

Economic Plan

This document identifies the priorities for economic analysis and the proposed methods for addressing these questions as described in section 7 of the Guidelines Manual (2014).

1 Guideline

Full title of guideline: Rehabilitation after traumatic injury

2 Process for agreement

The economic plan was prepared by the guideline developer's health economist in consultation with the rest of the NGA team and the Committee. It was discussed and agreed on 15/04/2019 by the following people^a:

For the Developer and Committee:

Developer economist: Eric Slade

Developer representative(s)^b: Lisa Boardman, Mia Schmidt-Hansen

Committee representative(s)^c: Andrew Green, Karen Hoffman, Lucy Silvester, Sinead Savoy, Stephen Aldridge, Sue Copstick

For NICE (completed by NICE):

Guideline lead: Nichole Taske

Commissioning manager: Clifford Middleton

Economic lead: Joshua Pink

Resource impact lead: Gareth Murphy

Proposals for any changes to the agreed priorities will be circulated by email to all those listed above. If substantive revisions are agreed, they will require to be recorded as addenda to this document (section 8) or as an updated version of the document^d.

^a This may be done by face-to-face meeting, teleconference, or email as convenient.

^b This may be the project manager, a systematic reviewer or research fellow and/or the centre director or manager, as appropriate for the NCC and guideline.

^c This may be Committee chair, lead and/or other members as appropriate.

^d In case questions are changed, for example, section 3 requires updating as well as other sections if modelling priorities are affected.

3 Topic priorities identified in the Scope^e

This section contains all topics, or review questions as covered by the scope. These topics usually reflect selected issues. Please indicate if an area is relevant for economic consideration and if modelling is deemed appropriate to address it.

Area ^f	Relevant? ^g	Appropriate for modelling? ^h
RQ1.1a: What should be included in rehabilitation needs identification and assessment for adults after traumatic injury?	Yes, low priority	<p><u>Existing literature available:</u> Clinical: very limited; HE: none</p> <p><u>Population affected:</u> Adults (aged 18 years and above) with complex rehabilitation needs. The size of the population affected is large.</p> <p><u>Variation in practice:</u> Medium</p> <p><u>Potential impact on future costs and health:</u> Substantial impact on costs and health. Standardising needs identification and assessment will ensure that people have timely, appropriate and effective rehabilitation, which may result in substantial improvements in health. Timely and early rehabilitation is easier and less expensive given that delays in rehabilitation exacerbate problems and may require more expensive and intensive rehabilitation further down the line.</p> <p><u>Would an economic model be useful for decision making?</u> Potentially. However, the committee explained that even though it would be important to assess the cost effectiveness of assessment strategies clinical data is likely to be insufficient to inform economic analysis that would be useful for the decision making. Also, there are other topics with higher priorities for de novo economic modelling.</p>
1.1b: What should be included in rehabilitation needs identification and assessment for children after traumatic injury?	Yes, low priority	<p><u>Existing literature available:</u> Clinical: limited; HE: none</p> <p><u>Population affected:</u> Children (aged below 18 years) with complex rehabilitation needs resulting from traumatic injury. The size of population affected is small.</p> <p><u>Variation in practice:</u> Medium</p> <p><u>Potential impact on future costs and health:</u> see 1.1a</p> <p><u>Would an economic model be useful for decision making?</u> Probably not. The overall impact of</p>

^e The relative priorities of review questions, comparators or outcomes to be examined in economic analyses are subject to change over the development timeline and may depend on evidence identified during the review. Any such changes will be agreed with NICE via the submission of addenda to this plan.

^f This corresponds to the “Key areas that will be covered “ section in the scope, or if available, review questions

^g Please state if this area is deemed relevant for considering opportunity costs and likely disinvestments. Areas might pose a decision problem directly or implicitly inform the choice between options. Responses should include information on relevance and whether areas are of high or low priority for economic work (see below).

^h Health economic modelling is particularly useful where it can reduce uncertainty over cost effectiveness and/or where a recommendation is likely to result in considerable changes in health and/or costs. For further details please see section 7 of the Guidelines Manual (2014). It may not be feasible or efficient to address every relevant decision problem by de novo work. The rationale for choosing areas for cost effectiveness modelling should be discussed in detail in this section, including whether the existing economic evidence is sufficient, whether the size of the population affected or how current practice might change may result in a significant resource impact, the levels of clinical and economic uncertainties and whether an economic model would be useful for decision making, and the feasibility of obtaining data to populate and parameterise such a model.

		recommendations on the health services is likely to be insignificant given the small size of the population affected.
1.2a: What are the views and preferences of adults who have used rehabilitation services after traumatic injury about ongoing assessment of their rehabilitation needs?	No, low priority	<p><u>Existing literature available:</u> Clinical: NA (qualitative review); HE: none</p> <p><u>Population affected:</u> Adults (aged 18 years or above) who have used rehabilitation services following traumatic injury that required admission to hospital and resulted in complex rehabilitation needs. The size of the population affected is large.</p> <p><u>Variation in practice:</u> NA</p> <p><u>Potential impact on future costs and health:</u> NA</p> <p><u>Would an economic model be useful for decision making?</u> No, as this is a qualitative review (i.e. no comparative clinical data).</p>
1.2b: What are the views and preferences of children, young people, their families and carers who have used rehabilitation services after traumatic injury about ongoing assessment of their rehabilitation needs?	No, low priority	<p><u>Existing literature available:</u> Clinical: NA (qualitative review); HE: none</p> <p><u>Population affected:</u> Children (aged below 18 years) who have used rehabilitation services following traumatic injury that required admission to hospital and resulted in complex rehabilitation needs. The size of the population affected is small.</p> <p><u>Variation in practice:</u> NA</p> <p><u>Potential impact on future costs and health:</u> NA</p> <p><u>Would an economic model be useful for decision making?</u> No, as this is a qualitative review (i.e. no comparative clinical data).</p>
2.1a: What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?	Yes, high priority	<p><u>Existing literature available:</u> Clinical: adequate to inform economic modelling; HE: limited/none.</p> <p><u>Population affected:</u> Adults (aged 18 years and above) with complex physical rehabilitation needs resulting from traumatic injury. The size of the population affected is large.</p> <p><u>Variation in practice:</u> High</p> <p><u>Potential impact on future costs and health:</u> Physical impairment imposes significant costs on health services and results in a substantial burden for people affected, families, and carers. Also, the impact may be life-long.</p> <p><u>Would an economic model be useful for decision making?</u> Yes, the committee explained that there a number of interventions with varying effectiveness and it would be useful to compare these in a formal economic evaluation.</p>
2.1b: What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?	Yes, high priority	<p><u>Existing literature available:</u> Clinical: adequate to inform economic modelling; HE: limited/none.</p> <p><u>Population affected:</u> Children (aged below 18 years) with complex physical rehabilitation needs resulting from traumatic injury. The size of population affected is large relative to other rehabilitation need areas in children.</p> <p><u>Variation in practice:</u> High/medium</p> <p><u>Potential impact on future costs and health:</u> see 2.1.a.</p> <p><u>Would an economic model be useful for decision making?</u> see 2.1.a</p>
2.2a: What cognitive	Yes, medium	<u>Existing literature available:</u> Clinical: adequate to inform

<p>rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?</p>	<p>priority</p>	<p>economic modelling; HE: limited/none. <u>Population affected:</u> Adults with complex cognitive rehabilitation needs resulting from traumatic injury. The size of population is large. <u>Variation in practice:</u> High <u>Potential impact on future costs and health:</u> Cognitive impairment imposes significant costs on health services and results in a substantial burden for people affected, families, and carers. Also, the impact may be life-long. <u>Would an economic model be useful for decision making?</u> Yes, the committee explained that there a number of interventions with varying effectiveness and it would be useful to compare these in a formal economic evaluation.</p>
<p>2.2b: What cognitive rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?</p>	<p>No, low priority</p>	<p><u>Existing literature available:</u> Clinical: limited; HE: limited/none. <u>Population affected:</u> Children (aged below 18 years) with complex cognitive rehabilitation needs resulting from traumatic injury. The size of population affected is small. <u>Variation in practice:</u> Medium <u>Potential impact on future costs and health:</u> Cognitive impairment imposes significant costs on health services and results in a substantial burden for people affected, families, and carers. Also, the impact may be life-long. <u>Would an economic model be useful for decision making?</u> No, the committee explained that even though the potential impact on costs and outcomes is likely to be substantial the population affected is small and the overall impact on health services is going to be negligible. Also, there are other topics with higher priorities for economic evaluation.</p>
<p>2.3a: What psychological and psychosocial rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?</p>	<p>Yes, medium priority</p>	<p><u>Existing literature available:</u> Clinical: adequate to inform economic modelling; HE: limited/none. <u>Population affected:</u> Adults (aged 18 years and above) with complex psychological and psychosocial rehabilitation needs resulting from traumatic injury. The size of the population affected is large. <u>Variation in practice:</u> Medium/high <u>Potential impact on future costs and health:</u> Mental health problems impose significant costs on health services and results in a substantial burden for people affected, families, and carers. <u>Would an economic model be useful for decision making?</u> Yes, the committee explained that there a number of interventions with varying effectiveness and it would be useful to compare these in a formal economic evaluation.</p>
<p>2.3b: What psychological and psychosocial rehabilitation interventions are effective and acceptable for children and young people with complex</p>	<p>No, low priority</p>	<p><u>Existing literature available:</u> Clinical: very limited; HE: limited/none. <u>Population affected:</u> Children (aged below 18 years) with complex psychological and psychosocial rehabilitation needs resulting from traumatic injury. The size of population affected is small. <u>Variation in practice:</u> Medium <u>Potential impact on future costs and health:</u> Mental</p>

rehabilitation needs after traumatic injury?		<p>health problems impose significant costs on health services and results in a substantial burden for children affected, and their families and carers.</p> <p><u>Would an economic model be useful for decision making?</u> No, the committee explained that even though the potential impact on costs and outcomes is likely to be significant the population affected is small and there are other topics with higher priorities for economic evaluation.</p>
<p>2.4a: What rehabilitation interventions, relating to participation in society are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?</p>	No, low priority	<p><u>Existing literature available:</u> Clinical: limited; HE: limited/none.</p> <p><u>Population affected:</u> Adults (aged 18 years and above) with complex rehabilitation needs, relating to the participation in society, resulting from traumatic injury. The size of the population affected is large.</p> <p><u>Variation in practice:</u> Medium/high</p> <p><u>Potential impact on future costs and health:</u> Inability to effectively participate in the society makes individual more dependant and imposes significant costs on health services and a wider community, and also results in a substantial burden for people affected, families, and carers. Also, the impact may be life-long.</p> <p><u>Would an economic model be useful for decision making?</u> The committee explained that in theory this question would be a good candidate for economic evaluation. However, the practicalities of the modelling were discussed including availability of clinical data and cost data and it was decided that this topic was not feasible for economic evaluation. The committee also discussed issues such as return to work, education, etc., which links to future productivity gains. However, it was explained to the committee that productivity costs and costs borne by people using services and carers that are not reimbursed by the health services should usually be excluded from analyses.</p>
<p>2.4b: What rehabilitation interventions, relating to participation in society are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?</p>	No, low priority	<p><u>Existing literature available:</u> Clinical: very limited; HE: limited/none.</p> <p><u>Population affected:</u> Children (aged below 18 years) with complex rehabilitation needs, relating to the participation in society, resulting from traumatic injury. The size of population affected is small.</p> <p><u>Variation in practice:</u> Medium/high</p> <p><u>Potential impact on future costs and health:</u> see 2.4b</p> <p><u>Would an economic model be useful for decision making?</u> No, see 2.4b.</p>
<p>3.1a: For adults with complex rehabilitation needs after traumatic injury that results in limb reconstruction, limb loss or amputation, what specific rehabilitation programmes and packages, including prosthetics, are effective and</p>	Yes, low priority	<p><u>Existing literature available:</u> Clinical: very limited; HE: none</p> <p><u>Population affected:</u> Adults (aged 18 years and above) with complex rehabilitation needs resulting from traumatic injury that results in limb reconstruction, limb loss or amputation and requires admission to hospital. The size of the population affected is comparatively small.</p> <p><u>Variation in practice:</u> High (e.g. there is high inequity in the prosthetic provision)</p> <p><u>Potential impact on future costs and health:</u> The</p>

acceptable?		<p>committee singled out rehabilitation programmes and packages comprising prosthetic devices as being a high cost area. Prosthetic devices are expensive, have variable maintenance costs, and training and setting up costs. The impact on outcomes is less clear.</p> <p><u>Would an economic model be useful for decision making?</u> Possibly. Different rehabilitation programmes and packages for amputation are associated with different benefits and costs, and the formal assessment of their cost effectiveness would be useful. The committee explained that even though the population affected is relatively small, rehabilitation programmes and packages comprising prosthetics have high intervention costs and the overall impact of recommendations could be substantial. Although, the committee noted that clinical data is likely to be very limited and insufficient to enable informative modelling.</p>
3.1b: For children and young people with complex rehabilitation needs after traumatic injury that results in limb reconstruction, limb loss or amputation , what specific rehabilitation programmes and packages, including prosthetics, are effective and acceptable?	Yes, low priority	<p><u>Existing literature available:</u> Clinical: very limited; HE: none</p> <p><u>Population affected:</u> Children (aged below 18 years) with complex rehabilitation needs resulting from traumatic injury that results in limb reconstruction, limb loss or amputation and requires admission to hospital. The size of the population affected is very small.</p> <p><u>Variation in practice:</u> Medium</p> <p><u>Potential impact on future costs and health:</u> See 3.1a</p> <p><u>Would an economic model be useful for decision making?</u> See 3.1a</p>
3.2a: For adults with complex rehabilitation needs after traumatic injury that involves nerve injury , what specific rehabilitation programmes and packages are effective and acceptable?	Yes, low priority	<p><u>Existing literature available:</u> Clinical: very limited; HE: none</p> <p><u>Population affected:</u> Adults (aged 18 years or above) with complex rehabilitation needs resulting from traumatic injury that involves nerve injury and requires admission to hospital. The size of the population affected is small relative to other injury types.</p> <p><u>Variation in practice:</u> Medium/low</p> <p><u>Potential impact on future costs and health:</u> Effective and acceptable rehabilitation lead to quicker recovery, improvements in outcomes and improved quality of life. Effective rehabilitation programmes and packages can deliver cost savings by reducing the length-of stay costs; nursing, residential and social care costs; and the associated mental health illness costs.</p> <p><u>Would an economic model be useful for decision making?</u> Probably not. The overall impact of recommendations on the health services is likely to be negligible given the small size of the population affected. Also, clinical evidence is likely to be very limited and insufficient to allow informative economic modelling.</p>
3.2b: For children and young people with complex rehabilitation needs after traumatic injury	Yes, low priority	<p><u>Existing literature available:</u> Clinical: very limited; HE: none</p> <p><u>Population affected:</u> Children (aged below 18 years) with complex rehabilitation needs resulting from traumatic injury that involves nerve injury and requires admission</p>

<p>that involves nerve injury, what specific rehabilitation programmes and packages are effective and acceptable?</p>		<p>to hospital. The size of the population affected is small relative to other injury types. <u>Variation in practice:</u> See 3.2b <u>Potential impact on future costs and health:</u> See 3.2b <u>Would an economic model be useful for decision making?</u> See 3.2b</p>
<p>3.3a: For adults with complex rehabilitation needs after traumatic injury that involves spinal cord injury, what specific rehabilitation programmes and packages are effective and acceptable?</p>	<p>Yes, low priority</p>	<p><u>Existing literature available:</u> Clinical: limited; HE: none <u>Population affected:</u> Adults (aged 18 years and above) with complex rehabilitation needs resulting from traumatic injury that involves spinal cord injury and requires admission to hospital. The size of the population affected is small relative to other injury types. <u>Variation in practice:</u> Medium/low <u>Potential impact on future costs and health:</u> Effective and acceptable rehabilitation lead to quicker recovery, improvements in outcomes and improved quality of life. Effective rehabilitation programmes and packages can deliver cost savings by reducing the length-of stay costs; nursing, residential and social care costs; and the associated mental health illness costs. <u>Would an economic model be useful for decision making?</u> Possibly. The committee highlighted the sub-group of immobilised patients with spinal cord injury as a priority. However, this would narrow down the population even further and the overall impact of recommendations on the health services is likely to be negligible given the small size of the population affected.</p>
<p>3.3b: For children and young people with complex rehabilitation needs after traumatic injury that involves spinal cord injury, what specific rehabilitation programmes and packages are effective and acceptable?</p>	<p>Yes, low priority</p>	<p><u>Existing literature available:</u> Clinical: very limited; HE: none <u>Population affected:</u> Children (aged below 18 years) with complex rehabilitation needs resulting from traumatic injury that involves spinal cord injury and requires admission to hospital. The size of the population affected is small. <u>Variation in practice:</u> Medium/low <u>Potential impact on future costs and health:</u> See 3.3a <u>Would an economic model be useful for decision making?</u> Probably not, since the clinical evidence is anticipated to be insufficient to inform economic analysis. Also, the overall impact of recommendations on the health services is likely to be negligible.</p>
<p>3.4a: For adults with complex rehabilitation needs after traumatic injury that involves chest injury, what specific rehabilitation programmes and packages are effective and acceptable?</p>	<p>Yes, low priority</p>	<p><u>Existing literature available:</u> Clinical: limited; HE: none <u>Population affected:</u> Adults (aged 18 years and above) with complex rehabilitation needs resulting from traumatic injury that involves chest injury. The size of the population affected is small relative to other injury types. <u>Variation in practice:</u> Medium/low <u>Potential impact on future costs and health:</u> Effective and acceptable rehabilitation lead to quicker recovery, improvements in outcomes and improved quality of life. Effective rehabilitation programmes and packages can deliver cost savings by reducing the length-of stay costs; nursing, residential and social care costs; and the associated mental health illness costs. <u>Would an economic model be useful for decision making?</u></p>

		<p><u>making?</u> Probably not, since the clinical evidence is anticipated to be insufficient to inform economic analysis. Also, the overall impact of recommendations on the health services is likely to be negligible given the small size of the population affected.</p>
<p>3.4b: For children and young people with complex rehabilitation needs after traumatic injury that involves chest injury, what specific rehabilitation programmes and packages are effective and acceptable?</p>	<p>Yes, low priority</p>	<p><u>Existing literature available:</u> Clinical: very limited; HE: none</p> <p><u>Population affected:</u> Children (aged below 18 years) with complex rehabilitation needs resulting from traumatic injury that involves chest injury and requires admission to hospital. The size of the population affected is small.</p> <p><u>Variation in practice:</u> Medium/low</p> <p><u>Potential impact on future costs and health:</u> See 3.4a</p> <p><u>Would an economic model be useful for decision making?</u> See 3.4a</p>
<p>4.1a: What are the best methods to coordinate rehabilitation services within major trauma centres or trauma units for adults with complex rehabilitation needs after traumatic injury?</p>	<p>Yes, low priority</p>	<p><u>Existing literature available:</u> Clinical: limited; HE: none</p> <p><u>Population affected:</u> Adults (aged 18 years or above) with complex rehabilitation needs after traumatic injury, including those with traumatic brain injury, sight loss, and hearing loss. The size of the population affected is large.</p> <p><u>Variation in practice:</u> Low</p> <p><u>Potential impact on future costs and health:</u> Effective coordination of services has the potential to improve effectiveness of rehabilitation services and improve outcomes. It also ensures that the right people get the right services. Well-coordinated care results in improved communications and effective care plan transitions and may result in cost savings.</p> <p><u>Would an economic model be useful for decision making?</u> Probably not. The committee explained that methods to coordinate rehabilitation services within major trauma centres or trauma units are well established and as such the impact of the recommendations are likely to reinforce standard care practice.</p>
<p>4.1b: What are the best methods to coordinate rehabilitation services within major trauma centres or trauma units for children and young people with complex rehabilitation needs after traumatic injury?</p>	<p>Yes, low priority</p>	<p><u>Existing literature available:</u> Clinical: limited; HE: none</p> <p><u>Population affected:</u> Children (aged below 18 years) with complex rehabilitation needs after traumatic injury, including those with traumatic brain injury, sight loss, and hearing loss. The size of the population affected is very small.</p> <p><u>Variation in practice:</u> Low</p> <p><u>Potential impact on future costs and health:</u> see 4.1a</p> <p><u>Would an economic model be useful for decision making?</u> see 4.1a</p>
<p>4.2a: What are the best methods to deliver and coordinate rehabilitation services and social care services for adults with complex rehabilitation needs</p>	<p>Yes, medium priority</p>	<p><u>Existing literature available:</u> Clinical: limited; HE: none</p> <p><u>Population affected:</u> Adults (aged 18 years or above) with complex rehabilitation needs resulting from traumatic injury that requires admission to hospital. The size of the population affected is large.</p> <p><u>Variation in practice:</u> High</p> <p><u>Potential impact on future costs and health:</u> Effective coordination of rehabilitation and social care services</p>

<p>after traumatic injury when they transfer from inpatient to outpatient rehabilitation services?</p>		<p>has the potential to improve effectiveness of services and improve outcomes to patients. Well-coordinated services result in improved communications between services and effective care plan transitions and result in the cost savings to health services.</p> <p><u>Would an economic model be useful for decision making?</u> Yes. The committee explained that the recommendations may have important cost implications given that such coordination may impact the effectiveness of long-term rehabilitation and prevent adverse outcomes associated with sub-optimal care. The impact of recommendations is likely to be substantial.</p>
<p>4.2b: What are the best methods to deliver and coordinate rehabilitation services and social care services for children and young people with complex rehabilitation needs after traumatic injury when they transfer from inpatient to outpatient rehabilitation services?</p>	<p>Yes, low priority</p>	<p><u>Existing literature available:</u> Clinical: very limited; HE: none</p> <p><u>Population affected:</u> Children (aged below 18 years) with complex rehabilitation needs resulting from traumatic injury that requires admission to hospital, including those with traumatic brain injury, sight loss and hearing loss. The size of the population affected is small.</p> <p><u>Variation in practice:</u> Medium/low</p> <p><u>Potential impact on future costs and health:</u> see 4.2a</p> <p><u>Would an economic model be useful for decision making?</u> Probably not. The overall impact of recommendations on the health services is likely to be insignificant given the small size of the population affected. Also, the clinical data is anticipated to be insufficient to inform economic modelling and there are other topics with higher priorities for economic evaluation.</p>
<p>4.3a: What are the barriers and facilitators to accessing rehabilitation services following discharge to the community for adults with complex rehabilitation needs after traumatic injury?</p>	<p>No, low priority</p>	<p><u>Existing literature available:</u> Clinical: NA (qualitative review); HE: none</p> <p><u>Population affected:</u> Adults (aged 18 years or above) who have used rehabilitation services following traumatic injury that required admission to hospital and resulted in complex rehabilitation needs. The size of the population affected is large.</p> <p><u>Variation in practice:</u> NA</p> <p><u>Potential impact on future costs and health:</u> NA</p> <p><u>Would an economic model be useful for decision making?</u> No, as this is a qualitative review (i.e. no comparative clinical data).</p>
<p>4.3b: What are the barriers and facilitators to accessing rehabilitation services following discharge to the community for children and young people with complex rehabilitation needs after traumatic injury?</p>	<p>No, low priority</p>	<p><u>Existing literature available:</u> Clinical: NA (qualitative review); HE: none</p> <p><u>Population affected:</u> Children (aged below 18 years) who have used rehabilitation services following traumatic injury that required admission to hospital and resulted in complex rehabilitation needs. The size of the population affected is small.</p> <p><u>Variation in practice:</u> NA</p> <p><u>Potential impact on future costs and health:</u> NA</p> <p><u>Would an economic model be useful for decision making?</u> No, as this is a qualitative review (i.e. no comparative clinical data).</p>
<p>4.4a: What are the support needs and</p>	<p>No, low priority</p>	<p><u>Existing literature available:</u> Clinical: NA (qualitative review); HE: none</p>

<p>preferences of adults who have complex rehabilitation needs after traumatic injury when they transfer from inpatient to outpatient rehabilitation services?</p>		<p><u>Population affected:</u> Adults (aged 18 years or above) who have used rehabilitation services following traumatic injury that required admission to hospital and resulted in complex rehabilitation needs. The size of the population affected is large.</p> <p><u>Variation in practice:</u> NA</p> <p><u>Potential impact on future costs and health:</u> NA</p> <p><u>Would an economic model be useful for decision making?</u> No, as this is a qualitative review (i.e. no comparative clinical data).</p>
<p>4.4b: What are the support needs and preferences of children and young people who have complex rehabilitation needs after traumatic injury, and their families and carers, when they transfer from inpatient to outpatient rehabilitation services?</p>	<p>No, low priority</p>	<p><u>Existing literature available:</u> Clinical: NA (qualitative review); HE: none</p> <p><u>Population affected:</u> Children (aged below 18 years) who have used rehabilitation services following traumatic injury that required admission to hospital and resulted in complex rehabilitation needs. The size of the population affected is small.</p> <p><u>Variation in practice:</u> NA</p> <p><u>Potential impact on future costs and health:</u></p> <p><u>Would an economic model be useful for decision making?</u> No, as this is a qualitative review (i.e. no comparative clinical data).</p>

4 Planned modelling

This section will specify modelling work prioritised by the Committee. It will provide details on how cost effectiveness will be considered for relevant, prioritised areas/decision problems. Proposed modelling work should be listed in chronological order. For each decision model, please state the proposed analytical methods, including the populations, interventions and comparators, outcomes, perspective and type of economic analysis. In addition, relevant references and any comments and justifications on, for example, possible diversions from the NHS and PSS reference case.

<i>Areaⁱ (review question(s) ^j)</i>	
<p>2.1a: What physical rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?</p> <p>AND</p> <p>2.1b: What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?</p> <p>High priority</p>	<p>Aim: The committee explained that they do not expect to find relevant UK-based economic evaluation for these review questions. Also, there are a number of available interventions with varying effectiveness and intervention costs and it would be useful to formally assess these in a cost-effectiveness analysis.</p> <p>Population: Model 1 - Adults (≥ 18 years) with complex physical rehabilitation needs resulting from a traumatic injury. Model 2 - Children (< 18 years) with complex physical rehabilitation needs resulting from a traumatic injury.</p> <p>Interventions: There is a wide range interventions that could fall under this umbrella including:</p> <ul style="list-style-type: none"> • Exercise class/Reconditioning/Cardiovascular/Fitness training • Strengthening, balance, proprioception, vestibular rehabilitation/training • Splinting/orthotic • Gait re-education • Early weight bearing to mobilize (i.e. sitting or standing) • Manual therapy (soft tissue massage/release, joint mobilization) • Hydrotherapy

ⁱ This should be the key areas relevant for considering opportunity costs and high priority for de novo modelling, as identified in section 3.

^j Two or more questions may be addressed by a single analysis if appropriate.

- Scar, swelling and oedema management (i.e. elevation, compression, soft tissue massage, creams, hydration, desensitization, laser therapy, hand therapy)
- Anti-gravity treadmill training
- Nutrition support (e.g. supplements)
- Play therapy (children only)

The exact interventions to be assessed in the economic analysis are not known at this stage. However, only effective interventions as identified in the clinical review will be included.

Comparators:

Another effective intervention as agreed by the committee and/or the standard care only.

The committee explained that timing and/or intensity and/or frequency and/or setting are very important. As a result, where possible the consideration to these aspects will be given in the cost-effectiveness analysis (i.e. we may look at early versus later initiation of an intervention and the associated cost effectiveness, etc.)

Outcomes:

Outcomes will ideally be expressed in the form of quality-adjusted life years (QALYs). If this is not possible, then an alternative outcome will be used, such as a number of people successfully treated where for example success could be defined as the change in impairment status, functional status, etc. The appropriate approach and outcome measure will be discussed and agreed with the committee.

Modelling method:

Type of Economic Analysis:

Cost-utility analysis will be attempted. If this is not possible then cost-effectiveness analysis or cost analysis will be undertaken.

Modelling Approach:

Economic modelling will focus on interventions where there is quantitative evidence on effectiveness. In the event that there is insufficient quantitative evidence from the review to populate an economic model then some form of threshold analysis may be considered in order to estimate how effective an intervention would have to be in order to be considered cost-effective at £20,000-30,000 advisory thresholds. The model is expected to take the form of a

decision tree (or a combination of a decision tree and a Markov model, if appropriate long term data are identified).

Perspective(s) [Costs and Outcomes]:

Rehabilitation interventions could be nationally or locally funded (NHS England or CCGs and local authorities), privately funded (by the individual), voluntary or charitably funded (grants for charities, voluntary groups and services that the public sector does not fund). Although, it is anticipated that complex rehabilitation interventions will be funded through national commissioning (NHS England). The perspective of the analyses will be that of NHS and Personal Social Services (PSS) as recommended by NICE and only costs incurred (care funded) by NHS and PSS will be considered.

The perspective on outcomes will be all direct health effects on the individual. There are potential public and private benefits in identifying and addressing rehabilitations needs. For example, benefits for parents/carers e.g. in the model for children. If appropriate these benefits will be considered in an additional analysis.

Time Horizon:

The time horizon will depend on the availability of clinical and cost data, but it is expected to be shorter than life-time due to the anticipated lack of long-term clinical and cost data required to populate a life-time model. Nevertheless, we will attempt the time horizon sufficiently long to reflect all important differences in costs and outcomes.

Discounting:

Where necessary costs and benefits will be discounted at a rate of 3.5% per year, as recommended by NICE.

Decision Threshold:

If a cost-utility analysis was feasible then a £20,000-30,000 per QALY decision threshold would be utilised. If cost-effectiveness analysis was undertaken it is possible that the committee would have to estimate a 'value for money' threshold for any incremental cost-effectiveness ratio (ICER) or discuss qualitatively the 'value for money' of consequences in relation to the costs. If a cost analysis was undertaken then rehabilitation programmes/packages could be considered cost-effective if the result was cost saving/neutral.

Data Sources:

Baseline Event Rates:

This is not ascertained as yet but the potential sources for baseline outcomes will include relevant UK-based cohort studies. If data from large UK-based cohort studies is not available we will consider cohort studies from countries

with similar healthcare system or data from relevant recent trials. We may also consider data from registries or local hospital databases to inform the baseline event rates.

Treatment/Intervention Effects:

From the review undertaken for this guideline.

Utility and Survival Estimates:

Survival is an issue only during the initial treatment of trauma and as a result it will not be considered in the model looking at post-acute rehabilitation pathways.

It is not ascertained as yet if there are relevant utility values for the population of interest.

Utility estimates may be sourced from the evidence from the systematic review undertaken for this guideline or other published literature. If there is a lack of relevant utility values in the population of interest we may consider approximating these from other trauma populations (i.e. from people with different but similar severity injuries, etc.).

In the model for children the utilities may be approximated using the utility values (if available) from the adult population, etc.

Any approach deviating from standard practice recommended by NICE will be discussed and agreed with the committee.

Cost and Resource Use:

This is contingent on the programmes/packages that are identified for modelling. The cost data will be obtained from publically available sources as recommended by NICE (e.g. NHS References Costs, PSSRU Unit Costs of Social Care, etc.). If there is a lack of existing cost data these will be obtained from published studies.

As required, data (baseline, treatment effects, costs and utilities) will be supplemented with information from other published sources and committee expert opinion.

Subgroup Analysis:

This is not ascertained but data permitting we could explore the cost effectiveness of physical rehabilitation interventions in:

	<ul style="list-style-type: none"> • people with upper/lower limb • people with pre-existing physical and/or mental health conditions (including substance misuse), physical and learning disability • frailty • age below/over 65 • vulnerable adults or those who require safeguarding <p>Scenario and Threshold Analyses: This is not ascertained as yet but scenario and threshold may be used if there is an absence of published evidence for key model parameters.</p> <p>Sensitivity Analysis: If the data allows a meaningful propagation of uncertainty then probabilistic sensitivity analysis will be undertaken. In addition deterministic sensitivity analysis, including the use of Tornado diagrams, will be undertaken.</p> <p>Feasibility: Intervention questions are particularly suited for economic modelling. The committee discussed potential lack of long term costs and outcome data. If necessary (and possible) the committee expert opinion will be used to provide lacking model input values. Any deviations from NICE reference case will be discussed and agreed with the committee and NICE.</p>
<p>2.2a: What cognitive rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury? – Medium priority</p>	<p>Aim: The committee explained that they do not expect to find relevant UK-based economic evaluation for this review question. It was explained that cognitive impairment results in substantial costs to the health services. Also, there are a number of available interventions with varying effectiveness and intervention costs and it would be useful to formally assess these in a cost-effectiveness analysis.</p> <p>Population: Adults (≥18 years) with complex cognitive rehabilitation needs resulting from a traumatic injury.</p> <p>Interventions: The exact interventions are not know at this stage but could include fatigue management (e.g. sleep hygiene, coping</p>

	<p>strategies, patient education, pacing, low stimulation environment, sleep studies, etc.) and also cognitive rehabilitation interventions. The economic analysis will consider only effective interventions as identified in the clinical review.</p> <p>Comparators: Another effective intervention as agreed by the committee and/or the standard care only.</p> <p>The committee explained that timing and/or intensity and/or frequency and/or setting are very important. As a result, where possible the consideration to these aspects will be given.</p> <p>Outcomes: Outcomes will ideally be expressed in the form of quality-adjusted life years (QALYs). If this is not possible, then an alternative outcome will be used, such as number of people successfully treated where for example success could be defined as a change in cognition as measured on some cognition scale. The appropriate approach and outcome measure will be discussed and agreed with the committee.</p> <p><i>The rest of the methods and analyses will be similar to those outlined for 2.1.</i></p> <p>Feasibility: Intervention questions are particularly suited for economic modelling. The committee discussed potential lack of long term costs and outcome data. If necessary (and possible) the committee expert opinion will be used to provide lacking model input values. Any deviations from NICE reference case will be discussed and agreed with the committee and NICE.</p>
<p>2.3a What psychological and psychosocial rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury? – Medium priority</p>	<p>Aim: The committee explained that they do not expect to find relevant UK-based economic evaluation for this review question. It was explained that unmet psychological and psychosocial needs results in substantial costs to the health services. Also, there are a number of interventions with varying effectiveness and intervention costs and it would be useful to formally assess these in a cost-effectiveness analysis.</p> <p>Population: Adults (≥18 years) with complex cognitive rehabilitation needs resulting from a traumatic injury.</p>

Interventions:

There is a wide range interventions that could fall under this umbrella including:

- Cosmetic interventions for trauma induced changes to the body e.g. skin camouflage, tattooing)
- Psychological therapies for adjustment and engagement (e.g. compassionate mind therapy, acceptance and commitment therapy, mindfulness, visualisation or 'mentalisation' to support physical rehabilitation, relaxation [progressive, or breathing based, or other], cognitive behavioural therapy, motivational interviewing)
- Family support, education, advice, signposting (to Citizens advice)
- Vocational support and workplace interventions
- Self-management interventions (i.e. education to understand how people may be affected by fatigue, depression, etc.).
- Person-centred goal setting

Comparators:

Another effective intervention as agreed by the committee and/or the standard care only.

The committee explained that timing and/or intensity and/or frequency and/or setting are very important. As a result, where possible the consideration to these aspects will be given.

Outcomes:

Outcomes will ideally be expressed in the form of quality-adjusted life years (QALYs). If this is not possible, then an alternative outcome will be used, such as number of people successfully treated where for example success could be defined as improvement in mood as measured on some scale (e.g. HADs, PH-Q9, etc.). The appropriate approach and outcome measure will be discussed and agreed with the committee.

The rest of the methods and analyses will be similar to those outlined for 2.1.

Feasibility:

Intervention questions are particularly suited for economic modelling. The committee discussed potential lack of long term costs and outcome data. If necessary (and possible) the committee expert opinion will be used to provide lacking model input values. Any deviations from NICE reference case will be discussed and agreed with the committee and NICE.

<p>4.2a: What are the best methods to deliver and coordinate rehabilitation services and social care services for adults with complex rehabilitation needs after traumatic injury when they transfer from inpatient to outpatient rehabilitation services? – medium priority</p>	<p>Aim: The committee explained that there is no existing economic evidence in this area. As a result, economic modelling will be attempted to assess the cost-effectiveness of methods to deliver and coordinate rehabilitation services and social care services for adults with complex rehabilitation needs after traumatic injury when they transfer from inpatient to outpatient rehabilitation services.</p> <p>Population: Adults (≥ 18 years) with complex cognitive rehabilitation needs resulting from a traumatic injury.</p> <p>Interventions: Exact methods of coordination are not known at this stage. However, only effective methods to deliver and coordinate rehabilitation services and social care services will be included.</p> <p>Comparators: Another effective coordination method and/or no coordination and/or standard practice</p> <p>Outcomes: We will attempt to estimate QALYs. However, the committee explained that for this type of question available clinical evidence will mostly be on functional outcomes such as hospital utilisation through readmission rates, length of stay and A&E visits.</p> <p>Modelling method: <u>Type of Economic Analysis:</u> In the first instance the cost-utility analysis will be attempted. However, if this is not possible then cost-effectiveness analysis or cost analysis (cost-offset) will be undertaken.</p> <p><u>Modelling Approach:</u> The model is expected to take the form of a decision tree (or a combination of a decision tree and a Markov model if appropriate data are identified),</p> <p><u>Time Horizon:</u> This has not been ascertained at this stage but a relatively short horizon (e.g. 1-year) may be</p>
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	<p>appropriate to capture all important differences in costs and outcomes (i.e. if functional outcomes are available only).</p> <p><i>The rest of the methods and analyses will be similar to those outlined for 2.1.</i></p> <p>Feasibility: The committee discussed the potential lack of clinical data and the availability of functional outcomes only. If that's the case a cost/cost-offset analysis will be undertaken.</p>
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5 Clinical Guidelines Technical Support Unit^k

Please indicate if any of the analyses or areas suggested in section 3 require or would benefit from the Clinical Guidelines Technical Support Unit support or validation.

None

6 Data Access

Please indicate whether the feasibility of any of the analyses or areas suggested in section 3 will be dependent on access to data sources not publicly available, and how these will be accessed, e.g. through a call for evidence.

Nil

7 References

8 Addenda to economic plan

Please state any changes that have been made to the above agreed plan, together with date. If questions have changed since the economic plan was signed off, include a new list with all questions as part of the addenda, together with a comment where questions were inserted, deleted or altered and an explanation.

<i>Scope area^l (question(s)^m)</i>	<i>Proposed changes</i>	<i>Date agreed</i>
2.2a: What cognitive rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic	This was a medium priority. However, the effectiveness review was empty and as a result, useful economic modelling was not possible in this area.	

^k The guidelines technical support unit provides academic support to guideline developers at any point in guideline development: conduct, or support the NCC/ICG team in the development of, advanced evidence synthesis, support complex economic analyses, conduct validation of or amendments to, existing evidence syntheses used in guideline models and address concerns from stakeholder (via consultation). Please contact the senior technical adviser for further details.

^l This should be the key areas relevant for considering opportunity costs and high priority for de novo modelling, as identified in section 3.

^m Two or more questions may be addressed by a single analysis if appropriate.

injury?		
2.3a: What psychological and psychosocial rehabilitation interventions are effective and acceptable for adults with complex rehabilitation needs after traumatic injury?	This was a medium priority. The effectiveness review identified some single heterogeneous low or very low quality studies and as a result useful economic modelling was not possible in this area. The recommendations in this area were based on the committee expert opinion and represent standard practice across the NHS.	
2.1b: What physical rehabilitation interventions are effective and acceptable for children and young people with complex rehabilitation needs after traumatic injury?	This was a high priority. The effectiveness review was limited to a few low or very low-quality studies and as a result, useful economic modelling was not possible in this area.	
4.2a: What are the best methods to deliver and coordinate rehabilitation services and social care services for adults with complex rehabilitation needs after traumatic injury when they transfer from inpatient to outpatient rehabilitation services?	This was a medium priority. The effectiveness review identified some single heterogeneous low or very low quality studies. The recommendations in this area were based on the committee expert opinion and represent standard practice across the NHS. The committee could not identify any recommendation that would benefit from de novo economic modelling.	