

SUPPLEMENTAL CONTENT

A. Provider Profiling Questionnaire – Rehabilitation

Provider Profiling Questionnaire



Questionnaire 8: Rehabilitation

This questionnaire can be completed by a neurologist, neurosurgeon or trauma surgeon with knowledge about in-hospital rehabilitation facilities and referral.

This questionnaire includes questions about the general policy in your hospital. The responses to these questions should represent, as best as practicable, a general consensus on treatment at your centre, rather than individual management preferences. Consequently, you should provide responses that describe not what you would do personally, but how the majority of patients would generally be treated in your centre.

There are no 'right' or 'wrong' answers so please give us a realistic and honest view of how the care in your hospital is organized. Your answers will only be used to answer the scientific questions in CENTER TBI and no information in any form will be reported on individual centre level. Some of the questions may seem similar, but please answer all questions.

If you have any questions or problem, please contact:
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Information about the completer of the questionnaire

Other than the CENTER-TBI investigator, which of the following individuals was involved in completion of this questionnaire?

Select all that apply

- Neurologist
- Neurosurgeon
- Trauma Surgeon
- Emergency Department (ED) physician
- Administrative staff member / data manager / financial department
- Rehabilitation physician
- Other, please specify.....
- NA. The questionnaire was completed solely by the CENTER TBI local investigator

The Local investigator is the senior clinician(s) at your hospital involved in supervision of CENTER TBI

In-hospital care

1. What rehabilitation facilities are available at your institution

Select all that apply

- The hospital does not have an in-hospital rehabilitation ward to which patients can be admitted for clinical rehabilitation
- The hospital has a rehabilitation unit where TBI patients can be referred to after Intensive Care Unit (ICU) or ward admission
- The hospital has structural connections with rehabilitation settings outside the hospital; patients are referred after Intensive Care Unit (ICU) or ward admission
- The hospital has an outpatient rehabilitation facility
- Other, please specify.....

Please note: When responding to this question, the term "rehabilitation facility" refers to a full multi-disciplinary rehabilitation service, not isolated physiotherapy provision

2. Can you consult rehabilitation specialists (e.g. physical therapists, occupational therapists, dieticians, psychologists, psychiatrists, rehabilitation physicians, speech therapists, social workers, nurses) for patients in your Intensive Care Unit (ICU) or hospital ward?

Select all that apply

	ICU	Hospital ward
No	<input type="checkbox"/>	<input type="checkbox"/>
We can consult rehabilitation specialists on an individual basis	<input type="checkbox"/>	<input type="checkbox"/>
We can consult a multidisciplinary rehabilitation team	<input type="checkbox"/>	<input type="checkbox"/>

2b. if the second and/or third option is ticked: what rehabilitation disciplines are available to treat patients in your Intensive Care Unit (ICU) or acute hospital ward?

Select all that apply

	ICU	Hospital ward
Physical therapist	<input type="checkbox"/>	<input type="checkbox"/>
Occupational therapist	<input type="checkbox"/>	<input type="checkbox"/>
Dietician	<input type="checkbox"/>	<input type="checkbox"/>
(Neuro-) psychologist	<input type="checkbox"/>	<input type="checkbox"/>
Psychiatrist	<input type="checkbox"/>	<input type="checkbox"/>
Rehabilitation physician	<input type="checkbox"/>	<input type="checkbox"/>
Speech therapist	<input type="checkbox"/>	<input type="checkbox"/>
Social worker	<input type="checkbox"/>	<input type="checkbox"/>
Nurse	<input type="checkbox"/>	<input type="checkbox"/>
Other, please specify.....	<input type="checkbox"/>	<input type="checkbox"/>
.....		

2c. If a rehabilitation physician is available (if this box is ticked)

When is the rehabilitation physician consulted?

ICU

- In every patient
- The rehabilitation physician is consulted on indication (not standard)

Hospital ward

- In every patient
- The rehabilitation physician is consulted on indication (not standard)

What is the task of the rehabilitation physician?

Select all that apply

ICU

- Triage (where should the patient be referred to)
- Making a treatment plan for initial in-hospital rehabilitation
- Part of multidisciplinary consultation (determining treatment policy)
- Not defined

Hospital ward

- Triage (where should the patient be referred to)
- Making a treatment plan for initial in-hospital rehabilitation
- Part of multidisciplinary consultation (determining treatment policy)
- Not defined

3. Are acute medical rehabilitation guidelines or protocols used for patients with Traumatic Brain Injury (TBI) at the Intensive Care Unit (ICU) or the acute hospital ward?

- No, we do not have acute rehabilitation guidelines regarding TBI patients
- Yes, we have acute rehabilitation guidelines for TBI patients

If you do not know the answer to this question yourself, please contact the rehabilitation facility in your hospital

3b. If yes: can you provide us your protocol as pdf / internet link

4. Is coma stimulation (for example pharmacological, neurophysiological or psychological stimulation) used in comatose Traumatic Brain Injury (TBI) patients?

- No
- Yes

4b. If yes: What kind of stimulations are used?

Select all that apply

- Pharmacologic stimulation
- Sensory stimulation (Visual, auditory, touch, smell, taste)
- Mobility stimulation (movement, position)
- Other, please specify.....

Referral

5. Where are Traumatic Brain Injury (TBI) patients with the following clinical characteristics generally referred to?

You can select multiple centres here, but only select those that are part of your general policy. For example if you always refer a particular patient group to a rehabilitation centres and some exceptions to a nursing home, only tick rehabilitation centre here.
 If approximately 70% of the patient in the particular category is referred to a rehabilitation centre and the other 30% to an outpatient rehabilitation facility, you can select both.
 The response that you provide should represent, as best as practicable, a general consensus on treatment at your centre, rather than individual thoughts or preferences.

Select all that apply

	Rehabilit ation centre	Nursing home	Psychiatri c hospital	Outpatien t rehab facilities	General practition er / Health Centre	Local / Regional Hospital	Coma care	Other, please specify
Young patient, not obeying commands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Elderly patient (> 65) not obeying commands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Young patients obeying commands but still in PTA and with severe behavioral problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Elderly patients (>65) obeying commands but still in PTA and with severe behavioral problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-native language speaking patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Where are Traumatic Brain Injury (TBI) patients without a health care insurance generally referred to?

Select all that apply.

- N/A in our country (everyone has a health care insurance)
- Not important in the referral decision
- Rehabilitation centre
- Nursing home
- Psychiatric hospital
- Outpatient rehabilitation facilities
- General practitioner / Health centre
- Local / Regional Hospital
- Coma Care
- Other, please specify.....

7. Do you have the possibility to refer unconscious or minimally responsive patients to settings with coma stimulation programs?

- No
- Yes

8. Does patients' age have a major influence on referral decisions?

- No
- Yes

If yes: How?

.....

The responses to this question should represent, as best as practicable, a general consensus on treatment at your centre, rather than individual management preferences.

9. Approximately, what is the average waiting time for realization of discharge to referral institutes?

With waiting time we mean the time between the moment that the patient is ready to be discharged from the hospital and the time he/she is admitted or first visits the referral institutes. The waiting time probably varies per patient, geographic location and also varies over time. Please give us an estimate over the last year here.

	Rehabilitation centre	Nursing home	Psychiatric hospital	Outpatient rehab facilities	General practitioner / Health Centre	Local / Regional Hospital	Coma care	Other institution were we refer TBI rehabilitation patients to, please specify
Within a few days	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Within one week	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Within one month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
> one month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
> three months	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
> six months	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. Are any of the following factors important for the acceptance policy of rehabilitation institutes?

	No	Yes	If yes, how does it influence rehabilitation policy <i>Select all that apply</i>
Non-native language speaking patient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Patients are less often referred to a rehabilitation centre <input type="checkbox"/> Patients are more often referred to a nursing home <input type="checkbox"/> Patients are more often referred home / to the GP <input type="checkbox"/> Follow-up appointments in the hospital are less often scheduled <input type="checkbox"/> Other, please specify.....
Uninsured patient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Patients are less often referred to a rehabilitation centre <input type="checkbox"/> Patients are more often referred to a nursing home <input type="checkbox"/> Patients are more often referred home / to the GP <input type="checkbox"/> Follow-up appointments in the hospital are less often scheduled <input type="checkbox"/> Other, please specify.....
Illegal foreigner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Patients are less often referred to a rehabilitation centre <input type="checkbox"/> Patients are more often referred to a nursing home <input type="checkbox"/> Patients are more often referred home / to the GP <input type="checkbox"/> Follow-up appointments in the hospital are less often scheduled <input type="checkbox"/> Other, please specify.....
Legal foreigner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Patients are more often referred to a nursing home <input type="checkbox"/> Patients are more often referred home / to the GP <input type="checkbox"/> Follow-up appointments in the hospital are less often scheduled <input type="checkbox"/> Other, please specify.....

The responses to this question should represent, as best as practicable, a general consensus on treatment at your centre, rather than individual thoughts.

11. Information communication between acute care providers and rehabilitation facilities is generally by:

Select all that apply

- Personal interaction (telephone or otherwise)
- Sending full medical report and images
- Access to reports via a shared region wide patient management system
- Discharge letter

12. Is there a form of coordination or structured collaboration between your hospital and one or more rehabilitation institutes and/or nursing homes in your region?

- No
- Yes

13. Which factors are considered in deciding on rehabilitation choice for a patient? Please rank the following factors from most to least important (1 to 5)

- Quality of care 1.
- Distance to patients home 2.
- Availability at short notice 3.
- Specialized neuro-rehabilitation 4.
- Funding / financial reason 5.

The responses to this question should represent, as best as practicable, a general consensus in your center.

14. Please rank the satisfaction of your team on how these factors are met in your network (1 not satisfied at all – 5 completely satisfied).

- Quality of care (1, 2, 3, 4, 5)
- Distance to patients home (1, 2, 3, 4, 5)
- Availability at short notice (1, 2, 3, 4, 5)
- Specialized neuro-rehabilitation (1, 2, 3, 4, 5)

The responses to this question should represent, as best as practicable, a general consensus in your center.

B. Types of in-hospital coma stimulation

Coma stimulation	N completed	N (%)
Mobility stimulation	34	29 (85%)
Sensory stimulation	34	25 (74%)
Pharmacological stimulation	34	19 (56%)

C. Explanations given by centers which indicated that age has a major influence on referral decisions

Reason / explanation
Age > 65 affects rehabilitation potential, these patients are therefore less often / never referred to rehabilitation facilities
Coma stimulation rehabilitation programs in our country have strict age limits (eg. Age 21, 25 or 40)
Rehabilitation centers in our countries have age limits (eg 40, 65)
Older patients are still referred to rehabilitation centers, but they will be treated at different wards / are enrolled in different rehabilitation programs
Rehabilitation centers have selection (usually due to limited numbers of beds) favoring younger patients
Younger patients receive more specialized rehabilitation
Some rehabilitation centers are more specialized in treating younger patients

D. The influence of age on referral decisions

Variable	Centers that indicated that age has a major influence (n = 32)	Centers that indicated that age has no major influence (n = 38)	p-value	Centers that generally refer elderly patients not obeying comments to nursing homes (n = 32)	Centers that do not generally refer elderly patients not obeying comments to nursing homes (n = 38)	p-value	Centers that generally refer elderly patients obeying comments and with severe behavioral problems to nursing homes (n = 26)	Centers that do not generally refer elderly patients obeying comments but still in PTA and with severe behavioral problems to nursing homes (n = 43)	P-value
Income†			<0.01			0.51			0.25
High/middle income	31 (54%)	26 (46%)		25 (44%)	32 (56%)		23 (40%)	34 (60%)	
Relatively low income	1 (8%)	12 (92%)		7 (54%)	6 (46%)		3 (23%)	10 (77%)	
European region‡			0.22			0.83			0.09
North and West Europe	23 (51%)	22 (49%)		21 (47%)	24 (54%)		20 (44%)	25 (56%)	
South and East Europe and Israel	9 (36%)	16 (64%)		11 (44%)	14 (56%)		6 (24%)	19 (76%)	
Completer of the questionnaire			0.56			.28			0.19
Rehabilitation physician	14 (50%)	14 (50%)		15 (54%)	13 (46%)		14 (46%)	15 (54%)	
Other*	18 (43%)	24 (57%)		17 (41%)	25 (59%)		13 (31%)	29 (69%)	
Availability of a rehabilitation physician for TBI patients at the ICU			0.05			0.45			0.62
Rehab physician	26 (54%)	22 (46%)		23 (48%)	25 (52%)		19 (40%)	29 (60%)	
No rehab physician	6 (29%)	15 (71%)		8 (39%)	13 (62%)		7 (33%)	14 (67%)	
Availability of a neuropsychologist for TBI patients at the ICU			0.43			0.69			0.83
Neuropsychologist	15 (42%)	21 (58%)		17 (47%)	19 (53%)		14 (39%)	22 (61%)	
No neuropsychologist	17 (51%)	16 (49%)		14 (42%)	19 (58%)		12 (36%)	21 (64%)	
Availability of an in-hospital multidisciplinary rehabilitation team at the ICU			0.72			0.90			0.26
Multidisciplinary team	14 (48%)	15 (52%)		13 (45%)	16 (55%)		13 (45%)	16 (55%)	
No multidisciplinary team	18 (44%)	23 (56%)		19 (46%)	22 (54%)		13 (32%)	28 (68%)	
Availability of an in-hospital rehabilitation unit			0.46			0.48			0.85
Rehabilitation unit	18 (50%)	18 (50%)		15 (42%)	21 (58%)		13 (36%)	23 (64%)	
No rehabilitation unit	14 (41%)	20 (59%)		17 (50%)	17 (50%)		13 (38%)	21 (62%)	

*Other = neurologist or neurosurgeon

†High / middle income: Austria, Belgium, Denmark, Finland, France, Germany, Israel, Italy, the Netherlands, Norway, Spain, Sweden and the United Kingdom;

‡Relatively low income: Bosnia Herzegovina, Bulgaria, Hungary, Latvia, Lithuania, Romania and Serbia

§North and West Europe: Austria, Belgium, Denmark, Finland, France, Germany, Lithuania, the Netherlands, Norway, Sweden and the United Kingdom; South and East Europe and Israel: Bosnia Herzegovina, Hungary, Israel, Italy, Latvia, Romania, Serbia, Spain and Switzerland