Rehabilitation on specialised level

Part 1. Fact document

1. Background

January 1 2015 "Executive order on rehabilitation plans and on patients' choice of rehabilitation site after discharge from hospital" and "Guidance on rehabilitation and maintenance training in municipalities and regions" entered into force. The Executive Order belong to the Health Act. With the new Executive Order became a new category of rehabilitation plans were introduced: Rehabilitation plans to rehabilitation on specialised level. This level is primarily referred to citizens with acquired brain injury. It is the regional units (Skive, Holstebro and Lemvig) and the highly specialised unit (Hammel), which can refer to this level.

To ensure a joint understanding of the concept "rehabilitation of specialised level" within Central Region of Denmark, the municipalities and the region have established a workgroup. Tasks of the workgroup:

- Develop a fact document that describes, how rehabilitation on specialised level is defined and implemented. The existing definition is explained and clarified
- Describe which requirements, there is for the functional ability assessment, which forms the basis of a rehabilitation plan for rehabilitation on specialised level
- Describe which competences, the specialists should have to maintain rehabilitation on specialised level
- Describe which requirements for quality, the offers must have in order that they are on a specialised level
- Describe, what is understood by landless offers, and how the quality is ensured in the landless offers

The consortium of the work-group shown in annex 1. Members of the work-group is shown in annex 2.

The work-group has dealt with children and youths as well as adults. In the document the term "citizens" cover both children, youths and adults. The text is built up with several initial factual sections, which is based on applicable laws and guidelines (see references). The first section leads to section 9 that addresses challenges and recommendations in the field for specialised rehabilitation. The text will state, if there are separate areas for children and young people.

2. Historical development

Before the municipal reform, the counties were responsible for supplying temporary accommodation in housing for citizens with physical and mental impairments. The 4 previous counties in Region of Central Jutland (Ringkøbing, Vejle, Viborg and Aarhus) operated various temporary and permanent housing facilities, specialised revalidation as well as special and education offers to the target-group with acquired brain injury[1].

With the structure reform in 2007, in several areas, the division of tasks was changed. The rehabilitation plans were introduced, and rehabilitation after discharge passed to municipal authority responsibility. On the social area the municipalities to a certain extent began to establish both temporary and permanent offers under the Service Act §§ 107 and 108. Some municipalities established day rehabilitation, where citizens with acquired brain injury received rehabilitation with subsequent initiatives from other municipal management areas.

[1] "Treatment of traumatic brain injuries and adjacent disorders" – SST 1997

Children and youths with acquired brain injury received general rehabilitation together with initiatives from other municipal management areas.

Danish Health Authority and The National Board of Social Services have over recent years published national common orders and guidelines[2]. The goal is to ensure that the volume and the specialisation degree in the municipal offers to rehabilitation on specialized level is maintained. At the same time, the national board of social services have created National Coordination to monitor the quality of their offer[3].

3. The target-group for rehabilitation on specialised level

The executive order and the professional visitation guideline define the target-group with needs for rehabilitation on specialised level in the following way:

- The citizen has complicated, comprehensive, rare and/or severe functional impairments of major impairments for several areas of life, including most often mental impairments.
- The functional impairment typically appears in the following examples:
    - severe and extensive mental impairments of major importance to functional ability
    - behaviour problems and/or significant problems with the orientation ability, which can pose a safety risk to themselves or others
    - severe functional impairments of linguistic functions and speech and/or none possibility of communication
    - severe withdrawal problems
    - severe functional impairments of movement functions and body functions
    - on basis of the brain injury has severe and complex issues in relation to the family situation, the labour market and/or housing situation
    - complex intellectual functional impairments compared to previous function

The above examples in possible functional ability impairments should be seen in the complex context, where the citizen typically has several functional ability impairments at once. In this document the target-group is operationalized as the citizens, which often is dependent of support to complete basic everyday activities.

A rehabilitation plan to rehabilitation of specialised level is offered to the citizens, which is medically assessed to have need and potential for this leve3l of rehabilitation after hospital[4]. According to estimate from the Danish Health Authority there will be approx. 100 new citizens, who need rehabilitation on specialised level per year in Region of Central Jutland[5]. Until September 2016 rehabilitation plans for rehabilitation on specialised level was registered manually, and data from before the period can therefore be attached with mistakes. In September 2017 it will be possible to withdraw data for the number of rehabilitation plans for a whole year.

[2] The Danish Health Authority has published: Order on rehabilitation plans and the patient's choice of rehabilitation offers after discharge from hospital (2014), Guide about rehabilitation and maintenance training in municipalities and regions (2014), this guide also concerns the Service Act, the Visitation guideline about retraining and rehabilitation for adults with acquired brain injury (2014) and Visitation guideline about retraining and rehabilitation for children and youths with acquired brain injury (2014). The National Board of Social Services has published: Central announcement for adults with complex acquired brain injury (2014), Specialization levels on social and the special education area (2014) and the process description of rehabilitation of adults with complex acquired brain injury (2016).

[3] National coordination to monitoring of quality in the offers includes both children, youths and adults,

[4] Retraining and rehabilitation to adults with acquired brain injury – an academic visitation guideline, section 1.5.2

[5] Retraining and rehabilitation to adults with acquired brain injury – an academic visitation guideline, page 61

4. Definitions

4.1. Rehabilitation

Rehabilitation is focused and timed course of coordinated services and offers on health, social, employment and the educational field, with the aim that the citizen acquires same degree of functional ability as previous or best possible functional ability, so the citizen can live as independently and meaningful an everyday life as possible[6] [7].

Rehabilitation is a cooperation process between a citizen, relatives and specialists. The initiative is based on the citizen's living situation and decisions and consists of a coordinated, coherent and knowledge-based effort[8].

4.2. Rehabilitation on specialised level

Rehabilitation on specialised level is based on the general definition of the rehabilitation concept but materializes at a specific target-group and specific requirements for the professional competences that must be present to lift the rehabilitation task. Rehabilitation on specialised level addressed in this context towards the citizens with acquired brain injury, which has a complexity in the problem or a variety of problems, which requires academic special knowledge, including interdisciplinary knowledge. The initiative should be significant, intensive and holistic oriented and aimed at all relevant areas of the functional ability. Highly specialised initiatives and offers are characterized by them being handled by or in cooperation with other specialised knowledge environments[9].

The citizens have need for both rehabilitation initiatives (cf. the Danish Health Act) and other rehabilitation initiatives, often on the social area[10], the educational area and the employment area, which is maintained by authorized health professionals and other professionals with specialised competences. Rehabilitation is thereby a part of the total rehabilitation initiative[11].

Rehabilitation on specialised level is organised as team-based, interdisciplinary, intensive, coherent and holistic course[12]. Special requirements[13] are made to the organizing, where timing and academic coordination of the total specialised initiative is necessary[14].

The initiative is typically about:

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[6] Guide of retraining and maintenance training in municipalities and regions, 2015, section 2.2

[7] Process description: Rehabilitation of adults with complex acquired brain injury – in the most specialised social and special education field, appendix 9.3. p.52

[8] Guide about rehabilitation and maintenance training in municipalities and regions, 2015, section 2.2:

[9] Process description: Rehabilitation of adults with complex acquired brain injury – in the most specialised social and special education field, appendix 9.3. p.52

[10] Guide about rehabilitation and maintenance training in municipalities and regions, 2015, section 1.6, 2, 7

[11] Retraining and rehabilitation to adults with acquired brain injury – an academic guideline, section 1.6

[12] Retraining and rehabilitation to adults with acquired brain injury – an academic guideline, section 8.1.3 and process description: Rehabilitation of adults with complex acquired brain injury – in the most specialised social and special education field, section 5.1.2. and appendix 9.3. p.53

[13] Retraining and rehabilitation to adults with acquired brain injury – an academic visitation guideline, section 7.0

[14] Retraining and rehabilitation to adults with acquired brain injury – an academic visitation guideline, section 8.1.3

- Handling of mental functional impairments, communication and mobility
- Special aids, including communication equipment, which requires significant expertise, adaptation and use, as well as other advanced technical aids, which requires special competences with the professional staff
- Significant and specialised initiatives for clarification and possible training in relation to education, work, housing situation and other areas of life
- Special family-oriented efforts regarding children and other relatives
- Possibly residential facility, so the initiative can support the patient all day long

There will often only be need for rehabilitation on specialised level in a limited period, after which the rehabilitation process can be carried out at an advanced level. The transition can often happen gradually. In the connection the specialised offer can contribute with advice and guidance for health professionals and other professionals, who must take over the rehabilitation process. This to ensure coherent process and the further development,

Specifically, for children and youths:
The child, the youth has need for both rehabilitation initiatives (cf. the health act) and other rehabilitation initiatives, often in the social area, the day-care facility, the educational area including special educational area, which is maintained by authorized healthcare professionals and other professionals with specialised competences. Rehabilitation is thereby a part of the total rehabilitation initiative[15].

In those cases, where the children should receive a land tied residential facility for specialised rehabilitation, cf. the Service act a placement case should be started[16]. This means, for example prior to the placement, a child-case study must be made (the Service Act §50). All child benefit ceases around the child in the placement period. After the rehabilitation initiative outside the home repositioned the child/the youth in the family again.

Rehabilitation on specialised level is organised as team-based, interdisciplinary, intensive, coherent and holistic process[17]. Specific requirements[18] are made for the organizing, where timing and academic coordination of the overall specialised efforts is needed[19]. The parents, who is the child's/the youth's support in the everyday life, are involved in the retraining and the rehabilitation. In addition, there should be a focus on the parents' and any siblings' crisis and grief work. The family's overall need for knowledge, support, guidance and compensating initiatives is performed at the same time with the child's need for initiatives is performed[20].

The children/the youths have typically need for:

- Significant, intensive and holistic initiative, which is aimed at all relevant areas of the functional ability, and where the presence of simultaneous interdisciplinary expertise is necessary

[15] Guide about rehabilitation and maintenance training in municipalities and regions, 2015, section 1 and 2
[16] The Service Act § 52, paragraph 3, no. 7 about volunteer placement outside the home.
[17] Retraining and rehabilitation for children and youths with acquired brain injury – an academic visitation guideline section 7.1
[18] Retraining and rehabilitation for children and youths with acquired brain injury – an academic visitation guideline section 7.0
[19] Retraining and rehabilitation for children and youths with acquired brain injury – an academic visitation guideline section 7.1
[20] Retraining and rehabilitation for children and youths with acquired brain injury – an academic visitation guideline section 3.2.5.

- Specialised initiatives in advance to handling of mental functional impairments, communication and mobility
- Special aids, including communication equipment, which requires significant expertise, adjustment and application, as well as other advanced technical aids, which require special competences of the professionals
- Significant and specialised initiatives for clarification and possible training in relation to day-care, school and education.
- Some children and youths will have need for a residential facility, so the initiative can happen in all the child/the youth's waking hours[21].

5. Responsibility of hospitals and municipalities at rehabilitation on specialised level

5.1. The foundation of cross-sectorial cooperation
Cooperation on citizens with needs for rehabilitation on specialised level is always based on the intention with the new Executive order. The intention is that the quality in the rehabilitation initiative and the coherence in the overall, coordinated rehabilitation initiative should be strengthened and that there must be security that all citizens with needs for rehabilitation on specialised level get an effective and timely action regardless of where they reside.

It is fundamental to the cross-sectorial cooperation around citizens, who get a rehabilitation plan for rehabilitation on specialised level to:

- Ensuring coherence and flexibility through dialogue
- The effort is organized in close dialogue and cooperation between citizen, relatives, hospital and municipalities.
- The initiative is adjusted in accordance to the need.
- The transcript begins at the hospitalisation
- The hospital informs the municipality as soon as possible if there is likelihood of the citizen is discharged with a rehabilitation plan for rehabilitation on specialised level, and it is agreed between hospital and municipality, how the concrete cooperation should be established
- The hospital holds a printing interview with the municipality, where among other things the content of the rehabilitation plan is discussed

5.2. The responsibility of the hospital
The hospital should prepare a rehabilitation plan, when the citizen has need for and has potential for rehabilitation on specialised level. The rehabilitation plan describes an initiative limited by time.

There are following requirements of a rehabilitation plan, which refers to rehabilitation on specialised level:

1. Lonely hospital units with at least regional function can issue a plan.
2. The plan is issued with basis in interdisciplinary team of the hospital jointly decide and argue for the patient has complicated problems and therefore need for special initiative, which can be provided by interdisciplinary team. In the plan the specialised academic initiatives are described, which is beyond ordinary rehabilitation activities and which is assessed as necessary for the patient can be rehabilitated on as high as possible.

[21] Retraining and rehabilitation for children and youths with acquired brain injury – an academic visitation guideline section 7 and 7.1.

3. A rehabilitation plan to rehabilitation on specialised level gives a thorough and nuanced description of the patient's functional ability, so that it is particularly evident, which initiatives should be focused at, and that the functional ability description is nuanced described specific rehabilitation problems. A detailed description and summary of the patient's functional ability in relation to body function, activity and participation. The patient's usual functional ability is described to the extent that is necessary and relevant for the patient's current problem.
4. Relevant functional ability assessments and special examinations, for example neuro psychological examinations and treatment, audiologists' studies and treatments as well as other relevant professional groups studies and treatment is included.
5. If there is a health-related needs, a deadline should be stated for the rehabilitation initiatives start-up after printing.

In addition of the requirements there is about information in the rehabilitation plan to rehabilitation on specialised level, it also appears from guidance of the Executive Order, section 5.4.3, which eventually recommendations for methodology can be given, extent and character of the further effort. Hereby the doctor has further powers in relation to describe concrete initiatives in municipal administration, then it is the case with the other types of rehabilitation plans.

5.3. The responsibility of the municipality

The municipality has the authority responsibility for rehabilitation on specialised level. As consequence hereof, the municipality must organize the rehabilitation initiative. This should happen in coherence with other initiatives, which can contribute to the citizen's overall rehabilitation in accordance to the Health Act as well as other legislation. It is therefore a prerequisite that the initiative is coordinated across of administrations of the municipality.

The efforts must be individually planned. This can for example happen by offering the citizens a stay at a specialised institution and/or a country bound offer, which is composed according to the citizens' need for rehabilitation.

The municipality cannot override the medical assessment of the citizen's retraining or rehabilitation need, including if the citizen has need for general retraining, rehabilitation on specialised level.

The citizen is visited by the municipality to one or possibly several specialised rehabilitation offers, which have the necessary competences to handle the citizen's overall rehabilitation need on specialised level.

It is the municipal authority that is responsible for the coordination across of administrations and sectors[22]. To meet the need for coordination rehabilitation at specialised level in the municipal area can be appropriately organized and coordinated by a brain injury coordination function[23].

- The brain damage coordination function handles tasks both in relation to the individual citizen and in relation to internal and external coordination for the overall target-group. It is essential in this context that employees from relevant administrations in the brain injury function, who have knowledge and competences in relation to citizens with brain injury are there. Additionally, it should be ensured that the necessary competences in relation to interdisciplinary cooperation around citizens with brain injury and involvement of relatives are present. It may also be

[22] Course description: Rehabilitation of adults with complex acquired brain injury – in the most specialised social and special education field, section 3.3

[23] Retraining and rehabilitation for adults with acquired brain injury – an important visitation guideline, section 8.1.3.

appropriate that the brain injury coordination function cooperates across municipalities, in cooperation with other municipalities that establish a common brain injury coordination function[24].

- The brain injury coordination function can appropriately appoint a coordinator or contact person to the individual citizen with brain injury[25].

Especially for children and youths:
Special attention should be paid to transitions in the child's life, as a transition from day-care to school and leisure time, transition from school termination to secondary education, just as there are special challenges with the transition from young people to adults, when the young person turns 18. Additionally, there are administrative transitions in legislation and administrative departments[26].

For children and youths especially, it also applies that at least every three months an interdisciplinary assessment of the course, including if the child/the youth profits from the retraining and rehabilitation initiative in expected place. If this is not the case, renewed examination is made, and reassessment of the child/the youth's retraining and rehabilitation need as well as rehabilitation potential with the purpose of re-visitation. In this context, interdisciplinary specialists are involved in municipal management. In this context the hospital offers an ambulatory assessment, if the hospital and the municipality agree on the need for this[27].

This is in particular true for retraining and rehabilitation of children and youths with acquired brain injury:

- Retraining and rehabilitation generally takes place in cooperation with the specialised level due to the small volume
- Coordination of the rehabilitation initiative in collaboration with PPR psychologists and UU-supervisors, while school/day-care are involved early in the course. The child/the youth are subject to the compulsory education. The rehabilitation should therefore be planned in coherence with an educational offer
- The most central pedagogics/teachers and support teachers have competences in relation to children and/or has opportunity for sparring
- The involved specialists have access to guidance and counselling from specialised level, including cooperation with psychologists and as far as possible children neuro psychologists
- Close interaction is ensured around the child through the whole day, including in relation to the recreational offer
- The effort happens in a coordinated, interdisciplinary cooperation between teachers, pedagogics, physio therapists, occupational therapists, psychologists, audiologist and more and with inclusion of the parents

The child's family has often need for relevant support of varying character, partly in relation to processing of grief and crisis reactions in connection with the child's brain injury, partly in relation to ongoing initiatives to ensure the well-being of the child and the family.

The municipality may appropriately establish cooperation with the specialised level, including both the hospitals and the specialised rehabilitation offer. The cooperation can be about general competence

[24] Course program for adults with acquired brain injury, section 4.3.2
[25] Course program for adults with acquired brain injury, section 4.3.2
[26] Retraining and rehabilitation to children and youths with acquired brain injury – an academic guideline, section 3.2.5.
[27] Retraining and rehabilitation to children and youths with acquired brain injury – an academic guideline, section 3.2.5. and 3.2.6.

development, including supervision. Additionally, the cooperation can include counselling in specific patient process in relation to issues in relation to for example mental functional impairments, linguistic functions, communication, education, behaviour, personality changes as well as medical issues etc.[28]

6. Requirements for competencies of suppliers of offers to rehabilitation on specialised level
Citizens with needs for rehabilitation on specialised level must at any time meet with relevant specialised academic competences. There is typically need for one or more of the following initiatives:

1) Handling of mental functional impairments
- If the citizen has need for initiatives in relation to mental functions, including memory and attention, overall cognitive functions, feeling functions, behaviour, perception etc., the specialised rehabilitation offer must be associated neuropsychologists and other specialists with specialised competences in relation to these fields

2) Communication and communication equipment
- If the citizen has need for initiatives in relation to language features, the specialised rehabilitation offer must have associated audio speech therapists with specialised competences in relation to this field, just like there should be access to use equipment in shape of the communication aids as well as employed specialists with special competences in relation to use the communication aids with special competences in relation to use the communication aids

3) Aids and equipment
- There is requirement that aids and equipment[29] can be used, which is particularly expensive and/or which requires special competences to use, including individually customized and custom-made aids[30].

4) Mobility
- If the citizen has need for initiatives in relation to movement functions and other bodily functions, the specialised rehabilitation offer must have employed physio therapists, occupational therapists and possible nurses/health workers with specialised competences

5) Day-care, school, education, work, housing situation and other areas of life
- If the citizen has need for initiatives in relation to care for themselves, daily living, mobility, employment and education, the specialised rehabilitation offer should have employed occupational therapists, pedagogic staff, neuropsychologists, child psychologists and social workers as well as other relevant specialist groups with specialised competences

[28] Retraining and rehabilitation for children and youths with acquired brain injury – an academic visitation guideline, section 5.3.2
[29] Equipment is not defined and can therefore not be requested
[30] Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 8.1.2 and Course description: Rehabilitation of adults with complex acquired brain injury – in the most specialised social and special education field, section 3.2

6) Severe somatic or psychiatric consequences

- If the citizen has severe somatic or psychiatric consequences from the brain injury or significant co-morbidity, there may be a need for the specialist rehabilitation services to have access to medical treatment and nursing at specialised level. In other cases, this could be done in a cooperation with the hospital and/or the citizen's general practitioner[31]

7) Family and rest of family

- Significant and specialised efforts for clarification and possible training in relation to special family-oriented efforts in relation to relatives (partner, parents, children, siblings and other relatives)

8) Residential facility

- Some adults will have need for a residential facility, so the initiative can take place in all of the citizen's waken hours[32]

9) Day-care and Residential facility

- Some children and youths will have needs for Day-care and Residential facility, so the service can happen in all of the child/the youth's waken hours[33]

The competencies of health-care professionals (for example occupational and physiotherapists, nurses, doctors, neurologists, orthoptists, dietitians) and other specialists (for example speech therapists, pedagogics, special teachers, social workers and neuropsychologists[34]), which provides the highly specialised initiatives are achieved by:

1. Mainly deals with the brain injury field and the target-group of citizens with a complex acquired brain injury on highly specialised level. They see and treat enough[35] citizens with complex issues and thereby gain knowledge about the target-group's need.
2. Has – in addition to their basic education – achieved specialised neuro academic expertise and has reviewed relevant training/ further education[36]
3. Can make reports as well as a specific individual assessment of the citizen's need
4. Have competences and experience with working in interdisciplinary teams. Working from common frame of understanding and terminology

[31] Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 7.3
[32] Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 7.1
[33] Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 7.1
[34] Psychologists, who have acquired approval from the Psychologist Association as specialist in neuro psychology
[35] It is not defined from national side, what "enough" covers.
[36] It is not defined from national side. What "relevant training after education/further education" covers.

5. Receives regular and frequent supervision[37]
6. Advisor and supervises specialists and offer on lower specialization levels and across of sectors
7. Follows research-based knowledge and national guidelines to the extent they exist, both regarding the examination of the citizen and action itself
8. Uses validated testing methods to the extent, it is possible[38]

For the medical academic services in specialised rehabilitation offers apply that there is research obligation, although there may be an offer, which is anchored in the social field. This means that the health professionals should stay updated on the evidence of the brain injury area, collect evidence and spread it, help deliver data and possibly initiate research on the brain injury field. There are formal cooperation agreements with institutions, which conducts development and research[39].

7. Quality requirements

The purpose of setting health-related quality requirements for specialised rehabilitation offer is to ensure that citizens with a health-related need for rehabilitation on specialised level gets a relevant rehabilitation offer of high quality.

The quality in rehabilitation on specialised level is closely coherent with the descriptions in the sections about competences and the description of functional ability, since the quality will support and based on the individual assessed functional ability applicable for the individual citizen.

Specialised rehabilitation offer is often anchored in the social field, but handles services in interaction and across of health, education/day-care, employment and the social field.

7.1. Quality in the transitions

The transition between hospital and municipality is central for the municipality to put together a course that corresponds to the functional impairment, which is described in the rehabilitation plan and the citizen's overall rehabilitation need. The quality is ensured by the discharged being planned at the hospitalisation and that the rehabilitation plan is correctly filled out cf. section 5.3.

When the citizen finishes from rehabilitation on specialised level, a status about the patient's health-care rehabilitation process and current functional ability[40] is prepared.

7.2. Quality in the coordination and organising of the effort

The health-care initiatives can be included to various degrees in the individual rehabilitation course, including in interaction with the municipality's health-care initiatives and the advanced level as a part in an integrated rehabilitation course, also when the citizen is not in residential care.

[37] It is not defined from national side, if supervision is in relation to cooperation relations, personal competences or initiatives in relation to the citizens.
[38] Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 8.1.1
[39] Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 8.2.6
[40] Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 7.4.

Rehabilitation on specialised level is organised as a coordinated coherent, team based, interdisciplinary, intensive and holistic course, where timing and professional coordination of the highly specialised service is necessary[41]. The effect of the overall effort is linked to the organising of the effort. There is documentation that the organising of the rehabilitation effort has positive impact for the future functional ability[42].

7.3. Quality in the competences of the employees

The composition of the specialist group and qualifications of the employees are as described in the section about competences. The composition of the specialist group should match the citizen's individual functional impairment and need for rehabilitation cf. the individual rehabilitation plan[43].

7.4. Quality in specialisation of the offer

The health-care quality requirements must function as support to the municipalities in relation to choices of specialised rehabilitation offer, when the municipality must visit citizens with rehabilitation plan to rehabilitation on specialised level.

Rehabilitation offer on specialised level must have sufficient capacity and robustness to manage the tasks every day of the year. For the health field it applies that there should be employed at least 2-3 within each specialist group, so it is ensured that the relevant competences are present, also during illness and vacations in the staff group[44]. The guiding principle for the social area is that there is 3 specialists, who have relevant practical and theoretical knowledge and competences in relation to the target-group in order for the highly specialised offers to have sufficient robustness to maintain a high academic environment[45]. See section about the volume in section 3.

If needed the specialised rehabilitation offer has access to medical treatment and nursing on specialised level. Here, there can be talk about cooperation with hospital, thus the doctor works as consultant.

7.5. Monitoring

Highly specialised initiatives and offers have a systematic documentation of effect of the initiatives on citizen level[46]. Highly specialised efforts and offers follow research-based knowledge and national guidelines to the extent that they exist, both in terms of the investigation of the citizen and the initiative itself. In addition, validated examination methods are used to the extent that is possible. Furthermore, highly specialised offers cooperation with local, regional and national knowledge environments as well as VISO[47] and have a close cooperation with the hospital sector.

The national guides do not describe requirements for monitoring and documentation in phase I, II, III and IV. The hospitals are accredited in relation to the specialised effort in phase I and II. In phase III and IV there is no national monitoring of the quality of the offers.

[41] Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 8.1.3
[42] Course program for adults with acquired brain injury, section 3.1.3
[43] Course description: Rehabilitation of adults with complex acquired brain injury – in the most specialised social and special education field, section 3.3
[44] Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 8.2.2
[45] Central announcement for adults with complex acquired brain injury, section 3.1
[46] Course description: Rehabilitation of adults with complex acquired brain injury – in the most specialised social and special education field, section 3 and Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 8.1.4
[47] Course description: Rehabilitation of adults with complex acquired brain injury – in the most specialised social and special education field, section 3.2

The specialised initiatives monitor for overall strategical goals via the National Board of Social Services National coordination. The strategy should on overall plan ensure that the necessary range of highly specialised efforts and offers exist and through guidance and course descriptions and dialogue. The specialised institutions receive social supervision for quality model with indicators applying to both general and specialised offers[48].

In the regional hospitals, data on the number of prepared number of prepared rehabilitation plans to rehabilitation on specialised level can be drawn.

8. Matrix less offers

Rehabilitation on specialised level can be provided as a landless initiative. The organising is different, but it is the same prerequisites (including requirements about competences, quality and cooperation), made for both the landless and land-bound initiatives.

The aim is that there is one rehabilitation offer, which can handle the citizen's overall rehabilitation need on specialised level. In some cases, there will however be need for several rehabilitation need on specialised level works together, so the citizen can achieve the best possible functional ability in all areas[49]. This places greater demands on coordination as well as increasing the coordination complexity.

Some citizens will have need for a residential facility, so that the effort can happen in all waking hours[50] of the citizen. This can either happen as a stay or based in the citizen's own home[51], or as combination in the course transitions.

A matrix less offer is put together by an academic competent team that is established independently, whether the citizen is in their own home or in an offer that is not specialised[52].

What characterises matrix less initiatives are that[53]

- They are provided by an interdisciplinary competent team established on basis of the individual citizen's need
- The overall coordination is handled by the municipality's authority function
- They have connection to several highly specialised initiatives. This means that the citizen receives services from different specialised offers that cooperate and takes responsibility to coordinate the initiatives
- The highly specialised matrix less offers must coordinate the effort in terms of the content in the service of the respective specialist groups. The services should have a common basis in the overall assessment of the citizen's functional ability
- There should be focus on the order of the services, so that they complement each other optimally, for the citizen to experience a coherent course

[48] Quality model for social supervision – themes, criteria and indicators of offers: https://socialstyrelsen.dk/filer/tvaergaende/socialtilsyn/kvalitetsmodel-tilbud-18122013-2.pdf

National Coordination Structure Act: https://www.retsinformation.dk/Forms/R0710.aspx?id=163866

[49] Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 7.3.
[50] Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 7.1.
[51] Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 5.5.1.
[52] Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 8.1
[53] Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 6.1.2.

- The service should build on a neuropsychological and neuro pedagogical foundation

If the rehabilitation course is handled by several rehabilitation offers, the coordination responsibility of the overall course should be placed with one of the rehabilitation offers, which appropriately can be the offer, which handles the citizen's primary rehabilitation[54].

There often only will be need for rehabilitation on specialised level in a limited period, after which the rehabilitation process can be performed on advanced or possibly basic level. The transition often happens gradually[55].

Specifically, for children and youths:
The consideration for proximity should be included in the planning, when rehabilitation courses often are long-term. For the child/the youth it applies that closeness to family and other relatives has crucial impact on their well-being, which is why special attention must be taken on the subsidiary in the rehabilitation of children and youths.

Choice of rehabilitation offer at specialised rehabilitation depends on the child/the young person's functional ability impairment and need for rehabilitation. Additionally, there is need for the rehabilitation offer, as far it is possible is places near of the child/the youth's place of residence, so the family can be kept together, and so the child/the youth can maintain greatest possible contact with the local community. Children and youths are thus dependent on being able to mirror themselves in peers of the same age, so they can follow the normal development and maintain the motivation during the rehabilitation course. In organising of initiatives should therefore be considered, in which extent of the initiative can be handled in the form of outgoing functions, so the child's connection to the home and the local environment can be maintained[56].

[54] Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 7.4.
[55] Retraining and rehabilitation for adults with acquired brain injury – an academic visitation guideline, section 7.4.
[56] Retraining and rehabilitation for children and youths with acquired brain injury – an academic visitation guideline, section 7.3.

Part 2: Recommendations

9. Recommendations

The work-group would like to highlight some challenges, which the specialization level of rehabilitation on specialised level entails the organization and execution of the rehabilitation effort. The work group has on basis of the challenges the following recommendations, which the brain injury consultation for the adult area and the Brain injury consultation for the children-youths area can work on with.

9.1. Recommendations regarding requirements for quality in the offers:

> **The work-group recommends that the municipalities work together on examining, how all municipalities can deliver an effort on specialised level, which lives up to the requirements in the Guidance about rehabilitation and maintenance in municipalities and regions.**

The municipalities are different in terms of the number of inhabitants and thus the opportunity to build experience. The number of citizens in Region of Central Jutland with need for rehabilitation on specialised level is estimated to be around 100 people a year. The municipalities in Region of Central Jutland can appoint institutions in the region, which should work from the requirements about quality and competences as described and may necessarily have an economic frame for it.

9.2. Recommendations regarding research, documentation and development:

> **The work-group recommends that selected offers for rehabilitation at specialised level is connected to the knowledge and research institutions in Region of Central Jutland.**
>
> **The work-group recommends that the region prepares an overview over, who are the relevant actors.**

There are requirements that the specialists in the offers, which offer rehabilitation on specialised level participates in research, documentation and development.

9.3. Recommendations regarding monitoring of offer:

> **The work group recommends that the that the brain injury councils call for National Coordination under the National Board of Social Services in cooperation with the Danish Health Authority ensures the quality in the offers via systematic monitoring. Monitoring of the effect for the citizen. The national work with endpoints should be awaited.**

The guide describes requirements to quality in initiatives within rehabilitation at specialised level. However, it is not described, how the requirements implement and monitor. There does not happen a systematic monitoring of the academic and organizational quality in the offers, which offers rehabilitation on specialised level. The quality in the service can vary a lot from citizen to citizen.

9.4. Recommendations regarding monitoring of rehabilitation plans:

> **The work-group recommends that the hospitals systematically monitor on the rehabilitation plans by annually extracting the number of G-GOP to the various levels, so that an overview of development of G-GOP is achieved. It is recommended to look at any complaints about choices of rehabilitation level.**

The work-group recommends that audit is performed on the rehabilitation plans and on the effect on the initiative for the citizen in both children-youths and the adult area.

The work-group also recommends ensuring increased awareness on monitoring/ indicators of the process, as well as support future research on the area.

Today there does not happen a systematic follow-up, if it is the right citizens, who get a rehabilitation plan to rehabilitation on specialised level.

9.5. Recommendations regarding the target-group:

The work-group recommends that the operationalization of the target-group is clarified further by the Brain injury councils with support from representatives from the work-group.

The work-group has had difficulties with operationalization of the target-group. Besides the described definition for the target-group, which is seen under point 3, the work-group has worked with a delimitation of the citizen's functional impairment. The work-group has therefore the work with one to define the target-group as the citizens, who as often are dependent of support to perform basic daily activities. While the above describe the main part of the courses, procedures that do not follow this rule will have to be considered.

9.6. Recommendations regarding information from the hospital to the municipality about the citizen's needs:

The work-group recommends that the parties follow the guidelines for printing, which is described in the Health Agreement for adults with acquired brain injury and the Health agreement for children and youths with acquired brain injury.

So, the municipality has opportunity to organize the course that a citizen with a rehabilitation plan to rehabilitation on specialised level should have, it is important that the hospital informs the municipality well in advance of these needs that the citizen gets at the discharge.

9.7. Recommendations regarding unprotected titles:

The work-group recommends that the municipalities are aware that neuro pedagogist and neuropsychologists are non-protected titles, when they employ staff and makes use of offers.

Neuro pedagogist and neuropsychologist are none protected titles, and they are not nationally authorized professional titles. The titles are used consistently in the national documents and in the professional understandings. The challenge is that does not necessarily follow the right neuro professional competences, when the terms are used. Monitoring of the right professional presence with follow-up on unprotected titles, the supervision can be ensured through the quality in offers in the citizen's rehabilitation.

Recommendations regarding children and youths:

9.8. Recommendations regarding intermunicipal cooperation on rehabilitation at specialised level:

> **The work-group recommends that rehabilitation on specialised level is performed in cooperation across of the municipalities and anchored in relevant offers, which has the necessary capacity, competences and equipment to solve the task, for thereby to work strategically with development of the professional competence level for the target-group.**
>
> **The work-group recommends that data is drawn for the number of children and youths, who are discharged with a rehabilitation plan to rehabilitation on specialised level for 2015 and 2016.**
>
> **The work-group also recommends that it is clearly stated which departments that can prepare rehabilitation plans to rehabilitation on specialised level, and where the target-group is treated in regional framework.**

There is relatively few children and youths, who have need for rehabilitation on specialised level. There does not exist regional or municipal special institutions in phase III and IV, who have children and youths with acquired brain injury does that no professionally robust/specialised environments on the specialised offers that the municipalities use.

In addition, there is a relatively small volume of this target-group that is offered a course outside the family frames. This is a challenge, because it is not possible to meet the competence requirements like descriptions in the national guidelines and course descriptions.

9.9. Recommendations regarding learning plan:

> **The work group recommends that a learning plan for the individual child/youth with complex acquired brain injury, which takes basis in the child/the youth's form of learning and opportunity, which is described in the neuro professional examination. Coherence between the learning plan must in the school/the day-care service and the municipal rehabilitation plan contains.**

The same praxis applies, when the youth leaves the public school thus that the youth's opportunity to conduct secondary education is supported by the neuro professional descriptions of learning[57].

Targeted specific neuro professional initiative: In the child task-force of the brain injury association one works on children with brain injury have needs of neuro psychological examination for the purpose of the initiative – especially in school – is targeted and specific rather than general. In guides there is referred to occupational and physio therapists should follow-up on the rehabilitation initiative, but there will be many other types to follow-up, for example communicative, cognitive and social.

Cf. Primary School Act the individual school leaders have responsibility for the initiative around the child. Relevant legislation in relation to education in rehabilitation on specialised level appears in the appendix 3.

[57] Retraining and rehabilitation for children and youths with acquired brain injury – an academic visitation guideline, section 5.3.3

9.10. Recommendations regarding brain injury team

The work group recommends that all municipalities establish case coordinating brain injury team that systematically and continuously coordinate the course through all the child's childhood and adolescence, as well as in the transition from child to adult a systematic handover to brain injury team for adults. The recommended follow-up should happen every ½ year.

Special attention must be paid to transitional situations in the child's life: Transition from day-care center for school and recreational time, transition from school end to secondary education, likewise there are special challenges with the transition from youth to adult, when the youth reaches the age of 18. Even seemingly small transitions such as the transition from school start to intermediate can be difficult for a child with an acquired brain injury. In parallel, there will be administratively significant transitions between the different departments and administrations in the municipality.

9.11. Recommendations regarding placement of a child:

The work-group recommends that a child's rehabilitation need and opportunity for rehabilitation is thus supported that the municipalities do not need to prepare a placement case to ensure the child an appropriate specialised rehabilitation outside the home after they have acquired a severe brain injury.

The work-group recommends that the brain injury council for the children-youths area discusses whether the issue should be raised in KL.

In the area for children and youths, there is no paragraph to grant a stay in a specialised residential institution without there being made a placement case cf. the service act, § 52.3.7. A placement case requires that there is made a child academic study in accordance to the Service Act §50 in advance, which is a comprehensive and time-consuming task. At the end of ending of the rehabilitation stay a redeployment case is made, where the child is again placed with the family.

A placement case, additionally to the psychological consequences causes that the family loses all public services, including services which for example can limit the family's togetherness with the child – lost earnings, driving allowance etc. This must compare to the fact that it is professionally recommended that the family is involved in the child's rehabilitation course. In developmental psychology it is often assessed that the child's mental development is best supported within the family's frames. Praxis is that there is often used matrix less offers on the child/the youth in an ad hoc individually composed course.

Recommendations on national level:

9.12. Recommendations regarding supervision:

The work-group recommends that supervision is defined in more detail on national level.

The national guides recommend using supervision in initiatives with rehabilitation on specialised level. It is not clear if the supervision is aimed at psychological perspectives, the staff work environment, the professional cooperation or is aimed toward the citizen's brain injury challenges.

9.13. Recommendations regarding missing shared clarification of concept between the administrations:

The work-group recommends that the terms in the future, the social and health-care boards will be aligned.

Brain injury coordination starts with guiding national guidelines. The Boards prepare national documents, which includes the course of one and the same citizen and deals with the same efforts across the sectors. The challenge is that the Danish Health Authority and the National Board of Social Services do not have a shared clarification of concept. The National Board of Social Services and the Danish Health Authority for example use different concepts: “Specialised”, “highly specialised” and “most specialised”. It is a challenge for the users/the readers of diverse guides and guidelines to concretise, if it covers the same qualities, when they are used differently. In addition, the two boards use different phase division. The Danish Health Authority divides the processes into 4 phases, while the National Board of Social Services divides the processes into 5 phases. When the employees talk about phases, they must clarify, if they refer to the Danish Health Authority and the National Board of Social Services division.

Part 3: Cases

10. Cases

Rehabilitation on specialised level is exemplified by two cases – one for the adult area and one for the children-youths area.

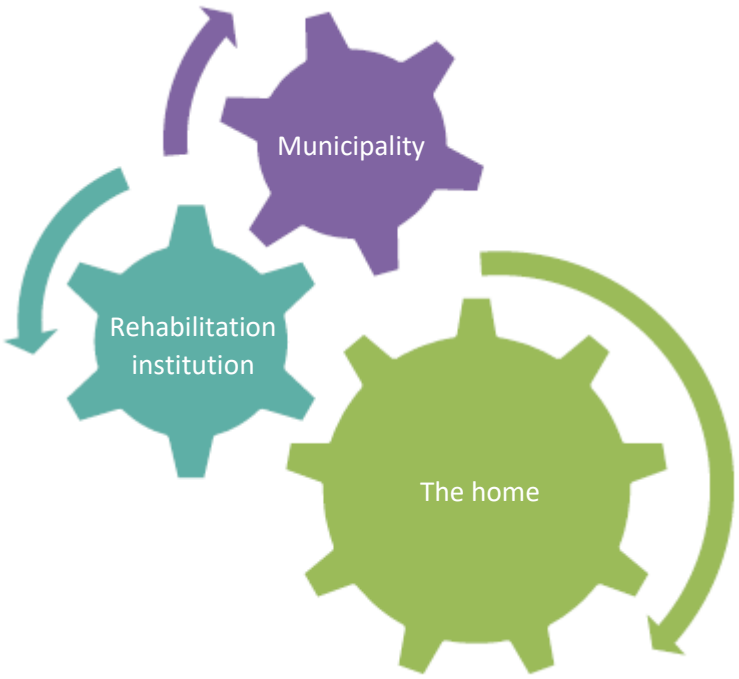
10.1. Adult, rehabilitation plan to rehabilitation on specialised level

46-year-old woman is discharged with rehabilitation plan for rehabilitation at specialised level. After approx. ½ year the woman is expected to be able to switch to general rehabilitation. The case is further described in appendix 4.

Highlights of the process:

- Severe brain injury with complicated process between acute and rehabilitation hospital
- Discharged to rehabilitation at specialised level in day-care institution
- Need for neuro academic support the whole day
- Future clarification of housing
- Future clarification of work situation

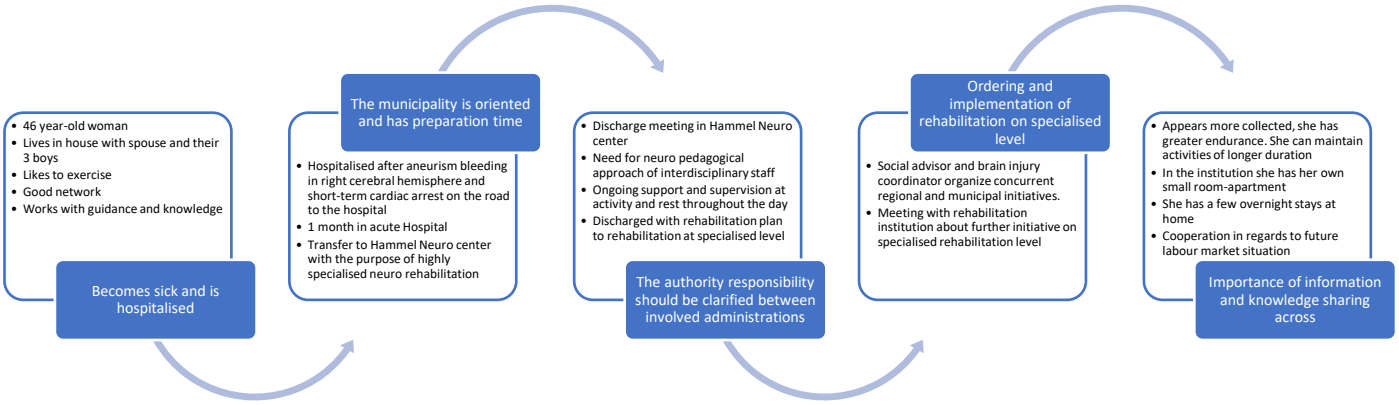
The citizen's rehabilitation arenas:



Brain injury coordinator and the coordinating case worker cooperate on the municipal planning and organization of the specialised rehabilitation efforts.
Because there are simultaneous regional and municipal initiatives, it puts huge requirements to information and knowledge sharing across of organising, how frequent, timely, accurate and problem-solving communication between the involved parties are crucial.
The cooperation should be supported by mutual respect, common goal and considerate planning.

The rehabilitation course:

In this figure the rehabilitation course is illustrated:



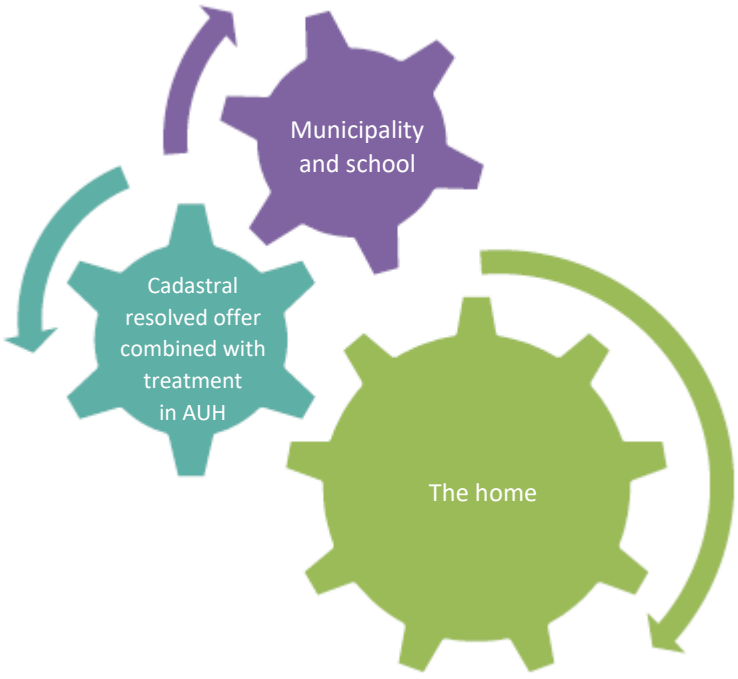
10.2. Children, rehabilitation plan for rehabilitation at specialised level

12-year-old buy is discharged with rehabilitation plan for rehabilitation at specialised level. It has not been clarified, when the child can go to rehabilitation at the general level.

Highlights in the course:

- Severe brain injury on basis of an acute disseminated demyelization
- Hospitalisation at AUH, then admission to Hammel Neuro center
- Discharged with a rehabilitation plan for rehabilitation at specialised level. The boy has at the same time need for treatment in AUH
- The boy has started up in the same school class

Rehabilitation arenas of the citizen:



Brain injury coordinator and the coordinating case worker cooperate around the municipal planning and organization of the specialised rehabilitation efforts. Several cooperation parties are involved: case worker, brain injury coordinator, school, PPR, psychologists, speech pedagogists, therapists, the health department and doctors in the hospital.

Since the case of simultaneous regional and municipal initiatives, places great demands on information and knowledge exchange across of organising, how frequent, timely, accurate and problem-solving communication between the involved parties are crucial.
The cooperation should be supported by mutual respect, common goal and considerate planning.

In relation to the home there are initiatives around parents and siblings' reactions towards the course, the family's wish for normalization and the family's understanding of the boy's disability. In addition, there are

practical conditions regarding lost earnings, participation in rehabilitation and the family's own initiative in the rehabilitation.

In context of the school there is the following actors: Leader, teachers and companions.

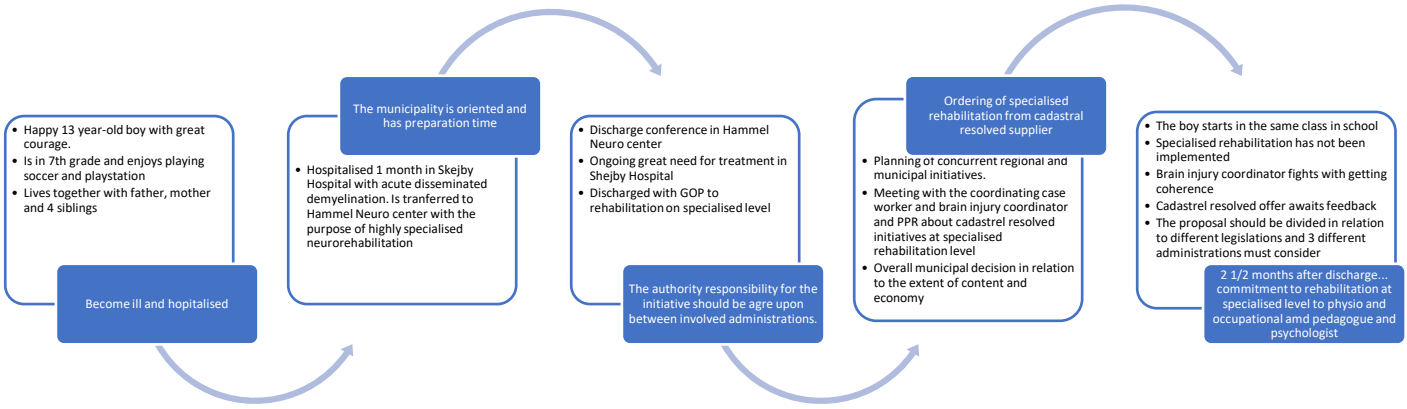
There are efforts in relation to:

- The compulsory education
- Requirements/expectations to the boy – his academic level before the injury
- Cooperation with parents, PPR and therapists from matrix less offer
- Inclusion and diversity in relation to the academic and the companions

Neuro professional initiatives around the citizen:

The rehabilitation course:

This figure illustrates the rehabilitation course:


Become ill and hopitalised
Happy 13 year-old boy with great courage.
Is in 7th grade and enjoys playing soccer and playstation
Lives together with father, mother and 4 siblings
The municipality is oriented and has preparation time
Hospitalised 1 month in Skejby Hospital with acute disseminated demyelination. Is tranferred to Hammel Neuro center with the purpose of highly specialised neurorehabilitation
The authority responsibility for the initiative should be agre upon between involved administrations.
Discharge conference in Hammel Neuro center
Ongoing great need for treatment in Shejby Hospital
Discharged with GOP to rehabilitation on specialised level
Ordering of specialised rehabilitation from cadastral resolved supplier
Planning of concurrent regional and municipal initiatives.
Meeting with the coordinating case worker and brain injury coordinator and PPR about cadastrel resolved initiatives at specialised rehabilitation level
Overall municipal decision in relation to the extent of content and economy
2 1/2 months after discharge... commitment to rehabilitation at specialised level to physio and occupational amd pedagogue and psychologist
The boy starts in the same class in school
Specialised rehabilitation has not been implemented
Brain injury coordinator fights with getting coherence
Cadastrel resolved offer awaits feedback
The proposal should be divided in relation to different legislations and 3 different administrations must consider

11. Bibliographies

- Course description: Rehabilitation of adults with complex acquired brain injury – in the most specialised social and special education field
http://socialstyrelsen.dk/udgivelser/voksne-med-kompleks-erhvervet-hjerneskade-1

- Order on rehabilitation plans and about patient's choice of rehabilitation offer after discharge from hospital

- Guide about retraining and maintenance training in municipalities and regions

- Course program for adults with acquired brain injury
http://sundhedsstyrelsen.dk/~/media/425B29A5B3CF4C69B2E7E8F3B7D520BC.ashx

- Course program for children and youths with acquired brain injury
http://sundhedsstyrelsen.dk/~/media/CD719C73C9654990907080A6E23C40FE.ashx

- Retraining and rehabilitation to children and youths with acquired brain injury – an academic visitation guideline

- Retraining and rehabilitation to adults with acquired brain injury – an academic visitation guideline

- Health agreement for adults with acquired brain injury:
http://www.sundhedsaftalen.rm.dk/siteassets/samarbejde-medkommunerne/hjerneskadesamradet/sundhedsaftale---voksne---tilsundhedskoordinationsudvalget-version-2.pdf

- Health agreement for children and youths with acquired brain injury:
http://www.sundhedsaftalen.rm.dk/siteassets/samarbejde-medkommunerne/hjerneskadesamradet/sundhedsaftale---born-og-unge---tilsundhedskoordinationsudvalget-version-2.pdf

- Central announcement for adults with complex acquired brain injury
http://socialstyrelsen.dk/udgivelser/voksne-med-kompleks-erhvervet-hjerneskade

- Appendix 1 for central announcement for adults with complex acquired brain injury, the National Board of Social Services 1. November 2014
http://socialstyrelsen.dk/filer/tvaergaende/nationalkoordination/bilag-1-til-den-centrale-udmelding-for-voksne-med-kompleks-erhvervethjerneskade.pdf

- Concept for the good GOP in the toolbox "Step for step guide to The Good Rehabilitation plan"

- Specialisation levels on the social and special education field, the National Board for Social Services, 6th June 2016

Appendix 1: Terms of reference for work group regarding rehabilitation at specialised level

The rehabilitation group, the brain injury council for the children-youth area and the brain injury consultation for the adult area must together describe rehabilitation at specialised level.

Purpose

The purpose with the work-group is to achieve a common understanding of the term rehabilitation at specialised level across of the sectors, including definition of the term, requirements to functional ability assessment and requirements to competences and quality.

Task

- The work-group prepares a fact document that describes how rehabilitation at specialised level is defined and implemented. The existing definition is explained and clarified
- The work-group describes which demands that are in functional ability assessment, which forms the basis for a rehabilitation plan for rehabilitation at specialised level
- The work-group describes which competences the specialists must have to handle rehabilitation at specialised level
- The work-group describes which competences the specialists must have to undertake for rehabilitation at specialised level
- The work-group describes which demands for quality the offers should have, because they are at a specialised level
- The work group describes, what constitutes a matrix less offer, and how the quality is ensured in matrix less offer

Basis for the task is for example:

- "Announcement of rehabilitation plans and patient's choice of rehabilitation offer after discharge from hospital"
- "Guide about rehabilitation and maintenance training in municipalities and regions"
- "Course program for rehabilitation of adults with acquired brain injury"
- "Course program for rehabilitation of children and youths with acquired brain injury"
- "Retraining and rehabilitation after discharge from hospital – stratification model, specialization levels and requirements for rehabilitation plans"
- G-GOP

The work-group recommends that working from existing patient cases to create a framework for understanding of the descriptions.

The following values form the basis for the work:

- Individual and customized offers
- Respect for the citizen's whole life
- Solution and resources in network (private civil society and between public actors)
- Coping and inclusion in focus
- Experts for the citizen rather than the citizens for the experts
- Cadastral solved in a professional environment

- Specialised offers on matrices

The work-group refers to the Health Steering group, the Rehabilitation group, the Brain injury consultation for the children-youths area and the Brain injury consultation for the adult area.

Members

The rehabilitation group, the Brain Injury consultation for the children-youth area and the brain injury consultation for the adult area each appoint 2-3 representatives (including presidency), who is part of the work group.

The presidency is made up of a municipal representative is appointed by the brain injury consultation for the adult area and a regional representative appointed by the rehabilitation group.

The secretariat function is handled by the Secretariat for Framework agreements and Close Health Services.

Time schedule
There is held three meetings in the work-group.

The work group's factual document is addressed at the following meetings:

- Shared meeting for both brain injury consultations on the 6th October 2016
- Meeting in the Health steering group on 3rd November 2016
- Meeting in DASSOS on 16th November 2016
- Meeting in the Health Coordination Committee on 28th November 2016

Authentication
The fact document is approved by the Health Coordination Committee.

Appendix 2: Members of the work-group

- Jim Jensen, occupational therapist responsible for development, Hammel Neuro center, jim.jensen@hammel.rm.dk , regional co-chair
- Birgit Madsen, brain injury coordinator, Ringkøbing-Skejrn Municipality, birgit.madsen@rksk.dk, municipal co-chair
- Bodil Kloborg, department head of IKH, bodil.kloborg@ps.rm.dk
- Henny Holmgaard, coordinator, Herning Municipality, cbfhh@herning.dk
- Irma Edqvist, brain injury coordinator, Municipality of Skanderborg, irma.edqvist@skanderborg.dk
- Peter Seebach, chief therapist, the Hospital unit West, peter.seebach@vest.rm.dk
- Gurli Laursen, leader of Neuro center and Orthopedic Rehabilitation Center, Aarhus Municipality, gula@aarhus.dk
- Ole Laursen, leading neuropsychologist, Aarhus Municipality, olau@aarhus.dk
- Katherine Blomgreen, Academic and Matching consultant, Region of Central Jutland, kathrine.blomgreen@ps.rm.dk
- Charlotte Brøndum, development consultant, Silkeborg Municipality, charlotte.brondumrestrup@silkeborg.dk
- Charlotte Jensen, AC-administrative, the Region of Central Jutland, chajes@rm.dk

Appendix 3: Legislation in relation to education with rehabilitation at specialised level

Executive order about the Public school act – LBK no. 747 of 20/06/2016

Executive order about the Public school special education and other special pedagogical aid - BEK no. 693 of 20/06/2014

Executive order about the Public schools special pedagogical aid to children, who have not yet started schooling - BEK no. 999 of 15/09/2014

Executive order about the Public schools tests- BEK no. 1132 of 25/08/2016 (In regards to special test conditions)

Executive order about which municipality is finally responsible for the cost of the Public school education etc. - BEK no. 1000 of 15/09/2014

Executive order about special education and other special pedagogical aid in accordance to the Public School Act in day care facilities and placement facilities - BEK no. 702 of 23/06/2014

Executive order about health education of student in the Public school and free elementary schools - BEK no. 694 of 20/06/2014

Executive order about transport of students in the Public school - BEK no. 688 of 20/06/2014

Executive order about use of test in the Public school etc. - BEK no. 1000 of 26/10/2009

Appendix 4: Adult case, rehabilitation plan for rehabilitation at specialised level

46-year-old citizen (A) is hospitalised after aneurism bleeding in right part of the brain and temporary cardiac arrests on the way to the hospital. She/he had aneurism bleeding in the right carotis interna earlier in the year. Known with high blood pressure.

Both bleedings had breakthrough to the ventricular system and complicated by problems with closing the aneurism and steer the intracranial pressure. First time there was blood in right temporal lope and left frontal lope, where the aneurism was coiled and laid stern. Likewise there was need for valve-free VP shunt.

In the current process it was especially difficult to close the aneurism and steer the intracranial pressure.

Scans do not show huge blood loss in the hemispheres, which gives rise to hope for progress, continues. Control-CT rejected increased intracranial pressure. Good effect by medical treatment.

In the current course, A has been hospitalised to intensive highly specialised neurorehabilitation course, where, upon transfer pronounced reduced cognitive ability was in form of reduced memory and concentration/awareness, where she was easily diverted and uneasy in behaviour. Reduced attention to left side of body and room. Was disoriented in relation to time, place and own situation.

Need for external management in all activities.

Motor function:

Targeted use of arms and legs characterised by bradykinesia/reduced tempo. Slightly reduced truncus stability. Gradually mobilised to standing and walking.

Cognition:

Gradually awoke more and become more cooperative. Developed increased degree of initiative. Having a phase with uncritical actions.

Hypertension:

Well treated during hospitalisation. September Amlodipine due to edemas and Metoprolol succinate due to low pulse.

Anemia:

Haemoglobin was slowly falling due to low iron level. Supplemented by iron tablets for 6 weeks.

Mood:

Treated with Citalopram against depression. Reassessed after 6 months.

Personal factors:

She lives in house with spouse and her 3 boys. She works as Librarian.

Functional ability before illness:

After the first bleeding in the brain in winter, A received a short rehabilitation course and discharged to home without home-care and with occupational therapist. Shortly after she began bleeding again.

Before the first bleeding, A was almost addicted to exercise. She went on long walk and Nordic walks, as well as training in fitness center and ran weekly 1-2 times (5-7 kilometres).

A and spouse shared household tasks.

Mental functions:

Confusion state with lack of orientation of time, place and own data over several months. At supplementary report after approx. there was found – despite the limited attention capacity – also visual neglect for the space to the left.

After 1½ month stable daily rhythm is achieved with good sleep at night from 21.00 only interrupted by toilet visit.

Sleeps once during the day and supplement with many rests. Fatigue after approx. 30-45 minutes of activity. The physical and cognitive ability Is very susceptible by fatigue and especially confusion and turmoil affects the behaviour.

Recognises family and friends, but not the staff.

Often reacts on toilet need, hunger and feelings by searching out of the living room. From here she needs support for e.g. orientation and can sometimes account her needs – for example that “she is going home”.

Severe reduced short-term memory and cannot remember the activities of the day or recent activity. She can explain the familial life before the injury.

Not looking for information in the world and is right oriented in the room. For example she has need for support to orienting in relation to furniture at position shift. Generally needs for stimuli tactile, visual or verbal when awareness is weakened after approx. 10 minutes of activity.

Neuro pedagogic strategy and daily program is followed closely by interdisciplinary staff, who try to be as thorough as possible.

Senses and pains:

A is not pain struck, but is capable of expressing pain.

Impressions of reduced surface and depth sensibility in left hand and/or reduced awareness, where movements and contact with objects not registered.

Involves the left hand in activities but hangs passively between activities.

Cardiovascular, haematological, immunological and respiratory functions:

Acknowledged hypertension. Reduced in blood pressure medicine during the hospitalisation.

Pulse is at the low side, but well-being. BT + pulse measured x 2 dgl.

Digestion, metabolism and hormonal functions:

A eats and drinks all consistencies. Fluid is registered to ensure sufficient intake, since she needs to drink enough. She needs support to structuring during the meal and only have current dish in front of her. Due to neglect the plate is turned underway.

Incontinent and using diaper pants due to incontinence of poop.

She now has her habitual weight of 61 kilogram and must continue with weight maintenance.

Genital organs, urinary tracts and reproduction:

Often reacts at urination be searching out of the room and start to unbutton pants. She has problems with orientation to the bathroom and can be unlucky when she reacts too late due to activity or fatigue. Diaper pants are found to be most natural for A and can be continent with regular toilet times. However, it is completely dependent on the management from the staff.

Musculoskeletal:

Function in all extremities with reduced strength and latency of initiation of movements in left-half of the body. Neglect towards the left of baby and space.

Seat position characterized by thoracic kyphosis due to reduced tonus in truncus and reduced body awareness.

Stand up and walk independently. Reduced balance for activities such as bath and dress-up as well as standing on unstable surface (reduced reaction ability and latency).

Learning and application of knowledge:

There are seen small signs of new-learning of sub-activities, which has been repeated many times during the hospitalisation, which is repeated many times during the hospitalisation, such as the placement of the napkin holder to pull out after toilet visit and use of tooth mug for rinsing mouth by brushing. Has begun to show feelings such as frustration by steering/following and individual expression of need, and has on own initiative rested for 2 consecutive days. Well-known movement patterns begin to show up in daily activities. She can sometimes make concrete choices between 2 blouses for example, but is often not able to make a choice. The staff has a plan for activity and control that reduces confusion and futile actions.

Visual neglect makes reading difficult, and content cannot be maintained. She has written short sentences – often not relevant.

Regular tasks and requirements:

She can participate in most daily activities through physical ability and using continuous support for start-up, sorting stimuli, maintaining activity and ending. Verbal and physical support is graded in the activity. If she is abandoned, focus will be last and she cannot end the activity. There has been made descriptions of courses of daily activities.

Attempts are made towards flawless learning and help competences in activities. Preparation of activity is necessary.

Communication at the attending team:

Has become a bit more talkative and can participate in “small-talk” about food, housing and clothes and typically with 2-3 short sentences, when she is healthy. She can initiate sentences such as “Well, we must then…” without completion. Content is often characterised by confusion.

Movement:

She walks accompanied due to neglect towards left, where she can bump into door frames. Overlook objects and tend to lose balance towards the left – reacts too slowly to uncertainty. Helper walks on right side, since she does not register people to the left.

Reduced left arm involvement.

Signs of dizziness ,when she gets up from lying down – this can be signs of perception issue.

Support of 1 person and railing in stairway. When fatigued left foot hits the step and there is increased lagging when walking. With relevant item in hand such as clothes basket or ball the attention is increased.

Wheel-chair is used at longer trips outside dept. She can possibly walk with it as rollator.

Care for self:

Need for ongoing support to self-care. Small signs until she begins feeling need.

In personal care, she can perform many activities automated with clear support.

Housekeeping:

Included in all processes of clothes washing, change linens, a little cleaning in the living room and minor activities in the kitchen such as making coffee, set the table and general clean-up.

Interpersonal interaction and contact:

She often recognises her close family, but can however be surprised by their presence, if she had an errand outside the living room during their visit. She does not take initiative for social interaction and is often passive in relation to people around her. She automatically responds to smiles and, “hello”. She can also be absent in the gaze, staring and mimicry poor without response to speech. She may confuse the staff with others she knows, or mention present person in third person.

The last couple of week more smiles are seen and humorous comments are heard than before.

She does not participate in social activities in dept. to avoid over stimulation. She typically eats with her visitors as a natural activity to gather around. She has visit strategy.

She has previously been social with close family and friends, however not known as a very outgoing person.

Important areas of life:

A has not been happy for her work. She is currently terminated due to illness absence, which she is not oriented about. She likes to do exercise. Good network,

Support and contact:

She often has visits by and good support from spouse and close family. Likewise visits by the closest family and friends.

The Patient's own assessment of her situation:

She has lack of understanding of having had brain bleeding. Disoriented in place and own situation. Often accepts the explanation about retraining, but she also has the impression that it is not her it concerns, and she can be dismissive. Sometimes she is getting frustrated and wants to go home. It can be persistent - however the focus can be changed by derivation.

Rehabilitation and care needs at the discharge:

A needs,

- Long-term rehabilitation service with neuro pedagogical approach of interdisciplinary staff

- Ongoing support and supervision during activity and rest throughout the day due to safety risici of movement and activity execution

- Support for structure and purpose of action to avoid confusion

- Physio therapy aimed at improvement of physical activity, balance, muscle strength in legs and awareness of left side. She has trained individually and in frameworks that limits stimuli.

- Occupational therapy towards relearning of daily activities with challenges on fitting level and with interior design that promotes participation.

A is discharged with rehabilitation plan for rehabilitation at specialise level. After ½ year of rehabilitation at specialised level, it is expected that A could be transferred to general rehabilitation.

Further course in the municipality

X – municipality has set A to further rehabilitation in residential institution, where she can receive rehabilitation at specialise level.

In the institution A has her own small room-apartment with own bath and a small tea kitchen. Relatives can sleepover for a day or two. The interdisciplinary staff trains A in greater independence in daily chores. It being, problem-solving activities and physical activity that stimulates better cognitive functional ability as

well as higher degree of mobility. A receives both occupational and physio therapy daily. The rest of the staff supports the neuro pedagogical strategy. The interdisciplinary staff receives supervision from neuropsychologist in context to the handling of the cognitive difficulties.

Afternoon and evening there is still focus on supporting A with the neuro pedagogical strategy, at the same time as there is awareness on supporting A into more social activities. This is done primarily by caregivers and pedagogist.

A continues a positive development which entails that she appears more collected, has greater endurance and no longer becomes as confused. She is aware, where she is and can maintain activities of longer duration. She has continued memory problems and forgets appointments etc. Make extensive use of calendar.

A has an interest in resuming some of her old hobbies, which contains exercise. There is worked on structuring the daily program, so that each day contains a motion exercise.

A's rehabilitation course has aimed at the home in relation to increasing A's mastering of every day task and in relation to supporting A in relation with her family.

In the institution A has among other things had a great cooperation with neuropsychologist, where there has been a special emphasis on tools to behaviour regulation, education of the children and observations of A and the family during togetherness.

In the rehabilitation process specialists from the multidisciplinary networking team have participated in 3 status meetings in the institution, and in addition there has been close follow-up with A's cohabitant. Internal professional network meetings are also held regularly with specialists, additionally the case coordinating brain injury team meetings.

A was awarded early retirement after work ability development course.

The task was not that A had to go into a clarification offer, but to support job advisor in understanding the interdisciplinary status from Hammel and describe A's functional level in relation to collect the case to the rehabilitation team in employment of the municipality.

Parallel with A's rehabilitation stay in institution, there has been initiatives for the three children, in the school of the children and day-care institutions. Since A's hospitalisation in Hammel, care and relationship tasks have been provided to each child, here among other things help for packed lunch, laundry, hair care and conversations about personal matters.

The advisor has prepared § 50 investigation on the children, since there has been concern for the children's well-being.

Three network-meetings were held at the children's school with broad participation of specialists, who are actors in initiatives to the family, in connection with A getting an acquired brain injury.

A's cohabitant was first full-time sick and since June partly well again due to stress disorders in connection with A's illness period.

In the process, there has been cooperation with the cohabitant's advisor on Employment and his work-space, since initiatives to the family are crucial for, which opportunities he has to return to his work as before.

Metrical loose rehabilitation at specialised level in own home

A should be discharged from institution – the plan is that A had to go home and live with her family,

We have chosen to use the agreement on rehabilitation at specialised level in own home (15 hours weekly – 16 weeks), where it is neuro professional therapists who are in charge the effort for the purpose of housing training and transfer the skill acquired from institution to home and the family. There was need for a neuro professional approach.

Likewise there will be efforts when returning home in relation to.

- Home nursing
- Granted cleaning in the home 3 times weekly,
- There is just established relief to the children
- Other initiatives are being planned
- At discharge from institution, A will in a period receive general rehabilitation by respectively occupational and physio therapist with supervision from neurological speciality group with competences to handle rehabilitation at advanced level.