Review protocol for review question: D.2a What are the best methods to deliver and coordinate rehabilitation services and social services for adults with complex rehabilitation needs after traumatic injury when they transfer from inpatient to outpatient rehabilitation services?

Table 11: Review protocol for coordination of inpatient and outpatient rehabilitation and social service for adults after traumatic injury

ID	Field	Content
0.	PROSPERO registration number	CRD42019154585
1.	Review title	Service coordination: Inpatient to outpatient settings for adults
2.	Review question	4.2a: What are the best methods to deliver and coordinate rehabilitation services and social services for adults with complex rehabilitation needs after traumatic injury when they transfer from inpatient to outpatient rehabilitation services?
3.	Objective	To determine the best methods to deliver and coordinate rehabilitation services and social services for adults with complex rehabilitation needs after traumatic injury when they transfer from inpatient to outpatient rehabilitation services?
4.	Searches	The following databases will be searched: • Cochrane Central Register of Controlled Trials (CENTRAL) • Cochrane Database of Systematic Reviews (CDSR) • Embase • MEDLINE Searches will be restricted by: • Date: o Qualitative: The committee is of the opinion that 2010 is a reasonable cut-off date due to the practice changes in rehabilitation services introduced by the establishment of major trauma centres in 2012. Data about adults/CYPs' views of rehabilitation services which predate these changes would be less relevant to current practice and less useful to the committee as a basis for drafting recommendations o Quantitative: 2000 onwards as there has been significant change in practice in 2012 and the guideline committee wanted to capture the evidence that lead to that so imposed a date limit going back 12 years prior to the change in practice

		• Country: ○ Qualitative: The committee wished to prioritise views about rehabilitation services which most closely reflect the UK practice context. They therefore agreed to include studies from high income European countries according to the World Bank (https://datahelpdesk.worldbank.org/knowledgebase/articles/906519; i.e., Andorra, Austria, Belgium, Channel Islands, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Faroe Islands, Finland, France, Germany, Gibraltar, Greece, Greenland, Hungary, Iceland, Ireland, Isle of Man, Italy, Latvia, Lichtenstein, Lithuania, Luxembourg, Monaco, Netherlands, Norway, Poland, Portugal, San Marino, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, and UK), Canada, Australia and New Zealand, which would be sufficiently transferable. Priority will be given to UK studies, however data from studies conducted in other high-income countries will be added if new themes arise that are not captured in the UK evidence. ○ Quantitative: No country limit • Human studies The full search strategies for MEDLINE database will be published in the final review.
5.	Condition or domain being studied	Complex rehabilitation needs resulting from traumatic injury 'Complex rehab needs' refers to 'multiple needs, and will always involve coordinated multidisciplinary input from 2 or more allied health professional disciplines, and could also include the following: • Vocational or educational social support for the person to return to their pervious functional level, including return to work, school or college • Emotional, psychological and psychosocial support • Equipment or adaptations • Ongoing recovery from injury that may change the person's rehabilitation needs (for example, restrictions of weight bearing, cast immobilisation in feature clinic) • Further surgery and readmissions to hospital Traumatic injury is defined as 'traumatic injury that requires admission to hospital at the time of injury.'
6	Population (quantitative)	• *For the coordination and delivery of rehabilitation services part of the question:* Rehabilitation services for adults (aged 18 years and above) with complex rehabilitation needs after traumatic injury, including those with traumatic brain injury, sight loss, and hearing loss, when they transfer from being an inpatient to being an outpatient • *For the coordination and delivery of rehabilitation services and social services part of the question:* Rehabilitation services and social services for adults (aged 18 years and above) with social service needs and complex rehabilitation needs after traumatic injury, including those with traumatic brain injury, sight loss, and hearing loss, when they transfer from being an inpatient to being an outpatient

	Population (qualitative)	• Adults (aged 18 years and above) with complex rehabilitation needs after traumatic injury, including those with traumatic brain injury, sight loss, and hearing loss, when they transfer from being an inpatient to being an outpatient. For the social services aspect of this question, the population also have to have social services needs • Staff working at inpatient and outpatient rehabilitation services and/or social services for adults (aged 18 years and above) who have complex rehabilitation needs after traumatic injury, including those with traumatic brain injury, sight loss and hearing loss.
7	Intervention (quantitative)	• *For the coordination of rehabilitation services part of the question:* Rehabilitation services coordination method A (e.g., neuro-navigator, trauma nurse coordinators, rehabilitation consultant, rehabilitation coordinators, case managers, key workers, discharge coordinators, GP, social worker, early supported discharge [homefirst], specialist trauma multidisciplinary team/combined clinics, rehabilitation prescriptions, multi-disciplinary discharge planning meeting/consultation, follow up meeting [phone or face to face], interface teams or intermediate care, occupational therapist) • *For the delivery of rehabilitation services part of the question:* Rehabilitation services delivery method A (e.g., community, group classes, intensive, multi-disciplinary, cohort clinic, specialist outpatients rehabilitation services, early supported discharge, self-management support, family support, outpatient [i.e., at hospital], individual, non-intensive, uni--disciplinary, non-cohort clinic, non-specialist) • *For the coordination of rehabilitation and social services part of the question:* Rehabilitation and social services coordination method A (e.g., continuing healthcare assessor, housing occupational therapists, housing officers, community healthcare teams [e.g., district nurses], re-enablement specialists, specialist injury/disability voluntary organisations, non-specialist social care/disability/user-led organisations, speech and language therapists, neuro-navigator, trauma nurse coordinators, rehabilitation consultant, rehabilitation coordinators, case managers, key workers, discharge coordinators, GP, social worker, early supported discharge [homefirst], specialist trauma multidisciplinary team/combined clinics, rehabilitation prescriptions, multi-disciplinary discharge planning meeting/consultation, follow up meeting [phone or face to face], interface teams or intermediate care, occupational therapist) • *For the delivery of rehabilitation and social services part of the question:* Rehabilitation and social services delivery method A (e.g., hospital/discharge-led social care and rehabilitation coordination at discharge, ‘separate/disconnected’ NHS continuing health care and local authority social care assessments for discharge (including assessments for capital costs like aids and adaptations and care costs like costs of a daily carer), rehabilitation and social care services delivered via completely different funding set up between health and social care, liaison at discharge with relevant voluntary organisations, use of personal budgets at discharge, liaison at discharge with reablement services/intermediate care, liaison with housing occupational therapists and other housing liaison at discharge (e.g. to establish whether disabled facilities grants may be available if adaptations are needed, community-led social care and rehabilitation coordination at discharge, ‘joined up/connected NHS continuing health care and local authority social care assessments for discharge, rehabilitation and social care services delivered via a pooled/coordinated budget method (health and social care)

	Phenomenon of interest (qualitative)	Methods to coordinate and deliver rehabilitation services themselves and rehabilitation and social services in combination for adults when transferring from inpatient to outpatient rehabilitation services, regarded by the population as optimal/not optimal or effective/non-effective Themes will be identified from the literature, but may include: • Rehabilitation prescription • Case managers • Rehabilitation specialist • MDT approach • Social worker

8	Comparator (quantitative)	• *For the coordination of rehabilitation services part of the question:*
		  ○ Rehabilitation services coordination method B (e.g., any of the above interventions)
		  ○ No coordination
		• *For the delivery of rehabilitation services part of the question:* Rehabilitation services delivery method B (e.g., any of the above interventions)
		• *For the coordination of rehabilitation and social services part of the question:*
		  ○ Rehabilitation and social services coordination method B (e.g., any of the above interventions)
		  ○ No coordination
		• *For the delivery of rehabilitation and social services part of the question:* Rehabilitation and social services delivery method B (e.g., any of the above interventions)

9	Types of study to be included (quantitative)	• Systematic review of RCTs • Randomised controlled trial If no RCT data are available for an intervention, evidence from the followings will be considered in order • Cluster-randomised trial • Systematic review of non-randomised studies • Comparative prospective cohort studies with N≥100 per treatment arm • Comparative retrospective cohort studies with N≥100 per treatment arm
	Types of study to be included (qualitative)	• Systematic reviews of qualitative studies • Qualitative studies (for example, interviews, focus groups, observations)
10	Other exclusion criteria (quantitative)	Study design: • Cross-over design • Case-controls • Cross-sectional

		• Case series and case reports • Audits Language: • Non-English Publication status: • Abstract only
	Other exclusion criteria (qualitative)	Study design: • Purely quantitative studies (including surveys with only descriptive quantitative data) Language: • Non-English Publication status: • Abstract only
11	Context	Settings - Inclusion: • Rehabilitation and social care settings for patients with complex rehabilitation needs after traumatic injury Exclusion: • Accident and emergency departments • Critical care units • Prisons
12	Primary outcomes (critical outcomes; quantitative)	Critical: • Patient satisfaction • Length of hospital stay • Return to work or education Timeframe for the follow-up will be 0 to 18 months. This will be grouped into short-term (0 to 6 months) and long-term (>6 to 18 months).
	Primary outcomes (critical outcomes; qualitative)	Themes will be identified from the literature pertaining to methods to coordinate and deliver rehabilitation services themselves and rehabilitation and social services in combination for adults, when transferring

		from inpatient to outpatient rehabilitation services, regarded by the population as optimal/not optimal or effective/non-effective These themes may include: • Rehabilitation prescription • Case managers • Rehabilitation specialist • MDT approach • Social worker
13	Secondary outcomes (important outcomes; quantitative)	Important: • Overall quality of life [EURO-QoL 5D 3L, SF-36, SF-12, SF-6D, SFMA] • Carer impact • Unplanned readmission • Changes in activity of daily living (COPM, Barthel ADL index, Katz, PSMS, OARS, PAT, EADL-Test, GAS, FIMFAM) Timeframe for the follow-up will be 0 to 18 months. This will be grouped into short-term (0 to 6 months) and long-term (>6 to 18 months).
	Secondary outcomes (important outcomes; qualitative)	Themes will be identified from the literature pertaining to methods to coordinate and deliver rehabilitation services themselves and rehabilitation and social services in combination for adults, when transferring from inpatient to outpatient rehabilitation services, regarded by the population as optimal/not optimal or effective/non-effective These themes may include: • Rehabilitation prescription • Case managers • Rehabilitation specialist • MDT approach • Social worker
14	Data extraction (selection and coding)	All references identified by the searches and from other sources will be uploaded into STAR and de-duplicated. 5% of the abstracts will be reviewed by two reviewers, with any disagreements resolved by discussion or, if necessary, a third independent reviewer. The full text of potentially eligible studies will be retrieved and will be assessed in line with the criteria outlined above. A standardised form will be used to extract data from studies (see Developing NICE guidelines: the manual section 6.4.

15	Risk of bias (quality) Assessment (quantitative)	Risk of bias will be assessed using the Cochrane RoB tool 2.0 for RCTs, the Cochrane ROBINS-I for non-randomised studies, and ROBIS for systematic reviews.
	Risk of bias (quality) Assessment (qualitative)	Risk of bias will be assessed using the CASP qualitative checklist
16	Strategy for data synthesis (quantitative)	NGA STAR software will be used for generating bibliographies/citations, study sifting and data extraction. If pairwise meta-analyses are undertaken, they will be performed using Cochrane Review Manager (RevMan). 'GRADEpro' will be used to assess the quality of evidence for each outcome.
	Strategy for data synthesis (qualitative)	NGA STAR software will be used for generating bibliographies/citations, study sifting and data extraction. Studies will be reviewed chronologically from most recent first to oldest. Thematic analysis of the data will be conducted and findings presented. The quality of the evidence will be assessed using GRADE-CERQual for each theme.
17	Analysis of sub-groups	The following subgroups were specified for this question for stratification of the data: • Major trauma / non-major trauma • Homeless people / non-homeless people • People who are currently receiving social care services (e.g., people with learning disabilities) / not receiving social care services • Age below 65 years / age above 65 years • People from lower socioeconomic group / not from lower socioeconomic groups
18	Type and method of review	Mixed methods review: Quantitative (intervention) and qualitative
19	Language	English
20	Country	England
21	Anticipated or actual start date	01/04/2019
22	Anticipated completion date	31/10/2020
23	Stage of review at time of this submission	Review stage: Started ☑ Completed ☑ Preliminary searches

		Piloting of the study selection process	☑	☑
		Formal screening of search results against eligibility criteria	☑	☑
		Data extraction	☑	☑
		Risk of bias (quality) assessment	☑	☑
		Data analysis	☑	☑
24	Named contact	National Guideline Alliance		
25	Review team members	National Guideline Alliance		
26	Funding sources/sponsor	This systematic review is being completed by the National Guideline Alliance which receives funding from NICE.		
27	Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.		
28	Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of Developing NICE guidelines: the manual. Members of the guideline committee are available on the NICE website: https://www.nice.org.uk/guidance/ng211/history		
29	Other registration details	-		
30	Reference/URL for published protocol	https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=154585		
31	Dissemination plans			
32	Keywords			
33	Details of existing review of same topic by same authors			
34	Current review status			

35	Additional information	
36	Details of final publication	www.nice.org.uk

ADL: Activities of daily living; CASP: Critical appraisal skills programme; CDSR: Cochrane Database of Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; COPM: Canadian occupational performance measure; CYP: Children and young people; E-ADL-Test: Erlangen Activities of Daily Living test; EURO-QoL 5D 3L; EuroQol 5 dimensions and 3 levels; FIMFAM: Functional independence measure and functional assessment measure; GAS: Goal attainment scaling; GRADE: Grading of Recommendations Assessment, Development and Evaluation; MDT: Multi-disciplinary team; NGA: National Guideline Alliance; NHS: National Health Service; NICE: National Institute for Health and Care Excellence; OARS: Older American resources and services scale; PAT: Performance ADL test; PROSPERO: International prospective register of systematic reviews; PSMS; Physical self-maintenance scale; RCT: Randomised controlled trial; RoB: Risk of bias; ROBINS-I: Risk of bias in non-randomized studies of intervention; ROBIS: Risk of bias in systematic reviews; SD: Standard deviation; SFMA; Selective functional movement assessment ; SF-12: 12 item short-form survey; SF-36: 36 item short-form survey; SF-6D: 6-dimension short-form