Understanding major trauma patients' perspectives of healthcare experiences and clinical communication within a Major Trauma Centre

Ruth Kathryn Tanti

Doctorate in Clinical Psychology

Supervised by

Dr Peter Fisher

Dr Róisín Cunningham

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"*Keep lighting up the world*"

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Word Count

Thesis Section	**Text (including tables)**	**References**
Introductory Chapter: Thesis Overview	**1050**	**1136**
Chapter 1: Systematic Review	**8139**	**2881**
Chapter 2: Empirical Research	**8658**	**2157**
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Introductory Chapter: Thesis Overview

A major traumatic injury can lead to multiple life-changing injuries and even death (Rajput et al., 2020). In the United Kingdom (UK), major traumatic injuries are the leading cause of death among people under the age of 45 (National Institute for Health and Care Excellence, 2016; Yates et al., 1992). The most common mechanisms of injury were falls (47%) and road traffic collisions (32%); reported in June – August 2019 (Waseem et al., 2022). In 2013 – 2016 there were high incidences of suicide attempts in those age 20 – 39, with males having higher rates (72%) and suicide attempts accounting for 3.9% of trauma admissions (Hardwick & Bellew, 2020). There are known psychological impacts of experiencing a major traumatic event. Common psychological difficulties include depression and anxiety (Vincent et al., 2015), which are more often reported by women and those with pre-existing mental health difficulties (Gabbe et al., 2017). Post-traumatic stress can also occur post-injury, characterised by flashbacks and hypo-/hyperarousal (Ehlers & Clark, 2000; Kendrick et al., 2018; Kendrick et al., 2017).

Major trauma patients (MTP) therefore have a range of physical and psychological health needs. These needs are met by specialist multi-disciplinary teams (MDT) who provide necessary life-saving interventions and rehabilitation (NHS England, 2013). Both in and outside of the UK, the MDT work within designated major trauma networks or centres providing specialist care (Gabbe et al., 2017), which increases the survival rate of MTP (Cameron et al., 2008; Moran et al., 2018).

Treatment post-injury can be a lengthy process, with some individuals requiring life-long support from healthcare services (Lyons et al., 2011). The care provided by staff therefore has the potential to be significantly influential on MTP, considering the amount of caring interactions and conversations that occur. Indeed, several complex conversations occur between patients and staff which incorporate instrumental information about injuries and

health risks (Desjarlais-deKlerk & Wallace, 2013), but there is also a need to provide emotional support through this clinical communication (Salmon & Young, 2005, 2017). The provision of clinical communication by staff varies depending on their disciplinary training, positionality and care aims (Cooper & Frain, 2018; Lehman et al., 2017), meaning it can be challenging for MDT to provide communication that meets both the instrumental and emotional needs of patients (Young et al., 2011).

Perceptions of care provision and clinical communication between staff and patients is subjective and can be influenced by MTP service expectations and perceived vulnerability (Kellezi et al., 2020; Salmon & Young, 2005; Zoppi & Epstein, 2002). It would be beneficial to consider MTP perceptions of healthcare and clinical communication, as it would identify areas for service improvement, barriers to health promotion and ways to enable patients to have a more active role in their treatment (Makoul, 1998; Street et al., 2005). Existing reviews have mostly focused on the physical health outcomes and mortality of this patient population (Kovachevich et al., 2009; Nayar et al., 2022; Sammy et al., 2016). Only one existing review has explored MTP and carer perspectives, asking them about their experiences of hospital discharge (Collins et al., 2022). There is more evidence of empirical research exploring MTP perspectives of rehabilitation and care needs (Baker et al., 2021; Claydon et al., 2018; Cox et al., 2002; Gabbe et al., 2013), but limited research into MTP perspectives of clinical communication needs (Braaf et al., 2018). Overall, there is a gap in the systematic review of MTP perspectives of healthcare experiences post-injury, with a limited understanding of the specific impact clinical communication has on their experiences. This thesis therefore aims to bridge this gap in understanding.

The thesis comprises of two papers; Chapter 1: Systematic Review and Chapter 2: Empirical Paper. Both papers have been prepared for submission to Injury (see Appendix A). The systematic review involved comprehensive searches of qualitative studies related to MTP

perspectives of healthcare experiences, within four healthcare databases. Eleven studies incorporating perspectives of 305 MTP were eligible for thematic synthesis (Thomas & Harden, 2008). Four themes were conceptualised from the data: “My health post-injury”; “How staff made me feel”; “My experiences of communication” and; “What I was focused on next”. The review suggested areas for future research, such as exploring the impact of social stigma, power dynamics between staff and patients, rehabilitation service provision and the role of families and carers. Clinical communication was an integral part of MTP healthcare experiences, with most studies (nine) being incorporated within the communication theme. Only one study’s aims focused on MTP experiences of clinical communication, highlighting that research in this area is limited and requires further research. The empirical paper therefore links strongly with the future research recommendations of the review.

The empirical paper aimed to further understand MTP perspectives of clinical communication within a major trauma centre (MTC). Twenty participants were purposively sampled from the outpatient fracture clinic at Aintree Site MTC, Liverpool, UK, over an eight-month period (July 2022 - February 2023). Interviews were analysed using a pluralistic qualitative approach (Salmon & Young, 2018). Three themes were conceptualised: “Challenges to speaking up”; “Conversations left me feeling”, and; “Strategies need to be clinical but tailored”. Participants spoke about not wanting to burden staff who they perceived as being under immense pressure, trying to navigate medical terminology and personal challenges related to feeling vulnerable and confused post-injury. The emotional impact of conversations with staff were both positive (feel reassured, cared for, human again) and negative (feeling like an object, angry, confused and dependent). Finally, participants identified effective communication strategies that were used by staff but could be utilised further; related to written communication, injury explanation and person-centred

communication. Understanding MTP experiences of communication therefore provided an insight into the challenges, emotional impact and effective strategies of clinical communication. Exploring MTP perceptions of being a burden on staff and NHS services, and the role of family members as a proxy for patient-staff communication requires further investigation to improve quality care provision. Staff training is required to address communication issues raised by MTP and to enable staff to be responsive to the psychological distress of MTP. It is essential to produce guidance for staff, to encourage conversations with MTP regarding emotional states, to normalise vulnerability, orientate MTP and provide accessible communication. Finally, a need to provide MTP with multiple options of communicating and addressing psychological difficulties has been established.

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Chapter One: Systematic Review

What does major trauma patients' healthcare experiences tell us about their needs post-injury: A systematic review

Target Journal: Injury

Word Count: 8139

Abstract

Major trauma patients (MTP) experience many physical and psychological difficulties post-injury. These healthcare needs are treated by specialist multi-disciplinary teams within various inpatient settings; including major trauma centres (MTC). This review explored MTP healthcare experiences and what these experiences tells us about their needs post-injury. Four electronic databases (PsycInfo, Medline, CINAHL and PsychArticles) were searched in May 2023 for studies that were in English, peer-reviewed primary qualitative research and recruited MTP participants. From this search 11 key studies incorporating perspectives of 305 MTP were included and analysed using qualitative evidence synthesis. Four themes were conceptualised from the data; "My health post-injury" outlines how physical pain, psychological difficulties, vulnerability and powerlessness influence MTP healthcare experiences; "How staff made me feel" describes the positive and negative experiences of staff interactions; "My experiences of communication" highlights the integral role of communication and examples of good and bad practice and; "What I was focused on next" encompasses needs for follow-up care, rehabilitation and acknowledges barriers to regaining independence and normality. The varying needs of MTP post-injury impact on their healthcare experiences and their expectations from services. Future research into MTP experiences of social stigma would provide services with information to address barriers to regaining independence. Further understanding perceived power dynamics between staff and MTP and gaps in rehabilitation service provision, would enable services to pro-actively tackle these issues. Finally, it is imperative to gain a further understanding of MTP communication needs as this is an integral part of MTP healthcare experiences.

Keywords

Major trauma, healthcare experiences, qualitative evidence synthesis

Introduction

Major traumatic injuries are the leading cause of death among people in the United Kingdom (UK) under the age of 45 (National Institute for Health and Care Excellence [NICE], 2016; Yates et al., 1992). Major trauma patients (MTP) experience multiple life-changing physical injuries, with a high prevalence of road traffic collisions (RTC) and falls (Rajput et al., 2020; Waseem et al., 2022). In 2013 – 2016, males were more likely to engage in suicide attempts at 72%, and falls were the most common mechanism of injury at 41% (Hardwick & Bellew, 2020).

Post-traumatic stress disorder (PTSD) can be experienced by MTP (Vincent et al., 2015), characterised by flashbacks and fluctuating hyper or hypo-arousal (Ehlers & Clark, 2000). In the general population, lifetime exposure to a form of trauma (e.g., sexual, violent, non-assaultive) occurs for both women at 74% and men at 82% (Stein et al., 2000) and the prevalence of PTSD is 2 – 4% (Haagsma et al., 2012). Post-traumatic stress is also common following a major traumatic event but there are gender differences in rates of PTSD in MTP, with women having higher rates at 37%, than men at 17% (Holbrook et al., 2002), as well as a higher probability of experiencing PTSD one year following injury (Haagsma et al., 2012). Anxiety and depression in MTP has a prevalence of 41%, with rates being higher in women and in those with pre-existing mental health or substance use difficulties, but lower in those working prior to injury and lower in those >25 years old (Gabbe et al., 2017).

Physical impairment post-injury can be enduring and necessitate ongoing, sometimes life-long, treatment from healthcare services (Lyons et al., 2011). Treatment for MTP is conducted within major trauma centres (MTC) by multi-disciplinary teams (MDT) with specialist knowledge of major trauma (NHS England, 2013; NICE, 2016b). In the UK, the development of MTC increased survival rates, with a 91.7% survival rate at discharge reported in 2016/17 (Moran et al., 2018). Outside of the UK, organised trauma systems and

networks have also reduced mortality rates of MTP (Cameron et al., 2008; Gabbe et al., 2017; Nathens et al., 2000). Most MTP therefore survive a major traumatic injury, but these mortality rates can fluctuate (Lunevicius & Mesri, 2021; Rajput et al., 2020).

A review of the mortality rates of MTP showed that these rates increase in people aged above 65, for those with pre-existing health conditions and warfarin use (Sammy et al., 2016). The outcomes of operative management of limb amputation have also been reviewed, outlining multifactorial indicators for amputation based on clinical presentation (Kovachevich et al., 2009; Nayar et al., 2022). Each of these systematic reviews utilised objective clinical data to inform treatment options.

Only one existing review to date (Collins et al., 2022) has sought to inform MTP treatment by synthesising interview data which incorporates MTP perspectives. They aimed to understand MTP and carer perceptions of hospital discharge and found that discharge planning is often poor and outlined key considerations for services; providing timely information, meaningful participation, preparation and early identification of needs as an inpatient. Gaining MTP perspectives on aspects of their healthcare is valuable as it can inform service delivery, service improvement and can lead to an understanding of how perceptions of inpatient experiences influence health-related quality of life post-injury (Silverstein et al., 2021; Staniszewska et al., 2014).

Review Aims

As outlined, existing reviews have synthesised objective data on physical health outcomes or qualitative data gained on MTP and carer experiences of discharge. No existing review to date has synthesised MTP perspectives of their healthcare experiences, with a focus on inpatient settings plus recovery, as MTP transition to rehabilitation pathways or discharge. The current review therefore aimed to bridge this gap by exploring MTP perceptions of healthcare. The review question asked "what are major trauma patients' experiences of

healthcare?" This question aims to provide a greater understanding of this patient populations' perceptions and reflections on their inpatient experiences of healthcare, with a secondary aim of gaining an understanding of their needs from healthcare services post-injury. A thematic synthesis approach was utilised to collate the qualitative data from relevant studies to establish a wider understanding of MTP healthcare experiences and inform future interventions (Thomas & Harden, 2008). This approach has strengths in representing multiple perspectives beyond face validity (Carroll, 2017), understanding complex interventions (Skivington et al., 2021) and considering human rights and societal implications of healthcare provision (Rehfuess et al., 2019). It can also enable perspectives of a specific healthcare setting to be explored to inform future interventions (Noyes et al., 2022), which can be long-term for this patient population (Lyons et al., 2011).

Method

The methodology was guided towards Enhancing Transparency in Reporting the synthesis of Qualitative research (ENTREQ), by outlining methodological approaches to qualitative synthesis, quality appraisal and information on eligible studies (Tong et al., 2012).

Inclusion and Exclusion Criteria

Studies were included if they were; (1) in English; (2) primary qualitative research; (3) included patients' perspectives of their experiences within healthcare settings (e.g., inpatient, major trauma networks); (4) included adult MTP and; (5) recruited MTP from inpatient settings or networks. In this review, MTP were identified as participants in a study based on the description of injuries (i.e., polytrauma, major trauma) and the presence of internationally recognised numerical scores of injury severity; including the Injury Severity Score (ISS) and Abbreviated Injury Scale (AIS) scores (Baker et al., 1974). Adults are often defined as being over the age of 18, but there is an acknowledgement that individuals aged 16+ may be triaged to an adult MTC or network and treated there (Evans et al., 2021). No

date restrictions were stipulated; published studies with MTP were included from inception. Studies were excluded if they were; (1) theoretical; (2) in other formats (i.e., book, presentations, unpublished university work); and (3) did not include the target population.

Search Strategy

A comprehensive search identified eligible studies. The review was anchored to a pre-defined question (Booth et al., 2016). Search terms related to this question were created using the PICO search tool (Methley et al., 2014); see Table 1.

Table 1.

Search Terms

Domain		**Criteria**
P	Population	Adult major trauma patients in the general population
I	Phenomenon of Interest	MTP perspectives of their healthcare experience
Co	Context	Determine needs of MTP treated in healthcare settings

Search syntax terms were pre-planned alongside librarian consultation (see Table 2).

Table 2.

Search Syntax

Patient	Patient* or "Service user*"
	[AND]
Trauma	"Major Trauma*" OR "poly trauma" OR "poly-trauma" OR "polytrauma" or "multiple trauma" OR "multiple orthopaedic trauma" OR "major orthopaedic trauma" OR "major musculoskeletal trauma"
	[AND]
Perspective	Experience* OR need* OR perspective* OR perception* OR outlook* OR view*

Database searches were completed in PsycInfo, Medline, CINAHL and PsychArticles initially on the 23rd November 2022 and repeated on the 10th May 2023; of the additional 125

studies identified, one full-text article was assessed for eligibility then excluded. These databases were chosen as they focused on healthcare disciplines. After abstracts and titles were screened, studies that met the inclusion criteria were retrieved. Full text reviews and hand-searching of references of key studies was completed. Studies were stored on EBSCO, processed using Microsoft Excel and codes synthesised on NVivo.

Quality Assessment

The Critical Appraisal Skills Programme (CASP) tool was used to quality appraise the 11 studies (see Appendix B). This tool involves 10 questions, which can be assigned numerical scores for comparison if they meet criteria; yes (1), partial (0.5), no (0) scores (Butler et al., 2016). Studies above seven and a half are of moderate quality and above nine are high quality.

Theoretical Standpoint and Synthesis Plan

Data synthesis incorporated thematic synthesis methodology (Braun & Clarke, 2006), with data from results or findings sections in the eligible studies being sourced and synthesised (Aromataris & Munn, 2020; Thomas & Harden, 2008). In practice, this involved RT collating all of the results sections to ensure they could be considered collectively, re-reading the raw data, coding data line-by-line and conceptualising themes from coded text. Synthesis was completed using NVivo software. This process enabled existing themes to be integrated and new themes interpretated through induction (Boland et al., 2017).

Results

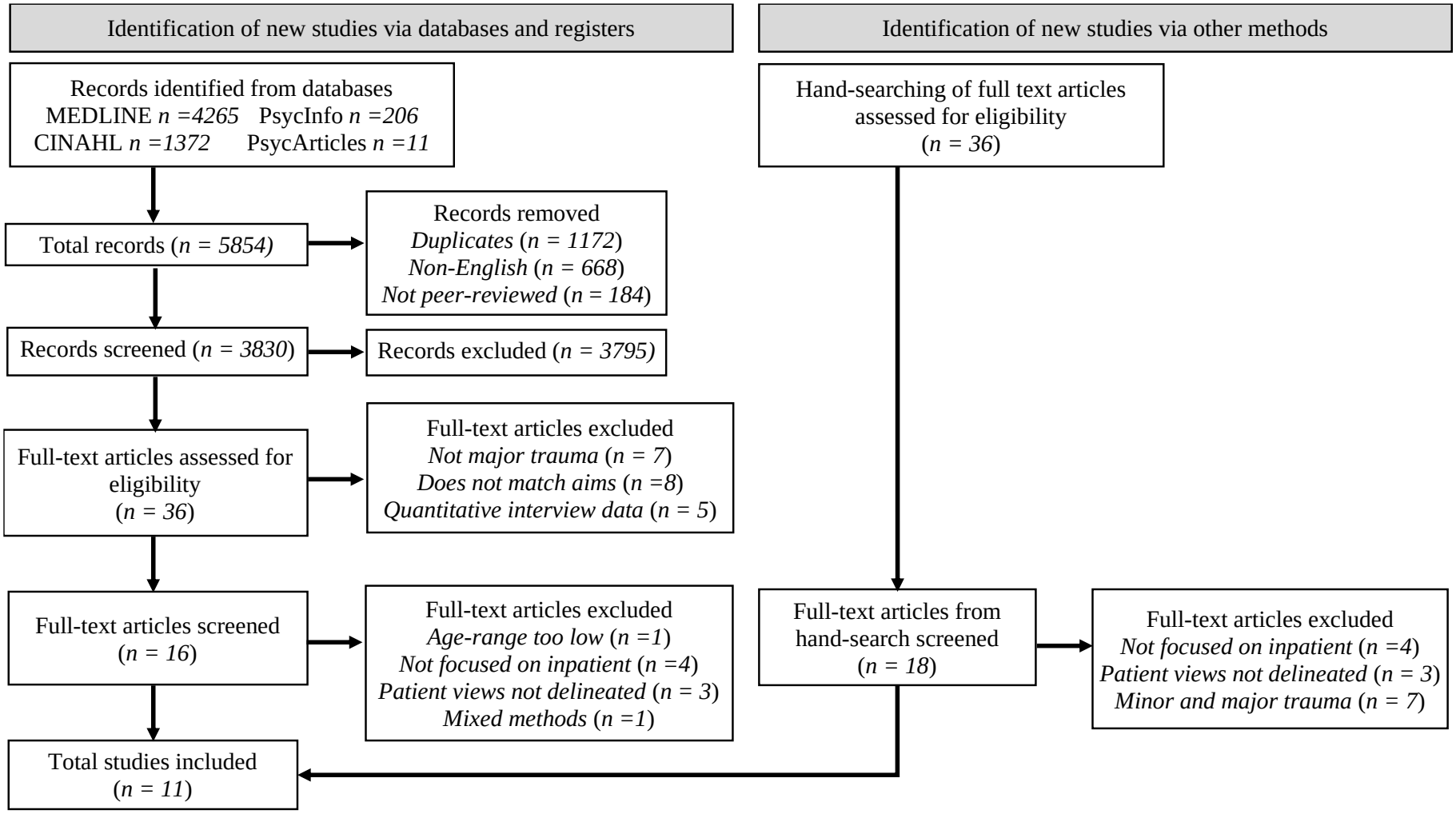
Screening and Selection

The data from the screening and selection process from the repeated search on the 10th May 2023 is outlined using a Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) diagram (Page et al., 2021); see Figure 1. Four reviewers were included in the screening process (RT, PF, RC and GH). The initial search and screening of papers was

completed by RT and identified 5854 studies. A total of 668 non-English studies, 184 non-peer reviewed studies and 1172 duplicates were removed. Titles of the remaining 3830 studies were screened by RT, with an additional abstract screen of 91. Of these studies, 36 were retrieved as full-text studies for eligibility assessment. A total of 16 key studies were identified for further screening. Backward-searching of these key studies' references (Webster & Watson, 2002) using key syntax terms in Table 2 was also conducted, and identified another 18 studies. The final 34 studies were screened in full by RT. Then RT, in consultation with PF and RC, reviewed the key characteristics of these 34 studies and it was agreed that 14 studies were eligible. For further robustness, the 14 studies were then independently reviewed in full by GH. After consultation, RT and GH agreed that 11 studies met the inclusion criteria and were included in the thematic synthesis.

Figure 1.

PRISMA Flow Diagram



Quality Assessment Results

Quality assessment was completed by two reviewers (RT and EP). Each reviewer used the CASP tool to independently quality assess all studies, then met to discuss findings and discrepancies. The quality appraisal of included studies is summarised in Table 3. All 11 studies outlined their aims, methodology, design, recruitment and provided information on data collection, analysis and findings. All studies partially considered researcher bias during data collection as multiple researchers reviewed themes and considered recruitment processes, but two studies (Baker et al., 2021; Claydon et al., 2018) also kept reflexive notes and were therefore deemed to fully meet this criteria. All studies partially considered ethical issues as they gained informed consent, confidentiality and ethical approval. Six studies fully considered ethical issues as they also outlined how they would respond to participant distress following interviews (Baker et al., 2021; Beaton et al., 2019; Claydon et al., 2017; Finstad et al., 2021; Ringdal et al., 2008; Skene et al., 2017). All studies commented on how their findings added valuable information to existing knowledge and identified areas for future research. Appraised studies scored a range of 9 – 10 and were deemed to be high quality.

Data Extraction

Key information was extracted from the 11 eligible studies, including authors, publication date, title, aims, participant characteristics (number, gender, average or median age, average or median ISS, injury mechanism), sampling approach, setting, methodology, timing post-injury/discharge and analysis; see Table 4. A summary of the key findings of each study has also been outlined; see Appendix C.

Table 3.

Quality assessment of eligible studies

Authors	Aims	Methodology	Design	Recruitment	Data Collection	Researcher Bias	Ethical Issues	Data Analysis	Findings	Valuable	Score (/10)
Baker et al. (2021)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10
Beaton et al. (2019)	Yes	Yes	Yes	Yes	Yes	Partial	Yes	Yes	Yes	Yes	9.5
Braaf et al. (2018)	Yes	Yes	Yes	Yes	Yes	Partial	Partial	Yes	Yes	Yes	9
Chou et al (2014)	Yes	Yes	Yes	Yes	Yes	Partial	Partial	Yes	Yes	Yes	9
Claydon et al. (2017)	Yes	Yes	Yes	Yes	Yes	Partial	Yes	Yes	Yes	Yes	9.5
Claydon et al. (2018)	Yes	Yes	Yes	Yes	Yes	Yes	Partial	Yes	Yes	Yes	9.5
Cox et al. (2002)	Yes	Yes	Yes	Yes	Yes	Partial	Partial	Yes	Yes	Yes	9
Finstad et al. (2021)	Yes	Yes	Yes	Yes	Yes	Partial	Yes	Yes	Yes	Yes	9.5
Gabbe et al. (2013)	Yes	Yes	Yes	Yes	Yes	Partial	Partial	Yes	Yes	Yes	9
Ringdal et al. (2008)	Yes	Yes	Yes	Yes	Yes	Partial	Yes	Yes	Yes	Yes	9.5
Skene et al. (2017)	Yes	Yes	Yes	Yes	Yes	Partial	Yes	Yes	Yes	Yes	9.5

Note: questions in full (CASP, 2018). Aims – Was there a clear statement of the aims of the research? Methodology – Is a qualitative methodology appropriate? Design – Was the research design appropriate to address the aims of the research? Recruitment – Was the recruitment strategy appropriate to the aims of the research? Data Collection – Was the data collected in a way that addressed the research issue? Researcher Bias – Has the relationship between the researcher and participants been adequately considered? Ethical Issues – Have ethical issues been taken into consideration? Data Analysis – Was the data analysis sufficiently rigorous? Findings – Is there a clear statement of findings? Valuable – How valuable is the research/ is it valuable?

389 **Table 4.**

Participant and study characteristics of eligible studies

1st Author, year of publication and title	Research aims	Participant characteristics	Sampling approach	Setting	Methodology and timing	Analysis
Baker et al., (2021) *Challenges associated with recovery from blunt thoracic injuries from hospital admission to six-months after discharge: A qualitative interview study*	To examine the challenges experienced by patients with BTI from hospital admission to 6-months after hospital discharge.	N = 11 patients (F = 3) Average Age = 52.6 ISS – Not reported Injuries = RTC, falls	Purposive sampling	Trauma Units and Major Trauma Centres, United Kingdom	Semi-structured interviews, 12 months post-discharge	Qualitative, Thematic Analysis
Beaton et al., (2019) *Improving patient experience and outcomes following serious injury*	To explore injured patients' experiences of care to identify areas for improvement in routine service delivery from surgical teams in the transition from inpatient to community-based care.	N = 17 (8 patients) (F = 5) Median Age = 46-60 ISS – Not reported Injuries = falls, work incident, RTC	Purposive sampling	Waikato Hospital, New Zealand	Semi-structured interviews, 12-months post-discharge	Qualitative, Thematic Analysis
Braaf et al., (2018) *Patient-identified information and communication needs in the context of major trauma*	To explore seriously injured patients' perceptions of communication and information provided by health professionals 3-years post-injury	n = 65 patients (F = 23) Average Age = 50.7 Median ISS = 17 Injuries = RTC, falls	Purposive sampling	Victorian State Trauma System, Australia	Semi-structured interviews, 3-years post-injury	Qualitative, Thematic Analysis
Chou et al., (2014) *Early recovery experiences of patients with injury in Taiwan*	To fill out the gaps in the existing research on the early recovery experiences of patients who have suffered moderate to severe injuries	n = 14 patients (F = 6) Average Age = 44.4 Average ISS = 16.5 Injuries = Traffic accidents	Purposive sampling	Surgical Ward, Hospital, Taiwan	Semi-structured interviews, when stable post-surgery, pre-discharge	Qualitative, Thematic Analysis

Note: N – Number. F – Female. ISS – Injury Severity Score. RTC – Road Traffic Collision. IPA – Interpretative Phenomenological Analysis

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1st Author, year of publication and title	Research aims	Participant characteristics	Sampling approach	Setting	Methodology and timing	Analysis
Claydon et al., (2017) *Patients' perceptions of repair, rehabilitation and recovery after major orthopaedic trauma: a qualitative study*	How patients make sense of their rehabilitation and recovery following major orthopaedic trauma	n = 15 patients (F = 3) Average Age = 54.2 Median ISS = 14 Injuries = horse riding, fall, RTC	Purposive sampling	Major Trauma Centre, North England	Semi-structured interviews, 3-6 months post-injury	Qualitative, IPA
Claydon et al., (2018) *Challenges experienced during rehabilitation after traumatic multiple rib fractures: a qualitative study*	How do patients make sense of their rehabilitation and recovery following major orthopaedic trauma	n = 15 patients (F = 4) Average Age = 56.3 ISS – Not reported Injuries = falls, motorbike, alleged assault, RTC	Purposive sampling	Major Trauma Centre, North East England	Semi-structured interviews, 4-9 months post-injury	Qualitative, IPA
Cox et al., (2002) *Narratives of recovery from traumatic injury: issues in the nursing care of patients in rehabilitation*	To explore the rehabilitation experiences of thirteen patients who had serious orthopaedic injuries	n = 13 patients (F = 6) Average Age = 25.2 ISS – Not reported Injuries = RTC, falls	Purposive sampling	Victoria Hospital, Australia	Semi-structured interviews, within 4 years post-discharge	Qualitative
Finstad et al., (2013) *Discharge from the trauma centre: exposure to opioids, unmet information needs and lack of follow up-a qualitative study among physical trauma survivors.*	To explore pre- and post-discharge trauma care experiences, including exposure to opioids	n = 13 patients (F = 2) Average Age = 5 ISS – Not reported Injuries = RTC, skiing, other	Purposive sampling	Major Trauma Centre, Oslo University Hospital Norway	Semi-structured interviews, average 6-weeks post-discharge	Qualitative

Note: N – Number. F – Female. ISS – Injury Severity Score. RTC – Road Traffic Collision. IPA – Interpretative Phenomenological Analysis

1st Author, year of publication and title	Research aims	Participant characteristics	Sampling approach	Setting	Methodology	Analysis
Gabbe et al., (2013) *Patient perspectives of care in a regionalised trauma system: lessons from the Victorian State Trauma System*	To explore injured patients' experiences of trauma care, to inform service delivery improvements	n = 120 patients (F = 57) Average Age = 48.6 ISS – Not reported Injuries = RTC, falls, assault	Purposive sampling	Major Trauma Services, Victorian State Trauma System, Australia	Semi-structured interviews, 12-month or 24-month post-discharge	Qualitative
Ringdal et al., (2008) *Memories of being injured and patients' care trajectory after physical trauma*	To acquire a deeper understanding of patients' memories of being injured and the trajectory of care before, during and after their Intensive Care Unit (ICU) stay	n = 18 patients (F = 9) Median Age = 48 Median ISS F = 5 Median ISS M = 17 Injuries = RTA, fall, work incident, recreational injury	Purposive sampling	Four hospital sites, Sweden	Semi-structured interviews, 20-36 months post-injury	Qualitative, phenomen-ological approach
Skene et al., (2017) *Patients' experience of trauma care in the emergency department of a major trauma centre in the UK*	To describe the patient perspective of trauma care in the ED.	N = 13 patients (F = 6) Average Age 50 Median ISS = 10 Injuries = fall, gunshot, work-related, RTC, fall	Purposive sampling	Major Trauma Centre, London, United Kingdom	Semi-structured interviews, 2-23 days post-injury	Qualitative, Thematic Analysis

Note: N – Number. F – Female. ISS – Injury Severity Score. M – Male. RTC – Road Traffic Collision. IPA – Interpretative Phenomenological Analysis

Analysis and Qualitative Synthesis

The 11 studies aimed to understand MTP experiences of healthcare post-injury and included the perspectives of 305 participants. Most studies focused on patients experiences and sense-making of care, recovery and rehabilitation post-injury (Baker et al., 2021; Beaton et al., 2019; Chou et al., 2014; Claydon et al., 2018; Claydon et al., 2017; Cox et al., 2002; Gabbe et al., 2013). Some had a more specific focus to explore perceived communication from professionals (Braaf et al., 2018), exposure to opioids (Finstad et al., 2021) or experiences in specific parts of the pathway; intensive (Ringdal et al., 2008) or emergency care (Skene et al., 2017). Only Beaton et al. (2019) recruited MTP and key support people, but patient data was able to be delineated, therefore only the data based on MTP perspectives was included in the synthesis; the remaining 10 studies only recruited MTP.

Themes

Four themes, 11 subthemes, are outlined in Table 5 with exemplar quotes in Table 6.

Table 5.

Themes identified within each of the eligible studies

Themes	Baker et al. (2021)	Beaton et al. (2019)	Braaf et al. (2018)	Chou et al. (2014)	Claydon et al. (2017)	Claydon et al. (2018)	Cox et al. (2002)	Finstad et al. (2021)	Gabbe et al. (2013)	Ringdal et al. (2008)	Skene et al. (2017)
My health post-injury	X	X	X	X	X	X	X	X		X	X
How staff made me feel	X	X	X	X	X	X	X	X	X	X	X
My experiences of communication	X	X	X		X	X		X	X	X	X
What I was focused on next	X	X	X	X	X	X	X	X	X	X	X

406 **Table 6.**

Key quotes representative of each theme and subtheme

Theme	Sub-theme	Quotes
My health post-injury	Pain and physical inabilities	*horrific and excruciating, were used describe the pain from the injury* – (Skene et al., 2017) *Bad days were usually about.. limitations to mobility or.. the need for further surgery* – (Cox et al., 2002)
	Powerless and vulnerable	*over-riding belief amongst participants that nothing can be done to help* – (Claydon et al., 2018) *I think you just feel vulnerable and you just need everyone's help* – (Baker et al., 2021)
	Psychological burden	*guilty and sorry for the trouble that their condition was causing their family members* – (Chou et al., 2014) *they almost did not have the strength to go on and fight any more* – (Ringdal et al., 2008)
How staff made me feel	Felt dismissed, abandoned and uncared for	*Almost all participants had stories to tell about bad nurses and poor care* – (Cox et al., 2002) *his injury was more important to the doctors than he was*– (Finstad et al., 2021) *some insulting situations.. felt abandonment when not receiving.. alleviation of the pain* – (Ringdal et al., 2008)
	Felt safe, attended to and trusting	*They trusted the experts and followed advice from healthcare professionals* – (Claydon et al., 2017) *received attention, help and kindness from other people who talked to and cared for them* – (Ringdal et al., 2008) *caring nature created an atmosphere in which these participants felt safe and cared for* – (Skene et al., 2017)
My experiences of communication	Information needs	*Detailed information was appreciated when it was communicated in different modes* – (Braaf et al., 2018) *explanation of.. injuries* – Finstad et al. (2021); *communication with.. family, friends* – (Beaton et al., 2019)
	Insufficient information	*lack of communication had a significant impact on the confidence the patient had in the care* – (Baker et al., 2021) *treatment options without sufficient information to make an informed decision* – (Gabbe et al., 2013)
	Poor communication	*Some participants received conflicting advice* – (Claydon et al., 2017) *concern about the organisation of their information between hospital and primary care* – (Braaf et al., 2018)
What I was focused on next	Barriers to regaining independence and normality	*pain, fatigue, reduced memory, emotional instability, physical decline, financial pressure* – (Beaton et al., 2019) *worried about being a disabled person and having people look at me strangely and judge* – (Chou et al., 2014) *The belief that nothing can improve or accelerate recovery after rib fractures contributed to people making do and accepting long-term restrictions* – (Claydon et al., 2018)
	Follow-up care	*post-discharge care of patients was the sense of a lack of coordination of care* – (Gabbe et al., 2013) *At the trauma centre, information was easily accessible.. At home, he had to seek [it] out* – (Finstad et al., 2021)
	Rehabilitation needs	*setting themselves small goals and taking small steps toward their recovery* – (Cox et al., 2002) *transition from repair to rehab.. healing progressed and participants restarted.. activities* – (Claydon et al., 2017)

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My health post-injury

This theme highlights that MTP experiences in healthcare settings are influenced by pain and physical health difficulties. Studies reported that MTP felt powerlessness and vulnerable alongside their psychological difficulties, highlighting the post-injury psychological burden MTP experience.

Pain and physical inabilities. Experiencing significant pain that was hard to bear was reported by MTP in several studies (Baker et al., 2021; Chou et al., 2014; Claydon et al., 2018; Ringdal et al., 2008; Skene et al., 2017). Limited mobility (Cox et al., 2002), impaired information processing (Gabbe et al., 2013) and pain medication (Finstad et al., 2021), became the focus of MTP and therefore impacted on MTP ability to engage further with the healthcare team.

"'.. *this was just pure pain. It's very hard to describe.*'" – (Baker et al., 2021)

"'They gave me some morphine and stuff and from that point I just felt a bit in the clouds really'" – (Skene et al., 2017)

Powerless and vulnerable. Feelings of vulnerability were associated with a "lack of knowledge" (Skene et al., 2017), an inability to communicate (Ringdal et al., 2008) and a need for "everyone's help" (Baker et al., 2021). Vulnerability linked with powerlessness, with MTP feeling their recovery was insecure, uninfluenceable and out of their control (Chou et al., 2014; Claydon et al., 2018; Claydon et al., 2017; Finstad et al., 2021).

"'*I woke up at the ICU and realized that both my arms and my legs were a wreck, I didn't understand what had happed to me…I got afraid…*'" - (Ringdal et al., 2008)

"*'You know the only thing I can do is listen [to] my doctor's suggestions. I cannot do anything to help myself recover from my injury sooner*'" – (Chou et al., 2014)

Psychological burden. Eight studies found that MTP reflected on the psychological impact of their injuries, such as low mood, hopelessness, fear, and worries about carer burden

on family members (Baker et al., 2021; Beaton et al., 2019; Chou et al., 2014; Cox et al., 2002). MTP in Ringdal et al. (2008) recalled distressing experiences of ICU delirium from their admission. MTP acknowledged their distress and frustration but tried to find ways to accept and process injuries, alongside a new-found appreciation of life (Claydon et al., 2018; Claydon et al., 2017; Skene et al., 2017). Overall, MTP underwent a journey of psychological adjustment post-injury, which positively influenced their motivation to rehabilitate for their families (Ringdal et al., 2008), to return to pre-injury functioning and normal routines (Skene et al., 2017) or for the future (Claydon et al., 2018).

> "*never regain an acceptable quality of life. 'Learning to control my frustration was important to help cope with the emotional stresses of trauma"* – (Claydon et al., 2017)
>
> "*'I just felt hopeless. Because I couldn't support my family'"* – (Beaton et al., 2019)
>
> "*She thought the experience was 'like a gift in some way because of what I've learnt and how I now see the world.'"* – (Cox et al., 2002)

How staff made me feel

Perceptions of staff in healthcare settings varied. This theme outlines the positive and negative attributes of staff related to care delivery, communication and engagement, and how this made MTP feel. Studies reported that MTP perceptions of staff were influenced by their responsiveness, attentiveness and their support during rehabilitation.

Felt dismissed, abandoned and uncared for. MTP perceived staff as unavailable, ignoring requests for help or insulting, which resulted in MTP feeling worthless (Baker et al., 2021; Braaf et al., 2018; Cox et al., 2002). Some staff members focused on injuries and did not believe MTP views on physical abilities, leaving MTP feeling uninvolved in their treatment (Finstad et al., 2021; Ringdal et al., 2008).

"'*all of a sudden they'll come to you and say 'okay, you'll be finishing up in a couple of weeks' – that's it... they don't engage the patient very well*.'" – (Braaf et al., 2018)

"*Richard gave an example of not having a buzzer answered when he needed a bedpan urgently.. described that as 'the worst...a pretty bad experience'"*– (Cox et al., 2002)

Felt safe, attended to and trusting. MTP perceived several staff members as kind, respectful and attentive (Braaf et al., 2018; Ringdal et al., 2008). Staff were seen as specialists in major trauma who delivered high quality care, which reassured MTP and motivated them to progress with their rehabilitation in healthcare settings (Claydon et al., 2017; Cox et al., 2002; Gabbe et al., 2013; Skene et al., 2017).

"'*I've got nothing but praise. I was so well looked after and everyone was so supportive.. I can't believe how well we are looked after"*' – (Gabbe et al., 2013)

"'*in harmony... They all had a job to do and they did it, in sequence and sometime in parallel, they just knew what to do and they did it'"* – (Skene et al., 2017)

My experiences of communication

One study focused specifically on MTP perspectives of communication with healthcare professionals, three years post-injury (Braaf et al., 2018) but MTP experiences of communication was mentioned in most studies (nine). Information needs are outlined in this theme, as well as examples of unmet need through insufficient information or poor communication from staff members.

Information needs. Needs varied, depending on recovery stages of MTP (Braaf et al., 2018). Family members were essential in co-ordinating information, as they were able to maintain conversations post-injury and could share their perspectives (Beaton et al., 2019; Braaf et al., 2018; Ringdal et al., 2008). A need for open conversations (e.g., regarding delays, clear information, injuries) in different modes (e.g., remote consultations, written, visual imaging) was also reported (Baker et al., 2021; Braaf et al., 2018; Gabbe et al., 2013).

MTP spoke about the importance of receiving information regarding their injuries, pain management, treatment plans and who to speak to for support (Finstad et al., 2021; Ringdal et al., 2008; Skene et al., 2017). Meeting these information needs enabled MTP to feel supported within healthcare settings, but there remained a need for information regarding future psychological support (Braaf et al., 2018).

"'*He (surgeon) drew pictures for me. I knew exactly where the breaks were, where the plates were going.. And he just explained it really, really well*.'" – (Braaf et al., 2018)

"*'people handle tasks in different ways.. if I asked I got an answer.. So, if you do not ask, then I do not think that you will get any'"* – (Finstad et al., 2021)

Insufficient information. Information was perceived as lacking regarding injury prognosis, the psychological impact of injuries, discharge planning (e.g., what to expect) and treatment, such as impact of medication (Beaton et al., 2019; Braaf et al., 2018; Finstad et al., 2021; Skene et al., 2017). The perceived lack of communication led to MTP having poor confidence in healthcare providers and feeling unprepared post-discharge (Baker et al., 2021; Gabbe et al., 2013).

"*'I just couldn't get my head around the injury and I would have really liked more of an explanation about what the injury was*.'" – (Baker et al., 2021)

"*'can't remember that they gave me information like 'these are strongly addictive and you need to quit as soon as possible'.. never been told that"*" – (Finstad et al., 2021)

Poor communication. Examples of poor communication were MTP being provided with conflicting information, conversations being one-directional and the use of inaccessible terminology (Beaton et al., 2019; Braaf et al., 2018; Claydon et al., 2017; Finstad et al., 2021). Poor communication led to MTP not feeling engaged in the decision making process and plans therefore being implemented without a full understanding of MTP needs (Baker et al., 2021; Finstad et al., 2021; Gabbe et al., 2013).

"'*(my husband) wouldn't look after me.. my house.. is.. old.. I've got pets, toilet outside.. but they wouldn't listen and discharged me anyway"*' – (Beaton et al., 2019)

"'*I suppose just a bit more of an overall understanding of what was (surgically) happening. So a bit more information.. in layman's terms*'"- (Braaf et al., 2018)

What I was focused on next

This theme highlights MTP perceived barriers to independence and normality. Studies reported that MTP experiences of follow-up care and rehabilitation varied, due to perceived challenges to receiving care, ongoing health difficulties and rehabilitation needs.

Barriers to regaining independence and normality. MTP spoke about the ongoing physical and psychological difficulties after initially receiving care from services. Difficulties engaging in daily activities (Claydon et al., 2018; Finstad et al., 2021) and returning to employment (Baker et al., 2021; Beaton et al., 2019; Skene et al., 2017), negatively impacted on MTP ability to return to their pre-injury routines and activities. MTP spoke about challenges adjusting to their new level of functioning within their relationships (Braaf et al., 2018; Cox et al., 2002). A desire to regain independence was often mentioned but fears of coping, judgement and social stigma in response to physical impairment or disability were perceived barriers (Chou et al., 2014; Ringdal et al., 2008).

"*pain kept him awake.. This affected his relationship.. he would not go over to her house, because 'I know I will keep her awake'"* – (Cox et al., 2002)

"*'I feel inferior because of being so severely injured. If I can't recover, how will I make money for my girlfriend and my future children?"*" – (Chou et al., 2014)

"*'I'm afraid of having a relationship with a young man. If my future mother-in-law finds out about my eye injury, she might not like me.*'" – (Chou et al., 2014)

Follow-up care. A need for follow-up support had been recognised pre-discharge. Follow-up healthcare provision from general practitioners (GPs), physiotherapists and

orthopaedic clinics were reportedly beneficial as they provided MTP with further investigations and information on managing ongoing health difficulties (Baker et al., 2021; Claydon et al., 2017). However, reported challenges with follow-up care included a lack of service co-ordination, limited provision, or appointments not being scheduled (Beaton et al., 2019; Braaf et al., 2018; Claydon et al., 2018; Gabbe et al., 2013). Inconsistent follow-up left MTP unsure who would support them or meet their healthcare needs in the community (Finstad et al., 2021; Ringdal et al., 2008).

"*'a lot of people fixing different parts of you and no-one thinking to put all the information together and let you know'*" – (Braaf et al., 2018)

".. '*sit in the waiting room for over 3 hours and then spend 10 minutes with a different doctor to the one that was there last time'*" – (Gabbe et al., 2013)

Rehabilitation needs. Inpatient staff advised MTP on medication reduction, rehabilitation strategies and signposted to other sources of support, such as GP (Braaf et al., 2018; Finstad et al., 2021; Ringdal et al., 2008). MTP spoke about the challenges of independent rehabilitation and the importance of external support from professionals and family (Beaton et al., 2019; Braaf et al., 2018; Cox et al., 2002). Functioning ability would be established during latter rehabilitation, with rehabilitation needs varying across MTP (Chou et al., 2014; Claydon et al., 2018; Claydon et al., 2017). Issues with rehabilitation services included limited therapy time and services being too distant to attend (Gabbe et al., 2013).

"'*Couldn't quite do it yet.. it was more of the.. frustration... the brain that makes the body get better.. keeping focused and having that goal'*" – (Claydon et al., 2017)

"*'In the beginning it was only sporadic training because they wanted to see how much I could take. Then.. training both mornings and afternoons*'" – (Ringdal et al., 2008)

Discussion

This systematic review used thematic synthesis to explore the current understanding of MTP healthcare experiences, and their needs post-injury. "My health post-injury" outlined how physical pain, psychological difficulties, vulnerability and powerlessness influenced MTP healthcare experiences. Patient-staff interactions had a strong influence on MTP healthcare experiences as all studies included MTP reflections on "How staff made me feel". The theme "My experiences of communication" highlighted the integral role of communication on MTP healthcare experiences, and examples of good and bad practice. Finally, "What I was focused on next" described MTP views on follow-up care, rehabilitation and acknowledged barriers to regaining independence and normality.

This review corroborated the presence of psychological difficulties in this population (Ehlers & Clark, 2000; Kendrick et al., 2018; Kendrick et al., 2017), adding that MTP also experience challenges related to powerlessness and feelings of vulnerability (Baker et al., 2021; Chou et al., 2014; Cox et al., 2002; Ringdal et al., 2008). A sense of powerlessness was reported by (Claydon et al., 2018; Claydon et al., 2017; Finstad et al., 2021), suggesting that vulnerability is a common experience for MTP. Vulnerability has been previously reported both within MTP and minor trauma populations, with patients reporting the importance of staff acknowledging and responding to feelings of vulnerability (Kellezi et al., 2020). It is also acknowledged that serious orthopaedic trauma can lead to long-lasting psychological distress (Vincent et al., 2015).

Staff were viewed positively if they attended to MTP needs, were professional and created a safe environment (Braaf et al., 2018; Claydon et al., 2017; Cox et al., 2002; Gabbe et al., 2013; Ringdal et al., 2008; Skene et al., 2017). Being compassionate and respectful, enabled staff to build a positive attachment bond; creating feelings of safety and positive perceptions of care providers (Bowlby, 1969). This positive attachment enables the staff-

patient relationship to be a therapeutic and humane experience (Hellín, 2002); a key consideration for therapeutic relationships (Dallos et al., 2014) and creating collaborative safe environments in-line with core NHS values (Department of Health, 2012; NHS England, 2013).

Poor communication and insufficient information issues with communication had an adverse impact on MTP confidence in staff and uninvolved in treatment decisions (Beaton et al., 2019; Braaf et al., 2018; Gabbe et al., 2013). Effective clinical communication between staff and patients requires several skills including opening the patient encounter, managing uncertainty, candour with errors, shared decision making and enabling self-care (Cooper & Frain, 2018; Nowak, 2011). Poor communication meanwhile, can negatively impact treatment, patient satisfaction, and patients ability to feel safe and trusting (Cooper & Frain, 2018; Kellezi et al., 2020).

This review outlined key information needs to ensure MTP feel supported and able to make informed decisions (Braaf et al., 2018; Finstad et al., 2021; Ringdal et al., 2008; Skene et al., 2017). The concept of conversations being accessible, through different modes and mindful of terminology was evident (Baker et al., 2021; Braaf et al., 2018; Gabbe et al., 2013). Patients would benefit from information being adapted and accessible, particularly as health literacy in the general population is reportedly poor (Wynia & Osborn, 2010). Person-centred care within the NHS and empowering patients to have an active role in their care is essential (Staniszewska et al., 2014).

As MTP began to focus on the future, they spoke about fears of coping, judgement and social stigma (Chou et al., 2014; Ringdal et al., 2008). This maps onto MTP experiences of stigmatisation (Lunevicius & Mesri, 2021), being treated differently or "othered" due to their physical disabilities (Gliedman & Roth, 1980) and judged based on cultural ideals of human bodies (Taleporos & McCabe, 2002). This review also added that MTP experience

challenges in meeting rehabilitation goals and accessing follow-up care. Challenges meeting future goals for MTP can occur as non-major trauma services are less specialist, have less networks and have gaps in knowledge of, or access to, vocational or psychological support (Kettlewell et al., 2022; Kettlewell et al., 2021). Service provision for MTP is a challenge, meaning this population is often unable to access services locally or are required to pay for psychological or rehabilitation support (Gabbe et al., 2013; Kettlewell et al., 2021).

The perspectives of MTP on their healthcare experiences may have been mediated by their mental health difficulties, such as PTSD, which can impair information processing and the recollection of previous experiences (Brewin, 2014). The negative impact of increased work-demands within pressured hospital environments on NHS staff's capacity to develop therapeutic relationships with patients could influence MTP perspectives of inpatient care (Loretto et al., 2005; Roberts et al., 2012).

Strengths and Limitations

All studies included qualitative analysis based on semi-structured interviews. The research was set within a range of geographical locations, which improved generalisability for MTP across healthcare settings. The injuries sustained by MTP varied but were similar mechanisms (e.g., RTC, falls, workplace). A challenge of this review was ensuring that the MTP were the target patient population of research studies. This review therefore primarily sought to confirm an ISS in eligible studies. An ISS was reported in seven studies; the remaining four studies were discussed during reviewer consultation to gain consensus on participants being MTP. One study recruited MTP and key support people (Beaton et al., 2019) but was included as MTP views were delineated and able to be synthesised. The inclusion and exclusion criteria, search strategy and syntax used produced a homogenous sample of studies, with aims related to the review question. The search strategy was

comprehensive and incorporated searches from multiple databases, as well as hand searching of key studies for rigour.

A strength of this review was that it focused on a specific population of adults. Studies with participants under the age of 18 were excluded, as the younger population of MTP require differing health interventions and access different services, therefore suggesting their health experiences would not be generalisable across the adult population (National Institute for Health and Care Excellence, 2016). A previous review has focused on MTP discharge experiences (Collins et al., 2022), meaning a question focused on inpatient experience allowed a novel contribution and enabled the aims of the studies to be homogenous; even though studies incorporated both inpatient and post-discharge reflections.

Of the included studies, two had the same first author (Claydon) and there was some replicating of authors (e.g., Braaf referenced within Gabbe et al. 2013). This suggests that the qualitative research gaining MTP perspectives may be limited to certain researchers' interests or certain services. Indeed, there were several studies that were excluded at screening due to the studies only having a physical health focus.

The CASP was appropriate for this review as it is a commonly used quality appraisal tool for qualitative synthesis approaches, such as thematic synthesis, and is endorsed by Cochrane (Long et al., 2020). The CASP found the 11 studies to be of high quality but there was significant variation in the quality of researcher bias, with only two studies stating that researchers considered their reflexivity; a key component of qualitative research (Ritchie et al., 2013). A thematic synthesis enabled the induction of themes, which provided a broader understanding of MTP healthcare experiences (Flemming et al., 2019).

Implications and Future Research

Fear of judgement and social stigma was reported as a barrier to MTP regaining independence and pre-injury normality. Future qualitative research with MTP would provide

a greater understanding of MTP experiences of barriers to regaining independence and normalisation, including stigmatisation, and "othering" of visible physical disabilities including amputations (Lunevicius & Mesri, 2021) and less visible difficulties related to brain injury or chronic pain (Zogas, 2021). Interviews conducted with MTP analysed using an interpretative phenomenological approach would provide an in-depth understanding of these barriers (Smith et al., 2009). Healthcare services could use this greater understanding to create interventions that address these barriers and champion a social model of disability, ensuring services are accessible and non-judgemental (Shakespeare et al., 1996). It would also promote posttraumatic growth (Calhoun et al., 2005) by understanding the full impact of trauma exposure and working in a trauma-informed way (Bloom, 2013). Addressing social stigma is important for the psychological wellbeing of MTP, as this stigma can increase psychological distress through negatively influencing social self-constructs (Franks, 2014), working models of attachment (Crits-Christoph & Barber, 1991) and body image, including mental representations of the body (Slade, 1994).

This review highlighted the power dynamics that exist between MTP and staff members, with MTP being reliant and dependent on staff due to their injuries. Imbalances of power can cause emotional harm as core needs of safety and validation are not met, both for those within and outside the system (Johnstone & Boyle, 2018). Power dynamics can also lead to service users not re-engaging (Proctor, 2008), which has health implications for MTP as they often experience re-hospitalisation (Kaske et al., 2014). Future qualitative research adopting a pluralist approach to interviews conducted with MTP and service providers, would be able to explore how power dynamics influence service access and provision (Salmon & Young, 2018). Taking a curious position to resistance to accessing systems and the therapeutic significance of power dynamics (Afuape, 2011) would enable additional barriers

to appropriate service provision to be investigated; unfamiliarity, languages, systemic racism towards minority groups (Mind, 2013).

Rehabilitation and follow-up provision vary for MTP; corresponding with existing research in the NHS (Claydon et al., 2017; Kettlewell et al., 2022; Kettlewell et al., 2021). A future systematic review focusing on perceived variations of healthcare provision would provide greater contextual information to guide service development (Petticrew et al., 2019). An audit of service provision would also provide information on local MTP service gaps, which when explored further by MTP focus groups, would be able to inform services of the psychological needs of MTP; which change over time (Braaf et al., 2020; Paiva et al., 2010).

MTP experiences of communication influenced their experience of healthcare. Implementation of communication skills training for both staff (Gysels et al., 2004) and patients (D'Agostino et al., 2017), as suggested within clinical research in cancer settings, would improve patient-staff communication. Other forms of clinical communication that improve information provision could be explored, such as the use of technology (Wu et al., 2012) and online resources (Renna et al., 2020). Conducting interviews with MTP would provide a greater understanding of how communication plays a key role in their healthcare experiences. The themes identified through pluralist qualitative analysis of transcripts would incorporate a broad range of MTP perspectives and inform recommendations for effective patient-staff communication (Salmon & Young, 2018).

Clinical psychologists could provide training sessions to support staff teams in identifying the psychological needs of this patient population. This could include sessions exploring attachment needs, both within inpatient settings and at points of transition, as well as mental health needs identified by MTP (e.g. vulnerability, low mood, fear, PTSD, delirium). Reflective practice sessions could be implemented, to reflect on the staff-patient relationship and how this relationship is impacted by wider systemic pressures within

healthcare settings. Implementing such modifications to a clinical service would need to take into account principles within normalisation process theory, by considering MDT sense-making, willingness, workability and reflexive monitoring of these changes, as well as available resources (Huddlestone et al., 2020).

Conclusion

Healthcare experiences of MTP are centred on four areas: "My health post-injury", "How staff made me feel", "My experiences of communication" and "What I was focused on next". There were points of convergence from existing clinical research outlining the complex needs of this population, but this review extended our understanding of MTP perspectives of healthcare and what impacts healthcare experiences. Healthcare experiences varied with MTP highlighting positive interactions with staff, information needs being met, rehabilitation goals being supported by staff and families, as well as good examples of follow-up care. Areas of MTP healthcare that need to be improved are negative staff interactions, insufficient information and poor communication. Further exploration of MTP identified barriers to regaining independence and perceptions of social stigma, would enable rehabilitation service provision and follow-up care to better address these barriers. Finally, this review identified that communication plays an integral role in MTP healthcare experiences. Communication problems between patients and staff exist due to insufficient information provision, inaccessible terminology and one-directional staff-patient conversations. It is therefore imperative to gain a greater understanding of MTP experiences of clinical communication to inform guidance on improving this clinical communication and addressing these communication issues.

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Chapter Two: Empirical Paper

Understanding patients' perspectives of clinical communication within a Major Trauma Centre

Target Journal: Injury

Word Count: 8658

Abstract

Major trauma patients (MTP) experience a range of physical and psychological difficulties post-injury. These healthcare needs are treated by specialist multi-disciplinary teams (MDT) in various settings; including major trauma centres (MTC). Several complex conversations occur between staff and MTP following admission. The aim of this study was to understand MTP perspectives of clinical communication within a MTC. A qualitative study involving semi-structured interviews was designed to gain MTP perspectives. Twenty participants were purposively sampled from the outpatient fracture clinic at Aintree Site MTC, Liverpool, UK, over an eight-month period (July 2022 – February 2023). Interviews were analysed using a pluralistic qualitative approach. Three themes were conceptualised from the data; "Challenges to speaking up" occurred as patients were vulnerable, confused, had mixed experiences of navigating medical terminology and did not want to burden staff; "Conversations left me feeling" highlighted the positive (feel reassured, cared for, human again) and negative (feeling like an object, angry, confused and dependent) emotional impact of staff communication; "Strategies need to be clinical but tailored" described the benefits of providing written information, clear explanations of injuries and person-centred communication. There is a need to further explore MTP perceptions of being a burden and the role of family members in patient-staff communication. Staff training on the emotional impact of conversations and skills development to enhance responsiveness to psychological distress is required, as is communication guidance to address MTP challenges to speaking up. MTP require multiple options to communicate and address psychological difficulties.

Keywords

Major trauma, major trauma centre, patient-staff clinical communication, interviews

Introduction

Major traumatic injuries are the leading cause of death in the United Kingdom (UK) amongst those under the age of 45 (National Institute for Health and Care Excellence, [NICE], 2016a). Those who survive a major traumatic event often experience multiple life-changing injuries (NICE 2016a). Survivors experience comorbid psychological difficulties such as anxiety, depression and post-traumatic stress symptoms (Kendrick et al., 2017), with pre-existing mental health difficulties being a risk factor for these psychological difficulties (Kendrick et al., 2018). The psychological and physical health needs of this population require specialist multi-disciplinary team (MDT) approaches within Major Trauma Centres (MTC). In England, the introduction of major trauma networks and centres increased survival rates and more rapid treatment systems (Moran et al., 2018). Those admitted to a MTC undergo assessment within the emergency department, which could potentially lead to operative treatment, critical care episodes, inpatient admissions or rehabilitation (NHS England, 2013; NICE, 2016b).

Several complex conversations occur between staff and patients; known as clinical communication (Salmon & Young, 2005). The nature of clinical communication varies across and within disciplines. Medical clinicians tend to focus on health risks that may be fatal, so patients seek conversations with medical clinicians that help them feel protected from these health risks (Desjarlais-deKlerk & Wallace, 2013; Lilliehorn et al., 2010). For mental health clinicians, the focus is placed on emotional feelings and processes to develop a therapeutic relationship within which patients feel able to communicate their concerns (Salmon & Young, 2017).

Staff positions on clinical communication are influenced by wider models of health conceptualisation. The bio-medical model is most commonly used within healthcare settings, which focuses on the physiological aspects of a person’s difficulties (Cooper & Frain, 2018).

The bio-psychosocial model encourages staff to explore patients' difficulties within the context of their experiences (Engel, 1977) and systemic issues (von Fragstein et al., 2008). It can also be used to consider dynamic factors and integrate systems models to consider individual (e.g., health) and macrosystem contextual factors (e.g., cultures), and how these systems change over time (Lehman et al., 2017). Considering differing disciplinary and cultural perspectives on clinical communication, it can be challenging for an MDT within an MTC to provide necessary instrumental information, whilst also meeting the emotional needs of the patient; a balance that could provide emotional comfort to patients (Young et al., 2011).

Patient-staff encounters can be perceived differently due to the subjectivity of relationships (Salmon & Young, 2005; Zoppi & Epstein, 2002). MTP expectations of services, perceived vulnerability (physical and psychological) and nature of the trauma injury all influence patients' experience of care within trauma services (Kellezi et al., 2020). Clinical research exploring MTP perspectives on rehabilitation and care needs have established that clinical communication is an integral part of MTP healthcare experiences (Beaton et al., 2019; Claydon et al., 2018; Gabbe et al., 2013). Only one study (Braaf et al., 2018) has focused on MTP clinical communication needs and found that MTP perceived staff to be too busy to engage with them, not addressing their needs and providing contradictory information. A need for professionals to provide accessible patient-centred communication that is co-ordinated across services was also identified. The recommendations from this study are relevant to the wider MTP population, but trauma networks differ (Moran et al., 2018; Nathens et al., 2000), thus gaining MTP experiences of patient-staff communication across different networks would improve the generalisability of recommendations and strengthen subsequent communication guidance to staff.

This study therefore aims to understand MTP perspectives of clinical communication within a MTC in the UK. MTP who received treatment at a MTC in the UK were interviewed on their experiences of clinical communication. Interviews were conducted at an outpatient clinic during the recovery and maintenance stage post-injury.

Method

Design

This qualitative study utilised in-depth semi-structured individual interviews. This methodology was chosen to enable participants to express themselves, whilst being guided with open questions from the interviewer (Ritchie et al., 2013). Interview transcripts were analysed by drawing from a pluralist qualitative approach (Salmon & Young, 2018) and considered methods which answered the research question, whilst also ensuring fidelity to the qualitative data (Levitt et al., 2017). In practice, this involved transcripts being reviewed inductively and text being coded line-by-line into conceptualised themes using NVivo as an accessible database. Using a pluralist approach enabled the experiences of MTP to be fully explored within the broad research question, with the possibility of considering multiple qualitative perspectives. The research team consisted of a primary researcher (RT), primary supervisor/clinical investigator (PF) and a secondary/NHS supervisor (RC). Both supervisors monitored and audited the conduct of this study and had access to the data.

Participants were recruited from the outpatient fracture clinic at the Liverpool University Hospitals NHS Foundation Trust MTC, Aintree Site UK. This clinic was chosen as the recruitment location as MTP would be within the recovery and maintenance stages following their injury. Interviewing at this latter stage of recovery seemed beneficial for the welfare of MTP, considering the emotional and physical challenges experienced immediately after the injury; i.e., processing the event, managing shock and fear, significant pain, trying to feel safe (Skene et al., 2017). A summary of the service specifications and standards of a

MTC has been written; see Appendix D. This study aimed to recruit 15 – 20 participants as it was feasible to interview this number of participants within the estimated time-frame. This sample size was also likely to provide adequate data to reach theoretical saturation, but it was not assumed saturation would be achieved (Hennink & Kaiser, 2022); data saturation involves no additional themes or theoretical insights into patients' perspectives of clinical communication being conceptualised from the data.

Ethics

The study was approved, sponsored and provided indemnity insurance by the University of Liverpool. Health Research Authority (HRA) ethics was granted through IRAS; reference ID 304448 (see Appendix E). Confirmation of capacity and capability was gained from Liverpool University Hospitals NHS Foundation Trust (see Appendix F). Quality assurance within the study included RT attending good clinical practice training.

Procedure

Recruitment

Participants were recruited over an eight-month period (July 2022 – February 2023). A member of the clinical team reviewed the outpatient clinic list and identified participants who met the inclusion criteria. Potential participants were sent the cover letter (see Appendix G) and participant information sheet (see Appendix H) four weeks prior to their appointment; providing significant notice for participation consideration. Participants contacted RT via email, phone or in the outpatient clinic to express their interest and book a suitable appointment time. Participants were provided with a £10 high street voucher to reimburse them for their time. As a distress protocol, if any participants reported distress following the interview they had the option to be signposted to RC for support or independent supportive services; with information provided on the information sheet and on request.

Eligibility

Inclusion Criteria. (1) Adults aged 18 and over; (2) MTP admitted to Liverpool University Hospitals Foundation Trust, Aintree Site MTC with a major traumatic injury classified using the Injury Severity Score (ISS); (3) An ability to provide informed consent and; (4) A sufficient understanding of English to consent and participate in the study.

Exclusion Criteria. (1) Individuals who have sustained a significant head injury or a head injury resulting in severe cognitive impairment

Informed Consent

Informed consent was recorded on a consent form (see Appendix I). Informed consent was taken in person or verbally recorded during remote interviews.

Materials

Participants completed three self-report questionnaires. The Patient Health Questionnaire 9 (PHQ-9) consists of nine questions measuring rates of depression over a 2-week period, on a scale of no symptoms (0 – 4), mild (5 – 9), moderate (10 – 14), moderately severe (15 – 19) and severe (20 – 27); cut-off score for likely depression is 10 (Kroenke et al., 2001). The General Anxiety Disorder 7 (GAD-7) asks seven questions to measure anxiety over a 2-week period on a scale of none (0 – 5), moderate (10 – 14) and severe (15 – 21); cut-off score for likely anxiety is 10 (Spitzer et al., 2006). The Impact of Event Scale – Revised (IES-R) consists of 22 statements identifying symptoms of post-traumatic stress over a 7-day period following a traumatic event, measured within three sub-scales of intrusion, avoidance and hyperarousal (Weiss & Marmar, 1997). The IES-R asks participants to endorse statements on a 5-point scale with responses ranging from 0 (‘not at all’) to 4 (‘extremely’), with scores of 24 suggests there are some Post-traumatic Stress Disorder (PTSD) symptoms present and that PTSD is a clinical concern, scores greater than 33 suggests probable PTSD (see Appendix J for all clinical questionnaires). These clinical questionnaires are valid

measures of exploring anxiety and depression (Beck et al., 2008; Richardson & Richards, 2008), and post-traumatic stress disorder (Kroenke et al., 2007). Materials were screen-shared during remote interviews.

Interviews

Interviews were conducted in person at the outpatient fracture clinic or remotely, depending on participant preference. Of the 20 interviews, 19 were conducted by the primary researcher (RT); one interview was conducted by RC. During interviews the researcher asked how the participant felt, to monitor their distress and monitored for any signs of distress.

Interviews were semi-structured with a guide, developed in consultation with members of the patient, relative and volunteer forum within the Day One Major Trauma Support Service. The guide was reviewed alongside inductive analysis of transcripts, with additional prompts being added; such as asking what MTP remember about conversations, resolutions to disagreements and communication preferences (see Appendix K). The guide explored the following topics: conversations with staff at different timepoints of admission; helpful examples of communication; disagreements that occurred and how these were resolved; how patients felt speaking with staff; barriers or facilitators of communication; information provision and how this was perceived; how information was used or shared with others after staff conversations and; overall experiences at the MTC and advice for patients.

Data Analysis

Transcription was completed either by RT or UK Transcription; who signed a non-disclosure agreement and were bound by GDPR. Transcriptions were reviewed in parallel with other interviews being conducted, to enable the research team to have an initial impression of the qualitative data and review the interview guide. An iterative approach to coding was utilised, whereby transcripts and codes were re-examined alongside conceptualised themes (Ritchie et al., 2013). This approach involved RT listening to

interviews, noting initial impressions, re-listening to interviews before reviewing transcripts line-by-line to group data into codes, then synthesising the data into wider themes; a comparative analysis technique also known as 'cycling' (Fram, 2013). Nvivo was used to store transcripts and code the raw qualitative data (see Appendix L for coding excerpt). Conceptualised themes from the interview data were discussed as a research team, to strengthen their validity through investigator triangulation (i.e., different perspectives reviewing the same data). Having several opinions also helped to ensure the fidelity of the pluralist qualitative approach, as researcher interpretation of data is subjective and fallible (Hammersley, 2008).

Reflexivity

Qualitative research aims to be empathic and neutral in its approach, however it is important to acknowledge potential biases that may influence qualitative approaches (Ritchie et al., 2013). Reflexive statements were written in an interview diary to enable the primary researcher (RT) to document their views, reflect on the interview experience and to manage the influence of the researchers' opinions and biases on the conceptualised data (see Appendix M). Providing space for reflexivity enabled the researcher to differentiate the perspectives of MTP and their own interpretation of the data.

Personal Reflection

I, the primary researcher, completed this research as part of my Doctorate in Clinical Psychology and as an NHS employee. My training and clinical experience has taught me psychological theories and approaches, which influence how I formulate the needs of others. This background knowledge of psychological theory will have influenced how I perceived the information within interview transcripts and the themes created when integrating the data. My hope is that I, and my supervisors, have remained true to the perspectives of the MTP who participated and not gone beyond the data. From an ontological perspective, I

acknowledge that there is no one sole truth within qualitative research and accept that the conceptualised themes within this study have been created based on my, and my research team's positions and perspectives of the qualitative data.

During the latter stages of my training, I gained clinical experience of working in physical health settings and developed an understanding of the psychological and physical impact of serious injuries. Whilst I had this knowledge, I attempted to conduct this research from a neutral perspective and focused on the perspectives being given by each participant.

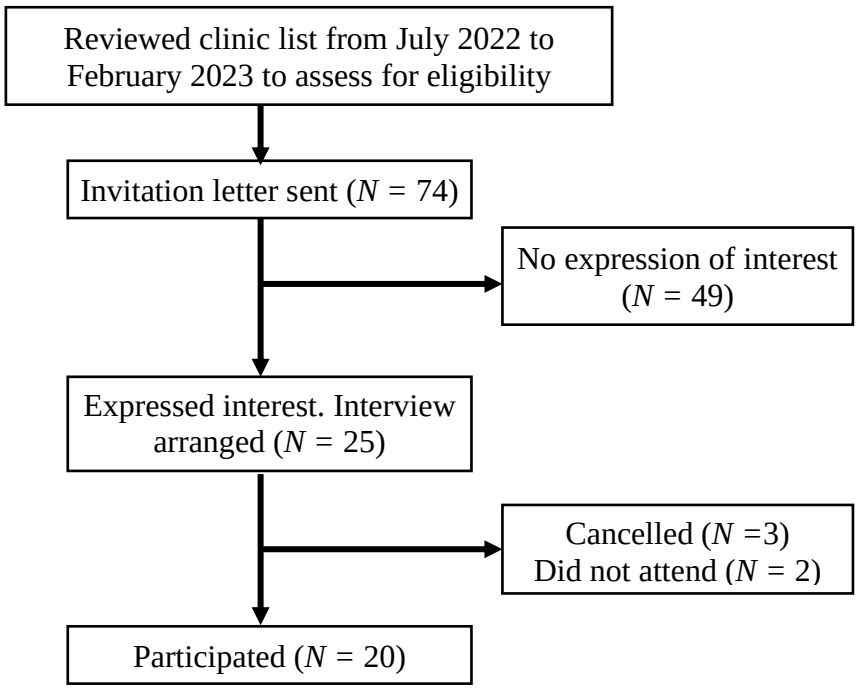
Results

Participant Characteristics

A participant flow diagram of the recruitment process is summarised in Figure 1. Of the 49 people who expressed no interest in the study, 12 did not attend their appointment and six were no longer on the clinic list. Of the 20 participants, 13 were interviewed face-to-face and the remaining were interviewed remotely. The average interview length was 34 minutes.

Figure 1.

Flow diagram of recruitment process



Participant demographic and clinical questionnaire information are shown in Table 1. Most participants were White-British (N = 16), gender split was fairly even (M = 11, 55%), most participants were aged between 26 – 59 (N = 15) and most employed pre-injury (N = 15). This participant population is representative of the major trauma population, with an ISS range of 4 – 42 and median ISS of 15 (NHS England, 2013). The most common mechanism of injury was RTC (N = 11) and interviews took place 46 – 414 days post-injury.

Ten participants experienced at least moderate depression based on the PHQ-9 and nine experienced mild anxiety based on the GAD-7. The IES-R indicated that 12 participants were over the cut-off score of 24 for post-traumatic symptoms; nine of these participants scored above the cut-off point to meet the criteria for likely PTSD.

Table 1.

Participant characteristics (N = 20)

DEMOGRAPHIC INFORMATION		N (%) or Mean (SD)
Age		M = 46.6 (SD = 13.2)
	18 – 25	1 (5%)
	26 – 39	7 (35%)
	40 - 59	8 (40%)
	60 - 75	4 (20%)
Gender		
	Male	11 (55%)
	Female	9 (45%)
Ethnicity		
	White – British	16 (80%)
	White – Other	2 (10%)
	Not stated	2 (10%)
Employment status pre-injury		
	Employed	15 (75%)
	Unemployed	4 (20%)
	Retired	1 (5%)
Injury Severity Score		M = 18 (SD = 11.8)
	Minor	2 (10%)
	Moderate – Severe	7 (35%)
	Major	9 (45%)
Mechanism of Injury		
	Road Traffic Collisions	11 (55%)
	Falls	7 (35%)
	Ran over by vehicle	2 (10%)
Time between injury and interview (days)		M = 144 (SD = 94)
Inpatient admission (days)		M = 14.8 (SD = 9.7)
Discharge Destination		
	Home	14 (70%)
	Rehabilitation Pathway	4 (20%)
	Inpatient Transfer	2 (10%)
CLINICAL QUESTIONNAIRE INFORMATION		
Patient Health Questionnaire 9		M = 10 (SD = 5.6)
	Mild	8 (40%)
	Moderate	5 (25%)
	Moderate – Severe	3 (15%)
	Severe	2 (10%)
General Anxiety Disorder 7		M = 9 (SD = 5.5)
	Mild	9 (45%)
	Moderate	3 (15%)
	Severe	4 (20%)
Impact of Events Scale – Revised		M = 33 (SD = 21.6)
	Likely Post-traumatic Stress	3 (15%)
	Likely Post-traumatic Stress Disorder	9 (45%)

Themes

Three key themes were conceptualised from the data: (1) Challenges to 'speaking up'; (2) Conversations 'left me feeling..' and; (3) Strategies 'need to be clinical but tailored'. A coding matrix of the number of participants incorporated within each theme and subtheme has been summarised (see Appendix N).

Challenges to 'speaking up'

Every participant reflected on challenges they faced when trying to speak up and communicate with staff. Participants spoke about their experiences of trying to speak to staff who use medical terminology, within a busy hospital environment. Participants also reflected on how their own experiences of vulnerability and initial adjustment to their injuries impacted on their ability to communicate with staff. These challenges have been outlined within four sub-themes.

"I didn't want to burden them" or "be a nuisance". Quotes from seventeen participants were conceptualised within this sub-theme. Witnessing staff members being spoken to disrespectfully led to participants being mindful of their own conversations. Staff were observed to be "upset by the treatment and the abuse they were receiving" (P2). This influenced participants, as they ensured they were kind to staff, enquired towards their welfare and at times addressed rudeness with other peers:

"Sometimes if I could see they were upset I'd just ask them if they were alright" (P4)

"Said.. 'You shouldn't speak to the staff like that'.. the staff must be used to it" (P9)

"I'd always say please and thank, even after my most painful turn, when they were cleaning me, I'd say thank you, thank you very much, not f- this.. I'm not rude" (P18)

Observing staff members under pressure made it challenging for participants to express their needs, as they did not want to be a "burden" (P9) or "a nuisance" (P6). Participants therefore did not speak up and initiate conversations:

"then they are out.. then you think of a question and go.. I wanted to ask that" (P10)

"..you can just tell they are rushed off their feet because it is a really stressful job, so I just don't buzz or nothing and just- I just kept myself to myself" (P11)

"..you don't want to waste their time.. No, they're all dead busy and I can see them all rushing round and doing things. They haven't got the time" (P12)

"I didn't press the buzzer when I thought it wasn't a big enough issue that they would have to deal with" (P17)

The pressures of a busy hospital environment was normalised by some participants:

"..you never really got that contact conversation with the nurses. They're overrun, aren't they, you see? ..It is what it is at the minute" (P5)

"They were obviously under pressure, massively. I know it is not their fault they cannot be there all the time for you" (P8)

"I was feeling scared and vulnerable, which I had never felt in my life". Ten participants spoke of how experiencing a major traumatic injury impacted their psychological wellbeing, and how this influenced their communication with staff. These difficulties made it challenging for participants to speak to staff members, as they felt "scared and vulnerable" (P1), found it "hard to try and explain" (P15) their difficulties or were attempting to process what had happened:

"I was very quiet. I was trying to work through everything that was going on with me" (P14)

Some participants struggled to speak with staff about their care needs as they felt "ashamed" (P11) or a sense of "bravado" (P9). Participants also spoke about a pre-existing tendency to not speak about their emotions:

"Because I'm not the type of person, really, to discuss my feelings with anybody. I kind of try and deal with them myself" (P13)

"Being a fella, you think, 'Oh, I don't need to show emotions'" (P14)

"I obviously explained to them whether I was in pain or not, but.. I'm kind of a locked-up person when it comes to emotion" (P18)

"the first couple of days was just a bit of a blur". Seventeen participants described barriers to speaking up to staff due to the initial impact of their injuries. Participants felt there was a "lot to take in" (P3) initially and that "the first couple of days was just a bit of a blur" (P7) and "confusing" (P16). Some family members or partners acted as a proxy for communication between staff and patients:

"It was said in conversation.. a lot of it was with my wife" (P8)

Pain, fluctuating consciousness and medication impacted on participants' ability to communicate effectively with staff as they struggled to keep track of conversations:

"I was told everything quite a few times, especially in the early days because I had that much confusion – didn't know what was going on" (P4)

"But I think because I was on that much medication, it was probably going in one ear, and out the other" (P5)

"I was a bit out of it, so I sometimes didn't remember to ask the questions" (P17)

"there's a lot of doctor language isn't there" The use of "doctor language" (P5) was described by 18 participants as a mixed experience, which raised some challenges. Indeed, some participants felt that staff were speaking "in their own little language with all these big words" (P10), which one person found "a bit scary" (P11). The use of medical language led to some confusion and participants seeking further explanation:

"if it was in medical terms I would just ask and they would go '– oh right – it is basically this'. And it was just explained to me in language I understood" (P4)

> *"Someone can say something to another doctor, surgeon or nurse and they'd understand it, whereas me, who hasn't worked in this line of work, won't understand it."* (P18)

The use of medical terminology led to challenges in being able to "relay information" (P4):

> "*I couldn't explain it in the terms that they'd explained it.. and I'm trying to explain it to [Family], and they can't understand*" (P13)

> "*communication with my friends and family was not as technical as with the doctors. But everything that the doctor said to me, I just said to my friends and family, 'As I understood'.*" (P16)

Medical terminology was not consistently a barrier to speaking up. Some participants spoke of finding the terminology "interesting" (P7, 8) and being routinely provided with an explanation by staff (P1, P14, 16, P17), in words they understood:

> "*I wasn't just him talking in big words to his entourage.. He spoke to me.. He was saying it in the big words, but I had already been told in the proper words"* (P20)

Participants also reflected on their mixed experiences of being involved in, and comprehending, ward rounds, influenced by staff communication styles and the provision of explanations for medical terminology:

> *"it's like doing a quiz game, conferring with each other.. then they'll explain something to you.. and they'll go back and confer.. I did feel a bit lost"* (P5)

> *"I actually quite enjoyed it to be fair, because I knew that they were taking what was going on seriously, and the next steps were then being explained to me"* (P9)

> *"It was nice that they were talking to me about it, rather than talking to each other about me in front of me"* (P17)

> *"as well as talking to me they're talking to the other professionals"* (P19)

Conversations 'left me feeling..'

All 20 participants described the emotional impact of conversations with staff. Participants described conversations that had a negative emotional impact, with this being a result of perceived dismissal, miscommunication, hurtful comments or a feeling of dependency. Most participants also described positive conversations with staff where they felt reassured, cared for and experienced a positive human interaction. These mixed experiences of communication have been outlined within two sub-themes.

"like an object, angry, confused, dependent". Participants spoke about feeling as if they "did not really mean anything.. an object just to keep alive" (P8). These instances occurred when requests for help were perceived as ignored or missed:

"..they never asked me. They just assumed I was going to do it.. no one came" (P11)

"she said.. 'Oh, you'll have to hang fire..' but they'd gone home.. I said, 'Listen, I wet myself and I'm laying in it and I've been in it for about half an hour'" (P12)

"after 10 days, I found out my foot is broken.. why it's missed.. I said, every day, to the doctor of the ward, 'I have pain'" (P15)

"'You don't seem to realise it takes two of us to administer this and the more you keep pressing this buzzer, we can't do it'.. I went, 'Well, I'm in pain. I'm sorry'" (P19)

Other conversations were perceived as hurtful or dismissive:

"they said 'You need to man up'. You know what I mean? I didn't really appreciate that for the stage I was in, the injuries I had experienced, and I was getting told to, 'Man up'." (P7)

"She said 'Well, they'll have to come and help you.. is there no-one else that can do it?'. I said, 'No'. I was in floods of tears. 'What am I going to do?'" (P20)

Conversations during their recovery left participants shocked at the seriousness of their injuries:

"My God, that was serious then – And then it hit me then, and I was just crying on and off all day because I was dead scared then, really scared" (P10)

Two participants recalled discussions from their initial interactions with staff that have stayed with them:

"saying.. 'We can't do nothing for him'.. So I'm looking up for my maker and waiting for my dad to come" (P9)

"conversation I could hear was 'We haven't got an ambulance, but she is okay, we can hear her screaming'.. I just kept saying, 'The ambulance is not coming'." (20)

Some participants spoke about information "not being disclosed" (P2) or being unavailable as staff "could not answer" (P16) queries. Some participants spoke about receiving conflicting information or misinformation, which left them feeling frustrated and annoyed:

"the nurse.. said, 'You are not going. Your meds haven't been sorted. You are staying for another day', so that was a bit disheartening.. demoralising" (P7)

"anaesthetist turned round and said, 'Oh, we're only looking at your leg'. So I blew a fuse, in theatre, to everybody that was in there. And then I lost my temper" (P13)

"'You can't walk, so you can't go anywhere'.. 'I understand that, but somebody else just told me I was going home today'.. 'Am I going home or am I not?'" (P17)

Participants described elements of their healthcare experience whereby they felt confused, vulnerable and dependent on staff:

"Where am I going now? Oh, right, okay. And somebody would turn and say, "We're taking you for a heart scan' Oh, okay." (P5)

"I already felt un-independent, and to not be able to just sit up and fix a gown that I was wearing or a sheet that I was lying on made it feel even less independent. I was more dependent on somebody being there, for that moment" (P17).

They spoke about having faith in staff who they believed had their best interests in mind, leading participants to not feel a need to question MDT decisions or discuss options further:

> *"From being independent and doing everything yourself, and then having the RTC, and then coming to hospital, and you're limited.. Because they only have your best interests, don't they?.. Because they're the professionals so you're putting your trust into the professionals. So, if they say, 'Right, we're going to do this'. You just go with it, don't you, because they know best."* (P5)

> *"I just had 100% faith I didn't need to know what they were going to do really. I just left everything in their hands. If they said, 'We're going to do this'. I was 100% confident.. I just had 100%, and I have now, 100% they would have your best interests at heart to keep you alive"* (P8)

"reassured, cared for, human again". Almost all participants (19) described elements of their conversations with staff that left them feeling positive. Several participants described how conversations with staff could distract them from their injuries and positively influence their mood:

> *"that human interaction of someone coming in and just seeing you, not a patient and smiling.. that meant a lot more than any words"* (P1)

> *"made you forget about why you were there.. took you away from that dark place and just made you feel human again"* (P18)

Participants felt reassured by staff who were helpful, kind and answered questions:

> *"you just know you're not just a national health number.. As I say it is just reassurance and the way they interacted.."* (P3)

> *"reassuring me that everything is going to be okay and it is not as bad as it first seems, even though my injuries were catastrophic.. that put my mind at ease*" (P7)

"..telling me, 'Calm down, it will be okay, you will be okay'. I feel like.. my best friend next to me, helping me, calming me" (P15)

Attentive staff were those who "don't rush" (P3), "were there" (P5), helped "even if [you] didn't ask" (P9) and "were pleasant" (P19). Staff were concerned about participant welfare and responded to needs quickly and respectfully:

"..you could tell they genuinely cared.. the way they talk about you, the way they handle you, the way they give you time.. you ask for anything, they'd be alert" (P8)

"It is the caring part that gives you the reassurance.. showing an interest in me and how I'm doing.. they'd always ask, 'How are you feeling? How are things?'" (P14)

"The way she showered me with so much dignity.. she said, 'Is that okay?'" (P20)

Participants also spoke about the positive impact of humour in conversations;

"we could all have a laugh and a joke.. that just made it really a lot easier" (P4)

"jokey banter like that. It made my time at the hospital more enjoyable, even with what I was going through" (P18)

Strategies 'need to be clinical but tailored'.

All 20 participants identified positive strategies that facilitated effective conversations with staff. Having written information was mentioned by 14 participants. They spoke about it being "helpful" (P3) as it was something "you can just read back" (P11) and "flick through" (P9) when needed. One participant spoke about the team keeping a journal whilst they were in a coma:

"It is a comforting feeling that you know that people were there and looking after you as much as they were" (P14).

Some participants would have liked more written information to aid recall and dissemination:

"But then I need it written down so when they go out the room I can read over it and stuff like that. Because when all that is getting crammed in, retention of information sometimes, I only take important points, not everything to do with it" (P7)

"Because I think if I'd have had something in front of me, I'd have known what was going on.. And then being able to tell your partner or anyone who comes to visit you. You've got the information there, so you're not giving them wrong information" (P10)

"In an hour they've gone and I've forgotten what to do. So it'll be easy to look at again. With the second surgery, being told about it, they gave me a copy of it so I could read it myself, and I obviously gave it to my mum, so she could read it" (P18)

Fourteen participants felt staff involved them in the decision making process: *"they give you that information and then you can say yes I agree or I don't*" (P1).

Collaborative conversations took place, with participants working towards personal goals with staff at their "own pace" (P5), which was "encouraging and motivating" (P16):

"She'd often say.. try and get to this point.. And she'd set me a target of how far I had to go.. she'd say 'do you want a break?'.. 'I'll take a break when I have done that distance'.. So she really did bring the best out of me" (P4)

".. no-one was very direct and saying, 'This is what is happening. You are doing this. You are doing that'. It was like, 'If you are able, can you do this?' You know what I mean?.. It was a two-way conversation" (P7)

"It's like they're on the journey with you.. They'll change what they're doing to your pain and giving you goals you can reach. They knew I wanted to progress" (P8)

Nineteen participants described explanations about injuries and the use of rehabilitation equipment as effective communication strategies:

"the first thing I wanted to know was what I'd actually done to myself, which they did explain to me" (P6)

"explaining what we were going to do with the equipment.. didn't let me overdo it.. explaining.. whether I would stand up.. they were going to be on the side of me" (P11)

Participants outlined the benefits of being provided with "clear information on the medication" (P6) and any health "problems" (P15). Some participants also recalled how visual descriptions or images aided their understanding, and reassured them:

"using their hands to explain.. and he was using his pen.. Giving me that information gave me a visualisation in my own head about the operation.. it put me at ease" (P1)

"He said, 'Right, there is your break and then there are the pictures of what we've done' I understood then how much damage I had done.. it reassured me" (P20)

Summary

The three key themes outline perceived challenges MTP face to speaking to staff due to feelings of vulnerability, the initial impact of the trauma, medical terminology and systemic factors; including busy ward environments and how this relates to not wanting to be a burden. The emotional impact of clinical communication was described by MTP, with conversations having both a positive and negative impact. Finally, the provision of written information, a clear explanation of injuries using different modalities (e.g., images, verbal descriptions) and two-way person centred conversations, were strategies MTP found effective or wished were used more frequently.

Discussion

This study provides a greater understanding of MTP perspectives of clinical communication within an MTC. These perspectives were gained through semi-structured interviews, conducted with 20 participants and analysed using a pluralist approach. MTP described how feelings of vulnerability, confusion, not wanting to burden staff and mixed experiences of understanding medical terminology led to "Challenges to speaking up". The theme "Conversations left me feeling" highlighted the emotional influence of conversations,

with MTP outlining examples of reassurance, care and times when they felt angry or dependent on staff. Finally, "Strategies need to be clinical but tailored" described the benefits of providing written information, clear explanations of injuries and person-centred communication.

Part of the perceived challenges to speaking up was MTP witnessing the pressure staff were under when working within an inpatient NHS environment. These perspectives of staff being pressured adds to clinical research which has highlighted that NHS staff are working under increased work-demands with pressures resulting from austerity due to reduced public spending (Loretto et al., 2005; Roberts et al., 2012). Participants also reported that witnessing staff under pressure led to them not wanting to be a burden or a nuisance and not expressing their needs. Perceived burden has been associated with a reluctance to ask for help within terminally and chronically ill patient populations (Chochinov et al., 2002; Cousineau et al., 2003), but has not been explored in MTP. The common experience of dependency across these populations and MTP are likely to be associated with feelings of being burdensome; understood as objective, for example time to meet physical needs, and subjective burden, such as the psychosocial impact of providing physical care (Montgomery et al., 1985; Zarit et al., 1980).

The use of medical terminology was discussed by MTP as another challenge to speaking up. Challenges due to inaccessible health information has previously been reported by MTP, with medical terminology exceeding patients' literacy level and impeding their understanding (Braaf et al., 2018). Balancing the provision of necessary instrumental information with accessible language is a challenge that many staff face within clinical conversations (Salmon & Young, 2005; Young et al., 2011) and has implications for capacity and consent regarding healthcare treatment (Mental Capacity Act, 2005). Staff members who routinely explained medical terminology were spoken of positively by MTP as they were able

to comprehend their treatment plan and felt involved in the decision making process. This understanding then enabled MTP to share this information with others; including family.

Several MTP spoke about feeling vulnerable, trying to adjust to their injuries and experiencing side effects from their medication, which impacted their ability to speak with staff. Considering the known psychological and physical health impact of major trauma (Kendrick et al., 2018; Rajput et al., 2020; Vincent et al., 2015), it is unsurprising that feelings of vulnerability arise for MTP. Staff acknowledging and responding to these feelings has previously been beneficial for patients post-injury (Kellezi et al., 2020). Indeed, addressing these emotional and psychological difficulties early on in patients' recovery is relevant for patients as these difficulties have implications for their confidence levels and later quality of life (Sleney et al., 2014).

Participants experienced RTC, falls, or were ran over by a vehicle; known as unintentional injuries. The type of injury experience, unintentional or intentional, can have differing psychological impacts on MTP, with intentional injuries leading to higher prevalence rates of distress (Gabbe et al., 2017). The treatment pathway can differ depending on the type of injury, with some individuals requiring critical care admission; as was the case for one of the study participants. Whilst MTP can experience post-traumatic growth (PTG) (Kampman et al., 2015), defined as important changes in self-perception and philosophy post-trauma (Tedeschi, 1999), themes of PTG were not conceptualised from the data.

Positive aspects of communication were reported when MTP felt cared for and experienced a human interaction with staff. Providing caring, compassionate and human interactions leads to a positive therapeutic patient-staff relationship (Dallos et al., 2014; Hellín, 2002) and builds on the attachment bond between patients and staff (Bowlby, 1969). This study also found that MTP appreciated staff who recognised their vulnerability and provided reassurance. Patients' vulnerability and dependence on staff model the asymmetry

in the patient-staff relationship, as patients seek help, reassurance and care from staff (Salmon & Young, 2009). Staff members considering patients contexts, needs, and understanding how these factors influence patient-staff communication, is one way in which patients' can have the type of relationships they seek; which are trusting, caring, enable appropriate autonomy and provide expertise (Epstein, 2006).

Strengths and Limitations

A strength of this study is that it focused on patient narratives within an MTC, which is an understudied topic (Makoul, 2003). Gaining these perspectives helped to identify obstacles within patient-staff communication and patients being active participants in their treatment (Makoul, 1998; Street et al., 2005); particularly identified within the theme "Challenges to speaking up". It also validated MTP experiences and encouraged health promotion, whereby they can experience increased control over their health and improving it (Gooberman-Hill & Fox, 2011; World Health Organization [WHO], 1998).

A potential limitation is that the views of other key stakeholders were not sought, such as staff, families or carers, which would have provided alternative perspectives of clinical communication and an idea of service or resourcing limitations. Staff perspectives is relevant when considering clinical communication, as information flows both within and between staff teams, as well as between patients and staff (Cooper & Frain, 2018). Previous studies that have gained staff perspectives provided an overview of gaps between 'real' and 'ideal' care provision post-injury, with themes around safety, effectiveness and considering the patient experience (Beckett et al., 2014). Incorporating family members or carers would also highlight how the communication needs of MTP change alongside their evolving care needs throughout different timepoints of their recovery (Kellezi et al., 2015; Kettlewell et al., 2022).

The pluralist approach to qualitative evidence synthesis was an appropriate methodology for this study as it enabled the exploration of MTP perceptions of clinical communication within the context of a MTC. It also involved methodology which aimed to reduce researcher bias, such as the use of reflexive interview diaries by the primary researcher and theme triangulation across the research team. Synthesising data into broad themes enabled the consideration of wider systemic issues (Carroll, 2017) related to psychological distress, NHS pressure on staff, effective communication strategies and the emotional impact of communication.

A range of genders, mechanisms of injury, lengths of admission and ages, were gained through participant self-selection. This study therefore built on demographic information previously collected within the Liverpool Aintree Site MTC (Lunevicius & Mesri, 2021; Rajput et al., 2020). Participants were sampled from one MTC in the UK from a majority White-British background (80%), in-line with local population demographics (Office for National Statistics, 2021), but this may not be generalisable across all MTP within MTC. The participants are representative of the major trauma population, but there can be challenges to using ISS to identify MTP as this score is applied retrospectively; patients are admitted to MTC based on an initial clinical impression by first responders (NHS England, 2013).

Social-desirability bias could have occurred, as participants self-selected and may have expressed positively-skewed perspectives (Fisher & Katz, 2000; Ross & Bibler Zaidi, 2019). This limitation was mitigated by encouraging participants to be open and the use of independent interviewing researchers, but it is acknowledged that self-selecting qualitative research is reliant on participants being open and genuinely discussing their experiences. Participants may have wanted to reflect on their journey through the MTC, whilst discussing

their perspectives of clinical communication; something many participants said they valued post-interview.

A high proportion of participants experienced post-traumatic stress symptoms, necessitating the monitoring of distress during interviews, signposting opportunities and enabling participants to express their story whilst keeping the interview guide in mind. The high levels of distress in this population also suggests that these individuals may have a greater need to discuss their experiences and therefore may be more likely to self-select in qualitative research. Discussing these experiences may have had potential psychological benefits for MTP in this study. Specifically as it may have enabled integration and processing of traumatic memories, as those who experience PTSD can experience processing issues and dysfunctional storing of episodic memories (Brewin, 2014). Particularly emotionally salient memories of clinical communication may have been reported by MTP, due to the traumatic context of their admission and these staff-patient conversations (Solomon et al., 2009). The communication needs expressed by participants may have been influenced by their expectations of healthcare staff, which can involve a desire to feel safe and emotionally secure through the communication of instrumental information (Salmon & Young, 2009).

A limitation of this study is that the non-verbal aspects of clinical communication were not explored. Non-verbal elements of communication can influence attachment behaviours (Ogden & Fisher, 2015) and provide information about bodily experiences of emotions (Pagis, 2009) and sensorimotor memories of past traumatic experiences (van der Kolk, 2015). Participants did however reflect on other non-verbal aspects of trauma, including the cognitive overload they experienced as they attempted to take in the clinical information, whilst also experiencing pain, fluctuating consciousness and the side effects of prescribed medication.

Clinical Implications

Participants described strategies they found to be helpful as they were tailored and met their clinical needs. Written information, visual aids, encouragement and person-centred decision making were effective communication strategies used by staff. Disseminating perceived effective strategies to staff in the MTC would help inform their clinical communication and highlight good practice. The negative emotional impact of conversations should also be addressed by reviewing processes for staff reflection on communication and providing training in empathic conversations, informed by the positives aspects of communication highlighted by MTP in this study (e.g., reassurance, feeling cared for, humanity, humour).

Guidance, built on patients' perspectives, would enable clinical communication to move from a linear model of staff providing information) to transactional, whereby staff collaboratively engage with MTP (Makoul, 2001, 2003). This guidance would incorporate ways for staff to ask about the emotional state of MTP, normalise feeling vulnerable or fearful, orientation to support MTP with confusion and ways to provide accessible communication to address MTP challenges to speaking up. Providing this guidance would have longstanding benefits for MTP as they are likely to engage in multiple conversations with staff over their long-term engagement with healthcare services (Lyons et al., 2011). Multiple patient-staff conversations could be further encouraged through existing formal processes; such as ward rounds at each patients' bedside, collaborative goal setting with staff (e.g., physiotherapist, occupational therapists), best interest meetings with families or carers if there are capacity issues, outpatient appointments, liaison with Day One support co-ordinator and the patient advice and liaison service.

Effective communication involves staff adapting their communication at different time points (Kellezi et al., 2015), especially during the initial days of admission. Using

written communication, clear language or family/partners as proxy are strategies that overcome initial challenges to MTP speaking up. Strategies would be dependent on the individual needs of each patient, but all patients will require staff to respond to the vulnerability, feelings of powerlessness and dependency that MTP experience post-injury.

Of the 60% of participants who experienced post-traumatic stress symptoms, 45% would likely meet criteria for PTSD. The high rate of self-reported post traumatic stress has implications for clinical psychology within major trauma services, as there is a clear need for MTP to receive support to manage these difficulties as they find it challenging to speak up about them. Indirect ways of meeting this need would be through providing staff training to; recognise signs of PTSD; understand how PTSD-related disturbances in memory processes effect communication; and to develop skills in supporting MTP through grounding techniques. Clinical psychologists working directly with MTP would be able to help them manage PTSD symptoms through psychoeducation and therapeutic interventions. In addition, this direct work would also provide MTP with the space to reflect on and process their journey through the MTC; something MTP had self-reportedly not done previously but found to be beneficial through participation in this study. To meet these proposed needs, a psychology service would need to be available across the rehabilitation pathway to provide MTP, and staff, with multiple options of communicating and managing psychological difficulties. Guidance within the UK has already suggested a resource of five working days for clinical psychology (Association of Clinical Psychologists, 2022) but this is not a consistent occurrence within UK MTC. Providing psychological support would also have long-term implications for MTP, as those whose survive serious injuries can experience psychosocial consequences and psychological distress years after the initial injury (Harms & Talbot, 2007). A summary table of these recommendations have been included in the appendices; see Appendix O.

Future Research

One finding within our results was that family members may act as a proxy for communication between staff and MTP, particularly during the initial days of admission post-injury. Conducting focus groups with families or key support people (e.g., carers, partners) would provide their perspectives on patient-staff communication and their role within this. Analysing this data qualitatively from a pluralist perspective would enable a broad understanding of families perspectives of acting as proxy to be obtained. This research would have implications for service provision as it would enable families to have a more active role in patient-staff communication when needed, with the support from MTC staff. This research would be clinically relevant as families can take on caretaking roles of MTP post-discharge due to the significance of the injuries sustained and require a level of communication and liaison with staff regarding MTP rehabilitation needs.

The results highlighted how MTP perspectives of feeling like a burden led to challenges speaking up to staff. Future qualitative research exploring the concept of being a burden and the psychological impact of being dependent on others as a MTP, analysed using an interpretative phenomenological approach, would enable a detailed examination of this concept of feeling burdensome and how this impacts on patient-staff relationships (Smith et al., 2009). Using a Q-Sort approach, where statements are ranked by participants then correlated through factor analysis (He et al., 2017), would also provide a systematic quantifiable insight into the subjective MTP perceptions of being a burden. Further researching this concept would have implications for patient-staff communication as staff would be able to identify and respond to the support needs of MTP to overcome feelings of burdensomeness. It would also have implications for wider service provision, as this study found that feelings of burdensome were most often reported in response to perceptions of staff being busy within the MTC.

Future longitudinal research obtaining quantitative data at follow-up points following discharge from the MTC would provide additional information on the psychological profile of MTP and the patient-staff relationship; both with inpatient and outpatient staff. The rate of post-traumatic stress symptoms in this population could be explored further using the IES-R alongside qualitative interviews or other questionnaires that measure functional outcomes and quality of life on stress management (Hoffman et al., 2016). The use of clinical questionnaires, such as the sessional rating scale which rates the therapeutic alliance and provides opportunities to explore patient-staff communication (Miller & Duncan, 2000), would enable quantifiable data on the patient-staff relationship to be obtained over a longer period of time. A quantitative analysis of this data, through descriptive statistics, would provide a broader understanding of the MTP population and inform rehabilitation service development; ensuring they meet these communication, relational and psychological needs.

Conclusion

Major trauma patients' (MTP) perspectives of communication is influenced by their psychological and physical health post-injury. MTP experience feelings of vulnerability, confusion and pain, which adversely influences their ability to communicate with staff. Staff communicating with MTP as a person (not just a patient), using humour, and providing reassurance, improves MTP experiences when being cared for under life-threatening circumstances. Clearly, feeling cared for is reduced when communication is cursory and not patient focused, and can result in MTP feeling dismissed, angry or dependent on staff for their needs. Providing written information, person-centred two-way conversations and using creative ways to describe injuries are effective conversation strategies. Family members or key support people as proxy for communication was reported as a useful communication strategy, but would need further exploration. Exploring MTP perceptions of being a burden on staff and NHS services is needed to enhance the quality of care provided to MTP. There is

greater scope for staff training on communication with patients and MDT members. Integrating training within a busy clinical environment would be challenging, but more effective communication has the potential to improve quality of care to MTP in MTC. Training could address communication issues raised by MTP and enable staff to develop skills in responding to the psychological distress experienced by MTP. These findings will inform guidance to address MTP challenges to speaking up, by encouraging staff to discuss emotional states, normalise vulnerability, orientate MTP and provide accessible communication. Finally, a need to provide MTP with multiple options of communicating and addressing psychological difficulties has been established.

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2009

Appendix A: Injury Author Guide

Key information obtained from author information pack;
https://www.elsevier.com/journals/injury/0020-1383/guide-for-authors
2018 Elsevier | https://www.elsevier.com

INJURY
International Journal of the Care of the Injured

AUTHOR INFORMATION PACK

AUDIENCE
Accident and emergency/trauma surgeons, orthopaedic surgeons, anaesthetists, intensive care specialists, nursing staff, physical therapists, radiographers, paramedics.

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You can use this list to carry out a final check of your submission before you send it to the journal for review. Please check the relevant section in this Guide for Authors for more details.

Ensure that the following items are present:
One author has been designated as the corresponding author with contact details:
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You are requested to identify who provided financial support for the conduct of the research and/or preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the article for publication. If the funding source(s) had no such involvement, it is recommended to state this.

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   If a 'revise' decision term is delivered on a paper, please note that it is journal policy for authors to submit a revised manuscript for consideration within 90 days of the decision being issued. If the author has not submitted the revised manuscript within that time period, or contacted the journal to discuss an extension, the original submission will be removed from the Editorial system.

Article structure essential title page information

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- ***Corresponding author.*** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about

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- ***Present/permanent address.*** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

Keywords

Between 1 and 10 keywords must be included with the submission.

Abstract

The abstract should start on the second page of the manuscript and be no more than 350 words in length. It should be easy to read and where appropriate should be structured. The structure may follow the same format as the structure of the paper itself.

Text

The main text of the manuscript should start on the third page of the PDF submission, and will normally be divided into the following sections: Introduction, Materials (or Patients) and Methods, Results, Discussion and Conclusions, but other descriptive headings and subheadings may be used if they are felt to be more appropriate.

Introduction

The introduction should explain the purpose of the study or investigation, the clinical relevance and the background provided by previous research, or publications, in this area and, where appropriate, a statement of approval by an Ethical Committee.

Materials (or Patients) and Methods

Materials (or Patients) and Methods should give details of inclusion and exclusion criteria for patients in clinical trials, research methodology, systems of assessment, or measurement, with appropriate references and the statistical analyses used. Any proprietary equipment or apparatus used should be named, along with the manufacturer's name and address. Sufficient detail should be given to allow other investigators to repeat the study. Where relevant, tables or figures may be included to provide information more clearly. No data should normally be presented in this section.

Results

The results section should give all the relevant data, presented in a concise and meaningful way, with tables or figures to present data more clearly or

concisely, where appropriate. In studies with well under 100 subjects, percentages are not accepted.

Discussion
The discussion should consider the results and possible confounding factors, sources of bias, weaknesses in the study and a review of the relevant literature, putting the results of the study in the context of previous work in this area.

Conclusion
Conclusions must be based on the results presented.
Acknowledgements
Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

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References should be listed in numerical sequence as they are cited in the text. Names of the first six authors are to be provided. The reference style is based on the 'Uniform Requirements for Manuscripts Submitted to Biomedical Journals' (http://www.icmje.org). Both journal and book references should contain inclusive page numbers.

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Each Table, with an appropriately brief title, should be numbered and printed on a separate page. No vertical lines should be used. All tables should be referred to by number in the text.

Figures
Figures should be limited to those considered essential. Colour illustrations incur an additional cost to the author and should only be used if they illustrate important points not demonstrable in black and white. Line drawings should be professionally drawn, with lettering large enough to remain legible after reduction. A list of figure legends must be supplied on a separate sheet of the manuscript. All illustrations should be referred to in the text.

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Supplementary material such as applications, images and sound clips, can be published with your article to enhance it. Submitted supplementary items are published exactly as they are received (Excel or PowerPoint files will appear as such online). Please submit your material together with the article and supply a concise, descriptive caption for each supplementary file. If you wish to make changes to supplementary material during any stage of the process, please make sure to provide an updated file.

Appendix B: CASP Tool

www.casp-uk.net
info@casp-uk.net
Summertown Pavilion, Middle Way Oxford OX2 7LG

CASP Checklist: 10 questions to help you make sense of a Qualitative research

How to use this appraisal tool: Three broad issues need to be considered when appraising a qualitative study:

- Are the results of the study valid? (Section A)
- What are the results? (Section B)
- Will the results help locally? (Section C)

The 10 questions on the following pages are designed to help you think about these issues systematically. The first two questions are screening questions and can be answered quickly. If the answer to both is "yes", it is worth proceeding with the remaining questions. There is some degree of overlap between the questions, you are asked to record a "yes", "no" or "can't tell" to most of the questions. A number of italicised prompts are given after each question. These are designed to remind you why the question is important. Record your reasons for your answers in the spaces provided.

About: These checklists were designed to be used as educational pedagogic tools, as part of a workshop setting, therefore we do not suggest a scoring system. The core CASP checklists (randomised controlled trial & systematic review) were based on JAMA 'Users' guides to the medical literature 1994 (adapted from Guyatt GH, Sackett DL, and Cook DJ), and piloted with health care practitioners.

For each new checklist, a group of experts were assembled to develop and pilot the checklist and the workshop format with which it would be used. Over the years overall adjustments have been made to the format, but a recent survey of checklist users reiterated that the basic format continues to be useful and appropriate.

Referencing: we recommend using the Harvard style citation, i.e.: *Critical Appraisal Skills Programme (2018). CASP (insert name of checklist i.e. Qualitative) Checklist. [online] Available at: URL. Accessed: Date Accessed.*

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Paper for appraisal and reference:

Section A: Are the results valid?			
1. Was there a clear statement of the aims of the research?	Yes Can't Tell No	☐ ☐ ☐	HINT: Consider • what was the goal of the research • why it was thought important • its relevance

Comments:

2. Is a qualitative Methodology appropriate?	Yes Can't Tell No	☐ ☐ ☐	HINT: Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal

Comments:

Is it worth continuing?			
3. Was the research design appropriate to address the aims of the research?	Yes Can't Tell No	☐ ☐ ☐	HINT: Consider • if the researcher has justified the research design (e.g. have they discussed how they decided which method to use)

Comments:

4. Was the recruitment strategy appropriate to the aims of the research?	Yes Can't Tell No	☐ ☐ ☐	HINT: Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)

Comments:

5. Was the data collected in a way that addressed the research issue?	Yes Can't Tell No	☐ ☐ ☐	HINT: Consider • If the setting for the data collection was justified • If it is clear how data were collected (e.g. focus group semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews are conducted, or did they use a topic guide) • If methods were modified during the study. If so, has the researcher explained how and why • If the form of data is clear (e.g. tape recordings, video material, notes etc.)

• If the researcher has discussed saturation of data

Comments:

6. Has the relationship between researcher and participants been adequately considered? role, of

Yes ☐
Can't Tell ☐
No ☐

HINT: Consider
• If the researcher critically examined their own potential bias and influence during (a) formulation the research questions (b) data collection, including sample recruitment and choice of location
• How the researcher responded to events during the study and whether they considered the implications of any changes in the research design

Comments:

Section B: What are the results?

7. Have ethical issues been taken into consideration? was

Yes ☐
Can't Tell ☐
No ☐

HINT: Consider
• If there are sufficient details of how the research explained to participants for the reader to assess whether ethical standards were maintained
• If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study)
• If approval has been sought from the ethics committee

Comments:

8. Was the data analysis sufficiently rigorous?

Yes ☐
Can't Tell ☐
No ☐

HINT: Consider
• If there is an in-depth description of the analysis process
• If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data
• Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process
• If sufficient data are presented to support the findings
• To what extent contradictory data are taken into account
• Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation

Comments:

9. Is there a clear statement of findings?	Yes Can't Tell No	☐ ☐ ☐	HINT: Consider • If the findings are explicit • If there is adequate discussion of the evidence for and against the researcher's arguments • If the researcher has discussed the credibility of findings (e.g., triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question

both their

Comments:

Section C: Will the results help locally?

10. How valuable is the research?	HINT: Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding (e.g. do they consider the findings in relation to current practice or policy, or relevant research based literature) • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used

Comments:

Appendix C: Summary of key findings of each eligible study

Baker et al., (2021)	Challenges to recovery during inpatient acute hospital experiences were related to pain management, treatment related investigations with reflections on the negative impact of poor communication. Post-discharge recovery challenges were related to managing pain at home, unidentified injuries and mental wellbeing. It is therefore important to consider the whole recovery journey for patients, due to these fluctuating challenges.
Beaton et al., (2019)	As an inpatient, patients perceived care quality to be high and staff as compassionate. There were communication gaps from admission to discharge, limited access to psychosocial services and a lack of preparedness for transition to discharge. At the point of discharge, patients felt reliant on key others, that services lacked co-ordination and that they were provided with inadequate information about services.
Braaf et al., (2018)	Patients contact with health professionals was limited. Positive interactions with staff occurred during active discussions, clear language, listening and empathy. Communication challenges were related to insufficient information provision, information coordination, at points of transition and when many health professionals were involved in patient care. Effective communication was patient-centred and multi-modal.
Chou et al., (2014)	Aspects of the traumatic event cause concern for patients, including acute pain, an inability to engage in daily needs, the impact of the injury itself, the time needed to recover, requiring multiple methods for recovery and perceiving their own fate. It is therefore important to understand the core needs of this patient population within these early stages of recovery.
Claydon et al., (2017)	The recovery journey involved repair and rehabilitation which was complex and required a need to adjust to limitations with support. Patients believed staff could provide tools to aid recovery. Improving physical functioning aiding emotional wellbeing. Patients perceived recovery to be linked with normalising to a new sense of self, feeling confident and enjoying certain activities.
Claydon et al., (2018)	Challenges to recovery and rehabilitation were related to breathing difficulties, pain and feelings of fear. Patients reflected on the process of healing which they could not influence. Many patients spoke about accepting limitations and not recovering fully. Patients felt lucky to be alive and reflected on their new attitude to life.
Cox et al., (2002)	Core themes outlined were related to care issues (e.g., perceptions of care, boundaries, interactions), living with pain, losses and gains (e.g., physical abilities, fear, feeling wiser) and managing the everyday (e.g., good and bad days related to pain, mobility limitations, setbacks, achievement, goals).
Finstad et al., (2021)	Patients spoke about having unmet information needs about their injury, lack of follow-up after discharge and exposure to opioids as part of their treatment. When prescribed opioids, patients reported not being given information about tapering plans or addictiveness of medication. There was a lack of attention to mental health and psychological needs post-injury.
Gabbe et al., (2013)	Inpatient care quality was high but problems with communication and delays for surgery were mentioned. Patients felt ill-prepared for the transition to discharge, with post-discharge care having a lack of co-ordination. Outpatient clinics were a primary point of contact, but there were often appointment delay, prolonged waiting times and limited time with clinicians. A lack of continuity of care and the absence of a single-point of contact was apparent.
Ringdal et al., (2008)	Patients reflected on the surreal uncontrollable experience post-injury, with bad memories, unfamiliarity, delusional / fragmented memories of ICU. Patients reflected on their injuries and their lives becoming limited at the point of discharge. Positive memories of care were related to receiving attention from others, being taken to hospital and cared for in the ICU. Patients felt comforted, vulnerable and had a new realisation that people have responsibilities to each other. A gratitude for life was related to patients feeling loved, supported, wanting to re-engage with life and acceptance.
Skene et al., (2017)	The initial impact of the trauma led to patients feeling in shock, scared and in pain. Patients reflected on their perspectives of their ward environment, the atmosphere and witnessing staff working. Communication styles were also mentioned by patients, with patients reflecting on the use of humour, reassurance and information provision. Finally, when reflecting on the trauma itself, patients spoke about plans to return home, hope, returning to family and jobs and an appreciation of the health care system.

2017

Appendix D: Summary of service specifications and standards of a MTC

Participants were recruited from the outpatient fracture clinic at the Liverpool University Hospitals NHS Foundation Trust MTC, Aintree Site UK. This MTC adheres to the standard contract and service specifications, outlined by the NHS (NHS England, 2013). These specifications outline the aims of the service, which is to provide specialist high quality care to MTP. After being triaged by staff or self-presenting to a trauma unit, MTP are provided with a full assessment and diagnostics within the emergency department. Following this, MTP may be provided with operative treatment, an episode in critical care or admitted onto a major trauma ward. After this initial assessment and treatment, MTP may require rehabilitation which can take place in the MTC itself and then continue within specialist rehabiliation units or locally within other providers in the trauma network. After being discharged from the major trauma unit or ward, MTP can be open to the outpatient clinic for further follow-up and consultation.

Whilst an inpatient, there are multiple options for shared decision making, goal operationalisation and empowerment. These opportunities are present due to the wide range of specialist disciplines who engage with MTC. These disciplines include surgery, medicine, nursing, occupational therapy, physiotherapy, psychology, pharmacy physicians, dietitians, speech and language therapy and healthcare assistants. The provision of certain disciplines (e.g., psychology) can vary across MTC. The Aintree Site MTC also has input from the Day One Major Trauma Support Service, which is a third sector organisation who can provide support with benefit or social needs, and offer support to families and carers,; a provision not present in all MTC.

Recruiting from the outpatient clinic enabled MTP to reflect on their whole journey from initial triage post-injury to discharge from the inpatient major trauma ward or rehabilitation settings. The outpatient clinic itself involves MTP attending an appointment

with a surgical member of staff for consultation. At the clinic, there is the opportunity to have dressings treated with nursing staff or have X-Rays repeated through radiology. The aim of these outpatient appointments is to provide follow-up assessment of the major trauamtic injuries. There is also opportunities for MTP to discuss their quality of life post-injury during these appointments, but it is acknowledged that due to the clinic list, there is only a certain amount of time available to discuss health needs or concerns with the staff member present.

2018 **Appendix E: Letter detailing final HRA approval**

Dr Peter Fisher
Institute of Population Health

University of Liverpool
Liverpool
L69 3GBN/A

Email: approvals@hra.nhs.uk
HCRW.approvals@wales.nhs.uk

20 April 2022

Dear Dr Fisher

HRA and Health and Care

Study title:	**Understanding patients' perspectives of clinical communication within a Major Trauma Centre**
IRAS project ID:	**304448**
Protocol number:	**UoL001666**
REC reference:	**22/NW/0013**
Sponsor	**University of Liverpool**

I am pleased to confirm that **HRA and Health and Care Research Wales (HCRW) Approval** has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

Please now work with participating NHS organisations to confirm capacity and capability, in line with the instructions provided in the "Information to support study set up" section towards the end of this letter.

How should I work with participating NHS/HSC organisations in Northern Ireland and Scotland?
HRA and HCRW Approval does not apply to NHS/HSC organisations within Northern Ireland and Scotland.

If you indicated in your IRAS form that you do have participating organisations in either of these devolved administrations, the final document set and the study wide governance report (including this letter) have been sent to the coordinating centre of each participating nation. The relevant national coordinating function/s will contact you as appropriate.

Please see IRAS Help for information on working with NHS/HSC organisations in Northern Ireland and Scotland.

How should I work with participating non-NHS organisations?
HRA and HCRW Approval does not apply to non-NHS organisations. You should work with your non-NHS organisations to obtain local agreement in accordance with their procedures.

What are my notification responsibilities during the study?

The standard conditions document "*After Ethical Review – guidance for sponsors and investigators*", issued with your REC favourable opinion, gives detailed guidance on reporting expectations for studies, including:

- Registration of research
- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics, and is updated in the light of changes in reporting expectations or procedures.

Who should I contact for further information?
Please do not hesitate to contact me for assistance with this application. My contact details are below.

Your IRAS project ID is **304448**. Please quote this on all correspondence.

Yours sincerely,

Natasha Bridgeman

Approvals Specialist

Email: approvals@hra.nhs.uk

Copy to: *Miss Karen Wilding* **List of Documents**

The final document set assessed and approved by HRA and HCRW Approval is listed below.

Document	*Version*	*Date*
Confirmation of any other Regulatory Approvals (e.g. CAG) and all correspondence [Approval from RRC (University)]	1	28 September 2021
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [UoL Insurance Certificate]	1	01 August 2021
Interview schedules or topic guides for participants [Participant Interview Guide]	2	07 December 2021
IRAS Application Form [IRAS_Form_20122021]		20 December 2021
IRAS Application Form XML file [IRAS_Form_20122021]		20 December 2021
Letter from sponsor [Sponsor Approval letter]	1	09 December 2021
Letters of invitation to participant [Participant Study Invitation Letter]	2	18 February 2022
Organisation Information Document [Organisation Information Document]	2	15 February 2022
Other [REC Response Letter]	1	16 February 2022
Other [Chief Investigator GCP Certificate]	1	07 July 2021
Other [Student Co-Investigator GCP Certificate]	1	30 November 2021
Participant consent form [Participant Consent Form]	2	15 February 2022
Participant information sheet (PIS) [Sheet to collate participant contact details]	1	02 November 2021
Participant information sheet (PIS) [Participant Information Sheet]	2	18 February 2022
Research protocol or project proposal [Research Protocol]	3	15 February 2022
Schedule of Events or SoECAT [Schedule of Events]	1	15 December 2021
Summary CV for Chief Investigator (CI) [Chief Investigator 2-Page CV]	1	01 June 2021
Summary CV for student [Co-Investigator 2-Page CV]	1	10 December 2021
Validated questionnaire [Questionnaires enclosed in Study Protocol (Appendices)]	2	07 December 2021

Appendix F: Confirmation of capacity and capability from Liverpool University Hospitals, NHS Foundation Trust

Authorisation When Using This Organisation Information Document as An Agreement

(when used as an Agreement, the Participating NHS Organisation is a "Party" to the Agreement and the Sponsor is a "Party" to the Agreement – collectively the "Parties").

Authorisation on behalf of Participating NHS / HSC Organisation It is not intended that this confirmation requires wet-ink signatures, or a passing of hard copies between the Sponsor and participating NHS / HSC organisation. Instead, Sponsors are expected to accept confirmation by email from an individual empowered by the Participating NHS / HSC Organisation to agree to the commencement of research (including any budgetary responsibility, where the study involves the transfer of funds).	
^ Authorised on behalf of Participating NHS / HSC Organisation by:	
Name	Michelle Mossa
Job Title	Assistant Director of RD&I
Organisation Name	Liverpool University Hospital NHS Foundation Trust
Date	28 June 2022

2021

Appendix G: Participant Cover Letter

Ruth Tanti
University of Liverpool
Liverpool
L69 3GB

Date:

Dear

INVITATION TO TAKE PART IN RESEARCH STUDY

Understanding patients' perspectives of clinical communication within a Major Trauma Centre

IRAS / Research Ethics number: 304448
Sponsorship number: UoL001666

You are being invited to participate in a research study. This study is an educational project being undertaken as part of a student's PhD. This study aims to better understand the clinical communication between staff and major trauma patients, from a patients' perspective. We hope to develop guidance on effective clinical communication by conducting this research.

Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the information in the attached participant information sheet carefully.

As an overview, if you consented to take part in this study, you would complete three psychological questionnaires and take part in a 45 minute individual interview. Appointments should last a maximum of 1 hour and will take place at the outpatient clinic within the Major Trauma Centre, after or before your follow-up appointment at the outpatient clinic.

You will also receive a £10 high street voucher to thank you for taking the time to participate in this study.

If you wish to take part in this study, please contact Ruth Tanti by email (ruth.tanti@liverpool.ac.uk) to express your interest. Please also provide a form of contact, email or telephone, for us to confirm an appointment with you.

If you change your mind, you can stop being part of the study at any time, without giving a reason. Your participation would be completely voluntary.

Thank you for taking the time to read this letter and we hope to hear from you!

Kind regards,

The Research Team

Ruth Tanti
Student Investigator / Primary Researcher
University of Liverpool

Dr Peter Fisher
Chief Investigator
Primary Supervisor
University of Liverpool

Dr Róisín Cunningham
Secondary Supervisor
Liverpool University Hospitals Foundation Trust

Version 2 (18/02/2022)

2022

Appendix H: Participant Information Sheet

Participant Information Sheet

1. Title of Study;

Understanding patients' perspectives of clinical communication within a Major Trauma Centre

IRAS no.: 304448
Sponsorship no.: UoL001666
Version: 2
Dated: 18/02/2022

2. Invitation Paragraph

You are being invited to participate in a research study. This study is an educational project being undertaken as part of a student's PhD and is being sponsored by the University of Liverpool: Clinical Directorate. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and feel free to ask us if you would like more information or if there is anything that you do not understand. Please also feel free to discuss this with your friends and/ or relatives if you wish. You do not have to accept this invitation and should only agree to take part if you want to. Thank you for reading this.

3. What is the purpose of the study?

A person who experiences a major traumatic event may have injuries that are life-threatening and life-changing. After experiencing a major traumatic event a person is treated in a Major Trauma Centre (MTC), where they are supported by a number of staff members. During a person's treatment at a MTC they have many clinical conversations with staff members about their physical health, psychological health, rehabilitation and other health needs.

This study aims to better understand the clinical communication between staff and major trauma patients, from a patients' perspective. We hope to develop guidance on effective clinical communication by conducting this research. We may also learn more about how this clinical communication with staff may influence the conversations patients have with their families, as well as the characteristics of staff who communicate effectively with patients.

4. Why have I been invited to take part?

You have been chosen to take part as you have received treatment at the MTC in Aintree following a major traumatic event and have been provided with clinical communication during this treatment. You are over the age of 18 and are able to understand written English.

5. Do I have to take part?

Participation is voluntary and you are welcome to withdraw your participation at any time, without explanation, without incurring any disadvantage or impact on your rights or treatment.

6. What will happen if I take part?

If you take part you will be invited to discuss your experiences of clinical communication within the MTC. You will be interviewed and asked to complete three questionnaires to assess current levels of emotional distress. by the principal researcher, Ruth Tanti; who has been checked by the Disclosure Barring Service (DBS). This study will take place in the outpatient clinic within the MTC at the Aintree Site. An appointment will be scheduled at a convenient time to you, such as before or after an outpatient appointment. Interviews will be audio-recorded and will last approximately 45 minutes. The interview aims to feel like a conversation about your experiences, so feel free to ask for clarification regarding any questions or wording during the interview. You will be encouraged and supported to be as honest and open as possible during this informal interview.

7. How will we use information about you?

In this research study we will use information from you. We will only ask for information that we need for the research study. This information will include audio interview recordings, paper questionnaire responses and your contact details to book appointments and share study results if you wish to see them.

People will use this information to do the research. Everyone involved in this study will keep your data safe and secure. We will also follow all privacy rules. 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;

- Paper documents (e.g., signed consent form and completed questionnaires) will be stored securely within a locked cabinet in the research department of Doctorate of Clinical Psychology building. Contact details provided for the purpose of sharing results will be saved on a secure university server.
- Audio interviews will be collected on an encrypted digital recorder. Interview data will be transferred from this device to a password protected database on a secure University of Liverpool server. Data will be deleted from the digital recorder once it is saved on the secure University of Liverpool server. Some of your information will be sent to be transcribed by a professional transcription agency. They must follow our rules about keeping your information safe.

Once we have finished the study in July 2023 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. Data destruction will be completed a minimum of 12 months after the completion of this study (planned date July 2023).

What are your 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 you find out more about how your information is used?

You can find out more about how we use your information

- at www.hra.nhs.uk/information-about-patients/
- our leaflet available from www.hra.nhs.uk/patientdataandresearch
- by asking one of the research team by email (ruth.tanti@liverpool.ac.uk) or by phone (0151 494 4160)

8. Expenses and / or payments

There will be no travel costs accrued from taking part in this study as interviews will be arranged at your next outpatient visit at the MTC. However, additional parking time at the MTC would be required. Participants are being asked to take part voluntarily, with a £10 high street voucher to thank you for your time. If you are unable to complete this interview in person a remote interview could be offered.

9. Are there any risks in taking part?

A potential risk of taking part in the study is that you may discuss potentially distressing topics about factors related to your treatment within the MTC. If you experience any distress as part of the research this should be made known to the researcher immediately. If this occurs during the interview, you could abstain from answering any questions that you may be uncomfortable with or other options could be considered, such as pausing the interview to allow you to decide whether you wish to continue your participation.

If you feel distressed after the interview has taken place and require additional support please inform the interviewer that you wish to be contacted by Dr Róisín Cunningham, Consultant Clinical Psychologist. You could also be supported to contact your GP if you wish to seek further support. Other independent supportive services include the Samaritans (Tel: 116 213, Email: jo@samaritans.org), the NHS 111 Service or the Day One Trauma Support Service (Tel: 07375 113 044, Web: https://www.dayonetrauma.org/contact).

10. Are there any benefits in taking part?

There will be no direct benefits to participating in this study. It is hoped that by participating in this research you will be given the opportunity to reflect on your experiences of clinical communication within the MTC. This could enable you to develop your understanding of your communication needs whilst receiving treatment, both now and in the future. Understanding

your communication needs during treatment could also help improve your therapeutic relationship with clinicians you meet, which could in turn improve some of your own personal outcomes related to your psychological and physical wellbeing.

11. What will happen to the results of the study?

Once all participants responses are collated and analysed the research team will seek to publish the findings. These findings may include some direct quotes from responses, but participants will be non-identifiable from these quotes. Our findings may be published in a report, publications or other research outputs related to this study, including guidance for the MTC at Aintree. Once this study is completed the findings can be shared with you if you wish.

12. What will happen if I want to stop taking part?

You can withdraw your participation from this study at any time, without explanation. Any responses you have given before you withdraw will be destroyed. For up to a month after you participate, you can ask for access to the information you provide and can request the destruction of that information. Following one month of participation, you will no longer be able to request access to or withdrawal of the information you provide. To request your information be withdrawn please contact the Principal Investigator.

13. What if I am unhappy or if there is a problem?

All complaints should be handled through the University Committee on Research Ethics complaints procedure. If you are unhappy, or if there is a problem, please feel free to let us know by contacting the Principal Investigator who will try to help resolve any issues. If you remain unhappy or have a complaint which you feel you cannot come to us with then you should contact the Research Ethics and Integrity Office at ethics@liv.ac.uk. When contacting the Research Ethics and Integrity Office, please provide details of the name or description of the study (so that it can be identified), the researcher(s) involved, and the details of the complaint you wish to make. You can also contact the independent Patient Advice and Liaison Service (PALS) at Aintree University Hospital to make a complaint (Tel: 0151 529 3287).

The University strives to maintain the highest standards of rigour in the processing of your data. However, if you have any concerns about the way in which the University processes your personal data, it is important that you are aware of your right to lodge a complaint with the Information Commissioner's Office by calling 0303 123 1113.

14. Who can I contact if I have further questions?

Please contact the co-investigator, Ruth Tanti by email (ruth.tanti@liverpool.ac.uk) or by phone (0151 494 4160).

2023

Appendix I: Participant Consent Form

UNIVERSITY OF LIVERPOOL

Participant consent form

Version number & date: #2, 15/02/2022
IRAS ID / Research ethics number: 304448
Sponsorship number: UoL001666

Title of the research project: **Understanding patients' perspectives of clinical communication within a Major Trauma Centre.**

Name of researcher(s): Ruth Tanti (student investigator / primary researcher) supervised by Dr Peter Fisher and Dr Róisín Cunningham

Face-to-face interview ☐

Remote interview ☐

Please initial box:

1. I confirm that I have read and have understood the information sheet dated 15/02/2022 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that taking part in the study involves taking part in an interview with the primary researcher and completing three questionnaires. ☐
3. I consent to my interview being audio recording using an encrypted digital recorder. ☐
4. I understand that my participation is voluntary and that I am free to stop taking part at any time without giving any reason, and without my rights being affected. In addition, I understand that I am free to decline to answer any particular question or questions during the interview. ☐
5. I give permission for members of the research team to access my responses, which will be kept confidential and stored within a secure server at the University of Liverpool. ☐
6. I understand that my anonymity will be maintained and that any responses used in future publications or research outputs will be non-identifiable. ☐
7. (Optional) I would like to receive a copy of the findings of this study and a copy of a publication, if applicable. Yes ☐ No ☐ ☐
8. I agree to take part in the above study. ☐

_____	_____	_____
Participant name	Date	Signature
_____	_____	_____
Name of person taking consent	Date	Signature

Chief / Principal Investigator
Dr Peter Fisher
University of Liverpool
plfisher@liverpool.ac.uk

Student Investigator
Ruth Tanti
University of Liverpool
ruth.tanti@liverpool.ac.uk

2024

Appendix J: Clinical Questionnaires

Patient Health Questionnaire – version nine (PHQ-9) (Kroenke et al., 2001).

Over the *last 2 weeks* how often have you been bothered by any of the following problems:				
	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual?	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3
If you checked off *any* problems how *difficult* have these problems made it for you to do your work, take care of things at home, or get along with other people?				
Not difficult at all ☐	Somewhat difficult ☐	Very difficult ☐	Extremely difficult ☐	

General Anxiety Disorder - version seven (GAD-7) (Spitzer et al., 2006).

Over the *last 2 weeks* how often have you been bothered by any of the following problems:				
	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as it something awful might happen	0	1	2	3
If you checked off *any* problems how *difficult* have these problems made it for you to do your work, take care of things at home, or get along with other people?				
Not difficult at all ☐	Somewhat difficult ☐	Very difficult ☐	Extremely difficult ☐	

Impact of Event Scale – Revised (Weiss & Marmar, 1996).

During the *past seven days* with respect to _____ (event) that occurred on _____ (date). How much have you been distressed or bothered by these difficulties? Enter the number that best described how typical or characteristic each item is of you.					
	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Any reminder brought back feelings about it	0	1	2	3	4
2. I had trouble staying asleep	0	1	2	3	4
3. Other things kept making me think about it	0	1	2	3	4
4. I felt irritable and angry	0	1	2	3	4
5. I avoided letting myself get upset when I thought about it or was reminded of it	0	1	2	3	4
6. I thought about it when I didn't mean to	0	1	2	3	4
7. I felt as if it hadn't happened or wasn't real	0	1	2	3	4
8. I stay away from reminders of it	0	1	2	3	4
9. Pictures about it popped into my mind	0	1	2	3	4
10. I was jumpy and easily startled	0	1	2	3	4
	Not at all	A little bit	Moderately	Quite a bit	Extremely
11. I tried not to think about it	0	1	2	3	4
12. I was aware that I still had a lot of feelings about it, but I didn't deal with them	0	1	2	3	4
13. My feelings about it were kind of numb	0	1	2	3	4
14. I found myself acting or feeling like I was back at that time	0	1	2	3	4
15. I had trouble falling asleep	0	1	2	3	4
16. I had waves of strong feelings about it	0	1	2	3	4
17. I tried to remove it from my memory	0	1	2	3	4
18. I had trouble concentrating	0	1	2	3	4
19. Reminders of it caused me to have physical reactions, such as sweating, trouble breathing, nausea, or a pounding heart	0	1	2	3	4
20. I had dreams about it	0	1	2	3	4
21. I felt watchful and on-guard	0	1	2	3	4
22. I tried not to talk about it	0	1	2	3	4

2025 **Appendix K: Interview Guide**

Understanding patients' perspectives of clinical communication within a Major Trauma Centre

INTERVIEW GUIDE

IRAS ID: 304448

Dated: 07/12/2021

Version: 2

Interviews will be completed at a convenient time for each person and conducted at the outpatient clinic within the Major Trauma Centre, Aintree. Prior to completing the interview, each participant must read the information sheet and consent form. A semi-structured approach will be used to maintain consistency and to ensure that the research questions are addressed.

Questions and prompts below are resources on which the interviewer will draw upon. Only relevant questions should be asked. To avoid generalised responses, participants will be encouraged to speak about their specific experiences as much as possible. Closed questions are to be avoided where possible as they constrain information gained from participants.

The interviewer will follow any relevant material that the participant supplies, but not impose questions on participants when they are talking. Interruptions from the interviewer are to be kept to a minimum and limited to reflecting, prompting, summarising. The interviewer may ask additional questions and probe if necessary.

1. **Introduction:**
   Confirm understanding of the information sheet and signed consent form.

2. **Confidentiality;**
   Reiterate to the participant that their treatment will not be affected by their responses. Information will not be shared with other clinicians. Confidentiality will only be breached in the case of safeguarding concerns; explain confidentiality.

3. **Clarify research aims;**
   We understand that several clinicians at the Major Trauma Centre in Aintree have spoken to you about your health and your needs. Our aim, is to understand **how your conversations with staff and the information you were given impacted on your experience at the major trauma centre. It can be a difficult thing to talk about, but we want to know how we can improve communication between staff and patients. Particularly want to understand how communication occurred and how information was delivered.**

4. **Participant questions;**
   Answer any queries regarding interview process and information sheet.

5. **Interview semi-structured questions**

Thinking about the start of your experience at the MTC, do you remember what conversations you had with staff?

Treatment timeframe clear timepoints (changes over admission)
What were you looking for from speaking to staff members at this time?

How did you feel speaking to staff members?

How were conversations facilitated?
Did the messages changes with different staff members?
What staff did to block or facilitate conversations
Uncertainty: Were you left with doubts? How did it leave you/ you feeling?

What was helpful about these conversations?

Were your needs listened to?
Could anything have improved the conversations you had?
Reassurance: how achieved through conversations? Does it last?

Can you tell me if there were any communication problems or disagreements with staff members? What was unhelpful?

Did it affect how you engaged with treatment?
What made it difficult to talk about that?
How did it get resolved? Who did you speak to?
How/what were you thinking about when that comment was made?
How would you prefer something to be told to you?
What was it like being told X – how did you feel?

Information from staff; how was this given to you? // Who gave you this information?

Was it clear? Verbal or written?
Terminology-Something heard before? How feel using it now?
Comprehension initially?
Able to remember the information given to you?
How was discharge/ surgery communicated with you?

Have you shared this information with others (friends, family?)

Have these conversations with staff influenced you in any way now? Follow advice?

Describe your overall experience at the Major Trauma Centre?

Did you have any expectations of treatment or health services?
How well did you think you were spoken to by staff generally?

What advice would you give to a new patient speaking with staff members on the ward?

6. **End of interview;** Answer any final questions and thank participant for taking part.

2026

Appendix L: Coding Excerpt

Transcript P4 pp28 -29	Initial Codes	Wider Sub-/Theme
I: Hmm, ok. That's interesting because I guess in terms of making life easier – I was going to ask you what you found helpful about those conversations that you had with staff? P: Erm, I'd say. See, I knew where I was up to on a day to day basis. Which again, then I could relay to the family, erm. Which does make a big difference because my Mum didn't know anything that was going on for the first 6-weeks. She couldn't- she could only go to the ward to drop something off for me, but that was it. And they wouldn't tell her stuff over the phone, erm. So, that was my way of keeping my mum up-to-date with everything as well, so. Like I say, it was just an all around effect on - I knew where I was at and the family knew where I was at **I: Yeah, no I hear you** P: So.. **I: Ok. And if I ask you about your communication needs? Like, how do you like information being given to you?** P: Erm, well in this instance everything on paper was really good because I knew I was going to keep it all in a folder **I: Yeah** P: And like I say, I could just always ask. If there was something I didn't understand I'd just ask, erm. So. For this instance I was quite happy to have it all on paper **I: Ok, yeah, that sounds good, erm. Let me have a think. So in terms of these conversations with staff members then, how long were you spoken to by staff?** P: Erm, I don't know really because I wasn't really keeping time on it, erm. I had some.. again in the earlier days my head was a bit all over the place, erm **I: Yeah** P: So I wouldn't.. It was usually.. I mean, it probably felt like a couple of minutes really. But like I say there was also a good sort of, bond between us all in the fact that when anyone was just walking in and out of the room it was always just - *is everything alright?* And always made sure that we were fine. **I: Oh nice. And who was that sorry? Was that other patients or staff?** P: Erm, that was staff erm. I mean, when I was first on major trauma erm, we had.. We had four of us in the same room and two of them went over to [rehab location] with me, erm. But we all sort of looked out for each other as well, erm. So, four of us got a quite a good bond going, erm. But then like I say, we'd built up bonds with the staff as well **I: Yeah**	Family involvement, sharing information Communication tools: Adaptations, documents Facilitators for communications. Feeling cared for. Ward environment.	There's a lot of doctor language isn't there Strategies need to be clinical but tailored (written information) Challenges to speaking up (first couple of days) Conversations left me feeling (positive)

P: So even though it was quite tough at times there was a lot of laughing and joking between the four of us and between the staff as well. So like I say, that made things like, really easy **I: Yeah, having that laugh and a joke?** P: Yeah, erm. Because like I say, I mean. I knew it was going to be a long haul that I was in hospital for, so, things like that make it a lot easier **I: Hmm, ok. Yeah that's helpful to know actually. Because I guess, you know, I am trying to get a picture of what was helpful and I guess you've named a few things there. And is there anything else you want to say about how you felt speaking to staff members?** P: Erm, yeah when you, when you've not been on major trauma and you're in.. You know, you don't go into major trauma for a minor injury do you? So. Like, the staff were great because you have to really let all your insecurities go *laughs*. There's no such thing as pride and dignity when you *laughs*. I mean, there is from, obviously the staff treat everyone with, with respect, erm. **I: Hmm** P: You know, like. Because, because we had to, we had to buzz if we needed to use the loo and things like that, for bed pans. So we're just, as patients we're just like *oh pride and dignity is out the window now isn't it?* So we could always have a laugh at.. we could all have a laugh and a joke and you know, as I say, that just made it really a lot easier **I: Yeah. Is that what you mean by 'letting the insecurities go'? What did you mean by that** P: Erm, insecurities. Like I say, worrying about having someone, you know.. I'm [age] I wasn't expecting to come and have someone erm, put me on a bedpan and then clean me up *laughs* **I: Yeah** P: So. Once you can get past that, which I just had to do anyway, erm. Then we can all have a laugh and a joke about it as well if you wanted to. **I: Yeah** P: But, yeah. So. And that's what, that's what we did really. Could always have a laugh and a joke about it. And that's what makes things a lot easier. Erm, obviously it doesn't work with everyone but it certainly does with me and I think the staff knew that **I: Ah – so they knew that?** P: Once they'd got to know me after a couple of weeks, they knew that I don't, I wasn't going to take life too seriously after all this. So, we could have a laugh and a joke, erm. Erm, Like I say, that. I think that really helped me **I: Hmm ok** P: So, like I say. I have only got good things to say about the staff on major trauma, I really have.	Vulnerability. Psychological needs. Vulnerability. Facilitators for communication. Asking for help. Raising awareness. Humour Vulnerability Speaking up Humour Personalisation Facilitators for communication.	Conversations left me feeling (positive) Conversations left me feeling (positive) Challenges to speaking up (vulnerable, burden) Conversations left me feeling (positive) Challenges to speaking up (vulnerable, burden) Conversations left me feeling (positive) Strategies need to be clinical but tailored (collaboration) Conversations left me feeling (positive)

2027

2028 **Appendix M: Interview Diary**

10th August 2022

I facilitated my first in person interview yesterday! They were very keen to tell me about their experiences and were talking whilst completing the clinical questionnaires. I wonder if completing the interview section first would help capture everything that the participant would like to say? It was interesting hearing their experiences and how eye contact, particularly with face masks, influences communication with others. It will be interesting to see if other COVID-19 related themes arise in future interviews. At the clinic, another person who was sent the letter informed me they could not remember much from their admission so did not want to take part. I can understand how challenging it can be to recall initial experiences after a trauma, as patients may still be processing what happened.

17TH August 2022.

Facilitated third interview in person yesterday. I think with face-to-face interviews, the clinic room can be a challenge due to background noise and the chairs available. I was very aware that the person I spoke with had back pain and were shuffling at various points during the interview. Whilst we spoke beforehand about ensuring they were comfortable, the pain from the injuries they sustained may have limited the time they wanted to speak with me. I wonder if the suggested timeframe of participation (i.e., approximately one hour) is a barrier to some potential participants because of their current physical health difficulties or pain. It was interesting to hear about some of the perceived disagreements with staff and the challenges faced by patients.

24th August 2022

I have just finished transcribing my fourth interview. It was interesting to reflect on how grateful people are for the care they received. A few people now have spoke about wanting to ensure the safety of the staff members and checking on their wellbeing.

Experiencing a major traumatic event seems to leave people feeling vulnerable, exposed and the care they receive in those moments of vulnerability seem crucial.

27th September 2022

At this point, my supervisors and I have reviewed the first six participant interviews. We spoke about the importance of exploring difficult situations and distress as they are mentioned in the interview. Today, I facilitated another two interviews and tried to keep this advice from my supervisors in mind.

6th December 2022

In clinic at the moment and someone has approached me asking about what psychological support there is for someone who is having flashbacks and anxiety. I signposted them to local supportive services, but reiterated that I am at the clinic in a research capacity. Even through some of my informal discussions with the team at the clinic, there seems to be an awareness that patients are expressing ongoing psychological distress at this stage of their recovery. An awareness of my research seems to be opening up conversations in the team about patients who have expressed psychological concerns (e.g., flashbacks). I wonder how much patients are normally encouraged to discuss their mood and psychological difficulties within outpatient consultations, and whether this is something that medical professionals are able to explore within these sessions.

7th February 2023

I just facilitated my last interview. When I spoke with them about their experience, they said that this research interview was the first time that they had spoken about their experience from beginning to the end. They found it a helpful experience to be able to reflect on their feelings and share that with somebody. This is something that other participants have mentioned actually. She also commented that it was helpful to speak about the good and the bad bits of her experiences. This is because when she speaks with her support network, it is

mainly a brief discussion about positive aspects, and not a discussion about the difficult times she faced. It seems like these research interviews have given time for people to reflect, not only on the conversations had with staff, but also about the incident itself. This has included thinking about their worries about dying and the initial shock of the incident. These interviews have shown me how vulnerable a person can feel after a major trauma and I am thinking about how this influences their attachment needs with others, their ability to process the information given to them and what helps them feel cared for.

2029

Appendix N: Coding Matric

Theme	Sub-theme	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20
Challenges to speaking up	'I didn't want to burden them' or 'be a nuisance'	X	X	X	X	X	X		X	X	X	X	X	X	X	X		X	X		X
	'I was feeling scared and vulnerable, which I had never felt in my life'	X		X		X				X	X	X		X	X	X			X		
	'The first couple of days was just a bit of a blur'			X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
	'There's a lot of doctor language, isn't there'	X	X		X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X
Conversations left me feeling..	'like an object', 'angry', 'confused', 'dependent'	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	'reassured', 'cared for', 'human again'	X	X	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X
Strategies need to be clinical but tailored		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Appendix O: Summary of recommendations

Based on the study findings, we recommend that staff working with major trauma patients:
Provide information to patients in different modes. This can be written information or visual aids. Having notebooks available for patients or families/carers to note information down could also be helpful.
Reassure patients, use humour, show humanity and communicate in ways that are caring and respectful.
Respond to the vulnerability, powerlessness and dependency patients experience with empathy, kindness and respect.
Encourage patients to engage in their treatment to ensure person-centred decision making. This could be through encouraging patient-staff conversations during existing processes; i.e., board round, goal setting, best interest meetings, liaison with PALS or Day One.
Adapt communication to what the patient needs, particularly during the initial days of admission. Use written information, clear language and families/carers/partners as proxy if needed during these early days post-injury. It can be challenging for patients to speak up due to feeling confused, the pain, trying to understand medical language and feeling vulnerable and trying to psychologically adjust to their injuries.
Take time as a staff team to reflect on the clinical conversations had with patients and explore any potential negative impacts or incidents.
Engage with communication guidance informed by the patients' perspectives gained in this study. This guidance will consider ways to support staff members to ask about the emotional state of patients, normalise feeling vulnerable or fearful, support patients to feel orientated and counteract confusion and provide accessible communication.
Are provided with training to support the staff team in: - Recognising signs of post-traumatic stress - Understanding how post-traumatic stress can impact on memory process and effect patient-staff clinical communication - Developing skills in supporting patients' with these difficulties through grounding techniques
Have clinicians available to work directly with patients in helping them to recognise symptoms of post-traumatic stress through psychoeducation and therapeutic interventions. This direct work would enable patients to reflect on and process their journey through the major trauma centre.