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Title: Psychological and psychosocial aspects of major trauma care in the United Kingdom: a scoping review of primary research

Short Title: Psychological and psychosocial aspects of major trauma care in the UK

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Psychological and psychosocial aspects of major trauma care in the United Kingdom: a scoping review of primary research

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Abstract

Introduction

More people are surviving major trauma, often with life changing injuries. Alongside physical injury, many survivors of major trauma experience psychological and psychosocial impacts. Presently, there is little guidance at the UK national level for psychological and psychosocial aspects of major trauma care. Set in the context of the regional model of major trauma care implemented in the UK in 2012, the purpose of this review was to identify and bring together primary research about psychological and psychosocial aspects of major trauma care in the UK to produce an overview of the field to date, identify knowledge gaps and set research priorities.

Methods

A scoping review was undertaken. Seven electronic databases (MEDLINE, Cochrane Library, CINAHL, Embase, PsycINFO, SocINDEX with Full Text and PROSPERO) were searched alongside a targeted grey literature search. Data from included studies were extracted using a predefined extraction form and underwent bibliometric analysis. Included studies were then grouped by type of research, summarised, and synthesised to produce a descriptive summary and overview of the field.

Results

The searches identified 5,975 articles. Following screening, 43 primary research studies were included in the scoping review. The scoping review, along with previous research, illustrates that psychological and psychosocial impacts are to be expected following major trauma. However, it also found that these aspects of care are commonly underserved and that there are inherent inequities across major trauma care pathways in the UK.

Conclusion

Though the scoping review identified a growing body of research investigating psychological and psychosocial aspects of major trauma care pathways in the UK, significant gaps in the evidence base remain. Research is needed to establish clinically effective psychological and psychosocial assessment tools, corresponding interventions, and patient-centred outcome measures so that survivors of major trauma (and family members or carers) receive the most appropriate care and intervention.

Key words (3 – 6) Major Trauma, Polytrauma, Injury, Psychological, Psychosocial, Scoping Review

Introduction

The term 'major trauma' is used to describe a serious injury, or combination of injuries, that has the potential to be life-threatening and/or life-changing [1]. The UK operates a regional model of major trauma care designed to deliver best care in the most optimal time frame and which is made up of i) Major Trauma Centres providing specialist trauma services for the most seriously injured (analogous to US Level 1 trauma centers), ii) Trauma Units providing specialist care for patients who do not have multiple injuries and iii) Local emergency departments that do not provide trauma services but have systems in place to transfer patients for specialist care if needed [2]. This model of care was implemented in response to recommendations from the National Confidential Enquiry into Trauma Patient Outcome and Death which found that major trauma care and outcomes in the UK were much worse than similar, high income, countries [3]. Following its London pilot in 2010, and subsequent roll out across the UK in 2012, this model of care has proved successful. In the first five years following implementation the odds of survival after major trauma increased by 19% [4].

Increased survivorship also means that more people are living with serious injury and disability. In one year alone, injuries accounted for 57 million years lived with disability worldwide [5] and 1.5 million in the UK [6]. Alongside physical injury, psychological impact is common. Survivors of major trauma report experiencing acute stress reactions in the prehospital [7], emergency [8] and hospital [9] care periods and a significant number will develop acute stress disorder [10], post-traumatic stress disorder (PTSD) [11] and/or depression [12] and which can impact recovery [13]. Post-traumatic stress in peri and post-traumatic periods are important risk factors for the development of PTSD [14 15]. Psychosocial impacts of major trauma are also far-reaching, effecting people's sense of self, their social relationships and family life [16], their occupation and work life [17 18], and their economic wellbeing [19]. Family members are impacted too, they may have witnessed the trauma itself, been a first responder, and/or have significant and enduring life-changes as they support their family member's care and recovery [20]. Clearly, early intervention for identifying and addressing psychological and psychosocial impacts of major trauma is an important aspect of care.

Indeed, the National Health Service (NHS) standard contract for major trauma service providers in England requires that clinical psychology and rehabilitation services be co-located in major trauma centres [21]. The requirements for rehabilitation services are expressly stated, in terms that all major trauma patients with an Injury Severity Score of >8, should receive a rehabilitation assessment by a rehabilitation medicine consultant within 3 days and an initial rehabilitation prescription by day 4 [21]. Conversely however, there is little detail about the form that major trauma clinical psychology services should take [21], there is only a requirement for 24/7 psychiatry on call and a recommendation that staff on major trauma wards be provided with training to recognise mental health impacts of major trauma. Less detail for clinical psychology services may have reflected limitations in the evidence-base when the national major trauma guideline [22] was developed. Set in the context of the establishment of a national system for major trauma care in 2012 and the corresponding requirements for rehabilitation and clinical psychology major trauma service provision, the purpose of this study was to undertake a scoping review [23] to identify and bring together any primary research about psychological or psychosocial aspects of major trauma care in the UK since the introduction of the UK's first major trauma care pathway.

Methods

A scoping review following JBI Methodology for Scoping Reviews [24, 25] and the Extended Arksey and O'Malley Framework [26] was undertaken and is reported in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist [27]

and PRISMA 2020 Statement [28]. The objectives of the scoping review were to identify, chart and summarise primary research about psychological or psychosocial aspects of major trauma care in the UK and produce an overview of the field to date, identify knowledge gaps and set research priorities.

Search Strategy

We conducted a search of 7 major electronic databases (MEDLINE (Ovid), Cochrane Database of Systematic Reviews and Cochrane Central Register of Controlled Trials (Cochrane Library), CINAHL (EBSCO), Embase (Ovid), PsycINFO (EBSCO), SocINDEX with Full Text (EBSCO) and PROSPERO), for peer-reviewed research publications from January 2010 (the year that major trauma centres were first piloted in the UK), to 20th November 2020, and this was updated on 14th September 2021. The search strategy included keywords and Subject Headings for "major trauma" and UK-specific search filters [29] [30] were used to limit the retrieved studies to those conducted in the United Kingdom. Searches were adapted for use in each database and the full search strategy for each database and search time-point is reported in **Supplementary 1**. A targeted grey literature search was undertaken between 28th January 2021 to 22nd March 2021 and involved searches of the OpenGrey database, UK-based trauma care research centres, Non-Government Organisations, Government Departments and related organisations, Professional Organisations, Health Think Tanks, and key researcher webpages. The full list of grey literature sources is reported in **Supplementary 2**.

Eligibility Criteria

Primary research about psychological or psychosocial aspects of major trauma care, set in Major Trauma Centres or clearly connected to the post-2012 Major Trauma Care Pathway in the United Kingdom was included. 'Care' was broadly defined to include research about assessment, interventions, outcome measures, service delivery, and experiences of trauma and trauma care. Relevant conference abstracts were excluded following a search to find any associated published articles or reports. Studies focused on physical measures of function or recovery following medical or surgical interventions, e.g. degrees of movement in a limb or moderate recovery on the short, 5-point Glasgow Outcome Scale, were excluded if they did not also include psychological or psychosocial aspects of care. Similarly, epidemiological studies solely reporting psychological or psychosocial outcomes after major trauma were also excluded. The full inclusion and exclusion eligibility criteria are reported in **Supplementary 3**.

Study selection

A database of all identified studies was created and managed in EndNote v.X9 (Clarivate Analytics, PA, USA). Duplicate references were deleted, firstly using the EndNote ''find duplicates'' function and then manually. Using the inclusion/exclusion criteria, the titles and abstracts of all papers were screened independently by 2 reviewers (PO, LH, RJ) and adjudicated by a third reviewer if needed. The full texts of articles deemed relevant at this stage were also screened independently by 2 reviewers (PO, LH, RJ) with the third reviewer available as needed to reach consensus for the final set of included papers.

Data Extraction and Charting

Information from each included study was extracted using a predefined data extraction form on Microsoft Excel (**Supplementary 4**). Data extraction for each paper was carried out by one reviewer (LH) and checked by a second reviewer (NW & PO). The information extracted and charted included first author, year of publication, country, study aim, psychological/psychosocial focus, focus of research, type of research, methods, participant population, number of participants, year of data collection and key findings. In line with scoping review methodology to produce an overview of a field rather than a synthesis [25], methodological quality appraisal was not undertaken.

Collating, Summarising and Reporting the Results

Bibliometric data were analysed to produce a trend of publications over time and journal publication frequencies. To collate and summarise the included research, studies were grouped according to the focus of the research as follows:

- Major Trauma Care Pathways
- Major Trauma Care and Experiences
- Major Trauma Care Innovations
- Major Trauma Assessment Tools and Outcome Measures
- Major Trauma Research Prioritisation Studies

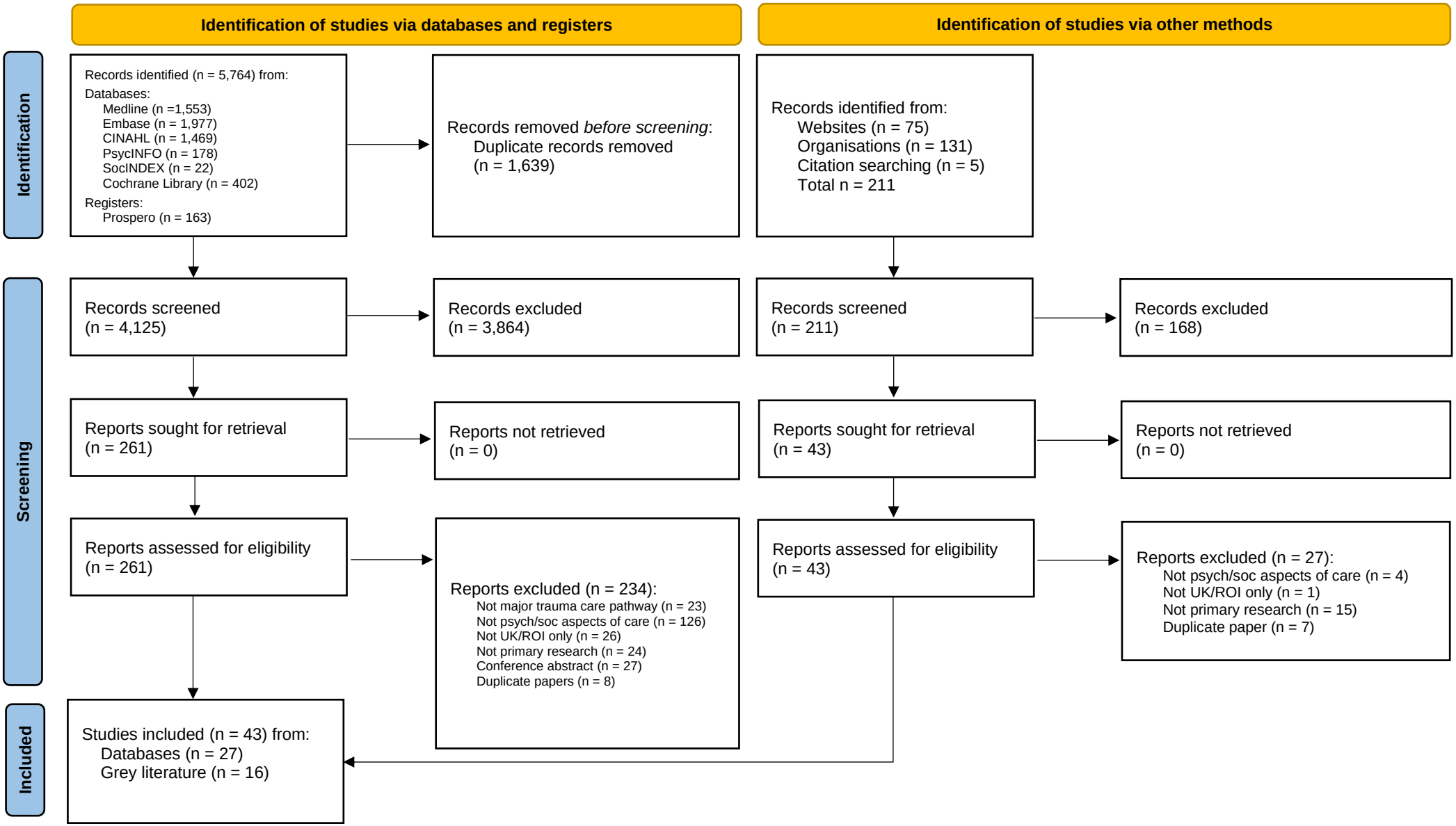
A descriptive analytical method [26] was undertaken by two team members (NW and PO) to produce a descriptive summary of each group. This was an iterative process of analysis of included papers in each group, individually and in relation to each other, and involved familiarisation, note taking, summarising and synthesis. The results are reported and then discussed in relation to current policy, strengths and limitations, and areas for further research. Methodological learning from undertaking database searches for major trauma care research is also reported.

Results

Study selection

The searches identified 5,975 articles from databases, registers, and grey literature sources. Following screening, 43 primary research studies were included in the scoping review. The study identification and selection process is illustrated in **Figure 1.**

Figure 1: PRISMA 2020 flow diagram for new systematic reviews which included searches of databases, registers and other sources

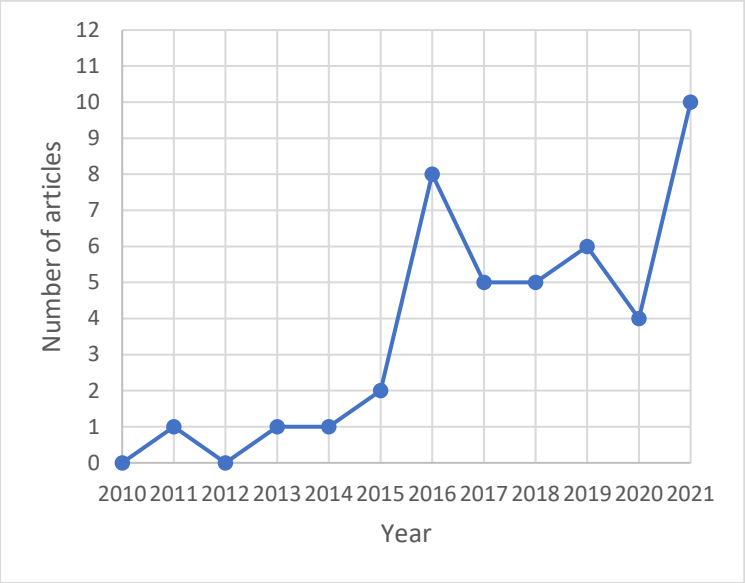


From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71. For more information, visit: http://www.prisma-statement.org/

Trend over time

There has been an upward trend in publication of research articles over time (**Figure 2**). There were few publications per year between 2010 and 2015 with growth noticeable in 2016 and again in 2021. The dip in 2020 is likely an effect of the COVID-19 pandemic which may have delayed article submissions and journal peer review processes. In 2021, 10 articles had been published up to the most recent database search (September) evidencing increased interest and growth.

Figure 2 Frequencies of publications over time



Journals

The included studies were published in a total of 25 journals, the most common being Injury (n=5), Trauma (n=4) and Clinical Rehabilitation (n=3).

Summaries of research evidence

Major Trauma Care Pathways

Eight studies looked at Major Trauma Care Pathways and were concerned with understanding care journeys of patients from admission to discharge and community rehabilitation. They sought to identify gaps in care, examples of good practice, and opportunities for improvement. Three focused on early pre-hospital [31] or acute care [32 33] stages of the pathway, whilst another five investigated continuation of care pathways to post-acute care services, including psychological [34] , vocational [35], rehabilitation [36 37] and neurorehabilitation [38]. Three studies focussed on children under 18 years of age [31 36 38] and three looked at pathways for patients with specific causes of injury; suspected child abuse [31] and suicide attempt [32 33]. Most studies in this category involved analysis and audit of routinely collected, local or national, quantitative trauma data. Three studies were mixed method, incorporating interviews or surveys to gather patient and professional stakeholder perspectives.

Key findings in this group related to gaps in major trauma care. Rehabilitation pathways overall were reported as fragmented and regionally inconsistent, lacking in vocational and psychological support with poor communication and co-ordination between acute and community services [35 37]. Some types of major trauma injuries were found to have more established and integrated pathways (e.g. traumatic brain injury, spinal cord injury) than others (musculoskeletal injury) [35 37]. Gaps were also noted in children's rehabilitation services [36] and in neurorehabilitation services for children under four years [38] . In addition, it was found that children presenting with injuries caused by suspected child abuse were less likely to trigger a major trauma alert, be taken to a major trauma centre and receive timely intervention despite having more serious injuries [31]. Recommendations for practice involved addressing identified gaps in service provision, better recognition of the role of mental health in recovery journeys and incorporation of psychological and vocational support into major trauma care pathways.

Major Trauma and Care Experiences

There were twelve studies in the major trauma and care experiences group. Four explored adult patient experiences in relation to: being a patient in an emergency department following trauma [39], the trauma experience itself [40], and a specific injury (multiple rib fractures) [41 42]. Three studied patient and family experiences; one was adult-patient and family focused [43] and two were about children's and parents' experiences of major trauma care [44 45]. Two further studies explored family members' experiences alone; one about parents' experiences [46] and the second about impacts for family members who lived far from the intensive care unit where their adult relative was admitted [47]. Two studies incorporated service provider as well as patients' perspectives about trauma care [48 49] whilst another focused solely on service provider views [50]. Most studies in this category employed qualitative methods for data collection, ten used semi-structured interviews, one study applied an ethnographic approach that incorporated observations as well as interviews, and one study used a postal survey.

The desire for a 'return to normality' and resumption of pre-trauma routines and activities was a key finding across several studies [41 42 44 46]. Parents talked about additional responsibilities they faced in supporting their child's recovery and impacts for family and work life [45]. Similarly, family members supporting adults after major trauma described additional caring responsibilities [48], and psychological, physical (exhaustion), and financial impacts [47]. Post-traumatic stress type symptoms were common experiences for patients and family members [39 41 45 46 47]. One study found that the way patients spoke about their major trauma experience could identify psychological distress cues to aid early detection by clinical staff of mental health needs [40]. Patients and family members had unmet information needs about the injury, the impact of injury (daily activities, occupational, emotional) and about management and recovery which caused anxiety and made transitions home difficult [43 44 45 46 47 48 49]. Service providers from across the trauma care pathway were very much aware that sometimes trauma care was below best-practice standards because of capacity pressures and lack of psychological and vocational services [50]. In addition, patients did not always know about or were unable to access relevant services after discharge [48 49], and sometimes when they did request services such as counselling their needs were dismissed [49]. Across the studies, participants did report positive experiences too, and these were in relation to timely and person/family-centred care and communication of information [43 44 48 49], and a contact [45] or case manager [48 49] to answer questions after discharge. Recommendations for practice included fulfilling patient and family information needs, attending to distress, provision of psychological support for patient and family

members, access to the right care at the right time, better communication between services, and a contact for questions after discharge from hospital.

Major Trauma Care Innovations

Eleven studies were evaluations of major trauma care innovations. These studies were about better integration of rehabilitation into major trauma care [51 52 53], improving transition from hospital to community [54 55 56], addressing psychosocial impacts of major trauma [53 57], integrating psychological support [58 59], improving communication between patients and surgeons [60] and designing trauma care education for intensive care nurses [61]. A variety of methodological approaches were used in this category, including several mixed methods approaches.

Key findings from the major trauma innovations group of studies related to improvements in rehabilitation, self-management, psychosocial, and psychological aspects of care. Educational intervention aimed at health professionals proved positive in facilitating patients' self-management [55 56], though sustainability was difficult with challenges related to upskilling and adoption across diverse multi-disciplinary teams [55 56], staff turnover [56], and bed occupancy pressures [55]. Elsewhere, a quality trauma discharge package of pharmacy counselling and tailored aftercare facilitated patients to manage their own self-care needs and improved patient satisfaction [54]. Other successful innovations included a model of paediatric neurorehabilitation [52], an integrated rehabilitation service [51], vocational rehabilitation training for occupational therapists [53], a free legal service for trauma patients providing advice about welfare, insurance, employment, care, and housing [57], an embedded psychology service providing support and tools to manage distress [58], and a community peer support programme for people following spinal cord injury [59]. These evaluations of major trauma care innovations are important in illustrating locally successful practices that could be used to advance psychological and psychosocial aspects of major trauma care nationally.

Major Trauma Assessment Tools and Outcome Measures

There were nine studies investigating major trauma assessment tools or outcome measures. These investigated tools to predict psychological outcome following major trauma [62 63] and effectiveness of cognitive screening tools for patients with traumatic brain injury [64 65]. Feasibility of assessment of frailty by emergency department nurses was the focus of one study [66]. Four studies investigated outcome measures, in terms of identifying the most important rehabilitation and health outcome measures [67], a patient-centred method for pre and post trauma measures of function [68], and outcomes relating to return to work[69 70]. Most studies in this category used quantitative methods.

In terms of key findings, patients whose injuries were a result of violence had greater post-traumatic stress and depressive symptoms than those whose injury was accidental [63]. Posttraumatic Adjustment Screen (PAS) scores during admission were found to be significant predictors of post-traumatic stress symptoms and psychological distress following discharge [62]. An online survey of 14 clinical psychologists in neuropsychology found that the Addenbrooke's Cognitive Examination-III and the Montreal Cognitive Assessment were the most frequently used cognitive screening tools for patients with traumatic brain injury [64]. And in related work, a shortened cognitive assessment tool (Neuropsychological Assessment Battery Screening Module, NAB-SM) was found to be promising for identifying cognitive impairment following traumatic brain injury, though the authors advise caution of interpretation of findings at this early stage of testing [65]. Similarly, feasibility studies produced promising results for frailty assessment by emergency department nurses [66] and for patient-centred

assessment of pre-trauma functionality [68]. One study found that even though two-thirds of major trauma survivors had a complete return to work, they continued to have poor quality of life outcomes and ongoing mental health issues [69]. This led the authors to conclude that major trauma survivors have long term, often unmet health needs for several years and that return to work alone was an insufficient outcome measure [69]. Across the studies there were calls for improved psychological screening and support [62 63 69] and for further research to develop patient-centred assessment tools and outcome measures [65 68 66 70].

Major Trauma Research Prioritisation Studies

There were three research prioritisation studies. Two involved research priority setting in relation to specific injuries, burns [71] and complex fractures [72] whilst the third study was broader relating to all major trauma populations [73]. Studies in this group employed a variety of prioritisation consensus methods. Research questions of effectiveness of psychological and psychosocial needs assessments and interventions featured across all the research prioritisation exercises.

Discussion

The findings from this scoping review indicate that major trauma care pathways in England are inherently complex (involving myriad services), partial and fragmented, and lack effective communication and co-ordination between services [35 37 43 48 49]. The hub and spoke configuration of regional major trauma care in the UK also means that patients' care journeys may pass through different units and services that may be geographically dispersed and which may be difficult for patients, families, and clinicians to navigate. The scoping review also identified that some types of major trauma injury had more established and integrated pathways whilst others were underserved [31 32 33 34 35 36 37 38 49 50]. In summary, there is inherent inequity across major trauma care pathways that likely result in health inequality following major trauma, and which may be amplified by existing health and social inequalities. The NHS standard contract for major trauma care providers advocates for holistic trauma care that includes co-ordination of immediate and ongoing care, provision of information about major trauma care pathways, signposting to voluntary and / or non-government support services that can assist with psychological and social impacts of major trauma as well as supporting family members and carers during and after admission [21]. The findings of this scoping review indicate that this standard is frequently not achieved. Congruent with previous research [7 8 9 10 11 12 14 15], the scoping review also found that psychological (e.g. post-traumatic stress symptoms, sense of self) [41 39 40 45 46 47] and psychosocial (e.g. family, social, work or school life) impacts were commonly reported by patients and family members, though needs relating to these aspects of care were often not met [41 43 45 46 47 48 49 50]. In the wider literature, collaborative care, described as a multidisciplinary team approach to evaluate patient needs and provide individualised care, was identified as a promising practice for reducing post-traumatic stress symptoms and preventing PTSD following traumatic injury though warranting further research[74].

The scoping review identified several studies evaluating innovations to improve care pathways in hospital [51 52 53] and in transition to home or community care [54 55 56]. Innovations for integrating hospital-based services for psychosocial aspects (legal advice service [57], vocational support service [53], peer support programme [59]) and psychological support[58] evaluated well. Reports of these locally successful innovations raise important questions about strengthening the position of psychological and psychosocial aspects of major trauma care in national policy documents, establishing clinical

effectiveness of innovations, feasibility testing to inform wider adoption and methods for sharing promising practices across regional major trauma networks.

The NHS major trauma standard contract [21] has two aims relating to psychological and psychosocial aspects of major trauma care:

- To deliver a system based on a pathway of care from the pre-hospital phase including rehabilitation [general and specialist] and a return to socio-economic functioning (pp4).
- To improve the functionality, health and psychological wellbeing, in those patients who survive their traumatic injuries; increasing their quality of life (pp4).

To demonstrate achievement of these aims effective assessment tools and outcome measures are required. Research investigating tools for types of psychological [62 63 64 65], functional [68], and frailty [66] assessments were important foci of research. The Posttraumatic Adjustment Screen was found to have potential for identifying those at risk of developing PTSD and/or depression after major trauma and who may benefit from early clinical psychology intervention [62]. We did not find any research about tools for assessing distress and concerns relating to psychosocial impacts of major trauma. Overall, there was no clear indication about which assessment tools were best for which situation nor what they should lead to. The scoping review also identified that current outcome measures may not be sufficiently nuanced to capture patient and/or family centred outcomes. For example, 'return to work' was found to be an insufficient outcome measure and indicator of recovery because many trauma survivors, though having returned to work, reported enduring and often unmet health needs that may not be captured by existing major trauma outcome measures [69]. Many studies made recommendations for development of patient-centred assessment tools and outcome measures [65 67 68 66 69 70].

Strengths and Limitations

Scoping reviews have their own challenges because their research questions are intentionally broad to identify and summarise the range and extent of literature in a field yet require clarity in terms of population and area of interest [26]. We balanced comprehensiveness conceptually (psychological and psychosocial aspects of care) and methodologically (seven databases and grey literature search) with focus (primary research across the newly adopted UK major trauma care pathway). Inclusion and exclusion criteria were developed to ensure breadth and comprehensiveness yet retain focus and feasibility [26]. The review is limited by its focus on the major trauma care pathway which may have missed studies undertaken in the UK's Trauma Units, either as a primary place of major trauma care or as a secondary place of care for patients repatriated from major trauma centres. It is also limited by its UK focus, there is likely relevant and potentially transferable research from outside the UK (e.g., validation of mental health assessment tools with major trauma populations). Nonetheless, this scoping review has identified gaps in the UK evidence base and provides a foundation to inform further research to develop psychological and psychosocial aspects of major trauma care in the UK. A further strength of this study was the involvement of public and professional stakeholders in shaping the scope and focus of the review.

Methodological Learning: Major Trauma Research

Through undertaking this scoping review, we found that research about major trauma care was not readily identifiable from papers' titles and abstracts, or indeed from full texts. We also found that many studies were flagged as taking place in a major trauma centre, but the research was not in fact about major trauma patients or the major trauma care pathway. In the absence of an agreed database indexing system, we recommend authors identify the focus of major trauma research by expressly stating, for example that it is about major trauma, major trauma care, major trauma care pathway etc.., in the title and/or abstract.

Conclusion

Psychological and psychosocial aspects of major trauma care is gathering momentum as an important yet underserved field of major trauma care practice and research. The aim of this scoping review was to identify and bring together primary research in the field, undertaken in the UK since the introduction of the UK's first major trauma care pathway, to identify what has been done and where further research is needed. Survivors of major trauma often live with lifechanging injuries and this scoping review along with previous research illustrates that psychological and psychosocial impacts are common following major trauma in both the immediate period and longer term. However, it also identified that these aspects of care are commonly underserved in current care pathways in the UK. The review found that some major trauma care pathways are better served than others, concluding there are inherent inequities across major trauma care pathways that likely result in health inequality following major trauma, and which may be amplified by existing health and social inequalities. Therefore, it is important that regional major trauma operating delivery networks map their provision of care across all major trauma populations to identity and address service gaps and inequities.

Though the scoping review identified a growing body of research investigating psychological and psychosocial aspects of major trauma care pathways in the UK, significant gaps in the evidence base remain. Presently, there are no published evidence-based standards or best practice consensus at the national level in the UK for psychological and psychosocial aspects of major trauma care. A qualitative evidence synthesis of the twelve studies exploring patient and/or family member experiences of UK major trauma care pathways would be useful to answer questions about care pathway complexities and inform future development of national practice guidelines. Further primary research is also needed to establish clinically effective psychological and psychosocial assessment tools (e.g., which tools are best for which purpose and population at which timepoints), corresponding psychological and psychosocial interventions, and patient-centred outcome measures so that in the future survivors of major trauma and their family members and/or carers receive the most appropriate care and intervention.

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Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily 1946 (searched on 20th November 2020)

#	Search	Results
1	exp United Kingdom/	368344
2	(national health service* or nhs*).ti,ab,in.	205720
3	(english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab.	97277
4	(gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*).ti,ab,jw,in.	2112492
5	(bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))).ti,ab,in.	1449828
6	(bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's").ti,ab,in.	57188
7	(aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's").ti,ab,in.	215059
8	(armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's").ti,ab,in.	27071
9	(lancashire or middlesborough or staffordshire).ti,ab,in.	13842
10	or/1-9	2715251

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

11	(exp africa/ or exp americas/ or exp antarctic regions/ or exp arctic regions/ or exp asia/ or exp australia/ or exp oceania/) not (exp United Kingdom/ or europe/)	2922956
12	10 not 11	2559813
13	Trauma Centers/	10902
14	(MTC or "major trauma center" or "major trauma centers" or "major trauma centre" or "major trauma centres" or "major trauma network" or "major trauma networks" or "major trauma patient" or "major trauma patients" or "major trauma service" or "major trauma services" or "major trauma team" or "major trauma care" or "major trauma admission" or "major trauma admissions" or "major trauma system").af.	6901
15	13 or 14	17329
16	("Addenbrooke's Hospital" or "James Cook University Hospital" or "John Radcliffe Hospital" or "St Mary's Hospital" or "St George's Hospital" or "Royal London Hospital" or "King's College Hospital" or "Leeds General Infirmary" or "Queen's Medical Centre" or "Royal Victoria Infirmary" or "Southampton General Hospital" or "Southmead Hospital" or "Aintree University Hospital" or "Derriford Hospital" or "Hull Royal Infirmary" or "Northern General Hospital" or "Queen Elizabeth Hospital" or "Royal Preston Hospital" or "Royal Sussex County Hospital" or "University Hospital Coventry" or "University Hospital of North Staffordshire" or "Salford Royal Hospital" or "Manchester Royal Infirmary" or "Bristol Royal Hospital" or "Royal Manchester Children's Hospital" or "Birmingham Children's Hospital" or "Sheffield Children's Hospital" or "Alder Hey Children's Hospital").ti,ab.	4486
17	(((trauma* or major) and injur*) or "major trauma").ti. or (((trauma* or major) and injur*) or "major trauma").ab.	188879
18	(12 OR 16) AND 15	1907
19	(15 OR 17) AND 16	142
20	18 OR 19	2012
22	Limit to 2010 onwards	1442

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

Ovid Embase 1974 (searched on 20th November 2020)

#	Search	Results
1	exp United Kingdom/	423977
2	(national health service* or nhs*).ti,ab,in.	307491
3	(english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab.	46873
4	(gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*).ti,ab,jw,in.	3202873
5	(bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))).ti,ab,in.	2500737
6	(bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's").ti,ab,in.	102295
7	(aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's").ti,ab,in.	345346
8	(armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's").ti,ab,in.	46704
9	(lancashire or middlesborough or staffordshire).ti,ab,in.	24250
10	or/1-9	3913587
11	(exp "arctic and antarctic"/ or exp oceanic regions/ or exp western hemisphere/ or exp africa/ or exp asia/) not (exp united kingdom/ or europe/)	3002083
12	10 not 11	3713683

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

13	(MTC or "major trauma center" or "major trauma centers" or "major trauma centre" or "major trauma centres" or "major trauma network" or "major trauma networks" or "major trauma patient" or "major trauma patients" or "major trauma service" or "major trauma services" or "major trauma team" or "major trauma care" or "major trauma admission" or "major trauma admissions" or "major trauma system").af.	11155
14	("Addenbrooke's Hospital" or "James Cook University Hospital" or "John Radcliffe Hospital" or "St Mary's Hospital" or "St George's Hospital" or "Royal London Hospital" or "King's College Hospital" or "Leeds General Infirmary" or "Queen's Medical Centre" or "Royal Victoria Infirmary" or "Southampton General Hospital" or "Southmead Hospital" or "Aintree University Hospital" or "Derriford Hospital" or "Hull Royal Infirmary" or "Northern General Hospital" or "Queen Elizabeth Hospital" or "Royal Preston Hospital" or "Royal Sussex County Hospital" or "University Hospital Coventry" or "University Hospital of North Staffordshire" or "Salford Royal Hospital" or "Manchester Royal Infirmary" or "Bristol Royal Hospital" or "Royal Manchester Children's Hospital" or "Birmingham Children's Hospital" or "Sheffield Children's Hospital" or "Alder Hey Children's Hospital").ti,ab.	7979
15	(((trauma* or major) and injur*) or "major trauma").ti. or (((trauma* or major) and injur*) or "major trauma").ab.	255330
16	(12 OR 14) AND 13	2128
17	(13 OR 15) AND 14	338
18	16 OR 17	2353
20	Limit to 2010 onwards	1885

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

Ebsco CINAHL Complete (searched 20th November 2020)

#	Search	Results
1	(MH "United Kingdom+")	327167
2	TI (national health service* OR nhs*) OR AB (national health service* OR nhs*) OR AF (national health service* OR nhs*)	126630
3	TI (english NOT ((published or publication* or translat* or written or language* or speak* or literature or citation*) N5 english)) OR AB (english NOT ((published or publication* or translat* or written or language* or speak* or literature or citation*) N5 english))	16265
4	TI (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*) OR AB (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*) OR AF (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*)	493421
5	TI (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge NOT (massachusetts* or boston* or harvard*)) or ("cambridge's" NOT (massachusetts* or boston* or harvard*)) or (canterbury NOT zealand*) or ("canterbury's" NOT zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham NOT (carolina* or nc)) or ("durham's" NOT (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln NOT nebraska*) or ("lincoln's" NOT nebraska*) or (liverpool NOT (new south wales* or nsw)) or ("liverpool's" NOT (new south wales* or nsw)) or ((london NOT (ontario* or ont or toronto*)) or ("london's" NOT (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle NOT (new south wales* or nsw)) or ("newcastle's" NOT (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester NOT (massachusetts* or boston* or harvard*)) or ("worcester's" NOT (massachusetts* or boston* or harvard*)) or (york NOT ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" NOT ("new york*" or ny or ontario* or ont or toronto*))))) OR AB (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or	890576

	nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))) OR AF (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*)))))	
6	TI (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's") OR AB (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's") OR AF (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's")	21816

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

7	TI (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's") OR AB (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's") OR AF (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's")	59264
8	TI (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's") OR AB (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's") OR AF (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's")	8984
9	TI (lancashire or middlesborough or staffordshire) OR AB (lancashire or middlesborough or staffordshire) OR AF (lancashire or middlesborough or staffordshire)	9226
10	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9	1270340
11	(MH "Africa+" or MH "America+" or MH "Antarctic Regions" or MH "Arctic Regions" or MH "Asia+" or MH "Australia+") not (MH "United Kingdom+" or MH “Europe”)	1331524
12	S10 not S11	1128329
13	(MH "Trauma Centers")	6535
14	TX MTC or "major trauma center" or "major trauma centers" or "major trauma centre" or "major trauma centres" or "major trauma network" or "major trauma networks" or "major trauma patient" or "major trauma patients" or "major trauma service" or "major trauma services" or "major trauma team" or "major trauma care" or "major trauma admission" or "major trauma admissions" or "major trauma system"	3021
15	S13 or S14	9224
16	TI ("Addenbrooke’s Hospital" or "James Cook University Hospital" or "John Radcliffe Hospital" or "St Mary’s Hospital" or "St George’s Hospital" or "Royal London Hospital" or "King’s College Hospital" or "Leeds General Infirmary" or "Queen’s Medical Centre" or "Royal Victoria Infirmary" or "Southampton General Hospital" or "Southmead Hospital" or "Aintree University Hospital" or "Derriford Hospital" or "Hull Royal Infirmary" or "Northern General Hospital" or "Queen Elizabeth Hospital" or "Royal Preston Hospital" or "Royal Sussex County Hospital" or "University Hospital Coventry" or "University Hospital of North Staffordshire" or "Salford Royal Hospital" or "Manchester Royal Infirmary" or "Bristol Royal Hospital" or "Royal Manchester Children’s Hospital" or "Birmingham Children’s Hospital" or "Sheffield Children’s Hospital" or "Alder Hey Children’s Hospital") OR AB ("Addenbrooke’s Hospital" or "James Cook University Hospital" or "John Radcliffe Hospital" or "St Mary’s Hospital" or "St George’s Hospital" or "Royal London Hospital" or "King’s College Hospital" or "Leeds General Infirmary" or "Queen’s Medical Centre" or "Royal Victoria Infirmary" or "Southampton General Hospital" or "Southmead Hospital" or "Aintree University Hospital" or "Derriford Hospital" or "Hull Royal Infirmary" or "Northern General Hospital" or "Queen Elizabeth Hospital" or "Royal Preston Hospital" or "Royal Sussex County Hospital" or "University Hospital Coventry" or "University Hospital of North Staffordshire" or "Salford Royal	1978

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

	Hospital" or "Manchester Royal Infirmary" or "Bristol Royal Hospital" or "Royal Manchester Children's Hospital" or "Birmingham Children's Hospital" or "Sheffield Children's Hospital" or "Alder Hey Children's Hospital")	
17	TI (((trauma* or major) and injur*) or "major trauma") OR AB (((trauma* or major) and injur*) or "major trauma")	58302
18	(S12 OR S16) AND S15	1550
19	(S15 OR S17) AND S16	65
20	S18 OR S19	1588
21	Limit to 2010 onwards	1341

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

Ebsco PsycINFO (searched on 20th November 2020)

#	Search	Results
1	TI (national health service* OR nhs*) OR AB (national health service* OR nhs*) OR AF (national health service* OR nhs*)	28234
2	TI (english NOT ((published or publication* or translat* or written or language* or speak* or literature or citation*) N5 english)) OR AB (english NOT ((published or publication* or translat* or written or language* or speak* or literature or citation*) N5 english))	4614295
3	TI (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*) OR AB (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*) OR AF (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*)	445168
4	TI (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge NOT (massachusetts* or boston* or harvard*)) or ("cambridge's" NOT (massachusetts* or boston* or harvard*)) or (canterbury NOT zealand*) or ("canterbury's" NOT zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham NOT (carolina* or nc)) or ("durham's" NOT (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln NOT nebraska*) or ("lincoln's" NOT nebraska*) or (liverpool NOT (new south wales* or nsw)) or ("liverpool's" NOT (new south wales* or nsw)) or ((london NOT (ontario* or ont or toronto*)) or ("london's" NOT (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle NOT (new south wales* or nsw)) or ("newcastle's" NOT (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester NOT (massachusetts* or boston* or harvard*)) or ("worcester's" NOT (massachusetts* or boston* or harvard*)) or (york NOT ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" NOT ("new york*" or ny or ontario* or ont or toronto*))))) OR AB (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or	1013923

	hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))) OR AF (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*)))))	
5	TI (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's") OR AB (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's") OR AF (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's")	19393
6	TI (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*)	45853

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

	or ("perth's" not australia*) or stirling or "stirling's") OR AB (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's") OR AF (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's")	
7	TI (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's") OR AB (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's") OR AF (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's")	6160
8	TI (lancashire or middlesborough or staffordshire) OR AB (lancashire or middlesborough or staffordshire) OR AF (lancashire or middlesborough or staffordshire)	4537
9	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8	4628943
10	TX MTC or "major trauma center" or "major trauma centers" or "major trauma centre" or "major trauma centres" or "major trauma network" or "major trauma networks" or "major trauma patient" or "major trauma patients" or "major trauma service" or "major trauma services" or "major trauma team" or "major trauma care" or "major trauma admission" or "major trauma admissions" or "major trauma system"	241
11	TI ("Addenbrooke's Hospital" or "James Cook University Hospital" or "John Radcliffe Hospital" or "St Mary's Hospital" or "St George's Hospital" or "Royal London Hospital" or "King's College Hospital" or "Leeds General Infirmary" or "Queen's Medical Centre" or "Royal Victoria Infirmary" or "Southampton General Hospital" or "Southmead Hospital" or "Aintree University Hospital" or "Derriford Hospital" or "Hull Royal Infirmary" or "Northern General Hospital" or "Queen Elizabeth Hospital" or "Royal Preston Hospital" or "Royal Sussex County Hospital" or "University Hospital Coventry" or "University Hospital of North Staffordshire" or "Salford Royal Hospital" or "Manchester Royal Infirmary" or "Bristol Royal Hospital" or "Royal Manchester Children's Hospital" or "Birmingham Children's Hospital" or "Sheffield Children's Hospital" or "Alder Hey Children's Hospital") OR AB ("Addenbrooke's Hospital" or "James Cook University Hospital" or "John Radcliffe Hospital" or "St Mary's Hospital" or "St George's Hospital" or "Royal London Hospital" or "King's College Hospital" or "Leeds General Infirmary" or "Queen's Medical Centre" or "Royal Victoria Infirmary" or "Southampton General Hospital" or "Southmead Hospital" or "Aintree University Hospital" or "Derriford Hospital" or "Hull Royal Infirmary" or "Northern General Hospital" or "Queen Elizabeth Hospital" or "Royal Preston Hospital" or "Royal Sussex County Hospital" or "University Hospital Coventry" or "University Hospital of North Staffordshire" or "Salford Royal Hospital" or "Manchester Royal Infirmary" or "Bristol Royal Hospital" or "Royal Manchester Children's Hospital" or "Birmingham Children's Hospital" or "Sheffield Children's Hospital" or "Alder Hey Children's Hospital")	174
12	TI (((trauma* or major) and injur*) or "major trauma") OR AB (((trauma* or major) and injur*) or "major trauma")	29914
13	(S9 OR S11) AND S10	241
14	(S10 OR S12) AND S11	5
15	S13 OR S14	246

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

16	Limit to 2010 onwards	165

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

Ebsco SocINDEX (searched on 20th November 2020)

#	Search	Results
1	TI (national health service* OR nhs*) OR AB (national health service* OR nhs*) OR AF (national health service* OR nhs*)	7799
2	TI (english NOT ((published or publication* or translat* or written or language* or speak* or literature or citation*) N5 english)) OR AB (english NOT ((published or publication* or translat* or written or language* or speak* or literature or citation*) N5 english))	996849
3	TI (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*) OR AB (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*) OR GE (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*)	160425
4	TI (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge NOT (massachusetts* or boston* or harvard*)) or ("cambridge's" NOT (massachusetts* or boston* or harvard*)) or (canterbury NOT zealand*) or ("canterbury's" NOT zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham NOT (carolina* or nc)) or ("durham's" NOT (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln NOT nebraska*) or ("lincoln's" NOT nebraska*) or (liverpool NOT (new south wales* or nsw)) or ("liverpool's" NOT (new south wales* or nsw)) or ((london NOT (ontario* or ont or toronto*)) or ("london's" NOT (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle NOT (new south wales* or nsw)) or ("newcastle's" NOT (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester NOT (massachusetts* or boston* or harvard*)) or ("worcester's" NOT (massachusetts* or boston* or harvard*)) or (york NOT ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" NOT ("new york*" or ny or ontario* or ont or toronto*))))) OR AB (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or	245439

	hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))) OR GE (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*)))))	
5	TI (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's") OR AB (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's") OR GE (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's")	911
6	TI (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*)	2924

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

	or ("perth's" not australia*) or stirling or "stirling's") OR AB (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's") OR GE (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's")	
7	TI (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's") OR AB (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's") OR GE (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's")	877
8	TI (lancashire or middlesborough or staffordshire) OR AB (lancashire or middlesborough or staffordshire) OR GE (lancashire or middlesborough or staffordshire)	599
9	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8	1226933
10	TX MTC or "major trauma center" or "major trauma centers" or "major trauma centre" or "major trauma centres" or "major trauma network" or "major trauma networks" or "major trauma patient" or "major trauma patients" or "major trauma service" or "major trauma services" or "major trauma team" or "major trauma care" or "major trauma admission" or "major trauma admissions" or "major trauma system"	279
11	TI ("Addenbrooke's Hospital" or "James Cook University Hospital" or "John Radcliffe Hospital" or "St Mary's Hospital" or "St George's Hospital" or "Royal London Hospital" or "King's College Hospital" or "Leeds General Infirmary" or "Queen's Medical Centre" or "Royal Victoria Infirmary" or "Southampton General Hospital" or "Southmead Hospital" or "Aintree University Hospital" or "Derriford Hospital" or "Hull Royal Infirmary" or "Northern General Hospital" or "Queen Elizabeth Hospital" or "Royal Preston Hospital" or "Royal Sussex County Hospital" or "University Hospital Coventry" or "University Hospital of North Staffordshire" or "Salford Royal Hospital" or "Manchester Royal Infirmary" or "Bristol Royal Hospital" or "Royal Manchester Children's Hospital" or "Birmingham Children's Hospital" or "Sheffield Children's Hospital" or "Alder Hey Children's Hospital") OR AB ("Addenbrooke's Hospital" or "James Cook University Hospital" or "John Radcliffe Hospital" or "St Mary's Hospital" or "St George's Hospital" or "Royal London Hospital" or "King's College Hospital" or "Leeds General Infirmary" or "Queen's Medical Centre" or "Royal Victoria Infirmary" or "Southampton General Hospital" or "Southmead Hospital" or "Aintree University Hospital" or "Derriford Hospital" or "Hull Royal Infirmary" or "Northern General Hospital" or "Queen Elizabeth Hospital" or "Royal Preston Hospital" or "Royal Sussex County Hospital" or "University Hospital Coventry" or "University Hospital of North Staffordshire" or "Salford Royal Hospital" or "Manchester Royal Infirmary" or "Bristol Royal Hospital" or "Royal Manchester Children's Hospital" or "Birmingham Children's Hospital" or "Sheffield Children's Hospital" or "Alder Hey Children's Hospital")	83
12	TI (((trauma* or major) and injur*) or "major trauma") OR AB (((trauma* or major) and injur*) or "major trauma")	3262
13	(S9 OR S11) AND S10	64
14	(S10 OR S12) AND S11	1
15	S13 OR S14	65

16	Limit to 2010 onwards	21

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

PROSPERO (searched on 20th November 2020)

#	Search	Results
1	MTC or "major trauma center" or "major trauma centers" or "major trauma centre" or "major trauma centres" or "major trauma network" or "major trauma networks" or "major trauma patient" or "major trauma patients" or "major trauma service" or "major trauma services" or "major trauma team" or "major trauma care" or "major trauma admission" or "major trauma admissions" or "major trauma system"	110
2	MH Trauma Centers (explode all trees)	26

Cochrane library (searched on 20th November 2020)

#	Search	Results
1	MTC or "major trauma center" or "major trauma centers" or "major trauma centre" or "major trauma centres" or "major trauma network" or "major trauma networks" or "major trauma patient" or "major trauma patients" or "major trauma service" or "major trauma services" or "major trauma team" or "major trauma care" or "major trauma admission" or "major trauma admissions" or "major trauma system"	442
2	MH Trauma Centers (explode all trees)	183
3	#1 OR #2	442
4	Limit to 2010 onwards	375

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily 1946 (searched on 14th September 2021)

#	Search	Results
1	exp United Kingdom/	378513
2	(national health service* or nhs*).ti,ab,in.	227567
3	(english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab.	43044
4	(gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*).ti,ab,jw,in.	2224186
5	(bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))).ti,ab,in.	1547083
6	(bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's").ti,ab,in.	61447
7	(aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's").ti,ab,in.	228624
8	(armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's").ti,ab,in.	29197
9	(lancashire or middlesborough or staffordshire).ti,ab,in.	14923
10	or/1-9	2797933

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

11	(exp africa/ or exp americas/ or exp antarctic regions/ or exp arctic regions/ or exp asia/ or exp australia/ or exp oceania/) not (exp United Kingdom/ or europe/)	609677
12	10 not 11	2117020
13	Trauma Centers/	
14	(MTC or "major trauma center" or "major trauma centers" or "major trauma centre" or "major trauma centres" or "major trauma network" or "major trauma networks" or "major trauma patient" or "major trauma patients" or "major trauma service" or "major trauma services" or "major trauma team" or "major trauma care" or "major trauma admission" or "major trauma admissions" or "major trauma system").af.	7369
15	13 or 14	18463
16	("Addenbrooke's Hospital" or "James Cook University Hospital" or "John Radcliffe Hospital" or "St Mary's Hospital" or "St George's Hospital" or "Royal London Hospital" or "King's College Hospital" or "Leeds General Infirmary" or "Queen's Medical Centre" or "Royal Victoria Infirmary" or "Southampton General Hospital" or "Southmead Hospital" or "Aintree University Hospital" or "Derriford Hospital" or "Hull Royal Infirmary" or "Northern General Hospital" or "Queen Elizabeth Hospital" or "Royal Preston Hospital" or "Royal Sussex County Hospital" or "University Hospital Coventry" or "University Hospital of North Staffordshire" or "Salford Royal Hospital" or "Manchester Royal Infirmary" or "Bristol Royal Hospital" or "Royal Manchester Children's Hospital" or "Birmingham Children's Hospital" or "Sheffield Children's Hospital" or "Alder Hey Children's Hospital").ti,ab.	4642
17	(((trauma* or major) and injur*) or "major trauma").ti. or (((trauma* or major) and injur*) or "major trauma").ab.	199958
18	(12 OR 16) AND 15	2714
19	(15 OR 17) AND 16	151
20	18 OR 19	2824
22	Limit #20 to dt=20201121-20210914	111

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

Ovid Embase 1974 (searched on 14th September 2021)

#	Search	Results
1	exp United Kingdom/	434269
2	(national health service* or nhs*).ti,ab,in.	335317
3	(english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab.	50902
4	(gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*).ti,ab,jw,in.	3313210
5	(bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))).ti,ab,in.	2603956
6	(bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's").ti,ab,in.	106568
7	(aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's").ti,ab,in.	358667
8	(armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's").ti,ab,in.	48995
9	(lancashire or middlesborough or staffordshire).ti,ab,in.	25353
10	or/1-9	4054203
11	(exp "arctic and antarctic"/ or exp oceanic regions/ or exp western hemisphere/ or exp africa/ or exp asia/) not (exp united kingdom/ or europe/)	1000398
12	10 not 11	2884376

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

13	(MTC or "major trauma center" or "major trauma centers" or "major trauma centre" or "major trauma centres" or "major trauma network" or "major trauma networks" or "major trauma patient" or "major trauma patients" or "major trauma service" or "major trauma services" or "major trauma team" or "major trauma care" or "major trauma admission" or "major trauma admissions" or "major trauma system").af.	11970
14	("Addenbrooke's Hospital" or "James Cook University Hospital" or "John Radcliffe Hospital" or "St Mary's Hospital" or "St George's Hospital" or "Royal London Hospital" or "King's College Hospital" or "Leeds General Infirmary" or "Queen's Medical Centre" or "Royal Victoria Infirmary" or "Southampton General Hospital" or "Southmead Hospital" or "Aintree University Hospital" or "Derriford Hospital" or "Hull Royal Infirmary" or "Northern General Hospital" or "Queen Elizabeth Hospital" or "Royal Preston Hospital" or "Royal Sussex County Hospital" or "University Hospital Coventry" or "University Hospital of North Staffordshire" or "Salford Royal Hospital" or "Manchester Royal Infirmary" or "Bristol Royal Hospital" or "Royal Manchester Children's Hospital" or "Birmingham Children's Hospital" or "Sheffield Children's Hospital" or "Alder Hey Children's Hospital").ti,ab.	8479
15	(((trauma* or major) and injur*) or "major trauma").ti. or (((trauma* or major) and injur*) or "major trauma").ab.	268679
16	(12 OR 14) AND 13	1839
17	(13 OR 15) AND 14	362
18	16 OR 17	2070
20	limit 18 to dd=20201121-20210914	92

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

Ebsco CINAHL Complete (searched on 14th September 2021)

#	Search	Results
1	(MH "United Kingdom+")	331,200
2	TI (national health service* OR nhs*) OR AB (national health service* OR nhs*) OR AF (national health service* OR nhs*)	136,185
3	TI (english NOT ((published or publication* or translat* or written or language* or speak* or literature or citation*) N5 english)) OR AB (english NOT ((published or publication* or translat* or written or language* or speak* or literature or citation*) N5 english))	17,669
4	TI (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*) OR AB (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*) OR AF (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*)	526,103
5	TI (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge NOT (massachusetts* or boston* or harvard*)) or ("cambridge's" NOT (massachusetts* or boston* or harvard*)) or (canterbury NOT zealand*) or ("canterbury's" NOT zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham NOT (carolina* or nc)) or ("durham's" NOT (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln NOT nebraska*) or ("lincoln's" NOT nebraska*) or (liverpool NOT (new south wales* or nsw)) or ("liverpool's" NOT (new south wales* or nsw)) or ((london NOT (ontario* or ont or toronto*)) or ("london's" NOT (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle NOT (new south wales* or nsw)) or ("newcastle's" NOT (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester NOT (massachusetts* or boston* or harvard*)) or ("worcester's" NOT (massachusetts* or boston* or harvard*)) or (york NOT ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" NOT ("new york*" or ny or ontario* or ont or toronto*))))) OR AB (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or	965,657

	"chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))) OR AF (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*)))))	
6	TI (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's") OR AB (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st	23,210

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

	asaph's" or st davids or swansea or "swansea's") OR AF (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's")	
7	TI (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's") OR AB (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's") OR AF (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's")	62,987
8	TI (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's") OR AB (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's") OR AF (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's")	9,753
9	TI (lancashire or middlesborough or staffordshire) OR AB (lancashire or middlesborough or staffordshire) OR AF (lancashire or middlesborough or staffordshire)	9,739
10	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9	1,355,718
11	(MH "Africa+" or MH "America+" or MH "Antarctic Regions" or MH "Arctic Regions" or MH "Asia+" or MH "Australia+") not (MH "United Kingdom+" or MH “Europe”)	1,380,319
12	S10 not S11	1,200,740
13	(MH "Trauma Centers")	6,909
14	TX MTC or "major trauma center" or "major trauma centers" or "major trauma centre" or "major trauma centres" or "major trauma network" or "major trauma networks" or "major trauma patient" or "major trauma patients" or "major trauma service" or "major trauma services" or "major trauma team" or "major trauma care" or "major trauma admission" or "major trauma admissions" or "major trauma system"	3,274
15	S13 or S14	9,811
16	TI ("Addenbrooke’s Hospital" or "James Cook University Hospital" or "John Radcliffe Hospital" or "St Mary’s Hospital" or "St George’s Hospital" or "Royal London Hospital" or "King’s College Hospital" or "Leeds General Infirmary" or "Queen’s Medical Centre" or "Royal Victoria Infirmary" or "Southampton General Hospital" or "Southmead Hospital" or "Aintree University Hospital" or "Derriford Hospital" or "Hull Royal Infirmary" or "Northern General Hospital" or "Queen Elizabeth Hospital" or "Royal Preston Hospital" or "Royal Sussex County Hospital" or "University Hospital Coventry" or "University Hospital of North Staffordshire" or "Salford Royal Hospital" or "Manchester Royal Infirmary" or "Bristol Royal Hospital" or "Royal Manchester Children’s Hospital" or "Birmingham Children’s Hospital" or "Sheffield Children’s Hospital" or "Alder Hey Children’s Hospital") OR AB ("Addenbrooke’s Hospital" or "James Cook University Hospital" or "John Radcliffe Hospital" or "St Mary’s Hospital" or "St George’s Hospital" or "Royal London Hospital" or "King’s College Hospital" or "Leeds General Infirmary" or "Queen’s Medical	2,034

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

	Centre" or "Royal Victoria Infirmary" or "Southampton General Hospital" or "Southmead Hospital" or "Aintree University Hospital" or "Derriford Hospital" or "Hull Royal Infirmary" or "Northern General Hospital" or "Queen Elizabeth Hospital" or "Royal Preston Hospital" or "Royal Sussex County Hospital" or "University Hospital Coventry" or "University Hospital of North Staffordshire" or "Salford Royal Hospital" or "Manchester Royal Infirmary" or "Bristol Royal Hospital" or "Royal Manchester Children's Hospital" or "Birmingham Children's Hospital" or "Sheffield Children's Hospital" or "Alder Hey Children's Hospital")	
17	TI (((trauma* or major) and injur*) or "major trauma") OR AB (((trauma* or major) and injur*) or "major trauma")	61,919
18	(S12 OR S16) AND S15	1,714
19	(S15 OR S17) AND S16	69
20	S18 OR S19	1,755
21	Limit to Published Date: 20201101-20210931	128

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

Ebsco PsycINFO (searched on 14th September 2021)

#	Search	Results
1	TI (national health service* OR nhs*) OR AB (national health service* OR nhs*) OR AF (national health service* OR nhs*)	29,796
2	TI (english NOT ((published or publication* or translat* or written or language* or speak* or literature or citation*) N5 english)) OR AB (english NOT ((published or publication* or translat* or written or language* or speak* or literature or citation*) N5 english))	4,770,231
3	TI (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*) OR AB (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*) OR AF (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*)	462,400
4	TI (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge NOT (massachusetts* or boston* or harvard*)) or ("cambridge's" NOT (massachusetts* or boston* or harvard*)) or (canterbury NOT zealand*) or ("canterbury's" NOT zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham NOT (carolina* or nc)) or ("durham's" NOT (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln NOT nebraska*) or ("lincoln's" NOT nebraska*) or (liverpool NOT (new south wales* or nsw)) or ("liverpool's" NOT (new south wales* or nsw)) or ((london NOT (ontario* or ont or toronto*)) or ("london's" NOT (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle NOT (new south wales* or nsw)) or ("newcastle's" NOT (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester NOT (massachusetts* or boston* or harvard*)) or ("worcester's" NOT (massachusetts* or boston* or harvard*)) or (york NOT ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" NOT ("new york*" or ny or ontario* or ont or toronto*))))) OR AB (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby	1,058,444

	or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))) OR AF (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*)))))	
5	TI (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's") OR AB (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's") OR AF (bangor or	20,116

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

	"bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's")	
6	TI (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's") OR AB (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's") OR AF (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's")	47,626
7	TI (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's") OR AB (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's") OR AF (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's")	6,464
8	TI (lancashire or middlesborough or staffordshire) OR AB (lancashire or middlesborough or staffordshire) OR AF (lancashire or middlesborough or staffordshire)	4,721
9	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8	4,785,547
10	TX MTC or "major trauma center" or "major trauma centers" or "major trauma centre" or "major trauma centres" or "major trauma network" or "major trauma networks" or "major trauma patient" or "major trauma patients" or "major trauma service" or "major trauma services" or "major trauma team" or "major trauma care" or "major trauma admission" or "major trauma admissions" or "major trauma system"	261
11	TI ("Addenbrooke's Hospital" or "James Cook University Hospital" or "John Radcliffe Hospital" or "St Mary's Hospital" or "St George's Hospital" or "Royal London Hospital" or "King's College Hospital" or "Leeds General Infirmary" or "Queen's Medical Centre" or "Royal Victoria Infirmary" or "Southampton General Hospital" or "Southmead Hospital" or "Aintree University Hospital" or "Derriford Hospital" or "Hull Royal Infirmary" or "Northern General Hospital" or "Queen Elizabeth Hospital" or "Royal Preston Hospital" or "Royal Sussex County Hospital" or "University Hospital Coventry" or "University Hospital of North Staffordshire" or "Salford Royal Hospital" or "Manchester Royal Infirmary" or "Bristol Royal Hospital" or "Royal Manchester Children's Hospital" or "Birmingham Children's Hospital" or "Sheffield Children's Hospital" or "Alder Hey Children's Hospital") OR AB ("Addenbrooke's Hospital" or "James Cook University Hospital" or "John Radcliffe Hospital" or "St Mary's Hospital" or "St George's Hospital" or "Royal London Hospital" or "King's College Hospital" or "Leeds General Infirmary" or "Queen's Medical Centre" or "Royal Victoria Infirmary" or "Southampton General Hospital" or "Southmead Hospital" or "Aintree University Hospital" or "Derriford Hospital" or "Hull Royal Infirmary" or "Northern General Hospital" or "Queen Elizabeth Hospital" or "Royal Preston Hospital" or "Royal Sussex County Hospital" or "University Hospital Coventry" or "University Hospital of North Staffordshire" or "Salford Royal Hospital" or "Manchester Royal Infirmary" or "Bristol Royal Hospital" or "Royal Manchester Children's Hospital" or "Birmingham	179

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

	Children's Hospital" or "Sheffield Children's Hospital" or "Alder Hey Children's Hospital")	
12	TI (((trauma* or major) and injur*) or "major trauma") OR AB (((trauma* or major) and injur*) or "major trauma")	31,365
13	(S9 OR S11) AND S10	261
14	(S10 OR S12) AND S11	5
15	S13 OR S14	266
16	Limit to Published Date: 20201101-20210931	13

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

Ebsco SocINDEX (searched on 14th September 2021)

#	Search	Results
1	TI (national health service* OR nhs*) OR AB (national health service* OR nhs*) OR AF (national health service* OR nhs*)	11,553
2	TI (english NOT ((published or publication* or translat* or written or language* or speak* or literature or citation*) N5 english)) OR AB (english NOT ((published or publication* or translat* or written or language* or speak* or literature or citation*) N5 english))	996,896
3	TI (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*) OR AB (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*) OR GE (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*)	288,009
4	TI (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge NOT (massachusetts* or boston* or harvard*)) or ("cambridge's" NOT (massachusetts* or boston* or harvard*)) or (canterbury NOT zealand*) or ("canterbury's" NOT zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham NOT (carolina* or nc)) or ("durham's" NOT (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln NOT nebraska*) or ("lincoln's" NOT nebraska*) or (liverpool NOT (new south wales* or nsw)) or ("liverpool's" NOT (new south wales* or nsw)) or ((london NOT (ontario* or ont or toronto*)) or ("london's" NOT (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle NOT (new south wales* or nsw)) or ("newcastle's" NOT (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester NOT (massachusetts* or boston* or harvard*)) or ("worcester's" NOT (massachusetts* or boston* or harvard*)) or (york NOT ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" NOT ("new york*" or ny or ontario* or ont or toronto*))))) OR AB (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby	411,816

	or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))) OR GE (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*)))))	
5	TI (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's") OR AB (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's") OR GE (bangor or	8,960

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

	"bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's")	
6	TI (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's") OR AB (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's") OR GE (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's")	19,779
7	TI (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's") OR AB (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's") OR GE (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's")	3,660
8	TI (lancashire or middlesborough or staffordshire) OR AB (lancashire or middlesborough or staffordshire) OR GE (lancashire or middlesborough or staffordshire)	2,756
9	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8	1,355,620
10	TX MTC or "major trauma center" or "major trauma centers" or "major trauma centre" or "major trauma centres" or "major trauma network" or "major trauma networks" or "major trauma patient" or "major trauma patients" or "major trauma service" or "major trauma services" or "major trauma team" or "major trauma care" or "major trauma admission" or "major trauma admissions" or "major trauma system"	268
11	TI ("Addenbrooke's Hospital" or "James Cook University Hospital" or "John Radcliffe Hospital" or "St Mary's Hospital" or "St George's Hospital" or "Royal London Hospital" or "King's College Hospital" or "Leeds General Infirmary" or "Queen's Medical Centre" or "Royal Victoria Infirmary" or "Southampton General Hospital" or "Southmead Hospital" or "Aintree University Hospital" or "Derriford Hospital" or "Hull Royal Infirmary" or "Northern General Hospital" or "Queen Elizabeth Hospital" or "Royal Preston Hospital" or "Royal Sussex County Hospital" or "University Hospital Coventry" or "University Hospital of North Staffordshire" or "Salford Royal Hospital" or "Manchester Royal Infirmary" or "Bristol Royal Hospital" or "Royal Manchester Children's Hospital" or "Birmingham Children's Hospital" or "Sheffield Children's Hospital" or "Alder Hey Children's Hospital") OR AB ("Addenbrooke's Hospital" or "James Cook University Hospital" or "John Radcliffe Hospital" or "St Mary's Hospital" or "St George's Hospital" or "Royal London Hospital" or "King's College Hospital" or "Leeds General Infirmary" or "Queen's Medical Centre" or "Royal Victoria Infirmary" or "Southampton General Hospital" or "Southmead Hospital" or "Aintree University Hospital" or "Derriford Hospital" or "Hull Royal Infirmary" or "Northern General Hospital" or "Queen Elizabeth Hospital" or "Royal Preston Hospital" or "Royal Sussex County Hospital" or "University Hospital Coventry" or "University Hospital of North Staffordshire" or "Salford Royal Hospital" or "Manchester Royal Infirmary" or "Bristol Royal Hospital" or "Royal Manchester Children's Hospital" or "Birmingham	83

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

	Children's Hospital" or "Sheffield Children's Hospital" or "Alder Hey Children's Hospital")	
12	TI (((trauma* or major) and injur*) or "major trauma") OR AB (((trauma* or major) and injur*) or "major trauma")	3,120
13	(S9 OR S11) AND S10	75
14	(S10 OR S12) AND S11	1
15	S13 OR S14	76
16	Limit to 21st November 2020 onwards	1

Supplementary 1: Database Searches (original search 20th November 2020, update search 14th September 2021)

PROSPERO (searched on 14th September 2021)

#	Search	Results
1	MTC or "major trauma center" or "major trauma centers" or "major trauma centre" or "major trauma centres" or "major trauma network" or "major trauma networks" or "major trauma patient" or "major trauma patients" or "major trauma service" or "major trauma services" or "major trauma team" or "major trauma care" or "major trauma admission" or "major trauma admissions" or "major trauma system"	139
2	MH Trauma Centers (explode all trees)	0
3	Limit to 25th November 2020 onwards	27

Cochrane library (searched on 14th September 2021)

#	Search	Results
1	MTC or "major trauma center" or "major trauma centers" or "major trauma centre" or "major trauma centres" or "major trauma network" or "major trauma networks" or "major trauma patient" or "major trauma patients" or "major trauma service" or "major trauma services" or "major trauma team" or "major trauma care" or "major trauma admission" or "major trauma admissions" or "major trauma system"	429
2	MH Trauma Centers (explode all trees)	188
3	#1 OR #2	610
4	Limit to November 2020 onwards	27

Supplementary 2 Grey Literature Search Strategy

The aim of the grey literature search was to identify research reports not published in peer reviewed journals and research in progress that met inclusion criteria. The term 'major trauma' was used to search websites where possible and sections of websites (e.g. reports, publications, resources etc..) were searched for relevant documents. Searches were undertaken between 28th January 2021 to 22nd March 2021 and involved searches across the following websites and key researcher/author searches:

- **OpenGrey Database**
- **NIHR Funding and Awards**
- **UK-based Research Centres:** Centre for Trauma Sciences (C4TS), London; Injury Epidemiology and Prevention Research, Nottingham; Centre for Health Innovation, Leadership and Learning (CHILL), Nottingham; Khadoorie Research Centre – Trauma Research, Oxford; The Academic Centre for UrgenT and Emergency Care (ACUTECare), Oxford; Centre for Urgent and Emergency Care Research (CURE), Sheffield; Research in Emergency Care, Avon Collaborative Hub (REACH), Bristol; Trauma Research and Audit Network (TARN), UK.
- **Key Researchers:** Key researchers in the field identified in research centre searches were searched in Google Scholar for additional papers.
- **Patient and Family Support Websites:** After Trauma, Day One, The Major Trauma Signposting Partnership
- **NGO / Charitable Organisations:** Black Stork Charity, Headway, Limbless Society, Spinal Injuries Association, Aspire (practical support after spinal injury), Carers UK, Princess Royal Trust for Carers, Victim Support.
- **Professional Organisations:** The British Burns Association, British Society of Rehabilitation Medicine, Chartered Society of Physiotherapists, Royal College of Occupational Therapists, Association of Clinical Psychologists UK, National Major Trauma Nursing Group, National Major Trauma Rehab Group, Major Trauma Geriatrics, Royal College of Emergency Medicine, RCN Emergency Nurses Association.
- **Health Think Tanks:** The King's Fund, Nuffield Trust, The Health Foundation, Wellcome Trust.
- **Government Departments:** Department of Health and Social Care, England; Department of Health and Social Services, Wales; Department of Health, Northern Ireland; Department of Health and Social Care, Scotland; Public Health England; Public Health Wales; Public Health Agency, Northern Ireland; Public Health Scotland; NHS England; NHS Wales, Health and Social Care, Northern Ireland; NHS Scotland; NHS Commissioning, England).
- **Practice Guidelines:** National Institute for Health and Care Excellence, (NICE); SIGN Scotland. Social Care Institute for Excellence.
- **National Audits:** National Audit Office UK; Audit Wales; Northern Ireland Audit Office, Audit Scotland.

Supplementary 3 Inclusion and Exclusion Criteria

Principal Inclusion Criteria: Any primary research focussing on psychological or psychosocial aspects of care, set in Major Trauma Centres, or clearly connected to the Major Trauma Care Pathway in the United Kingdom.

Research design: Primary research studies were included. Research protocols were noted separately and were excluded from the review after checking for study completion and publication. Relevant conference papers were excluded, although attempts were first made to find a full text article report.

Population: Survivors of major trauma, their families or carers and staff.

Intervention: Psychological or psychosocial aspects of care, aimed at the major trauma patient, their families or carers. The term "care" was defined broadly, examples include:

- screening or assessment of need; assessment tools, discharge or transition planning.
- psychological or psychosocial intervention; brief interventions; education; supportive technologies.
- service design; service delivery; service provision; service commissioning.
- patients, family members and/or professionals' perspectives about experience of psychological or psychosocial aspects of major trauma.

Comparator: Studies with or without a comparator intervention were included.

Outcomes: If outcomes were reported they needed to relate to psychological or psychosocial aspects of care for patients, their families or carers, and may have included one or more of the following, but were not limited to:

- Any patient or family centred outcomes
- Social outcomes for patients and/or family: work; job; money; school; daily living; family relationships
- Psychological outcomes for patients and/or family: anxiety; distress; PTSD; emotions; mental health; resilience; coping strategies; problem solving.
- Patient, family, or health care professional experiences: unmet psychological/social care need; quality of psychological/ social care; access to psychological/ social care during hospital stay and afterwards
- Information provision: knowledge needs of patients, family, and health care professionals.

Studies focused on physical measures of function or recovery following medical / surgical interventions, e.g. degrees of movement in a limb or moderate recovery on the short, 5-point Glasgow Outcome Scale, were excluded if these did not also include psychological or psychosocial aspects of care. Epidemiological studies solely reporting incidence or prevalence of psychological/social outcomes were also excluded.

Setting: Studies set in Major Trauma Centres or clearly connected to Major Trauma Care Pathways in the United Kingdom were included. Studies about military systems of care (i.e., care or facility sat outside of NHS civilian care pathway) were excluded. International studies in which UK data could not be extracted were excluded.

Time: Studies where recruitment of participants took place from 2010 onwards were included as this coincided with the pilot introduction and subsequent roll out of Major Trauma Centres in the United Kingdom.

Language: Only papers written in English were included.

Supplementary 4 Scoping Review Included Papers Data Extraction

This is an excel file available on request from corresponding author.