months

   b. Which older adult service do you currently work in?

4. What mandatory Trauma Informed Care Training have you completed?

5. What voluntary Trauma Informed Care Training have you completed?

Appendix G – Sample Interview Schedule



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What is 'Trauma Informed Care' in Older Adult Services?: A Grounded Theory Exploration of the Experiences and Insights of Multidisciplinary Teams.

Individual Interview and Focus Group Schedule

Introduction

Thank you for agreeing to take part in this research. We are interested in exploring how staff experience and approach Trauma Informed Care in Older Adult Mental Health Services.

We expect the [focus group /interview] to last between 30 and 60 minutes, but we can stop to take a break at any point, and you can [finish the interview / leave the focus group] at any time without giving an explanation.

[If participant has consented to be recorded, switch on the recorder]

May I double-check that you are happy for this [interview / focus group] to be recorded?

[Continue recording if participant has confirmed their consent.]

Reminder for focus group about confidentiality / anything shared in the group should not be discussed outside of the group

Outline questions

- What impact do you think trauma has on older adults?
- How do considerations about trauma inform your clinical work with older adults?
- Have you received TIC training? – if not, are you aware that this is offered?
- What is your understanding of TIC?
- What are your experiences of working with a TIC approach in your practice?
- Have you found any challenges to working with a TIC approach with older adults?
- How do considerations about trauma affect your interactions with other team members?
- How do considerations about trauma affect how you think about and respond to your own wellbeing needs?

Page 1 of 2

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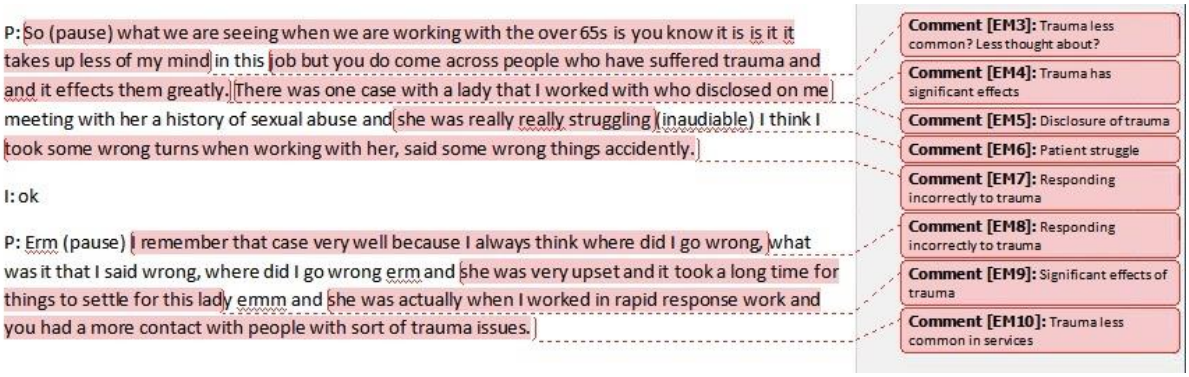
Closing question

Is there anything else you would like to discuss that has not already been covered?

Thank you very much for taking part in this [interview / focus group].

Appendix H – Line by line coding example



P: So (pause) what we are seeing when we are working with the over 65s is you know it is is it it takes up less of my mind in this job but you do come across people who have suffered trauma and and it effects them greatly. There was one case with a lady that I worked with who disclosed on me meeting with her a history of sexual abuse and she was really really struggling (inaudiable) I think I took some wrong turns when working with her, said some wrong things accidently.

I: ok

P: Erm (pause) I remember that case very well because I always think where did I go wrong, what was it that I said wrong, where did I go wrong erm and she was very upset and it took a long time for things to settle for this lady ermm and she was actually when I worked in rapid response work and you had a more contact with people with sort of trauma issues.

Comment [EM3]: Trauma less common? Less thought about?

Comment [EM4]: Trauma has significant effects

Comment [EM5]: Disclosure of trauma

Comment [EM6]: Patient struggle

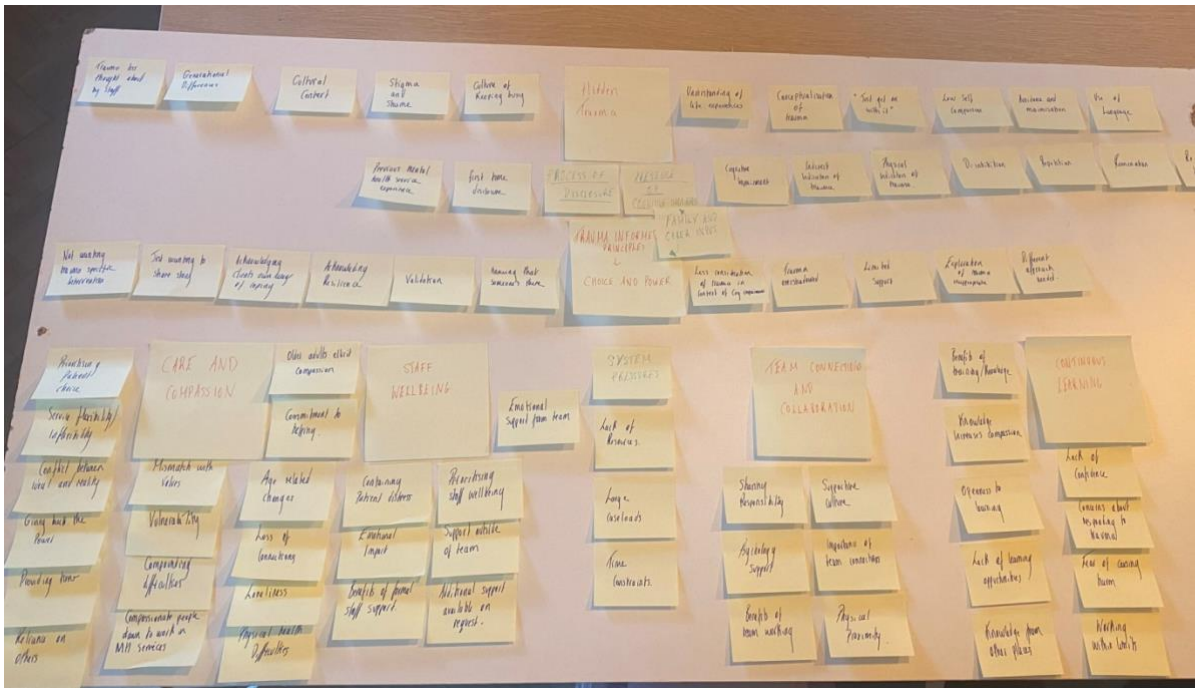
Comment [EM7]: Responding incorrectly to trauma

Comment [EM8]: Responding incorrectly to trauma

Comment [EM9]: Significant effects of trauma

Comment [EM10]: Trauma less common in services

Appendix I – Example of the Categorisation Process



Appendix J – Example of Model Formation

Codes	Focused codes	Categories	Theoretical codes
Giving back the power Providing time Prioritising client choice flexibility/inflexibility Service pressures Lack of resource Conflict between ideal and reality Mismatch with values Benefits of training/knowledge Knowledge increases compassion Openness to learning Lack of learning opportunities Knowledge from other places Lack of confidence Concern about responding to trauma Fear of causing harm Client's reaction Working within limits	Balance between service pressure and flexibility Lack of resources Fear of responding incorrectly Importance and appetite for ongoing learning	Promoting continuous learning	System pressures influence core factors that facilitate effective care
Age related changes in coping strategies Life changes Loss of connections Compounding difficulties Vulnerability Loneliness Reliance on others Physical health difficulties Older adults elicit compassion	Vulnerability due to the impact of ageing High emotional load Older adults elicit compassion Staff inherently compassionate	Care and compassion	

Compassionate people drawn to mental health roles Commitment to helping Carrying/containing client distress Emotional impact	

Appendix K – Example of Theoretical Diagram Development