Organisation and financing of musculoskeletal and neurological rehabilitation in Belgium

KCE reports 57S

Federaal Kenniscentrum voor de Gezondheidszorg
Centre fédéral d'expertise des soins de santé
Belgian Health Care Knowledge Centre
2007

The Belgian Health Care Knowledge Centre

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KCE is in charge of conducting studies that support the political decision making on health care and health insurance.

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1 ATTACHMENTS

APPENDIX CHAPTER 1: CONCEPTUAL DEFINITION OF MUSCULOSKELETAL AND NEUROLOGICAL REHABILITATION

Search Algorithms for definitions for rehabilitation

ID Search	Date	Source	Limits	Keywords	Number of results
A	04/10/2005	SEEK/NHS Guidelines Finder	Guidance and Pathways	rehabilitation - Musculoskeletal	3
B	04/10/2005	SEEK/NHS Guidelines Finder	Guidance and Pathways	rehabilitation, musculoskeletal - Guidelines finder	1
C	04/10/2005	SEEK/NHS Guidelines Finder	Guidance and Pathways	rehabilitation, musculoskeletal - All NeLH Collections	4
D	04/10/2005	SEEK/NHS Guidelines Finder	Guidance and Pathways	rehabilitation, neurological - Guidelines finder	0
E	04/10/2005	SEEK/NHS Guidelines Finder	Guidance and Pathways	rehabilitation, neurological - All NeLH Collections	1
F	04/10/2005	SEEK/NHS Guidelines Finder	Guidance and Pathways	rehabilitation - Guidelines finder	17
G	04/10/2005	SEEK/NHS Guidelines Finder	Guidance and Pathways	rehabilitation - All NeLH Collections	68
H	04/11/2005	National Guidelines Clearinghouse (www.guideline.gov)		**Keyword:** *rehabilitation;* **Guideline Categories:** *Management ;* **Clinical Specialty:** *Physical Medicine and* Rehabilitation; **Sort Order:** *Relevance*	83
I	07/10/2005	National Guidelines Clearinghouse (www.guideline.gov)		**Guideline Categories:** *Rehabilitation* **Sort Order: Relevance**	28
J	14/10/2005	Medline via Pubmed	Practice Guideline	"Rehabilitation"	210
J	14/10/2005	Medline via Pubmed	Practice Guideline	"Rehabilitation" "Neurologic Manifestations"	36
J	14/10/2005	Medline via Pubmed	Practice Guideline	"Rehabilitation" "Musculoskeletal Physiology"	14
J	14/10/2005	Medline via Pubmed	Practice Guideline	"Rehabilitation/Methods"	41
J	14/10/2005	Medline via Pubmed	Practice Guideline	"Rehabilitation/History"	0
J	14/10/2005	Medline via Pubmed	Practice Guideline	"Physical Therapy Techniques"	120
J	14/10/2005	Medline via Pubmed	Practice Guideline	"Disability evaluation"	19
J	14/10/2005	Medline via Pubmed	Practice Guideline	"Long-Term Care"	41

ID Search	Date	Source	Limits	Keywords	Number of results
J	14/10/2005	Medline via Pubmed	Practice Guideline	"Chronic Disease"	189
J	14/10/2005	Medline via Pubmed	Practice Guideline	"Chronic Disease" "Rehabilitation"	9
J	14/10/2005	Medline via Pubmed	Practice Guideline	"Chronic Disease" "prevention and control"	33
J	14/10/2005	Medline via Pubmed	Practice Guideline	"Neurology" "Rehabilitation"	2
J	14/10/2005	Medline via Pubmed	Practice Guideline	"Recovery of function"	8
J	14/10/2005	Medline via Pubmed	Practice Guideline	Prevention AND chronicity	3
J	14/10/2005	Medline via Pubmed	Practice Guideline	Prevention AND chronicity NOT psychiatry	2
J	14/10/2005	Medline via Pubmed	Practice Guideline	Decrease AND disability	4
J	15/10/2005	Medline via Pubmed	Practice Guideline	All	189
K	25/10/2005	http://www.who.int/disabilities/en/	DAR (=Disability and Rehabilitation Team of the WHO)	Community Based rehabilitation	1
L	26/10/2005	http://www.who.int/	Health topics	Rehabilitation - Disabilities - Disability and rehabilitation - Publications - Community-based rehabilitation and the health care referral centres; A guide for programme managers	1
M	25/10/2005	http://www.un.org/esa/socdev/enable/dissre00.htm			1
O	16/11/2005	Embase	Systematic Review	(('**musculoskeletal disease**'/exp AND [systematic review]/lim AND [embase]/lim) OR ('**disability**'/exp AND [systematic review]/lim AND [embase]/lim) OR ('**neurologic disease**'/exp AND [systematic review]/lim AND [embase]/lim)) AND (('**rehabilitation**'/exp AND [systematic review]/lim AND [embase]/lim) OR ('**convalescence**'/exp AND [systematic review]/lim AND [embase]/lim) OR ('**physiotherapy**'/exp AND [systematic review]/lim AND [embase]/lim))	206
P	22/11/2005	New Zealand Guidelines Group (www.nzgg.org.nz)	Practice Guideline	Rehabilitation	7
Q	22/11/2005	PEDro	Practice Guideline	Rehabilitation (in title or abstract)	38

For the search for definitions: The search algorithms in Medline were (Rehabilitation (MeSH)) (N=210), (Rehabilitation (MeSH) AND Neurologic manifestation (MeSH)) (N=36), (Rehabilitation (MeSH) AND Musculoskeletal physiology (MeSH)) (N=14), (Rehabilitation/Methods (MeSH)) (N=41), (Rehabilitation/history (MeSH))(N=0), (Physical Therapy Techniques (MeSH)) (N=120), (Disability evaluation (MeSH)) (N=19), (Long-Term Care (MeSH)) (N=41), (Chronic Disease (MeSH)) (N= 189), (Chronic Disease (MeSH) AND Rehabilitation (MeSH)) (N=9), (Chronic Disease (MeSH) AND Prevention and control (MeSH)) (N=33), (Neurology (MeSH) AND Rehabilitation (MeSH)) (N=2), (Recovery of function (MeSH)) (N=8), (Prevention (Free text) AND Chronicity (Free text)) (N=3), (Prevention (Free text) AND Chronicity (Free text) NOT psychiatry (Free text)) (N=2), (Decrease (Free text) AND Disability (Free text)) (N=4). In total, these searches resulted in 189 different guidelines.

In PEDro the search algorithm was (Rehabilitation), restricted to Practice Guidelines (N=38).

In Embase there were no guidelines available. Systematic reviews were explored using the search algorithms (('musculoskeletal disease'/exp AND [systematic review]/lim AND [embase]/lim) OR ('disability'/exp AND [systematic review]/lim AND [embase]/lim) OR ('neurologic disease'/exp AND [systematic review]/lim AND [embase]/lim)) AND (('rehabilitation'/exp AND [systematic review]/lim AND [embase]/lim) OR ('convalescence'/exp AND [systematic review]/lim AND [embase]/lim) OR ('physiotherapy'/exp AND [systematic review]/lim AND [embase]/lim)) (N=206).

In the NHS Guidelines Finder, the researchers chose Guidance and Pathways as limits and the algorithms were (Rehabilitation – Musculoskeletal) (N=3), (Rehabilitation, musculoskeletal – Guidelines finder) (N=1), (Rehabilitation, musculoskeletal – All NeLH Collections) (N=4), (Rehabilitation, neurological – Guidelines finder) (N=0), (Rehabilitation, neurological - All NeLH Collections) (N=1), (Rehabilitation - Guidelines finder) (N=17), (Rehabilitation – All NeLH Collections) (N=68).

In the National Guidelines Clearinghouse the search algorithm was (Rehabilitation) in the guideline category (Management) combined with the clinical speciality (Physical Medicine and Rehabilitation) (N=80) and the guideline category (Rehabilitation) (N=28).

Practice guidelines of the New Zealand Guidelines Group were searched on (Rehabilitation) (N=7).

The website of the WHO was searched (Rehabilitation) (N= 2). On this website also a reference to a paper was found, concerning the Standard Rules on the Equalization of Opportunities for Persons with Disabilities on the website of the United Nations (Attachment 1).

To avoid an incomplete approach all results were scanned. Articles containing a definition for rehabilitation and being available in English were kept as relevant. In total, 33 papers were retrieved. Reference lists of the selected papers were examined for citations of other relevant studies. These were subsequently retrieved.

The search algorithms were double checked by a second reader to avoid a selection bias. All findings were discussed with specialists in the rehabilitation field. Specialists in the rehabilitation field proposed to explore also the Cochrane library on systematic reviews but no additional data could be retrieved.

For the study of individuals' needs and demands related to rehabilitation and the value of these needs as a predictive factor for the outcome the rehabilitation process, the algorithm (((Needs[Text Word] OR Demand[All Fields] NOT ("health services needs and demand"[MeSH Terms] OR health services needs and demand[Text Word])) AND ((("patients"[TIAB] NOT Medline[SB]) OR "patients"[MeSH Terms] OR Patient[Text Word]) OR Individual[All Fields])) AND ("rehabilitation"[Subheading] OR "rehabilitation"[MeSH Terms] OR Rehabilitation[Text Word])) restricted to Critical Reviews, was executed (N= 646). The more recent published papers were identified as most relevant and the same search with a limitation of the publication date from 2000-01-01 resulted in a list of 341 papers. All papers were scanned.Definitions

[7]Cardiac rehabilitation has much in common with secondary prevention. To appreciate the difference, it may be considered that cardiac rehabilitation facilitates recovery whereas secondary prevention prevents further illness.

Cardiac rehabilitation is the process by which patients with cardiac disease, in partnership with a multidisciplinary team of health professionals, are encouraged and supported to achieve and maintain optimal physical and psychosocial health.

[5]The conventional approach to rehabilitation is a cyclical process:

- assessment: patients needs are identified and quantified
- goal setting: goals are defined for improvement (long/medium/short term)
- intervention: to assist in the achievement of the goals
- reassessment: progress is assessed against the agreed goals.

Rehabilitation goals can be considered at several levels:

- aims: often long term and referring to situation after discharge
- objectives: usually multi-professional at the level of disability
- targets: short term time limited goals.

The process of rehabilitation can be interrupted at any stage by previous disability, co-morbidities and complications of the stroke itself.

The core multidisciplinary team should consist of appropriate levels of nursing, medical, physiotherapy, occupational therapy, speech and language therapy, and social work staff.

Patients and carers should have an early active involvement in the rehabilitation process.

[12]Vision rehabilitation trains patients to use their residual vision or alternate compensatory techniques effectively and to make practical adaptations in their environment to facilitate activities of daily living, ensure safety, and maintain independence.

[16]Early rehabilitation of children with acquired brain injury is usually undertaken from the time of diagnosis in the setting of the acute ward; however, subsequent rehabilitation is usually carried out in the community or, in some cases, may be undertaken in a specialist children's rehabilitation unit or on a general paediatric ward. As previously stated, early liaison and communication between the professionals involved in rehabilitation from tertiary through to primary care services is critical to smooth transition.

Rehabilitation interventions may include both 'hands-on' intervention and equipment provision, thus involving a variety of health professionals, education and social services agencies.

The impairments experienced by children affected by stroke, and their functional consequences, may evolve over time due to ongoing growth and development.

Rehabilitation of children with limitation in functional skills requires consideration of the impact of sensory, perceptual, motor and cognitive impairments on the individual so that interventions are appropriate. The child and family should be encouraged to express their main concerns about re-integration to the home, community and school environments, and to have these concerns addressed. The impact of stroke on the psychological well-being of the family may adversely affect the child's rehabilitation process. The rehabilitation professional should consult with specialist acute and community-based rehabilitation teams if this is indicated.

[8] Pulmonary rehabilitation is a restorative and preventive process for patients with chronic respiratory disease.

Pulmonary rehabilitation has been defined as a "multi-disciplinary program of care for patients with chronic respiratory impairment that is individually tailored and designed to optimize physical and social performance and autonomy."

As lung reserve declines, dyspnea worsens and independent daily activity performance erodes. Pulmonary rehabilitation provides multidisciplinary training to improve the patient's ability to manage and cope with progressive dyspnea.

Pulmonary rehabilitation services include critical components of assessment, physical reconditioning, skills training, and psychological support. Additional pulmonary rehabilitation services may include vocational evaluation and counseling. The pulmonary rehabilitation program must be tailored to meet the needs of the individual patient, addressing age-specific and cultural variables, and should contain patient-determined goals, as well as goals established by the individual team discipline. Both patients and families participate ...

[241]* Inpatient rehabilitation:

Rehabilitation performed during an inpatient stay in a freestanding rehabilitation hospital or a rehabilitation unit of an acute care hospital. The term inpatient is also used to refer generically to programs where the patient is in residence during treatment, whether in an acute care hospital, a rehabilitation hospital, or a nursing facility.

* Nursing facility rehabilitation:

Rehabilitation performed during a stay in a nursing facility. Nursing facilities vary widely in their rehabilitation capabilities, ranging from maintenance care to comprehensive and intense rehabilitation programs.

* Outpatient rehabilitation:

Rehabilitation performed in an outpatient facility that is either freestanding or attached to an acute care or rehabilitation hospital. Day hospital care is a subset of outpatient rehabilitation in which the patient spends a major part of the day in an outpatient rehabilitation facility.

* Home-based rehabilitation:

A rehabilitation program provided in the patient's place of residence (AHCPR, 1995).

[242]Cardiac rehabilitation emphasizes exercise training and activity prescription, risk factor modification, and psychosocial evaluation and counselling in an attempt to lower morbidity and mortality following MI.

[243] Rehabilitation after stroke reduces disability and improves the adaptation of both the patient and his environment. The patient should be stimulated and supported; good information, including the family, is essential. Supplying aids and taking special measures should be done on individual basis, after a period of training.

[244] Rehabilitation must address problems inherent in the measurement of human function and health-related quality of life, as well as problems in diagnosis and measurement of impairment.

[245]In 1974, the American College of Chest Physicians (ACCP) Committee on Pulmonary Rehabilitation adopted the following definition quoted in an ATS statement: "Pulmonary rehabilitation may be defined as an art of medical practice wherein an individually tailored, multidisciplinary program is formulated which through accurate diagnosis, therapy, emotional support, and education, stabilizes or reverses both the physio- and psychopathology of pulmonary diseases and attempts to return the patient to the highest possible functional capacity allowed by his pulmonary handicap and overall life situation."

This definition focuses on three important features of successful rehabilitation:

1. Individual
2. Patients with disabling lung disease require individual assessment of needs, individual attention, and a program designed to meet realistic individual goals (mutually developed by both the patient and the health-care professionals).
3. Multidisciplinary
4. Pulmonary rehabilitation integrates expertise from various health-care disciplines integrated into a comprehensive, cohesive program tailored to the needs of each patient.
5. Attention to Physiopathology and Psychopathology
6. To be successful, pulmonary rehabilitation addresses psychological as well as pathophysiologic problems.

A newer definition was developed by a National Institutes of Health (NIH) Workshop on Pulmonary Rehabilitation Research that reviewed the scientific evidence and future research opportunities. It emphasizes key aspects as the multidimensional activities, continuum of services that may be applied in different sites, interdisciplinary team, involvement of patients and families, and individual goals for independence and function in the community. "Pulmonary rehabilitation is a multidimensional continuum of services directed to persons with pulmonary disease and their families, usually by an interdisciplinary team of specialists, with the goal of achieving and maintaining the individual's maximum level of independence and functioning in the community."

The interdisciplinary team of health-care professionals in pulmonary rehabilitation may include physicians, nurses, respiratory, physical, and occupational therapists, psychologists, exercise specialists, dieticians, and others with appropriate expertise.
[246]Cardiac rehabilitation is characterized by comprehensive long- term services involving medical evaluation; prescribed exercise; cardiac risk factor modification; and education, counseling, and behavioral interventions. Provision of these services is physician-directed and implemented by a variety of health care professionals.

[10]Disability is no longer viewed as merely the result of impairment. The social model of disability has increased awareness that environmental barriers to participation are major causes of disability.

Rehabilitation is now viewed as a process in which people with disabilities or their advocates make decisions about what services they need to enhance participation. Professionals who provide rehabilitation services have the responsibility to provide relevant information to people with disabilities so that they can make informed decisions regarding what is appropriate for them.

[3]Rehabilitation is a process that assists people with disabilities to develop or strengthen their physical, mental, and social skills.

Rehabilitation within the health care services has traditionally been thought to involve the provision of therapy - physical, occupational, and speech - as well as special equipment. Traditional rehabilitation services are provided in various settings, for example, special institutions, hospitals, and out-patient clinics.

Community based rehabilitation enlarges the concept of rehabilitation to include all of the services that assist disabled people to develop their abilities.

[2]The term "rehabilitation" refers to a process aimed at enabling persons with disabilities. Rehabilitation may include measures to provide and/or restore functions, or compensate for the loss or absence of a function or for a functional limitation. The rehabilitation process does not involve initial medical care. It includes a wide range of measures and activities from more basic and general rehabilitation to goal-oriented activities, for instance vocational rehabilitation.

[11]Pain rehabilitation is a useful and cost-effective approach to chronic pain management. It is used in conjunction with pharmacological, psychological, surgical, and interventional approaches. Rehabilitation employs a behaviourally-based, team-driven program to

restore lost physical, psychological, and social function for the patient with chronic pain. The pain rehabilitation model makes patients responsible partners in their own progress, enlists the support and assistance of other providers, and places all aspects of treatment into a clear and goal-oriented context.

Principles of Rehabilitation:

Rehabilitation is an important component of pain management. Chronic pain rehabilitation should employ a skilled treatment team to:

- Restore function
- Alleviate pain wherever possible
- Improve pain management skills for the patient with persistent pain
- Chronic pain rehabilitation may be considered an active treatment, as opposed to maintenance.

* Active: the patient and team work directly to improve function and reduce pain within a set time frame. Treatment is designed to "cure" or "alleviate" the underlying condition, while improving function.

* Maintenance: focuses on self-management (e.g., exercise, cognitive-behavioral) and ongoing symptomatic medical intervention. (This is not intended to describe "maintenance treatment" as used in narcotic treatment programs.) Patient must be motivated to, and capable of, participating.

Conditions requiring urgent surgical or medical intervention (e.g., neurological emergency, infection) must be ruled out.

[247]Rehabilitation and Maintenance of Functional Activities

1. Identifying and treating any treatable underlying impairments
2. Patient/Carer(s) education/training regarding mobility, activities of daily living, assistive equipment, adaptations, services available
3. Altering environment as needed
4. Physiotherapy treatments

[248]Rehabilitation and discharge including early assessment, possible admission to a Geriatric Orthopaedic Rehabilitation Unit (GORU), diet supplementation, and multidisciplinary rehabilitation and discharge

[249]Pulmonary rehabilitation is defined as a multidisciplinary programme of care for patients with chronic respiratory impairment that is individually tailored and designed to optimise each patient's physical and social performance and autonomy.

[250] Rehabilitation, as an adjunct to pharmacological and surgical therapies in patients with rheumatoid arthritis (RA), aims to minimize the consequences of the disease.

Rehabilitation is defined as management of the consequences of disease.[

A rehabilitation programme provides services that enable an individual to reach his or her optimal level within each of the three areas of the consequences of disease as defined in the ICF. Within each area, rehabilitative goals may be focused on prevention, restoration or maintenance. To accomplish its goals, a structured approach to rehabilitation management has been proposed. This approach should help to review systematically the consequences of disease and to define the goals of therapy, to relate problems to mediators, and to optimize treatment by relating interventions to results during the rehabilitation process.

Within every stage of a rehabilitation intervention, a continuous partnership with the patient, and his or her family if appropriate, is important. With respect to the setting of goals, it is important not only to register limitations but also to record the patient's subjective perception concerning those restrictions. To address the patients' perspective and to enhance their participation in the decision-making process, specific rehabilitation tools based on the ICIDH and ICF have been developed.

In rehabilitation, treatment is focused primarily on the functional consequences of the disease, with the accent on non-pharmacological treatment interventions. Both physicians and a variety of health professionals may be involved in rehabilitative treatment programmes.

[251] Pulmonary Rehabilitation (PR), the most important non pharmacological treatment in patients with COPD, has a primary goal: to achieve the highest possible level of individual exercise tolerance, thus reducing the primary and/or secondary health care utilisation.

[9]Rehabilitation has been described as 'a problem-solving and educational process aimed at reducing the disability and handicap experienced by someone as a result of disease, always within the limitations imposed by both available resources and the underlying disease. Rehabilitation should be goal focused and occur in an appropriate cultural and environmental context. Although much rehabilitation is undertaken by the person themselves, often with their family and friends, evidence supports the idea that coordinated multidisciplinary teams of rehabilitation clinicians working cooperatively with the individual with stroke and their caregivers produce the best outcomes.

[252]Comprehensive cardiac rehabilitation programmes have been shown to reduce mortality from coronary heart disease, re-infarction rates and hospital admissions and improve quality of life for the patient and their family.

The main goals of cardiac rehabilitation are:

- To prevent further cardiovascular events by empowering patients to initiate and maintain lifestyle changes
- To improve quality of life through the identifi cation and treatment of psychological distress
- To facilitate the patient's return to a full and active life by enabling the development of their own resources.

Prior to hospital discharge, all eligible patients should be referred to attend a comprehensive cardiac rehabilitation programme.

The main components of a comprehensive cardiac rehabilitation programme are:

- Empowering patients to make lifelong changes
- Exercise programmes
- Nutrition management
- Weight management
- Smoking cessation
- Managing psychosocial aspects of life
- Pharmacotherapy
- Ongoing personal follow-up and support.

Cardiac rehabilitation provides the opportunity to coach and encourage positive lifestyle behaviours and increases compliance with medication use.

[249]Pulmonary rehabilitation refers to structured usually multi-disciplinary programs that aim to reduce the symptoms, disability and handicap arising from long-term respiratory disorders and to help patients reach and maintain a good level of functioning in the community.

The strategies for achieving these aims are:

1. Improving cardiovascular fitness, muscle function and exercise endurance;
2. Enhancing the patient's self-confidence and coping strategies, and improving
3. medication adherence and use of respiratory treatment devices;
4. Improving mood by controlling anxiety and panic, decreasing depression, and
5. reducing social impediments.

[253] Inpatient rehabilitation is mostly undertaken on an individual basis, whereas ambulatory rehabilitation programs after discharge from hospital are usually conducted with groups of patients. Such group programs have generally been conducted in a suitable outpatient area of the treating hospital.

Cardiac rehabilitation has been defined as:

The sum of activities required to ensure cardiac patients the best possible physical, mental and social conditions so that they may, by their own efforts, resume and maintain as normal a place as possible in the community (***World Health Organisation Expert Committee. Rehabilitation of patients with cardiovascular diseases. Technical report series number 270. Geneva: World Health Organisation; 1964.).

Cardiac rehabilitation has also been described as:

The combined and coordinated use of medical, psychosocial, educational, vocational and physical measures to facilitate return to an active and satisfying lifestyle (How to plan a cardiac rehabilitation program. Sydney: National Heart Foundation of Australia (NSW Division);1993.).

A somewhat different definition of cardiac rehabilitation was produced by the United States Public Health Service in 1988 (**Feigenbaum E, Carter E. Cardiac rehabilitation services. Health technology assessment report, 1987, no 6. Rockville, MD: US Department of Health and Human Services, Public Health Service, National Center for Health Services Research and Health Care Technology Assessment. DHHS publication No. PHS 88–3427. Aug. 1988.).

Cardiac rehabilitation services are comprehensive, long term programs involving medical evaluation, prescribed exercise, cardiac risk factor modification, education and counselling. These programs are designed to limit the physiological and psychological effect of cardiac illness, reduce the risk of sudden death or reinfarction, control cardiac symptoms, stabilise or reverse the atherosclerotic process, and enhance the psychosocial and vocational status of selected patients. Cardiac rehabilitation services are prescribed for patients who have had a myocardial infarction, have had coronary bypass surgery, or have chronic stable angina pectoris. It is now recognised that cardiac rehabilitation programs, in certain circumstances, may also be delivered to those at high risk of coronary heart disease, including those with other evidence of vascular disease or who are at high risk of vascular disease, or indeed any other form of cardiac disease.

To encompass this broader definition, the Cardiac Rehabilitation Working Group of the European Society of Cardiology (ESC) (Long-term comprehensive care of cardiac patients.

Recommendations by the Working Group on Rehabilitation of the European Society of Cardiology. Eur Heart J 1992;13 Suppl C:1–45.) has modified the definition of cardiac rehabilitation to be more inclusive, as follows:

The sum of interventions required to ensure the best physical, psychological and social conditions so that patients with chronic or post acute cardiac disease may, by their own efforts, preserve or assume their proper place in society.

The words "chronic" and "preserve" were added to the previous definition of the World Health Organisation (WHO) in order to stress the concept of the importance of rehabilitation in the long term care of patients with chronic disease, including those who had not had recent acute events.

While the definitions of the US Public Health Service embraced the concept of secondary prevention, those of WHO and ESC failed to do so adequately. The US Public Health Service definition is somewhat restrictive regarding patient entry characteristics, while the other definitions favour enrolment of all patients with cardiovascular disease. A broader definition should embrace those of the WHO and ESC and include the intentions of the US Public Health Service, as follows:

Cardiac rehabilitation is the co-ordinated sum of interventions required to ensure the best physical, psychological and social conditions so that patients with chronic or post-acute cardiovascular disease may, by their own efforts, preserve or resume optimal functioning in society and, through improved health behaviours, slow or reverse progression of disease.

A similar definition containing the same ingredients has been generated by a European WHO working group (World Health Organisation. Needs and action priorities in cardiac rehabilitation and secondary prevention in patients with CHD: report on two consultations. Copenhagen: World Health Organisation; 1993.).

[254] CARDIAC REHABILITATION PHASES:

1. Phase I: during hospital admission;
2. Phase II: in the polyclinic rehabilitation setting
3. (both clinical and polyclinic patients);
4. Phase III: post-rehabilitation and aftercare phases.

REHABILITATION PHASE I

Activities associated with cardiac rehabilitation during hospital admission take place in two parts: the acute phase and the mobilization phase. These phases occur after treatment, whether an operation was involved or whether treatment was conservative. (The goals of physical therapy are described in the article.)

REHABILITATION PHASE II

Before beginning rehabilitation in the polyclinic (i.e., rehabilitation phase II), all patients are screened by the rehabilitation team after physician referral. The rehabilitation team consists, at a minimum, of a physician, a physical therapist, a social worker and a nurse. The physician in the team, who is usually a cardiologist, has the final responsibility for treatment.

REHABILITATION PHASE III

[255] The rehabilitation process involves six major areas of focus: (1) preventing, recognizing, and managing comorbid illness and medical complications; (2) training for maximum independence; (3) facilitating maximum psychosocial coping and adaptation by patient and family; (4) preventing secondary disability by promoting community reintegration, including resumption of home, family, recreational, and vocational activities; (5) enhancing quality of life in view of residual disability; and (6) preventing recurrent stroke and other vascular conditions such as myocardial infarction that occur with increased frequency in patients with stroke.3 To attain these goals, rehabilitation interventions should assist the patient in achieving and preserving maximum feasible functional independence.

Stroke rehabilitation is an active process beginning during acute hospitalization, progressing for those with residual impairments to a systematic program of rehabilitation services, and continuing after the individual returns to the community. It is an organized effort to help stroke patients maximize all opportunities for returning to an active and productive lifestyle. Because the clinical manifestations of stroke are multifaceted and complex, stroke rehabilitation is best implemented through the coordinated efforts of a team of rehabilitation professionals.

[256]Cardiac rehab has two major parts:

EXERCISE TRAINING

to help you learn how to exercise safely, strengthen your muscles, and improve your stamina. Your exercise plan will be based on your individual ability, needs, and interests.

EDUCATION, COUNSELING, AND TRAINING

to help you understand your heart condition and find ways to reduce your risk of future heart problems. The cardiac rehab team will help you learn how to cope with the stress of adjusting to a new lifestyle and to deal with your fears about the future.

Cardiac rehab often takes place in groups. However, each patient's plan is based on his or her specific risk factors and special needs.

Cardiac rehab helps you recognize and change unhealthy habits you may have and establish new, more healthy ones. Your rehab may last 6 weeks, 6 months, or even longer. It is important that you complete the recommended rehab plan.

[6] THE ONTARIO HOSPITAL ASSOCIATION (OHA) DEFINITION OF REHABILITATION:

"Rehabilitation is a progressive, dynamic, goal-oriented and often time-limited process that enables an individual with an impairment to identify and reach his/her optimal mental, physical, cognitive and/or social/functional level. Rehabilitation provides opportunities for the individual, the family and the community to accommodate a limitation or loss of function and aims to facilitate social integration and independence (OHA Rehabilitation Working Group. "Rehabilitation Program Definitions". March 1999.)."

→ In the original text of the OHA they refer to the definition of the WHO!!

The World Health Organization (WHO) defines health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. WHO defines rehabilitation as:

"A progressive, dynamic, goal-oriented and often time-limited process, which enables an individual with an impairment to identify and reach his/her optimal mental, physical, cognitive and/or social functional level. Rehabilitation provides opportunities for the individual, the family and the community to accommodate a limitation or loss of function and aims to facilitate social integration and independence."

The WHO defined rehabilitation in 1969 as: "As applied to disability, this is the combined and co-ordinated use of medical, social, educational, and vocational measures for training or re-training the individual to the highest possible level of functional ability."

The WHO website provides a description of activities, reports, news and events, as well as contacts and cooperating partners in the various WHO programs and offices working on this topic. The site also includes links to related web sites and topics.

(> http://www.gtarehabnetwork.ca/rehabdefinition.asp)

The Panel reviewed a number of definitions of rehabilitation, cardiac rehabilitation and stroke rehabilitation. The definitions used by the Peel District Health Council (1997), the Institute for Work and Health (http://www.iwh.on.ca) (Holyoke and Elkan, 1995), the OHA Rehabilitation Task Group (1999) and Roth et al. (1998) were adapted, and the final definition used by the Panel for stroke rehabilitation was:

Stroke rehabilitation is a progressive, dynamic, goal-oriented process aimed at enabling a person with an impairment to reach his or her optimal physical, cognitive, emotional, communicative and/or social functional level.

It is multidimensional consisting of prevention and treatment of medical complications, restoration of maximal independent functioning, facilitation of psychosocial coping and adaptation by the patient and family, promotion of community reintegration and enhancement of quality of life for stroke survivors (adapted from Roth et al., 1998).

Stroke rehabilitation must be timed to respond to biological recovery as well as the inherent adaptive capacity of individuals and families. It requires a coordinated, skilled, and sensitive effort by many people over time.

Given the basic mechanisms underlying later recovery, optimal recovery seems "to be dependent to a large degree on patient motivation, ability to learn, and the guidance of trained rehabilitation staff" (Heitzner and Teasell, 1998: 399).

[257] The role of rehabilitation, at least as practised in the UK, appears to centre on strategies to promote exercise, restore or re-educate function, and manage pain.

Multimodal treatment approaches (e.g., exercises combined with education and psychologically-based interventions) adopt a multidimensional approach to the management of Fibromyalgia and are usually delivered in a multidisciplinary setting.

[118] Rehabilitation in early post-acute facilities means specialized care provided to patients in addition to ongoing diagnostic procedures or medical care [258].

Major goals of patients with musculoskeletal conditions in early post-acute rehabilitation facilities therefore are mobilization and independent and safe performance of self-care activities [Flanagan SR, Ragnarsson KT, Ross MD, Wong DK. Rehabilitation of the geriatric orthopaedic patient. Clin Orthop Rel Res 1995;316:80 – 92.]. The ultimate goal is to prevent disability and to avoid the need of long-term care.

[258] The new paradigm of 'early rehabilitation' has replaced the old paradigm of Howard Rusk who described rehabilitation as the third phase of medicine, implying that rehabilitation interventions should wait until medical and surgical stability occur. The new paradigm of 'early rehabilitation' has been addressed in legislation e.g., in Germany. Since July 2001, in the German Social Security Code book V, it has been stated that "in particular cases, if necessary, and at the earliest starting, early rehabilitation interventions are a part of the acute in-patient treatment".

Reason why rehabilitation covers also the acute phase of disease or injury: Patients hospitalized for an acute episode are also at risk of experiencing a significant loss of functioning as defined by the International Classification of Functioning, Disability and Health (ICF). Inactivity, immobility and prolonged bed rest may cause a wide range of deleterious effects and complications, particularly in persons who are chronically ill, disabled, or aged. These adverse effects of immobility often affect the musculoskeletal system but may also influence other body systems, such as cardiovascular and pulmonary, genitourinary and gastrointestinal, metabolic and endocrine, and cognitive and behavioural systems. For instance, muscle weakness and atrophy, contractures and osteoporosis or hypercalcemia due to immobilization are common reasons for deconditioning in patients experiencing prolonged inpatient care. But, many of these complications may be effectively prevented and, if they occur, effectively treated once they are recognized. The risk of a significant loss of functioning is increased in critically ill patients, in patients with complications or long-term intensive care stays, in persons with disabilities or with pre-existing chronic conditions and in the elderly.

The goals of early beginning rehabilitation are to maintain functioning or to minimize the loss of functioning and to optimize recovery and early autonomy. The ultimate goal is to prevent disability and to avoid the need for long-term care.

Early rehabilitation care provision needs to be tailored to patients' medical, nursing and rehabilitation needs, rehabilitation potential and prognosis along a continuum of care.

"In general and applicable to many countries, two distinct principles of early rehabilitation care provision can be distinguished in the context of an acute episode.

1. First, the provision of non-specialized rehabilitation by nurses, therapists, physicians, and other health professionals in the acute hospital.
2. And second, specialized rehabilitation care provided by an interdisciplinary team."

"The conditio sine qua non is the recognition of patients' needs for rehabilitation care

by the medical and surgical staff and hence by nurses and physicians not specialized in rehabilitation."

[259] The ultimate goal of early post-acute rehabilitation is to prevent disability and to avoid the need for long-term care.

Optimal rehabilitation care provision requires both a common understanding of functioning which is shared by physicians, nurses, health professionals and patients alike. It also requires clinically useful measures.

[13] Rehabilitation aims to optimize functional independence and quality of life, and is routinely offered to patients undergoing surgical treatment for Soft Tissue Sarcoma.

[131]WG Locomotorische en neurologische revalidatie van het college van geneesheren directeurs en de raad voor advies inzake revalidatie:

"De locomotorische en neurologische revalidatie is dat deel van de geneeskunde, dat zich niet zozeer bezig houdt met de diagnose en de behandeling van een locomotorische of neurologische ziekte of aandoening als dusdanig, maar wel met de diagnose en behandeling van de gevolgen ervan, met name de stoornissen, de beperkingen in activiteit (activity limitation) en de participatieproblemen (participation restriction), die eruit voortvloeien.

APPENDIX CHAPTER 2 : SELECTION OF PATHOLOGIES AND EPIDEMIOLOGY

Search Algorithms for epidemiologic data

STROKE

Cerebrovascular Accident				
Date	**Source**	**Keywords**	**Limits**	**Number**
09/01/2006	Pubmed	"Cerebrovascular Accident/epidemiology"[MeSH] AND "Belgium"[MeSH]	Publication date from 01-01-2000 All publication types	9
28/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Cerebrovascular Accident"[MeSH] AND "Belgium"[MeSH]	Publication date from 01-01-2000 All publication types	No new
10/01/2006	Pubmed	"Cerebrovascular Accident/epidemiology"[MeSH] AND "Netherlands"[MeSH]	Publication date from 01-01-2000 All publication types	57
28/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Cerebrovascular Accident"[MeSH] AND "Netherlands"[MeSH]	Publication date from 01-01-2000 All publication types	3 new
10/01/2006	Pubmed	"Cerebrovascular Accident/epidemiology"[MeSH] AND "Germany"[MeSH]	Publication date from 01-01-2000 All publication types	60
28/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Cerebrovascular Accident"[MeSH] AND "Germany"[MeSH]	Publication date from 01-01-2000 All publication types	1 new
10/01/2006	Pubmed	"Cerebrovascular Accident/epidemiology"[MeSH] AND "France"[MeSH]	Publication date from 01-01-2000 All publication types	37
28/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Cerebrovascular Accident"[MeSH] AND "France"[MeSH]	Publication date from 01-01-2000 All publication types	4 new
10/02/2006	Pubmed	"Cerebrovascular Accident/epidemiology"[MeSH] AND "Great Britain"[MeSH]	Publication date from 01-01-2000 All publication types	174
28/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Cerebrovascular Accident"[MeSH] AND "Great Britain"[MeSH]	Publication date from 01-01-2000 All publication types	7 new
28/03/2006	Pubmed	("Cerebrovascular Accident/epidemiology"[MeSH] OR "Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Cerebrovascular Accident"[MeSH] AND "Rehabilitation"[MeSH]	No limits	153

TOTAL HIP REPLACEMENT

Arthroplasty, Replacement, Hip					
Date	**Source**	**Keywords**	**Limits**	**Number**	**Relevant**
14/02/2006	Pubmed	("Arthroplasty, Replacement, Hip/statistics and numerical data"[MeSH] OR "Arthroplasty, Replacement, Hip/trends"[MeSH]) AND "Belgium"[MeSH]	Publication date from 01-01-2000 All publication types	1	0
28/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Arthroplasty, Replacement, Hip"[MeSH] AND "Belgium"[MeSH]	Publication date from 01-01-2000 All publication types	No new	/
14/02/2006	Pubmed	("Arthroplasty, Replacement, Hip/statistics and numerical data"[MeSH] OR "Arthroplasty, Replacement, Hip/trends"[MeSH]) AND "Netherlands"[MeSH]	Publication date from 01-01-2000 All publication types	5	1
28/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Arthroplasty, Replacement, Hip"[MeSH] AND "Netherlands"[MeSH]	Publication date from 01-01-2000 All publication types	1 new	0
14/02/2006	Pubmed	("Arthroplasty, Replacement, Hip/statistics and numerical data"[MeSH] OR "Arthroplasty, Replacement, Hip/trends"[MeSH]) AND "Germany"[MeSH]	Publication date from 01-01-2000 All publication types	20	0
28/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Arthroplasty, Replacement, Hip"[MeSH] AND "Germany"[MeSH]	Publication date from 01-01-2000 All publication types	2 new	0
14/02/2006	Pubmed	("Arthroplasty, Replacement, Hip/statistics and numerical data"[MeSH] OR "Arthroplasty, Replacement, Hip/trends"[MeSH]) AND "France"[MeSH]	Publication date from 01-01-2000 All publication types	3	0
28/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Arthroplasty, Replacement, Hip"[MeSH] AND "France"[MeSH]	Publication date from 01-01-2000 All publication types	2 new	0
14/02/2006	Pubmed	("Arthroplasty, Replacement, Hip/statistics and numerical data"[MeSH] OR "Arthroplasty, Replacement, Hip/trends"[MeSH]) AND "Great Britain"[MeSH]	Publication date from 01-01-2000 All publication types	22	3
28/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Arthroplasty, Replacement, Hip"[MeSH] AND "Great Britain"[MeSH]	Publication date from 01-01-2000 All publication types	4 new	0
28/03/2006	Pubmed	("Arthroplasty, replacement, hip/statistics and numerical data"[MeSH] OR "Arthroplasty, replacement, hip/trends"[MeSH]OR "Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Arthroplasty, replacement, hip"[MeSH] AND "Rehabilitation"[MeSH]	No limits	15	1

MULTIPLE SCLEROSIS

Multiple Sclerosis					
Date	**Source**	**Keywords**	**Limits**	**Number**	**Relevant**
14/02/2006	Pubmed	"Multiple Sclerosis/epidemiology"[MeSH] AND "Belgium"[MeSH]	Publication date from 01-01-2000 All publication types	2	0
28/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Multiple Sclerosis"[MeSH] AND "Belgium"[MeSH]	Publication date from 01-01-2000 All publication types	No new	/
14/02/2006	Pubmed	"Multiple Sclerosis/epidemiology"[MeSH] AND "Netherlands"[MeSH]	Publication date from 01-01-2000 All publication types	6	0
28/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Multiple Sclerosis"[MeSH] AND "Netherlands"[MeSH]	Publication date from 01-01-2000 All publication types	No new	/
14/02/2006	Pubmed	"Multiple Sclerosis/epidemiology"[MeSH] AND "Germany"[MeSH]	Publication date from 01-01-2000 All publication types	12	2
28/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Multiple Sclerosis"[MeSH] AND "Germany"[MeSH]	Publication date from 01-01-2000 All publication types	2 new	0
14/02/2006	Pubmed	"Multiple Sclerosis/epidemiology"[MeSH] AND "France"[MeSH]	Publication date from 01-01-2000 All publication types	18	1
28/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Multiple Sclerosis"[MeSH] AND "France"[MeSH]	Publication date from 01-01-2000 All publication types	1 new	0
14/02/2006	Pubmed	"Multiple Sclerosis/epidemiology"[MeSH] AND "Great Britain"[MeSH]	Publication date from 01-01-2000 All publication types	29 *Note:* A lot of older publications are available!	2
28/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Multiple Sclerosis"[MeSH] AND "Great Britain"[MeSH]	Publication date from 01-01-2000 All publication types	1 new	0
29/03/2006	Pubmed	("Multiple Sclerosis/epidemiology"[MeSH] OR "Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Multiple Sclerosis"[MeSH] AND "Rehabilitation"[MeSH]	No limits	27	0

LOWER EXTREMITY AMPUTATION

Lower Extremity Amputation					
Date	Source	Keywords	Limits	Number	Relevant
15/02/2006	Pubmed	("Amputation"[MeSH] OR "Amputation, Traumatic"[MeSH]) AND "Lower Extremity"[MeSH] AND ("Epidemiology"[MeSH]OR "Incidence"[MeSH]OR "Prevalence"[MeSH]) AND "Belgium"[MeSH]	Publication date from 01-01-2000 All publication types	0	0
15/02/2006	Pubmed	("Amputation"[MeSH] OR "Amputation, Traumatic"[MeSH]) AND "Lower Extremity"[MeSH] AND ("Epidemiology"[MeSH]OR "Incidence"[MeSH]OR "Prevalence"[MeSH]) AND "Belgium"[MeSH]	Publication date to 01-01-2000 All publication types	0	0
15/02/2006	Pubmed	("Amputation"[MeSH] OR "Amputation, Traumatic"[MeSH]) AND "Lower Extremity"[MeSH] AND ("Epidemiology"[MeSH]OR "Incidence"[MeSH]OR "Prevalence"[MeSH]) AND "Netherlands"[MeSH]	Publication date from 01-01-2000 All publication types	1	1
15/02/2006	Pubmed	("Amputation"[MeSH] OR "Amputation, Traumatic"[MeSH]) AND "Lower Extremity"[MeSH] AND ("Epidemiology"[MeSH]OR "Incidence"[MeSH]OR "Prevalence"[MeSH]) AND "Netherlands"[MeSH]	Publication date to 01-01-2000 All publication types	2	0
15/02/2006	Pubmed	("Amputation"[MeSH] OR "Amputation, Traumatic"[MeSH]) AND "Lower Extremity"[MeSH] AND ("Epidemiology"[MeSH]OR "Incidence"[MeSH]OR "Prevalence"[MeSH]) AND "Germany"[MeSH]	Publication date from 01-01-2000 All publication types	2	0
15/02/2006	Pubmed	("Amputation"[MeSH] OR "Amputation, Traumatic"[MeSH]) AND "Lower Extremity"[MeSH] AND ("Epidemiology"[MeSH]OR "Incidence"[MeSH]OR "Prevalence"[MeSH]) AND "Germany"[MeSH]	Publication date to 01-01-2000 All publication types	1	0
15/02/2006	Pubmed	("Amputation"[MeSH] OR "Amputation, Traumatic"[MeSH]) AND "Lower Extremity"[MeSH] AND ("Epidemiology"[MeSH]OR "Incidence"[MeSH]OR "Prevalence"[MeSH]) AND "France"[MeSH]	Publication date from 01-01-2000 All publication types	0	0
15/02/2006	Pubmed	("Amputation"[MeSH] OR "Amputation, Traumatic"[MeSH]) AND "Lower Extremity"[MeSH] AND ("Epidemiology"[MeSH]OR "Incidence"[MeSH]OR "Prevalence"[MeSH]) AND "France"[MeSH]	Publication date to 01-01-2000 All publication types	0	0
15/02/2006	Pubmed	("Amputation"[MeSH] OR "Amputation, Traumatic"[MeSH]) AND "Lower Extremity"[MeSH] AND ("Epidemiology"[MeSH]OR "Incidence"[MeSH]OR "Prevalence"[MeSH]) AND "Great Britain"[MeSH]	Publication date from 01-01-2000 All publication types	2	0
15/02/2006	Pubmed	("Amputation"[MeSH] OR "Amputation, Traumatic"[MeSH]) AND "Lower Extremity"[MeSH] AND ("Epidemiology"[MeSH]OR "Incidence"[MeSH]OR "Prevalence"[MeSH]) AND "Great Britain"[MeSH]	Publication date to 01-01-2000 All publication types	5	0
21/02/2004	Pubmed	("Amputation"[MeSH] OR "Amputation, Traumatic"[MeSH]) AND "Lower Extremity"[MeSH] AND ("Epidemiology"[MeSH]OR "Incidence"[MeSH]OR "Prevalence"[MeSH])	Publication date from 01-01-2000 All publication types	38	6
29/03/2006	Pubmed	("Epidemiology"[MeSH] OR "Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Lower extremity"[MeSH] AND "Amputation"[MeSH] AND "Rehabilitation"[MeSH]	No limits	6	0

SPINAL CORD INJURIES

Spinal Cord Injuries					
Date	**Source**	**Keywords**	**Limits**	**Number**	**Relevant**
15/02/2006	Pubmed	"Spinal Cord Injuries/epidemiology"[MeSH] AND "Belgium"[MeSH]	Publication date from 01-01-2000 All publication types	0	0
15/02/2006	Pubmed	"Spinal Cord Injuries/epidemiology"[MeSH] AND "Belgium"[MeSH]	Publication date to 01-01-2000 All publication types	0	0
29/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Spinal Cord Injuries"[MeSH] AND "Belgium"[MeSH]	Publication date from 01-01-2000 All publication types	0	0
15/02/2006	Pubmed	"Spinal Cord Injuries/epidemiology"[MeSH] AND "Netherlands"[MeSH]	Publication date from 01-01-2000 All publication types	3	1
15/02/2006	Pubmed	"Spinal Cord Injuries/epidemiology"[MeSH] AND "Netherlands"[MeSH]	Publication date to 01-01-2000 All publication types	1	0
29/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Spinal Cord Injuries"[MeSH] AND "Netherlands"[MeSH]	Publication date from 01-01-2000 All publication types	3 new	0
15/02/2006	Pubmed	"Spinal Cord Injuries/epidemiology"[MeSH] AND "Germany"[MeSH]	Publication date from 01-01-2000 All publication types	5	0
15/02/2006	Pubmed	"Spinal Cord Injuries/epidemiology"[MeSH] AND "Germany"[MeSH]	Publication date to 01-01-2000 All publication types	18	1
29/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Spinal Cord Injuries"[MeSH] AND "Germany"[MeSH]	Publication date from 01-01-2000 All publication types	2 new	0
15/02/2006	Pubmed	"Spinal Cord Injuries/epidemiology"[MeSH] AND "France"[MeSH]	Publication date from 01-01-2000 All publication types	4	1
15/02/2006	Pubmed	"Spinal Cord Injuries/epidemiology"[MeSH] AND "France"[MeSH]	Publication date to 01-01-2000 All publication types	7	1
29/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Spinal Cord Injuries"[MeSH] AND "France"[MeSH]	Publication date from 01-01-2000 All publication types	1 new	0
15/02/2006	Pubmed	"Spinal Cord Injuries/epidemiology"[MeSH] AND "Great Britain"[MeSH]	Publication date from 01-01-2000 All publication types	12	0
15/02/2006	Pubmed	"Spinal Cord Injuries/epidemiology"[MeSH] AND "Great Britain"[MeSH]	Publication date to 01-01-2000 All publication types	13	0
29/03/2006	Pubmed	("Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Spinal Cord Injuries"[MeSH] AND "Great Britain"[MeSH]	Publication date from 01-01-2000 All publication types	5 new	0
29/03/2006	Pubmed	("Epidemiology"[MeSH] OR "Incidence"[MeSH] OR "Prevalence"[MeSH]) AND "Spinal Cord Injuries"[MeSH] AND "Rehabilitation"[MeSH]	No limits	74	4

Epidemiological data

Stroke

INCIDENCE

Belgium

Crude incidence for stroke (first ever AND recurrent) ranges from 200 to 230 per 100.000 population per year;

Dependency rate: 30%.

[27; 26]

Age adjusted incidence for stroke (first ever AND recurrent)

→ Females: 163 per 100.000 population per year

→ Males: 196 per 100.000 population per year

[28]

Age and gender adjusted incidence for stroke (first ever AND recurrent): 185 per 100.000 population per year;

→ Recurrence rate: 29%;

→ Hospitalisation rate: 23%;

→ Mortality rate after 12 months: 47%;

[29 , 30]

In a recent (2006) review using the structure of WHO's stroke component of the WHO InfoBase, studies on stroke epidemiology published in peer-reviewed journals were analysed. It concerned 44 incidence studies and 12 prevalence studies. [31] The next data for Belgium were obtained:

Stroke **incidence** estimates, the World Health Organization, men and women per 100 000

	Belgium	
Age	Men	Women
25–34	19	12
35–44	37	23
45–54	139	84
55–64	312	186
65–74	812	550
75–84	1446	1237
85+	1754	1661

Crude incidence for stroke (first ever AND recurrent): from 174 to 224 per 100.000 population per year [32 , 33]

An older study performed in the Netherlands between 1978 and 1980 reports a rather low crude incidence for stroke of 174 per 100.000 (Herman et al. 629-34). Because it concerns an older study and because it includes data which deviate from the other data, these is mentioned separately.

Crude incidence for first ever stroke: 280 per 100.000 population per year [32 , 34, 35]

- Males: 280 per 100.000 population per year [36]
- Females: 200 per 100.000 population per year [36]

Age adjusted incidence stroke (first ever AND recurrent): 200 per 100.000.[38]

- Males: from 101 to 285 per 100.000 population per year [37]
- Females: from 47 to 198 per 100.000 population per year [37]

Age adjusted incidence for first ever stroke: from 100, 4 to 182 per 100.000 population per year [38, 33, 39, 40, 41].

- Age 15 - 45: from 10 to 30 per 100.000 [30]
- Age 55 - 64: from 170 to 360 per 100.000 [30]
- Age 65 - 74: from 490 to 890 per 100.000 [30]
- Age older then 75: from 1350 to 1790 per 100.000 [30]

Age and gender adjusted incidence for stroke (first ever AND recurrent): from 220 to 269 per 100.000 [42, 43]

Age and gender adjusted incidence for first ever stroke: from 161 to 208 per 100.000 population per year [35; 33; 42]

PREVALENCE

Belgium

In a recent review using the structure of WHO's stroke component of the WHO InfoBase, studies on stroke epidemiology published in peer-reviewed journals were analysed. It concerned 44 incidence studies and 12 prevalence studies. [31] The next data for Belgium were obtained:

Stroke **prevalence** rates, estimates from the World Health Organization, men and women per 100 000

	Belgium	
Age	Men	Women
25–34	114	65
35–44	218	124
45–54	1072	804
55–64	2185	1476
65–74	5052	3568
75–84	7830	6260
85+	9403	8362

The prevalence of stroke in the year 2000 was estimated at: 750 per 100.000 [43]

Because the average survival time of dependents was about 4 years, the prevalence was estimated about 100 per 100.000 [44].

OTHER

Aetiology of stroke:

- 82% ischemic
- 18% hemorrhagic[29]

The proportion of all first-ever strokes by pathological type was:

- cerebral infarction: from 61% to 81% (95% confidence interval 78-84);
- primary intracerebral haemorrhage: from 10% to 15% (8-12);
- subarachnoid haemorrhage from 5% to 15% (3-7);
- uncertain type 5% (3-7).[45; 38]

Mean age at onset:

- Males: 63,3 years [36]

- Females: 71,4 years [36]

Yearly stroke mortality: from 21% to 47%

- At 1 week: from 23% to 32,9% [33]
- At 28 days: from 15,9% to 33% [45, 33, 41, 35]
- At 3 months: 28,5% [41]
- At 1 year: from 26,3% to 37,3% [45, 44, 41, 35]
- At 3 years: 44% [44]
- At 5 years: 52% [44]

Dependent on others (*cave:* it is possible that also those who died influence these percentages!):

- After 1 year:13% [44]
- After 3 years: 13% [44]
- After 5 years: 9% [44]

Independent (*cave:* it is possible that also those who died influence these percentages!): from 4% to 76% depending on the type and severity of stroke [45]

- After 1 month: 46% [33]
- After 1 year: 54% [44]
- After 3 years: 43% [44]
- After 5 years: 39% [44]
- After 6 years: 71% [38]

Length of stay: 37 days [260]

Discharge:

- At home: 2/3 [260]
- In a nursing home: 15% [260]

Predictors of physical dependence:

- Age [261, 36, 262, 44]
- Gender [44]
- Moderate or severe hemiparesis 1 month after stroke [263]
- Hemineglect [262]
- Post-discharge rehabilitation [262]
- White matter hyperintensities on MRI [263]
- Urinary incontinence between 7 and 10 days after stroke [261]

Total Hip Replacement

INCIDENCE

Belgium

The crude incidence of Total Hip Replacement in Belgium is estimated on 126 per 100.000 population per year [48]

In 2004, 16 599 were registered in Belgium (van den Oever)

The crude incidence of Total Hip Replacement: from 58 to 126 per 100.000 [47, 48]

Age standardized incidence of Total Hip Replacement (primary and revision): from 112 to 113 per 100.000 [49]

Age standardized incidence of primary hip replacement:

- Males: 65,5 per 100.000 [50]
- Females: 87,1 per 100.000 [50]

Age standardized incidence of revision hip replacement:

- Males: 16,6 per 100.000 [51]
- Females: 21,0 per 100.000 [51]

Age and gender standardised incidence:

- Primary hip replacement: from 134 to 193 per 100.000 [52, 53]
- Revision hip replacement: from 21,1 to 43 per 100.000 [52; 53]

PREVALENCE

An estimation of the prevalence of hip disease severe enough to require surgery was 1520 per 100.000 aged 35-85 [54]

OTHER

Mean age:

- Primary operations: 68,6 years [51]
- Revisions: 71,8 years [51]

Mortality:

- Within 90 days: 1100 per 100.000 population [47]

We did not find a recent review of the published literature about incidence, prevalence or epidemiology of total hip replacement!

Multiple Sclerosis

INCIDENCE

No Belgian data were found.

Crude incidence of MS ranges from 4,3 to 6,1 per 100.000 [55, 56, 57; 58]

A recent reviews contain an estimation of the mean MS incidence in Europe of 4 to 4,2 per 100.000. In this review the estimation is based on data from Croatia, Denmark, Finland, France, Greece, Hungary, Iceland, Italy, Malta, Norway, Poland, Spain, Sweden, Ukraine and the U.K. [59, 60]

PREVALENCE

Belgium

In Belgium there is a prevalence of 87,5 to 87,9 per 100.000 population [61; 264]

→ Males: from 73,8 per 100.000 [264]

→Females: 101,3 per 100.000 [264]

The prevalence of MS ranges from 87,5 to 149,1 per 100.000 [63, 64, 56, 61, 57; 58]

- Males: from 10 to 123 per 100.000 [60]
- Females: from 11 to 282 per 100.000 [60]

OTHER

The incidence peaks:

- Males: in the age interval 30-34 [58]
- Females: in the age interval 25-29 [58]
- Both genders: from 35 to 49 [60]

Female/Male ratio: from 1,1 to 3,4 [60]

Mean survival time after onset: from 30 to 45 years [60]

Measured by the Kurtzke's Expanded Disability Status Score (EDSS):

- 57% of the individuals have mild neurological signs
- 22% of the individuals require constant bilateral assistance
- 21% of the individuals are restricted to wheelchairs, confined to bed and totally helpless

(Estimation based on data from Austria, Belgium, Cyprus, Hungary, Ireland, Italy, Luxembourg, Slovenia and Spain) [60]

Lower Extremity Amputation

INCIDENCE

Belgium

In the Netherlands the crude incidence of major Lower Extremity Amputation seems to be between 17,1 and 19 per 100.000 inhabitants per year (Pernot et al. 90-96, Rommers 1997). The assumption is that the Belgian incidence is similar.

The crude incidence of Lower Extremity Amputation: from 15,4 to 34 per 100.000 [67, 68, 69, 70; 65]. Only one report speaks about a major amputation rate that ranges from 20 to 50 per 100.000 population per year [71].

Crude incidence of the major Lower Extremity Amputations: from 8,8 to 11,7 per 100.000 [69, 72]

The age adjusted incidence of all major Lower Extremity Amputations:

- Males: from 3,7 to 58,7 per 100.000 [265]
- Females: from 0,5 to 32,0 per 100.000 [265]

The incidence of lower limb amputations was 10 times higher in diabetic subjects compared to non-diabetic subjects [73]

For people with diabetes the crude incidence: from 383 to 440 per 100.000 [68, 73]

For people without diabetes the crude incidence: 38 per 100.000 [73]

Incidence of major traumatic amputations: 1,07 per 100.000 [266]

Incidence of minor traumatic amputations: 4,7 per 100.000 [266]

PREVALENCE

No prevalence data were found.

OTHER

The below-knee/above knee ratio varied from 0,76 to 0,78 [67, 70] . In one report a ratio of 2,5 was mentioned but it is unclear if only major amputation were withheld as below-knee amputations [71].

The main cause of LEA was ischemia. Percentages from 72 to 84,6 were reported [69, 70, 72].

Prosthetic fitting [67, 68, 69, 70] :

- among patients undergoing unilateral trans-tibial amputation: 68%
- among patients undergoing unilateral trans-femoral amputation: 35%

Mortality:

- Early hospital mortality after major Lower Extremity Amputation: 7,6% [72]
- Early hospital mortality after minor Lower Extremity Amputation: 0,8% [72]
- After 1 year: 52% [70]

Spinal Cord Injury

INCIDENCE

It was not always explained that only SCIs surviving the acute phase were included. Knowing that deaths after admission for acute SCI range between 4,4% and 16,7%, this may influence the incidence data.

A European survey showed a mean incidence of 1,75 per 100 000 inhabitants (ISCOS Newsletter).

The crude incidence of SCIs ranges from 1,21 to 5,78 per 100.000[79];[81];[77];[80];[82]; [83]; [78]

The crude incidence of SCIs surviving the acute phase ranges from 1,04 to 4,43 per 100.000.[79]; [77]

The crude incidence of traumatic spinal cord injury : 1,27 per 100.000 population per year [84]

The age adjusted incidence rate: 1,45 per 100.000 per year [85] , [86] , [83] , [87]

The age and gender adjusted incidence rate: from 2,71 to 7,1 per 100.000.[85];[81].

Incidence rates for males are consistently higher for females [77]; [78]

A recent (2006) review of the literature published from 1995 on Pubmed was performed. The incidence of SCI in Europe ranges from 1,04 to 2,97 per 100.000 (based on data of 7 studies). This is the lowest incidence compared to other continents, South-America and Africa were excluded because no studies from these continents were found. [76]

PREVALENCE

The prevalence of SCI ranges from 7,2 to 112 per 100.000.[81];[80];[82];[88].

The prevalence of traumatic SCI: 25 per 100.000 [84]

A recent (2006) review of the literature published from 1995 on Pubmed was performed. The prevalence of SCI ranges from 28 to 68,1 per 100.000 (based on data of only 2 studies: Australia and Finland). [76]

OTHER

Aetiology:

- 67,5% traumatic [75]
- 32,5% non-traumatic [75]

Mean age:

- All SCI: from 33y to 50y [76] [78]
- Traumatic SCI: ranges around 29 years [84]; [89]

Median age:

- Traumatic SCI: 34 years (Sekhon and Fehlings S2-12); [75]
- Nontraumatic SCI: 58 years [75]
- 61% is aged between 11y – 50y (van Asbeck, Post, and Pangalila 420-24)

Median length of stay: 26,6 to 154 days [267]; [78];

- In an acute care unit: 19 days [89]
- In a rehab unit: 45 days [89]
- Traumatic SCI: 116 days [75]
- Non-traumatic SCI: 57 days [75]

Average stay in hospital 2 years post injury: 171 days [81]

Neurological level and extent of lesion:

- incomplete tetraplegia: 34.5% (van Asbeck, Post, and Pangalila 420-24); [89]
- complete paraplegia from 23.1% to 25,7% (van Asbeck, Post, and Pangalila 420-24); [89]
- complete tetraplegia 18.4% [89]
- incomplete paraplegia 17.5% [89]

There is often (> 60%) an associated trauma in case of a traumatic SCI [78]

Percentages of patients were discharged home varied from 80,2 to 94 [75]; [267]

Compared with traumatic SCI, patients with nontraumatic SCI had:

- A significantly shorter LOS [268]
- Lower discharge FIM scores and FIM changes [268]

Predicting factors of outcome [75]:

- Not living alone
- Being discharged after long LOS
- Having sphincterial autonomy
- No pressure sores
- Aetiology of the lesion (traumatic or non-traumatic) [268]

APPENDIX CHAPTER 3 : OUTCOME MEASURES, OUTCOME MODELS AND PATIENT CLASSIFICATION SYSTEMS

Outcome measures used in rehabilitation

Multiple Sclerosis	Spinal Cord Lesions	Stroke	Lower Limb Amputees	Hip (and Knee) Replacement
Pro-Esor				
Kurtzke Expanded Disability Status Scale (Kurtzke EDSS)	Manual Muscle Testing	FIM	Range Of Motion (ROM) and Muscle Testing	ROM Testing
Functional Independence Measure (FIM)	FIM	Barthel Index	FIM	FIM
Ashworth Spasticity Scale	Asworth Scale for Spasticity	Mini-Mental State Examination (MMSE)	Barthel Index	Harris Hip Scale
Barthel Index	American Spinal Injury Association (ASIA) Motor Score	Modified Ashworth Spasticity Scale	Other (None of these measures were used in more than five centres.)	Other: WOMAC, Barthel Index, …
Kurtzke Environmental Status Scale (Kurtzke ESS)	ASIA Light Touch Score	Glasgow Coma Scale		
Medical Outcomes Survey Short-Form General Health Survey (SF-36)	ASIA Pin Prick Score	National Institute of Health Stroke Scale (NIHSS)		
Ambulation Index	Vital Lung Capacity	Rivermead Behavioural Memory Test		
Assessment of Motor and Process Skills	ASIA Impairment Scale	Motricity Index		
		Western Aphasia Battery		
		Rivermead Mobility Index		
Australian study				
	Manual Muscle Testing	Mini Mental State Examination	Range of Movement	
	FIM	FIM	Manual Muscle Testing	
	ASIA Motor Score	Berg Balance Scale	FIM	
	Visual Analogue Scale	Barthel Index (modified)	10 Metre Walk	
	Lung Vital Capacity	Western Aphasia Battery	Timed Up and Go	
	ASIA Light Touch	Glasgow Coma Scale	Visual Analogue Scale	
	Modified Asworth Scale	Rivermead Behavioural Memory	Barthel Index (modified)	
	ASIA Pinprick	Modified Ashworth Scale	Canadian Occupational Performance Measure	
	ASIA Ampairment Scale	Rivermead Perceptual Test		
	Barthel Index (Modified)	Beck Depression Inventory		
		Brisbane Perceptual Screening		
		SF-36		

Google: "Inpatient rehabilitation admission criteria"

LOMA LINDA UNIVERSITY MEDICAL CENTER EAST CAMPUS - INPATIENT REHABILITATION ADMISSION CRITERIA

To qualify for admission the patient must:

Be diagnosed by a physician with a condition or deficit requiring an acute rehabilitation program

Be medically stable

Require at least two or more therapies:

- Physical therapy
- Occupational therapy
- Speech pathology

Be able to tolerate a minimum of three hours of therapy per day

Have a discharge plan in place

Prior to admission, an on-site assessment will be completed by one of our rehabilitation case managers.

Services provided at the Rehabilitation Institute are directed at improving deficits in such areas as:

- Activities of daily living (ADLs) or self-care skills
- Mobility
- Bowel and bladder function
- Pain management
- Safety
- Cognitive functioning such as memory, orientation, etc.
- Communication
- Swallowing

LEE MEMORIAL HEALTH SYSTEM - CRITERIA FOR ADMISSION TO INPATIENT REHABILITATION

The Rehabilitation Hospital is not just a place to recover, it is a place for patients to work to achieve their highest level of physical, social and cognitive independence within the community. Because we wish all of our patients to take an active part in their recovery, there are criteria on admission to the Rehabilitation Hospital.

Need for continued close medical supervision by a physician with specialized training or experience in rehabilitation. The intensity may not be as great as acute care but 24 hour availability of a physician with special training or experience in the field of rehabilitation is required.

Twenty-four hour rehabilitation nursing is needed.

Ability to benefit from a relatively intense level of rehabilitation services. The intensity level is based on an individual patient's assessed needs and stamina. The two therapy disciplines involved are physical and occupational therapy but may also include Speech Language Pathology, Therapeutic Recreation, and other skilled rehabilitative modalities as needed. Therapy intensity generally ranges from 2-3 hours/day with the average for The Rehabilitation Hospital being 15 hours of therapy services over a seven-day week.

A multidisciplinary team provides a coordinated program of care with the prospect of significant practical improvement towards realistic goals.

THOMS INPATIENT REHABILITATION HOSPITAL – ADMISSION CRITERIA

CarePartners Thoms Rehabilitation Hospital and Health Services is a nonprofit agency that provides traditional and specialized rehabilitation programs to patients with physical and cognitive impairments. Thoms is fully accredited by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and by the Rehabilitation Accreditation Commission, CARF for Comprehensive Inpatient Services. Thoms also maintains full compliance with all licensure and certification regulations of the State of North Carolina and the Center for Medicare and Medicaid Services (CMS).

Patients admitted to Thoms Inpatient Rehabilitation Hospital generally have two or more appropiate functional deficits and must:

1. be able to learn new information
2. have potential for significant improvement
3. be able to tolerate at least three hours of intensive rehabilitation activities per day
4. require 24-hour-a-day nursing and physician availability
5. need more services than those which can be provided by a skilled nursing facility
6. Also, to be admitted, there must be a reasonable expectation of timely discharge once goals have been met.

PARKVIEW CENTER FOR REHABILITATION (COLORADO)

Parkview Center for Rehabilitation is a 15 bed acute, accredited, inpatient rehabilitation program located within Parkview Medical Center.

A comprehensive pre-admission screening will be conducted by the Case Manager / Assessment Coordinator.

Criteria for Inpatient Rehab program

7. The inpatient rehab program is available to patients who meet the following admission criteria:
8. Medical stability
9. Potential and motivation to progress
10. Sufficient mental alertness to participate in the program
11. Appropriate psychological and behavioral status to participate in program
12. A need for at least two therapies (Physical, Occupational, and/or Speech Therapy)
13. A need for 24 hour/day rehab nursing and close supervision by a physician
14. Ability to tolerate at least three hours of therapy at least five days per week

Criteria for Day Rehab Program

The following criteria serves as a guideline in determining the appropriateness of admission to the Day Rehab Program

15. The patient requires an intensive, comprehensive, trans-disciplinary rehabilitation program with at least the following components:
16. The need for at least two(2) of the following therapies: Physical, Occupational or Speech
17. Tolerance to participate in the program
18. Potential for successful home living and/or community re-entry
19. Ability to manage own medication
20. The patient is motivated to participate in the Day Rehab Program
21. The patient is medically stable prior to admission to the program.

22. The patient does not have psychological issues that would prevent or impede participation in the program.
23. The patient has a rehabilitation diagnosis as listed under Patients.

MILAND E. KNAPP REHABILITATION CENTER – ADMISSION CRITERIA

The Miland E. Knapp Rehabilitation Center is a 30-bed acute rehabilitation program for adolescents and adults. The rehabilitation center is located within the HCMC Blue building located at 900 South 8th Street in downtown Minneapolis. We are centrally located on the third floor of the building. Services include inpatient and outpatient programs for patients with physical and neurological diagnoses (brain injury, stroke, spinal cord injury, multiple trauma, amputations, cardiopulmonary deconditioning). Rehabilitation professionals help patients regain skills needed for maximum independence and a successful return to the community. The Knapp Rehabilitation Center is recognized for excellence by the Commission on Accreditation of Rehabilitation Facilities. Please browse our website for more information on our rehabilitation programs and services.

The physical rehabilitation doctor (physiatrist) completes a pre-admission screen to help determine when it is appropriate to recommend inpatient rehabilitation. A patient must meet the following criteria prior to being admitted to the Knapp Rehabilitation Center program:

There is reasonable expectation the patient with a viable discharge plan will benefit from therapy and supervision or assistance.

A patient needs an intensive program with multiple services.

If brain injured, the patient demonstrates cognitive functioning at Rancho Los Amigos Level IV or above.

The patient must be able to physically tolerate program activity including three hours of therapy per day.

The patient has the capability of participating cognitively and behaviorally in a program.

The patient has inability or decreased ability in at least two areas listed below:

24. complete activities of daily living
25. move self from place to place
26. manage elimination needs
27. communicate or understand information
28. cognitively process information, memory, and reasoning

75 percent rule

According to CMS, the conditions on the list accounted for approximately 75 percent of the admissions to Inpatient Rehabilitation Facilities.

Based on the 75 percent rule 10 categories were identified:

29. Stroke
30. Spinal cord injury
31. Congenital deformity
32. Amputation
33. Major multiple trauma
34. Fracture of femur (hip fracture)
35. Brain injury
36. Polyarthritis, including rheumatoid arthritis

37. Neurological disorders, including multiple sclerosis, motor neuron diseases, polyneuropathy, muscular dystrophy, and Parkinson's disease
38. Burns

Expert opinions

It seemed that information on diagnosis alone is not sufficient in classifying patients related to care needs. We refer to a Medicare report [20] published in April 2005 in which experts agreed in the context of an evaluation of the application of the 75 percent rule, that:

"Condition alone is insufficient for identifying appropriate types of patients for inpatient rehabilitation, since within any condition only a subgroup of patients require the level of services of an Inpatient Rehabilitation Facility",

and contended that:

"Functional status should also be considered".

Besides, we refer to a report [269] ***(via expert contact Geoffrey M. Reed)*** containing a review of the literature which indicates that diagnoses alone are not sufficient enough. This review of the literature included a lot of older reports. An update can be considered.

"In the assessment, diagnoses are necessary but not sufficient guides in providing contemporary health care."

A review of health care literature suggests that diagnoses alone do not predict well:

- *service needs (National Advisory Mental Health Council, 1993),*
- *length of hospitalization (McCrone & Phelan, 1994),*
- *level of care needed (Burns, 1991), outcome of hospitalization (Rabinowitz, Modai & Inbar-Saban, 1991),*
- *receipt of disability benefits (Basset, Chase, Folstein, & Regier, 1998; Massel, Liberman, Mintz, & Jacobs, 1990; Segal & Choi, 1991),*
- *work performance (Gatchel, Polatin, Mayer, & Garcy, 1994; Massel et al., 1990),*
- *social integration (Ormel, Oldehinkel, Brilman, & vanden Brink, 1993).*

Diagnostic information enhanced by descriptions of function may better predict:

- *health service utilization (Bassett & Folstein, 1991; Hoeper et al., 1980; Ormel et al., 1993; Regier, Burker, Manderscheid, & Burns, 1985; Von Korff, Ormel, Katon, & Lin, 1992),*
- *improvement of functioning after hospitalization (Rabinowitz et al., 1994),*
- *return to work (Hlatky et al., 1986),*
- *work performance (Massel et al., 1990),*
- *recovery of social integration (Tate, Lulham, Broe, Strettles, & Pfaff, 1989).*

The ICF can be used to construct a useful profile of an individual's functioning, disability, and health, which the literature suggests may enhance health care service provision."

Because the International Classification of Functioning, Disability and Health (ICF) is a systematic and universal framework for describing the full range of human functioning that may be affected by a health condition and because it is introduced by the developers and some fanatics, as a tool which would support clinical decision making as well as resource allocation in the future. We specifically sounded out the feasibility of building a PCS based on this outcome model and the link with existing outcome measurement tools.

In this context, we contacted some partners:

→ Craig Velozo, PhD, OTR/L, Assoc. Professor, Assoc. Chair, Research Health Scientist – Veterans Affairs Medical Centre at the University of Florida:

"I am using the ICF model as a framework for developing measures, not as a classification system. I wonder if the use of the ICF will be effective if used as a classification system to direct patient treatment and resources. I personally think that the classification system is too extensive and that there is no clear agreement on the definition of elements to allow the classification to be successful. The ICF does not meet a number of basic requirements for scientific classification (e.g., agreement in definitions)."

"In regards to clinical decision making, I wonder how well our present measures really work."

→ Gerben DeJong, PhD, Senior Fellow at the National Rehabilitation Hospital in Washington:

"In the U.S. we do not have disposal of criteria for placing a patient in different care settings. In the absence of such criteria we end up with great variability in practice patterns across the nation."

"I agree that some or similar patients are seen in different post-acute venues, but I would also submit that there is a diversity of patients and that it will be difficult to find or create one tool that can capture the full range of patient needs across all settings of care. By trying to create an all-inclusive instrument, we run the risk of developing an unwieldy instrument, many elements of which, will not apply to many patients.

Recall that in 2000-01, the Health Care Financing Administration, now Centres for Medicare and Medicaid Services (CMS), then proposed the Minimum Data Set for Post-acute Care (MDS-PAC) as uniform instrument for all post-acute settings as the basis for both payment and quality monitoring. This effort failed for many reasons but the chief among them was that the MDS was a huge instrument (20 pages) that consisted of over 400 data elements. It was anything but minimum."

"In examining the differences in outcomes and costs we also need to be able to characterise the differences in the care (timing, intensity, frequency, and duration of therapy) received in different settings."

→ Geoffrey M. Reed, PhD, American Psychological Association

About linking assessment tools to ICF codes:

"There are considerable gaps between currently available assessments and their translation to ICF codes and raise the important question of what to do until ICF-based coding schemes and related instruments are available. We have actually done a mapping of many commonly-used rehabilitation assessment instruments to the ICF." (See also [270], [117])

About the use of the ICF in clinical practice:

"I have been leading the development of the Procedural Manual and Guide for a Standardized Application of the ICF: A Manual for Health Professionals on behalf of the American Psychological Association (APA), The manual is intended to provide a standard approach to the classification that is clinically grounded, with consistent interpretations of concepts and operational definitions of terms. The goal of the Manual is to enable reliable, valid, and clinically useful classification using the ICF system. Development of the manual has included the professions of audiology, medicine, nursing, occupational therapy, physical therapy, psychology, social work, speech-language pathology, therapeutic recreation, and vocational rehabilitation."

About our proposition concerning the approach to improve clinical utility of the ICF:

"I completely agree with your proposed approach. That is, I think it makes far more sense-- both in terms of long-terms consistency with the ICF and in terms of clinical utility-- to begin with a selection of relevant parameters from the ICF (with clinically-based operational definitions that could be adopted from the APA manual), and then to examine the coverage of these parameters provided by existing instruments. We

argued for the utility of this approach in a paper we published last year in Rehabilitation Psychology [270]."

About the use of the ICF in resource allocation:

"One initial approach would be to back-code clinical records once you have established the parameters you wish to use and then to look at resource use associated with the resulting profiles. You would probably then want to confirm these longitudinally."

→ Marjorie S. Greenberg, Head, WHO Collaborating Center for the Family of International Classifications for North America, National Center for Health Statistics, Centers for Disease Control and Prevention in the U.S.

"We certainly agree that ICF is a more comprehensive classification system for the multiple domains of functioning than individual assessment tools."

→ Trudy Mallinson, Ph.D., OTR/L, NZROT, Associate Director Center for Rehabilitation Outcomes Research at the Rehabilitation Institute of Chicago

"In the US, the use of a uniform patient instrument is driven primarily by reimbursement concerns, I think the tendency has been to design instruments that tap resource utilization and need for assistance than for individual treatment planning."

→ Herb Kuhn, director, Centre for Medicare Management

"There is a need to have a more comprehensive system where the incentives are to place the patient in the most appropriate post-acute care setting rather than the setting where the payment is advantageous. Standardized payment and patient assessment data elements would make it possible to evaluate health and functional status across the range of post-acute care settings and bring us closer to establishing a single post-acute care payment system, with uniform payments for clinically similar admissions and a consistent set of incentives. Greater integration and coordination in Medicare's post-acute care payment system could enhance our focus on patient need while at the same time reducing unnecessary transfers between settings. Ultimately, an integrated patient-focused model could allow us to gain control of the rapid growth in post-acute care." (**http://www.cms.hhs.gov/apps/media/press/testimony.asp?Counter=1824**)

→ Alan Tennant, BA, PhD, Professor of Rehabilitation Studies at the University of Leeds (PRO-ESOR project):

"We ascertained the most commonly used outcome measures in routine clinical practice, and subject them to the scrutiny of modern psychometric analyses. This work looked at many well known scales used in research, but found that they were of little use for predicting future need- rather it was the simple clinical scales that did the job. My point here is that an outcome scale may be very good for one purpose, but not another. Scales which provide the basis for a PCS may not provide the basis for measuring outcome and vice versa!"

APPENDIX CHAPTER 4: REGISTERED DATA AND PATIENT PROFILES

Belgian Minimal Data Nursing Set

Data registered in the Belgian minimal data nursing set ((K.B. 14/8/1987 geïntegreerd in het K.B. van 6/12/1994).

1. Algemene gegevens van de instelling.
2. Patiëntgegevens:
   - geboortejaar van de patiënt;
   - geslacht van de patiënt;
   - datum van opname;
   - datum van ontslag;
   - uur van opname en ontslag uit de verpleegeenheid.
3. De verpleegkundig toegediende zorgen: een lijst van 23 verpleegkundige activiteiten, of de minimale verpleegkundige gegevens in strikte zin.
   - Verzorging in verband met hygiëne (mate van hulp: 4 categorieën).
   - Verzorging in verband met mobiliteit (mate van hulp: 4 categorieën).
   - Verzorging in verband met uitscheiding (mate van hulp: 4 categorieën).
   - Verzorging in verband met voeding (mate van hulp: 4 categorieën).
   - Sondevoeding.
   - Bijzondere mondverzorging (frequentie/24u).
   - Decubituspreventie via wisselligging (frequentie/24u).
   - Hulp bij dagkleding.
   - Verzorging van patiënt met tracheacanule of endotracheale tube (tube, beademing).
   - Verpleegkundige anamnese.
   - Zelfstandigheidstraining (occasioneel, programma).
   - Opvang van emotionele problemen.
   - Verzorging van een gedesoriënteerde patiënt (beschermingsmaatregelen, ROT).
   - Afzonderingsmaatregelen ter preventie van contaminatie.
   - Registratie van vitale parameters (frequentie meest voorkomende parameter).
   - Registratie van fysische parameters (frequentie meest voorkomende parameter).
   - Toezicht op tractie, gips, externe fixator.
   - Afnemen van bloedstalen (aantal/24u).
   - Toediening van medicatie (I.M., S.C., I.D.) (aantal/24u).
   - Toediening van medicatie (I.V.) (aantal/24u).
   - Toezicht op permanent infuus (aantal infuuslijnen).
   - Verzorging van chirurgische wonde (aantal/24u).
   - A Grootte van traumatische wondoppervlak (4 categorieën).

- B Verzorging van traumatische wonde (aantal/24u).

4. Gegevens per verpleegafdeling, onder leiding van de hoofdverpleegkundige: aantal personeelsleden, het aantal gepresteerde uren, ongeacht hun discipline met opgave van hun diploma en per personeelslid het aantal gepresteerde uren, aantal bedden.
5. Gegevens met betrekking tot de functies van het Algemeen Dagelijks Leven (ADL) (facultatief).

Belgian Minimal Data Nursing Set- Version 2

Reference:

Actualisatie van de Minimale Verpleegkundige Gegevens. Onderzoek in opdracht van het Ministerie van Sociale Zaken, Volksgezondheid en Leefmilieu. W. Sermeus, L. Delesie, D. Michiels, K. Van den Heede, P. Van Herck, J. Van Landuyt, 2006. (https://portal.health.fgov.be/portal/page?_pageid=56,698710&_dad=portal&_schema=PORTAL)

Bijlage 5 : De finale MVG II itemset

Klasse A : Bevorderen van activiteiten en lichaamsbeweging

Item A1 Lichamelijke oefeningen
MVG code A100 Gestructureerde lichamelijke oefeningen

Klasse B: Zorg voor de uitscheiding

Item B1 Zorgen aan het kind (< 5 jaar) m.b.t. uitscheiding
MVG code B100 Zorgen aan het kind (< 5 jaar) m.b.t. uitscheiding

Item B2 Zorg bij urinaire uitscheiding**
MVG code B210 Urinaire uitscheiding: het opvolgen van de mictie van de urinair continente patië
MVG code B220 Urinaire uitscheiding: ondersteuning van de urinair continente patiënt
MVG code B230 Urinaire uitscheiding: zorg bij de urinair incontinente patiënt
MVG code B240 Urinaire uitscheiding: zorg aan een urinair stoma
MVG code B250 Urinaire uitscheiding: zorg aan een urinaire verblijfssonde

Item B3 Uitvoeren van een blaassondage
MVG code B300 Uitvoeren van een blaassondage

Item B4 Fecale uitscheiding**
MVG code B410 Fecale uitscheiding: het opvolgen van de defecatie van de fecaal continente patië
MVG code B420 Fecale uitscheiding: ondersteuning van de fecaal continente patiënt
MVG code B430 Fecale uitscheiding: zorgen bij de fecaal incontinente patiënt
MVG code B440 Fecale uitscheiding: zorg m.b.t. een fecaal stoma/pouch

Item B5 Toediening lavement, verwijderen fecalomen of plaatsen van een rectale canule ter preventie of ter behandeling van obstipatie
MVG code B500 Toediening lavement, verwijderen faecalomen of het plaatsen van een rectale ca
ter preventie of ter behandeling van obstipatie

Item B6 Educatie m.b.t. urinaire of/en fecale uitscheiding
MVG code B600 Educatie m.b.t. urinaire en/of fecale uitscheiding

Klasse C: Zorg voor de mobiliteit

Item C1 Installeren van de patiënt**
MVG code C110 Installatie van de 24u/24U bedlegerige patiënt
MVG code C120 Installatie van de NIET 24u/24u bedlegerige patiënt

Item C2 Hulp bij verplaatsen van de patiënt binnen de afdeling
MVG code C200 Hulp bij verplaatsen van de patiënt binnen de afdeling

Item C3 Transport van de patiënt buiten de afdeling
MVG code C300 Transport van de patiënt buiten de afdeling

Item C4 Aanwezigheid van tractie
MVG code C400 Aanwezigheid van tractie

Klasse D: Zorg voor voeding

Item D1 Algemene zorgen m.b.t. de voeding**
MVG code D110 Hulp bij voeding (in de patiëntenkamer)
MVG code D120 Hulp bij voeding (in de eetzaal)
MVG code D130 De patiënt is 24u nuchter

Item D2 Zorg bij fles- en borstvoeding aan een kind
MVG code D200 Zorg bij fles- en borstvoeding aan een kind

Item D3 Toedienen van sondevoeding
MVG code D300 Toediening van sondevoeding

Item D4 Toedienen van Totale Parenterale Nutritie (TPN)
MVG code D400 Toediening TPN

Klasse E: Bevorderen van lichamelijk comfort

Item E1 Symptoommanagement: pijn
MVG code E100 Symptoommanagement: pijn

Item E2 Symptoommanagement: nausea en braken
MVG code E200 Symptoommanagement: nausea en braken

Item E3 Symptoommanagement: moeheid
MVG code E300 Symptoommanagement: moeheid

Item E4 Symptoommanagement: sedatie
MVG code E400 Symptoommanagement sedatie

Klasse F: Ondersteunen van persoonlijke zorg

Item F1 Hygiënische verzorging**
MVG code F110 Hygiënische zorgen aan lavabo, bed(waskom) of couveuse
MVG code F120 Hygiënische zorgen in een bad of douche

Item F2 Educatie en training m.b.t. hygiënische verzorging
MVG code F200 Educatie en training m.b.t. hygiënische verzorging

Item F3 Dagkledij
MVG code F300 Hulp bij dagkledij

Item F4 Zorgen m.b.t. het zelfbeeld
MVG code F400 Zorgen m.b.t. het zelfbeeld

Item F5 Bijzondere mondzorg
MVG code F5 Bijzondere mondzorg

Klasse G: Zorg voor de elektrolytenbalans en het zuur-base-evenwicht

Item G1 Beleid van de vocht- en voedingsbalans
MVG code G100 Beleid van de vocht- en voedingsbalans

Item G2 Beleid bij een evacuerende maagsonde
MVG code G200 Beleid bij een evacuerende maagsonde

Item G3 Glycemiebeleid
MVG code G300 Glycemiebeleid

Item G4 Bloedwaardenbeleid: bloedgassen, stolling, hemoglobine of ionen
MVG code G400 Bloedwaardenbeleid: bloedgassen, stolling, hemoglobine of ionen

Item G5 Beleid m.b.t. dialyse
MVG code G500 Beleid m.b.t. dialyse

Klasse H: Zorg bij geneesmiddelengebruik

Item H1 Toediening van geneesmiddelen SC/ID/IM
MVG code H100 Toediening geneesmiddelen SC/ID/IM

Item H2 Toediening van geneesmiddelen IV
MVG code H200 Toediening van het aantal verschillende geneesmiddelen IV

Item H3 Toediening van geneesmiddelen IV
MVG code H300 Het meest frequent toegediende geneesmiddel IV

Item H4 Toediening van geneesmiddelen via aërosol, puff of zuurstoftent
MVG code H400 Toediening geneesmiddelen via aërosol, puff of zuurstoftent

Item H5 Toediening geneesmiddelen via vaginale weg
MVG code H500 Toediening geneesmiddelen via vaginale weg

Klasse I: Neurologische zorg

Item I1 Bewaking van de neurologische functie d.m.v. de Glasgow Coma Scale (GCS)
MVG code I100 Bewaking van de neurologische functie d.m.v. de Glasgow Coma Scale (GCS)

Item I2 Intracraniële drukmeting zonder of met drainage
MVG code I200 Intracraniële drukmeting zonder of met drainage

Klasse K: Zorg voor de ademhaling

Item K1 Aspiratie van de luchtwegen
MVG code K100 Aspiratie van de luchtwegen

Item K2 Ondersteunende middelen voor de ademhalingsfunctie
MVG code K200 Ondersteunende middelen voor de ademhalingsfunctie

Item K3 Kunstmatige ventilatie
MVG code K300 Kunstmatige ventilatie

Klasse L: Huid- en wondverzorging

Item L1 Toezicht op een verband, verbandmateriaal en wondomgeving (zonder verzorging)
MVG code L100 Toezicht op een verband, verbandmateriaal en wondomgeving (zonder verzorging)

Item L2 Verzorging van suturen en insteekpunten
MVG code L200 Verzorging van suturen en insteekpunten

Item L3 Eenvoudige verzorging van een open wonde
MVG code L300 Eenvoudige verzorging van een open wonde

Item L4 Complexe verzorging van een open wonde

MVG code L400 Complexe verzorging van een open wonde

Item L5 Verzorging van huidlaesies als gevolg van dermatologische aandoeningen
MVG code L500 verzorging van huidlaesies als gevolg van dermatologische aandoeningen

Klasse M: Temperatuurregeling

Item M1 Opvolgen van de thermoregulatie in de couveuse
MVG code M100 Opvolgen van de thermoregulatie in de couveuse

Klasse N: Zorg voor de weefseldoorbloeding

Item N1 Toediening van bloed- en bloedcomponenten
MVG code N100 Toediening van bloed- en bloedcomponenten

Item N2 Toezicht en/of verzorging van een artificiële toegangspoort: veneus, arterieel, subcutaan, intramusculair, intrapleuraal, intrathecaal, intraspinaal, epiduraal, intraperitoneaal, intra-osseus
MVG code N200 Toezicht en/of verzorging van een artificiële toegangspoort: veneus, arterieel, subcutaan, intramusculair, intrapleuraal, intrathecaal, intraspinaal, epiduraal, intraperitoneaal, intra-osseus

Item N3 Veneuze bloedafname
MVG code N300 Veneuze bloedafname

Item N4 Arteriële bloedafname
MVG code N400 Arteriële bloedafname

Item N5 Capillaire bloedafname
MVG code N500 Capillaire bloedafname

Item N6 Cardio-circulatoire ondersteuning : elektrische hulpmiddel
MVG code N600 Cardio-circulatoire ondersteuning: elektrisch hulpmiddel

Item N7 Cardio-circulatoire ondersteuning: mechanisch hulpmiddel
MVG code N700 Cardio-circulatoire ondersteuning: mechanisch hulpmiddel

Klasse O: Gedragstherapie

Item O1 Activiteitenbegeleiding
MVG code O100 Activiteitenbegeleiding

Item O2 Zorg m.b.t. gedragsstoornissen
MVG code O200 Zorg m.b.t gedragsstoornissen

Klasse P: Cognitieve therapie

Item P1 Zorgen aan de patiënt met een cognitief verminderd functioneren
MVG code P100 Zorgen aan de patiënt met een cognitief verminderd functioneren

Klasse Q: Bevorderen van de communicatie

Item Q1 Hulp bij communicatiemoeilijkheden
MVG code Q100 Hulp bij communicatiemoeilijkheden

Klasse R: Ondersteunen bij probleemhantering

Item R1 Emotionele ondersteuning**

MVG code R110 Basis emotionele ondersteuning
MVG code R120 Gerichte emotionele ondersteuning
MVG code R130 Opvang van een emotionele crisis

Klasse S: Patiëntenvoorlichting

Item S1 Gerichte educatie en voorlichting
MVG code S100 Gerichte educatie en voorlichting

Item S2 Voorlichting bij operatie of onderzoek
MVG code S200 Voorlichting bij operatie of onderzoek

Klasse V: Risicobestrijding

Item V1 Decubituspreventie: gebruik van dynamische antidecubitusmaterialen
MVG code V100 Decubituspreventie: gebruik van dynamische antidecubitusmaterialen

Item V2 Decubituspreventie: wisselhouding
MVG code V200 Decubituspreventie: wisselhouding

Item V3 Bewaken van de biologische vitale parameters m.b.t. hart, longen en/of lichaamstemeratuur: continue monitoring
MVG code V300 Bewaken van de biologische vitale parameters m.b.t. hart, longen en/of lichaamstemeratuur: continue monitoring

Item V4 Bewaken van de biologische vitale parameters m.b.t. hart, longen en/of lichaamstemeratuur: discontinue meting
MVG code V400 Bewaken van de biologische vitale parameters m.b.t. hart, longen en/of lichaamstemeratuur: discontinue meting

Item V5 Staalafname van weefsel of lichamelijk excretiemateriaal
MVG code V500 Staalafname van weefsel of lichamelijk excretiemateriaal

Item V6 Isolatiemaatregelen
MVG code V600 Isolatiemaatregelen

Item V7 Beschermingsmaatregelen bij desoriëntatie
MVG code V700 Beschermingsmaatregelen bij desoriëntatie

Klasse W: Zorg rondom geboorte

Item W1 Zorgen i.v.m. relaxatie, gebonden aan de voorbereiding op de bevalling
MVG code W100 Zorgen i.v.m. relaxatie, gebonden aan de voorbereiding op de bevalling

Item W2 Zorgen ante-partum: opvolging uterine activiteit
MVG code W200 Zorgen ante-partum: opvolging uterine activiteit

Item W3 Bevalling uitgevoerd door een zorgverlener
MVG code W300 Bevalling uitgevoerd door een zorgverlener

Item W4 Post – partum opvolging
MVG code W400 Post – partum opvolging

Item W5 Kangoeroezorg
MVG code W500 Kangoeroezorg

Klasse X: Zorg voor gezin en familie

Item X1 Rooming-in van familie of significante naaste
MVG code X100 Rooming-in van familie of significante naaste

Klasse Y: Bemiddeling in de zorg

Item Y1 Culturele bemiddeling
MVG code Y100 Culturele bemiddeling

Item Y2 Anamnese
MVG codeY200 Anamnese

Klasse Z: Beheer van zorgvoorzieningen & informatiebeheer

Item Z1 Assessment functioneel, mentaal, psychosociaal
MVG code Z100 Assessment functioneel, mentaal, psycho-sociaal

Item Z2 Ondersteuning van de arts bij een niet delegeerbare medische handeling
MVG code Z200 Ondersteuning van de arts bij een niet delegeerbare medische handeling

Item Z3 Multidisciplinair overleg
MVG code Z300 Multidisciplinair overleg

Item Z4 Contact met andere instellingen
MVG code Z400 Contact met andere instellingen

Klasse	code	Item	Basisset *enkel obv AEP	Geriatrie	SP	ICU	Pediatrie <5j * =enkel op basis van wg neonato-logie	Pediatrie ≥5jaar	Maternele diensten moeders	Maternele diensten pasgeborenen * = enkel obv wg neonatologie	Dag ziekenhuis
A	A100	Lichamelijke oefeningen		X	X		X		X		
B	B100	Zorg voor uitscheiding kind <5 jaar	X				X			X	
	B2**	Zorg bij urinaire uitscheiding	X	X	X	X		X	X		X
	B300	Uitvoeren van een blaassondage		X	X		X	X	X		
	B4**	Zorg bij fecale uitscheiding	X	X	X	X		X	X		X
	B500	Toediening lavement, verwijderen fecaloom of plaatsen rectale canule		X	X				X		
	B600	Educatie m.b.t. urinaire en/of fecale uitscheiding	X	X	X		X	X			
C	C1**	Installeren van de patiënt	X	X	X	X	X	X	X	X	X
	C200	Hulp bij verplaatsen van de patiënt binnen de afdeling	X	X	X		X	X	X		X
	C300	Transport van de patiënt buiten de afdeling			X	X	X	X		X	X
	C400	Aanwezigheid van tractie				X					
D	D1**	Algemene zorgen m.b.t. de voeding	X	X	X	X	X	X	X		X
	D200	Zorg bij fles- en borstvoeding aan een kind					X		X	X	
	D300	Toedienen van sondevoeding	X	X	X	X	X	X		X	
	D400	Toedienen van Totale Parenterale Nutritie (TPN)	X	X	X	X	X				
E	E100	Symptoommanagement pijn	X	X	X	X	X	X	X	X	X
	E200	Symptoommanagement nausea en braken	X		X	X	X	X	X	X	X
	E300	Symptoommanagement moeheid			X						X
	E400	Symptoommanagement sedatie				X	X	X			X
F	F1**	Hygiënische verzorging	X	X	X	X	X	X	X	X	X
	F200	Educatie en training m.b.t. hygiënische verzorging		X	X				X	X	
	F300	Dagkledij		X	X						
	F400	Zorgen m.b.t. zelfbeeld	X*	X	X		X				
	F500	Bijzondere mondzorg	X	X	X	X	X	X		X	
G	G100	Beleid van de vocht- en voedingsbalans	X	X	X	X	X		X		X
	G200	Beleid bij een evacuerende maagsonde				X	X				
	G300	Glycemiebeleid		X	X		X	X	X	X	
	G400	Bloedwaardenbeleid: bloedgassen, stolling, hemoglobine of ionen				X	X		X		X
	G500	Beleid mbt dialyse				X					
H	H100	Toediening van geneesmiddelen SC/ID/IM	X	X	X	X		X	X	X	
	H200	Toediening van geneesmiddelen IV: soorten	X	X	X	X	X	X	X	X	X
	H300	Toediening van geneesmiddelen IV: meest frequente	X*			X					
	H400	Toediening van geneesmiddelen via aërosol, puff of zuurstoftent	X	X		X	X	X			
	H500	Toediening geneesmiddelen via vaginale weg							X		
I	I100	Bewaking van de neurologische functie d.m.v. de GCS				X	X	X			
	I200	Intracraniële drukmeting zonder of met drainage				X					
K	K100	Aspiratie van de luchtwegen					X			X	
	K200	Ondersteunende middelen voor de ademhalingsfunctie	X	X	X	X	X	X			X
	K300	Kunstmatige ventilatie	X		X	X	X				

Klasse	code	Item	Basisset *enkel obv AEP	Geriatrie	SP	ICU	Pediatrie <5j * =enkel op basis van wg neonato-logie	Pediatrie ≥5jaar	Maternele diensten moeders	Maternele diensten pasgeborenen * = enkel obv wg neonatologie	Dag ziekenhuis
L	L100	Toezicht op een verband , materiaal, wondomgeving (zonder verzorging)		X							
	L200	Verzorging van suturen en insteekpunten	X	X	X	X	X		X	X	
	L300	Eenvoudige verzorging van een open wonde	X	X		X	X		X	X	
	L400	Complexe verzorging van een open wonde	X	X		X			X		
	L500	Verzorging van huidlaesies als gevolg van dermatologische aandoeningen	X*	X			X	X			
M	M100	Opvolgen van de thermoregulatie					X*			X*	
N	N100	Toediening van bloed- en bloedcomponenten	X*			X	X				
	N200	Toezicht en/of verzorging van een artificiële toegangspoort	X	X	X	X	X	X	X	X	X
	N300	Veneuze bloedafname	X	X	X	X	X	X	X	X	X
	N400	Arteriële bloedafname	X			X					
	N500	Capillaire bloedafname	X	X	X	X		X	X	X	
	N600	Cardio-circulatoire ondersteuning: elektrisch hulpmiddel				X					
	N700	Cardio-circulatoire ondersteuning: mechanisch hulpmiddel				X					
O	O100	Activiteitenbegeleiding	X*	X	X		X	X			
	O200	Zorg m.b.t. gedragsstoornissen									
P	P100	Cognitieve therapie	X	X	X		X				
Q	Q100	Hulp bij communicatiemoeilijkheden			X	X					
R	R1**	Emotionele ondersteuning	X	X	X	X	X	X	X	X	X
S	S100	Gerichte educatie en voorlichting	X	X	X		X	X	X	X	X
	S200	Voorlichting bij operatie en onderzoek	X	X	X		X	X			X
V	V100	Decubituspreventie: gebruik van dynamische anticecubitusmaterialen	X	X	X	X		X			
	V200	Decubituspreventie: wisselhouding	X	X	X	X	X			X	
	V300	Bewaken van biologische vitale parameters: continue monitoring	X	X	X	X	X		X	X	X
	V400	Bewaken van biologische vitale parameters: discontinue meting	X	X	X	X	X	X	X	X	X
	V500	Staalafname van weefsel of lichamelijk excretiemateriaal		X	X	X	X	X	X	X	
	V600	Isolatiemaatregelen	X	X	X	X	X	X			
	V700	Beschermingsmaatregelen bij desoriëntatie			X		X	X			
W	W100	Zorgen i.v.m. relaxatie gebonden aan de voorbereiding op de bevalling							X		
	W200	Zorgen ante-partum:opvolging uterine activiteit							X		
	W300	Bevalling uitgevoerd door een zorgverlener							X		
	W400	Post-partum opvolging							X		
	W500	Kangoeroezorg							X	X	
X	X100	Rooming-in van familie of significante naaste			X	X		X	X	X	
Y	Y100	Culturele bemiddeling							X		
	Y200	Anamnese	X	X	X		X	X	X	X	X
Z	Z100	Assessment functioneel, mentaal, psychosociaal		X	X						
	Z200	Ondersteuning van de arts bij een niet delegeerbare medische handeling				X			X	X	
	Z300	Multidisciplinair overleg	X	X	X	X		X			
	Z400	Contact met andere instellingen		X	X						

Items of FIM and Barthel Index covering ICF core sets for Neurologic and Musculoskeletal Post-acute Rehabilitation.

Reference: Grill E, Stucki G, Scheuringer M, Melvin J. Validation of International Classification of Functioning, Disability, andnHealth (ICF) Core Sets for early postacute rehabilitation facilities: comparisons with three other functional measures. Am J Phys Med Rehabil. 2006 Aug;85(8):640-9.

Body Functions			Neurologic Core Sets		Musculoskeletal Core Sets		FIM	Barthel Index
			Acute	Post-Acute	Acute	Post-Acute		
	Chapter Mental Functions							
		b110 Consciousness functions	x	x	x			
		b114 Orientation functions	x	x				
		b126 Temperament and personality functions		x				
		b130 Energy and drive functions	x	x	x	x		
		b134 Sleep functions	x	x	x	x		
		b140 Attention functions	x	x				
		b144 Memory functions		x			x	
		b147 Psychomotor functions	x	x				
		b152 Emotional functions	x	x	x	x		
		b156 Perceptual functions	x	x				
		b160 Thought functions		x				
		b164 Higher-level cognitive functions		x				
		b167 Mental functions of language	x	x				
		b176 Mental function of sequencing complex movements		x				
		b180 Experience of self and time functions	x	x	x			
	Chapter Sensory Functions and Pain							
		b210 Seeing functions	x	x				
		b215 Function of structures adjoining the eye	x	x				
		b230 Hearing functions	x	x				
		b235 Vestibular functions	x	x				
		b240 Sensations associated with hearing and vestibular function	x	x				
		b260 Proprioceptive function	x	x	x	x		
		b265 Touch function	x	x				
		b270 Sensory functions related to temperature and other stimuli	x	x		x		
		b280 Sensation of pain	x	x	x	x		
	Chapter Voice and Speech Functions							
		b310 Voice functions	x	x				
		b320 Articulation functions		x				
		b340 Alternative vocalization functions		x				

	Chapter Functions of Cardiovasc, Hematol, Immunol, Respirat System							
		b410 Heart functions	x	x				
		b415 Blood vessel functions	x	x	x	x		
		b420 Blood pressure functions	x	x				
		b430 Hematologic system functions	x	x				
		b435 Immunologic system functions	x	x		x		
		b440 Respiration functions	x	x	x	x		
		b445 Respiratory muscle functions			x			
		b450 Additional respiratory functions	x	x				
		b455 Exercise tolerance functions	x	x				
	Chapter Functions of Digestive, Metabolic, and Endocrine Systems							
		b510 Ingestion functions	x	x				
		b515 Digestive functions		x				
		b525 Defecation functions	x	x	x	x	x	x
		b530 Weight maintenance functions		x		x		
		b535 Sensations associated with the digestive system	x	x				
		b540 General metabolic functions	x	x				
		b545 Water, mineral, and electrolyte balance functions	x	x				
		b550 Thermoregulatory functions		x				
	Chapter Genitourinary and Reproductive Functions							
		b620 Urination functions	x	x	x	x	x	x
		b630 Sensations associated with urinary functions		x				
	Chapter Neuromusculoskeletal and Movement-Related Functions							
		b710 Mobility of joint functions	x	x	x	x		
		b715 Stability of joint functions	x	x	x	x		
		b730 Muscle power functions	x	x	x	x		
		b735 Muscle tone functions	x	x	x	x		
		b740 Muscle endurance functions		x		x		
		b755 Involuntary movement reaction functions	x	x		x		
		b760 Control of voluntary movement functions	x	x		x		
		b770 Gait pattern functions		x		x		
		b780 Sensations related to muscles and movement functions				x		
	Chapter Functions of the Skin and Related Structures							
		b810 Protective functions of the skin	x	x		x		
		b820 Repair functions of the skin			x			

Body Structures			Neurologic Core Sets		Musculoskeletal Core Sets		FIM	Barthel Index
			Acute	Post-Acute	Acute	Post-Acute		
	Chapter Structures of the Nervous System							
		s110 Structure of brain	x	x				
		s120 Spinal cord and related structures	x	x				
		s130 Structures of meninges		x				
	Chapter Structures of Cardiovasc, Immunol, Respiratory System							
		s410 Structure of cardiovascular system	x	x	x			
		s430 Structure of respiratory system	x	x	x			
	Chapter Structures Related to Digestive, Metabolic, Endocrine System							
		s530 Structure of stomach		x				
	Chapter Structures Related to Movement							
		s710 Structure of head and neck region	x	x	x	x		
		s720 Structure of shoulder region		x	x	x		
		s730 Structure of upper extremity		x	x	x		
		s740 Structure of pelvic region			x	x		
		s750 Structure of lower extremity		x	x	x		
		s760 Structure of trunk			x	x		
	Chapter Skin and Related Structures							
		s810 Structure of areas of skin		x	x	x		

Activities and Participation			Neurologic Core Sets		Musculoskeletal Core Sets		FIM	Barthel Index
			Acute	Post-Acute	Acute	Post-Acute		
	Chapter Learning and Applying Knowledge							
		d110 Watching		x				
		d115 Listening		x				
		d120 Other purposeful sensing		x				
		d130 Copying		x				
		d135 Rehearsing		x				
		d155 Acquiring skills		x		x		
		d160 Focusing attention		x				
		d166 Reading		x				
		d170 Writing		x				
		d175 Solving problems		x			x	
		d177 Making decisions		x		x		
	Chapter General Tasks and Demands							
		d230 Carrying out daily routine				x	x	
		d240 Handling stress and other psychological demands			x	x		
	Chapter Communication							
		d310 Communicating with–receiving spoken messages		x		x	x	
		d315 Communicating with–receiving nonverbal messages	x	x		x	x	
		d330 Speaking	x	x		x	x	
		d335 Producing nonverbal messages	x	x		x	x	
		d350 Conversation		x				
		d360 Using communication devices and techniques	x	x		x		

	Chapter Mobility							
		d410 Changing basic body position	x	x	x	x	x	x
		d415 Maintaining a body position	x	x	x	x		
		d420 Transferring oneself	x	x	x	x	x	x
		d430 Lifting and carrying objects		x		x		
		d440 Fine hand use	x	x		x		
		d445 Hand and arm use	x	x	x	x		
		d450 Walking		x	x	x	x	x
		d455 Climbing					x	x
		d460 Moving around in different locations		x		x		
		d465 Moving around using equipment	x	x		x	x	x
	Chapter Self-care							
		d510 Washing oneself	x	x	x	x	x	x
		d520 Caring for body parts	x	x	x	x	x	x
		d530 Toileting	x	x	x	x	x	x
		d540 Dressing	x	x		x	x	x
		d550 Eating	x	x	x	x	x	x
		d560 Drinking	x	x		x	x	
		d570 Looking after one's health				x		
	Chapter Interpersonal Interactions and Relationships							
		d710 Basic interpersonal interactions					x	
		d760 Family relationships	x	x	x	x		
	Chapter Community, Social, and Civic Life							
		d930 Religion and spirituality		x				
		d940 Human rights	x					

Environmental Factors			Neurologic Core Sets		Musculoskeletal Core Sets		FIM	Barthel Index
			Acute	Post-Acute	Acute	Post-Acute		
	Chapter Products and Technology							
		e110 Products or substances for personal consumption	x	x	x	x		
		e115 Products and technology for personal use in daily living	x	x	x	x		
		e120 Products and technology for personal indoor and outdoor mobility and transportation	x	x	x	x		
		e125 Products and technology for communication	x	x		x		
		e150 Design, construction, and building products and technology of buildings for public use	x			x		
	Chapter Natural Environment and Human-Made Changes to Environment							
		e225 Climate				x		
		e240 Light	x					
		e250 Sound	x					
	Chapter Support and Relationships							
		e310 Immediate family	x	x	x	x		
		e315 Extended family	x	x				
		e320 Friends	x	x	x	x		
		e340 Personal care providers and personal assistants				x		
		e355 Health professionals	x	x	x	x		
		e360 Health-related professionals	x	x				

	Chapter Attitudes							
		e410 Individual attitudes of immediate family members	x	x	x	x		
		e415 Individual attitudes of extended family members	x	x				
		e420 Individual attitudes of friends	x	x	x	x		
		e430 Individual attitudes of people in positions of authority				x		
		e440 Individual attitudes of personal care providers and personal assistants				x		
		e450 Individual attitudes of health professionals	x	x	x	x		
		e455 Individual attitudes of other professionals	x					
		e460 Societal attitudes		x				
		e465 Social norms, practices, and ideologies	x	x				
	Chapter Services, Systems, and Policies							
		e550 Legal services, systems, and policies	x	x				
		e555 Associations and organizational services, systems, and policies				x		
		e570 Social security, services, systems, and policies	x	x				
		e575 General social support services, systems, and policies				x		
		e580 Health services, systems, and policies	x	x	x	x		

APPENDIX CHAPTER 5: DESCRIPTION OF THE CURRENT ORGANISATION AND FINANCING OF MUSCULOSKELETAL AND NEUROLOGICAL REHABILITATION IN BELGIUM

In the Tables below, a comparison is made between Requirements, Payment System (Accessibility) and Payments System (General Aspects) for the different existing financing mechanisms in Belgium. Each Table is first presented for the 7.71 convention system and then followed by the same Table for the 9.50 convention en K30/60 nomenclature, so that the different systems can be compared for the corresponding items.

Legend:

For the limitative list per financial system (7.71, 9.50, K30 or K60) (see "accessability" in left hand column): it is important to know that per financial system the pathologies which are mentioned on their limitative list are indicated in bold.

* Bold= mentioned on the limitative list of this financial system;

* Standard= indirectly a candidate for this financial system because of comparability with a pathology that is mentioned on the limitative list.

* Standard in parenthesis= indirectly a candidate for this financial system because of comparability with a pathology that is mentioned on the limitative list, but under certain conditions (See remarks per row).

(**) A specific agreement for individuals with Cerebral Palsy does exist besides the 9.50. A Cerebral Palsy reference centre does also exist.

(°°) A specific agreement for individuals with Spina Bifida does exist besides the 9.50. A Spina Bifida reference centre will be indicated.

		7.71						
		1	2	3	4	5	6	7
REQUIREMENTS								
Price setting		Price calculated based on normal production capacity and personnel and working costs				Based on history		
Price per hour therapy	Inpatient	€ 51	€ 60	€ 40	€ 37	€ 20	€ 20	€ 20
	Outpatient	€ 51	€ 60	€ 40	€ 37	€ 17	€ 17	€ 18
Duration of therapy sessions		3h/2h30/2h	3h/2h	6h/3h	6h/3h	6h/3h	6h/3h	6h/3h
Duration of rehabilitation program		Centres 1 & 2: 12 month periods in which max. 3 months intensive and/or 3 months maintenance (6 months in total) Centre 3: 12 month periods in which max. 100 sessions Centre 4: 24 months / 4-5 sessions every week at first, less intesive at the end Centres 5 to 6: maximum 8months-> 24 months (depending on pathology)						
What covers the price?		* Personnel: medical and para-medical * Working costs: centre and therapy				Unspecified		

		9.50 (46 centra)	K30 (? Centra)	K60 (? Centra)
REQUIREMENTS				
Price setting		Insurance Commission'	Concertation Medico-Mut	
Price per hour therapy	Inpatient	*R:* € 31 *Other:* € 20,58 --> € 69,41	€ 31	€ 31
	Outpatient	*R:* € 31 *Other:* € 20,58 --> € 69,42	€ 31	€ 31
Duration of therapy sessions		No duration of therapy session defined. As a consequence, the price does not vary as a function of duration!	1h	2h
Duration of rehabilitation program		6m -> 18y; After the proposed duration can therapy be proceeded a rato of 100 --> 150 sessions/y	60 sessions	120 sessions
What covers the price?		* Interventions of the physicians * Interventions of physiotherapist, occupational therapist, psychologist, paramedical staff and social workers	* Only interventions of physicians and therapists	

				7.71						
PAYMENT SYSTEM				1	2	3	4	5	6	7
Accessability	Cerebral lesions with neurological deficits									
		Traumatic Brain Injury				**X (100x/y)**	**X (daily in 2y)**	**X (24m)**	**X (24m)**	**X (24m)**
		Brain Injury that causes severe neuromotor impairments or speech- and language impairments or other severe neuropsychological impairments				(X)	(X)	(X)	(X)	(X)
			Hemiplegia/Hemiparesis with severe neuropsychological impairments that can be shown objectively			(X)	(X)	**X (12m)**	**X (12m)**	**X (12m)**
		Cerebral palsy (**)								
		Epilepsy						**X**	**X**	**X**
	Neurosurgical Intervention of the Brain							**X (24m)**	**X (24m)**	**X (24m)**
	Spinal Cord Injury/paraplegia-paraparesis/tetraplegia-							**X**	**X**	**X**
	Paraparesis							**X (9m)**	**X (9m)**	**X (9m)**
	Tetraparesis							**X (15m)**	**X (15m)**	**X (15m)**
	Paraplegia							**X (9m)**	**X (9m)**	**X (9m)**
		Acquired paraplegia						X	X	X
	Tetraplegia							**X (15m)**	**X (15m)**	**X (15m)**
		Acquired tetraplegia						X	X	X

				9.50 (46 centra)	K30 (? Centra)	K60 (? Centra)
PAYMENT SYSTEM						
Accessability	Cerebral lesions with neurological deficits					
		Traumatic Brain Injury		(X)		X
		Brain Injury that causes severe neuromotor impairments or speech- and language impairments or other severe neuropsychological impairm		**X (2y; 120xR + 340x)**		X
			Hemiplegia/Hemiparesis with severe neuropsychological impairments that can be shown objectively	X		X
		Cerebral palsy (**)		**X (18y; 1° 6y: (120xR + 110x)/y; 2° 12y: 144x/y)**		X
		Epilepsy				X
	Neurosurgical Intervention of the Brain					
	Spinal Cord Injury/paraplegia-paraparesis/tetraplegia-			X		**X (120x)**
	Paraparesis					X
	Tetraparesis					X
	Paraplegia					X
		Acquired paraplegia		**X (2y; 120xR + 340x)**		X
	Tetraplegia					X
		Acquired tetraplegia		**X (2y; 120xR + 340x)**		X

				7.71						
PAYMENT SYSTEM				1	2	3	4	5	6	7
Accessability (con't (1))	Congenital diseases of the spine and/or spinal cord (°°)							(X)	(X)	(X)
	Polyneuropathy after a clear change in functional autonomy									
		Guillain Barré Syndroom						**X (24m)**	**X (24m)**	**X (24m)**
	Chronic evolutive diseases of the brain and/or spinal cord, with motor or intellectual sequels, during the intensive rehabilitation phase after an episode of deterioration									
		A progressive neurological disease after a clear change in functional autonomy								
			Amyotrophic Lateral Sclerosis	**X (6m/y)**	**X (6m/y)**			**X (3m per deterioration)**	**X (3m per deterioration)**	**X (3m per deterioration)**
			Wilson's disease	**X (6m/y)**	**X (6m/y)**			**X (3m per deterioration)**	**X (3m per deterioration)**	**X (3m per deterioration)**
			Friedreich's ataxia	**X (6m/y)**	**X (6m/y)**			**X (3m per deterioration)**	**X (3m per deterioration)**	**X (3m per deterioration)**
			Olivopontocerebellar atrophy	**X (6m/y)**	**X (6m/y)**			**X (3m per deterioration)**	**X (3m per deterioration)**	**X (3m per deterioration)**
			Multiple Sclerosis	**X (6m/y)**	**X (6m/y)**			**X (3m per deterioration)**	**X (3m per deterioration)**	**X (3m per deterioration)**
			Leukodystrophy	**X (6m/y)**	**X (6m/y)**			**X (3m per deterioration)**	**X (3m per deterioration)**	**X (3m per deterioration)**
			Arnold-Chiari Deformity	**X (6m/y)**	**X (6m/y)**			**X (3m per deterioration)**	**X (3m per deterioration)**	**X (3m per deterioration)**
			Syringomyelia	**X (6m/y)**	**X (6m/y)**			**X (3m per deterioration)**	**X (3m per deterioration)**	**X (3m per deterioration)**

				9.50 (46 centra)	K30 (? Centra)	K60 (? Centra)
PAYMENT SYSTEM						
Accessability (con't (1))	Congenital diseases of the spine and/or spinal cord (°°)			**X (18y; 1° 6y: (120xR + 110x)/y; 2° 12y: 144x/y)**		(X)
	Polyneuropathy after a clear change in functional autonomy					**X (120x)**
		Guillain Barré Syndroom				X
	Chronic evolutive diseases of the brain and/or spinal cord, with motor or intellectual sequels, during the intensive rehabilitation phase after an episode of deterioration			**X (3m per deterioration)**		
		A progressive neurological disease after a clear change in functional autonomy		X		**X (120x)**
			Amyotrophic Lateral Sclerosis	(X)		(X)
			Wilson's disease	(X)		(X)
			Friedreich's ataxia	(X)		(X)
			Olivopontocerebellar atrophy	(X)		(X)
			Multiple Sclerosis	(X)		(X)
			Leukodystrophy	(X)		(X)
			Arnold-Chiari Deformity	(X)		(X)
			Syringomyelia	(X)		(X)

				7.71						
PAYMENT SYSTEM				1	2	3	4	5	6	7
Accessability (con't (2))	Peripheral nerve lesion/radiculopathy/plexus lesion									
	Complete monoplegia of an upper limb							**X (4*3m in 2y)**	**X (4*3m in 2y)**	**X (4*3m in 2y)**
	Amputation of an upper or lower limb									
	Amputation of an upper limb above the hand							**X(12m)**	**X(12m)**	**X(12m)**
	Amputation of a lower limb at the thigh in the proximal 1/3 or with desarticulation of the hip							**X (12m)**	**X (12m)**	**X (12m)**
	Amputation of both lower limb at the tibia or femur							**X (12m)**	**X (12m)**	**X (12m)**
	Prosthesis of large and intermediate joints of the limbs									
	Orthopedic functional impairment concerning the large and intermediate joints of the limbs									
	Functional impairments due to severe tendon lesions with partial or complete interruption of continuity									
	Vertebral crush fractures									
	Fractures of the pelvis with ilio- and ischiopubic fracture with sacroiliacal dislocation after surgical correction									
	Chronic rheumatic evolutive joint disease after a clear change in functional autonomy									
	Rheumatoid Arthritis in a Steinbrocker stadium III and IV							**X (3m per deterioration)**	**X (3m per deterioration)**	**X (3m per deterioration)**
		Severe locomotor and psychological impairments due to rheumatoid arthritis in a Steinbrocker stadium III and IV						X	X	X

				9.50 (46 centra)	K30 (? Centra)	K60 (? Centra)
PAYMENT SYSTEM						
Accessability (con't (2))	Peripheral nerve lesion/radiculopathy/plexus lesion					**X (120x)**
		Complete monoplegia of an upper limb				X
	Amputation of an upper or lower limb			**X (1y; 60xR + 135x)**		**X (60x)**
		Amputation of an upper limb above the hand		X		X
		Amputation of a lower limb at the thigh in the proximal 1/3 or with desarticulation of the hip		X		X
		Amputation of both lower limb at the tibia or femur		X		X
	Prosthesis of large and intermediate joints of the limbs					**X (60x)**
	Orthopedic functional impairment concerning the large and intermediate joints of the limbs					**X (60x)**
	Functional impairments due to severe tendon lesions with partial or complete interruption of continuity				**X (60x)**	
	Vertebral crush fractures				**X (60x)**	
	Fractures of the pelvis with ilio- and ischiopubic fracture with sacroiliacal dislocation after surgical correction				**X (60x)**	
	Chronic rheumatic evolutive joint disease after a clear change in functional autonomy					**X (60x)**
		Rheumatoid Arthritis in a Steinbrocker stadium III and IV		**X (6m; 60xR))**		X
			Severe locomotor and psychological impairments due to rheumatoid arthritis in a Steinbrocker stadium III and IV	**X (6m; 60xR))**		X

		7.71						
PAYMENT SYSTEM		1	2	3	4	5	6	7
Accessability (con't (3))	Spondylitis with peripheral lesions in a Steinbrocker stadium III and IV, with eventual neurological complications					**X (3m per deterioration)**	**X (3m per deterioration)**	**X (3m per deterioration)**
	Multiple trauma: bone-, articular or neuromuscular lesions at several limbs, or complex wounds at the head, trunk or pelvis with lesions of the internal organs					**X (12m)**	**X (12m)**	**X (12m)**
	Algodystrophy (CRPS), Frozen Shoulder							
	Dysmelia and Phocomelia							
	Myopathy/Myositis after a clear change in functional autonomy							
	Myopathies: progressive hereditary muscular dystrophies, Thomson's myotonia congenita and auto-immune polymyositis							
	Scars of widespread burns with functional impairments during evolutive phase or after surgical/plastic correction							
	Mucoviscidosis							
	Respiratory rehabilitation for obstructive or restrictive respiratory insufficiency with a FEV1<60% and/or proven desaturation, at demand of the pneumologist							
	Postoperative or postintensive rehabilitation after an intervention >K180 or N300 or after a stay of > 7 days in Intensive Care							

PAYMENT SYSTEM		9.50 (46 centra)	K30 (? Centra)	K60 (? Centra)
Accessability (con't (3))	Spondylitis with peripheral lesions in a Steinbrocker stadium III and IV, with eventual neurological complications	**X (6m; 60xR))**		
	Multiple trauma: bone-, articular or neuromuscular lesions at several limbs, or complex wounds at the head, trunk or pelvis with lesions of the internal organs			
	Algodystrophy (CRPS), Frozen Shoulder			**X (120x)**
	Dysmelia and Phocomelia	**X (18y; 1° 6y: (120xR + 110x)/y; 2° 12y: 144x/y)**		
	Myopathy/Myositis after a clear change in functional autonomy			**X (120x)**
	Myopathies: progressive hereditary muscular dystrophies, Thomson's myotonia congenita and auto-immune polymyositis	**X (6m)**		X
	Scars of widespread burns with functional impairments during evolutive phase or after surgical/plastic correction			**X (60)**
	Mucoviscidosis	**X (6m; 30x/m waarvan 120xR)**		
	Respiratory rehabilitation for obstructive or restrictive respiratory insufficiency with a FEV1<60% and/or proven desaturation, at demand of the pneumologist		**X (60x)**	
	Postoperative or postintensive rehabilitation after an intervention >K180 or N300 or after a stay of > 7 days in Intensive Care		**X (60x)**	

	7.71						
PAYMENT SYSTEM (general)	1	2	3	4	5	6	7
Option for cumulation with other arrangements	No accumulation allowed on the same day.						
Yearly budget (2004)	€ 14.269.210						
Which underlying pathology is mostly represented?	Not registered with RIZIV/INAMI						

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PAYMENT SYSTEM (general)	9.50 (46 centra)	K30 (? Centra)	K60 (? Centra)
Option for cumulation with other arrangements	* 9.50 can not be preceeded by K30/K60 in the same institution!! * Accumulation with nomenclature is allowed under certain circumstances after R30/R60	No accumulation on the same day.	
Yearly budget (2004)	€ 7.886.151	*€ 113.669.869*	
Which underlying pathology is mostly represented?	* Acquired paraplegia or tetraplegia * Brain injury that causes severe neuromotor impairments or speech- and language	Postoperative or postintensive rehabilitation after an intervention >K180 or N300 or after a stay of >7days in Intensive Care	1) Prosthesis of large and itermediate joints of the limbs 2) Cerebral lesions with neurological deficit

APPENDIX CHAPTER 6: SURVEY CONCERNING CLINICAL PRACTICE IN BELGIUM

Letter in Dutch

Geachte professor, geachte collega,

Wij coördineren een onderzoeksproject (2005-18_HSR) in opdracht van het Federaal Kenniscentrum voor de Gezondheidszorg (KCE). Deze studie behandelt de organisatie van de locomotorische (en neurologische) revalidatie in België. Voor de concrete uitwerking werd gekozen voor vijf verschillende aandoeningen: CVA, MS, amputatie OL, dwarslaesie en THP.

Omdat het revalidatielandschap in België vrij heterogeen is, peilen we als een onderdeel van de studie bij een twaalftal collega's naar keuzes die zij zouden maken met betrekking tot trajecten voor vijf "virtuele" modelpatiënten met de verschillende aandoeningen. We beseffen dat het niet makkelijk is om op basis van een "papieren patiënt", zonder een klinische evaluatie, een traject te bepalen. Toch vragen we u, naar best vermogen en op basis van uw ervaring, een traject opgebouwd uit verschillende fasen, uit te stippelen.

Als bijlage vindt u een bundel documenten bestaande uit vijf casusbeschrijvingen, vergezeld van een formulier waarop u het traject kan weergeven, waarvoor u als clinicus in uw concrete werksituatie zou kiezen. U kan elk traject opdelen in verschillende fasen, te beginnen van bij de acute situatie. Per fase kunt u een aantal kenmerken aankruisen zoals de geschatte duur van de fase (in weken of maanden uitgedrukt), de fincancieringswijze (bv. K30 of conventie 9.50), de frequentie van de behandeling (bv. 5/week), de zorgomgeving (bv. Sp-bed, ambulant, thuis,..), een F- of E-statuut en een vervoersconventie. Het is mogelijk om in een bepaalde fase verschillende combinaties te maken (bv. 2/week 9.50 in een ambulante setting en vervoersconventie en 3/week monodisciplinaire kinesitherapie thuis). U vindt tevens een ingevuld formulier bij wijze van voorbeeld.

In een tweede deel vragen we u om voor de vijf patiënten te omschrijven wat naar uw mening, abstractie makend van uw concrete werksituatie en het huidige Belgische organisatiemodel, het "ideale" traject zou zijn (zo schematisch mogelijk verwoord).

We garanderen u dat de verwerking van de gegevens anoniem zal gebeuren.

Gezien het belang van het project hopen we van harte op uw medewerking te kunnen rekenen bij deze oefening. Indien u nog vragen heeft, of zou verkiezen dit mondeling te bespreken, (hetzij telefonisch, hetzij tijdens een persoonlijk onderhoud) aarzelt u dan niet ons te contacteren.

Mogen we u nu al danken voor de tijd die u besteedt aan deze oefening. Mocht u alsnog niet wensen mee te werken, gelieve ons dan te verwittigen. Graag ontvingen we de ingevulde documenten tegen uiterlijk 26 juni 2006.

Hoogachtend,

Dr. Carlotte Kiekens

Coördinator

Letter in French

Monsieur le professeur, cher confrère,

A la demande du Centre Fédéral d'Expertise des Soins de Santé nous coordonnons le projet de récherche 2005-18_HSR. Cet étude concerne l'organisation de la réadaptation locomotrice (et neurologique) en Belgique. Pour la partie concrète de cette étude, cinq pathologies ont été choisies: AVC, SEP, amputation MI, lésion médullaire et prothèses totale de hanche (PTH).

Puisque le paysage de la réadaptation Belge est relativement hétérogène, une partie de l'étude comporte une enquête chez une douzaine de collègues. Dans cet enquête nous vous demandons quel choix vous feriez par rapport au trajet de réadaptation pour cinq patients modèles « virtuels », présentant les différentes pathologies. Nous sommes conscients de la difficulté de définir un trajet sur base d'un « patient sur papier », sans aucune évaluation clinique. Toutefois, nous vous demandons de définir un trajet comportant les différentes phases, inspiré par votre expérience et dans la mesure du possible.

Ci-joint vous trouverez un fascicule de documents, comprenant les descriptions des cinq cas, chaque fois accompagnés d'un formulaire sur lequel vous pouvez remplir le trajet pour lequel vous choisiriez dans votre situation de travail concrète. Vous pouvez diviser le trajet en différentes phases, commençant dès la phase aigue. Pour chaque phase vous pouvez cocher quelques caractéristiques, tel que la durée estimée de la phase (exprimée en semaines ou en mois), le moyen de financement (par exemple K30 ou convention 9.50), la fréquence de la thérapie (par exemple 5/semaine), l'environnement de soin (par exemple lit SP, en ambulatoire, à domicile, …), un statut F ou E ou une convention de transport. Il est possible de faire différentes combinaisons dans une phase précise (par exemple 2/semaine 9.50 en ambulatoire avec convention de transport et 3/semaine kinésitherapie monodisciplinaire à domicile). En tant qu'exemple vous trouverez également un formulaire rempli.

Dans une deuxième partie nous vous demandons de décrire pour ces cinq patients, quel serait, dans votre opinion, en faisant abstraction de votre situation concrète et le système organisatoire belge, le trajet « idéal » (de façon aussi schématique que possible).

Nous vous garantisons que le traitement des données se fera de façon anonyme.

Vu l'importance de ce projet, nous espérons de tout cœur pouvoir compter sur votre collaboration à cet exercice. N'hésitez pas à nous contacter en cas de question ou si vous préférer discuter de cette matière oralement (par téléphone ou lors d'un entretien personnel).

Nous vous remercions déjà pour le temps que vous contribuer à cet exercice. Dans le cas on vous préférez ne pas participer, veuillez bien nous en prévenir. Nous espérons recevoir les documents remplis au plus tard le 26 juin 2006.

Veuillez recevoir, cher confrère, l'expression de nos sentiments les meilleurs,

Dr. Carlotte. Kiekens — Coordinateur

Dr. Katrien Van Rie — Chercheur

Cases in Dutch

Code:	EW
Leeftijd:	52
Geslacht:	M

Medische diagnose

Ongeval (boom op zich) 16-1-06: fractuur D11 en D12 met myelumcontusie van Th10 t.e.m. Th12; tevens medullair botoedeem in wervellichaam D8. 20-01-2006: osteosynthese van D10 t.e.m. L1.

Nevendiagnose

Arteriële hypertensie
Hypercholesterolemie
Fractuur linkerscapula als kind
Anale fistel waarvoor heelkunde 17 jaar geleden
Artroscopie van de rechterknie 20 jaar geleden
Appendectomie.

Revalidatiediagnose

Complete dwarslaesie ASIA A D11 dd. 16-01-2006

SAMPC

Somatisch

Patiënt heeft geen enkel gevoel meer in de onderste ledematen; vanaf de navel ondervindt hij een slapend gevoel. Paralyse OL. Transurethrale katheter, incontinent voor stoelgang (gebeurt met toucher).Mits enige steun kan patiënt rechtzitten op de rand van het bed; hierbij draagt hij dan ook zijn korset.

ADL

Patiënt wast zijn bovenlichaam volledig zelfstandig; hij heeft hulp nodig voor het onderlichaam.

Maatschappelijk

Patiënt is gehuwd en heeft 2 inwonende kinderen.gelijkvloerse woning; er zijn wel trappen aanwezig om binnen te komen. Patiënt is op pensioen; voordien was hij mijnwerker.Patiënt rijdt met de auto en de moto.Hij is zeer actief in de atletiek en is zowel bestuurder als verzorger van een lokale atletiekclub. Tevens heeft hij een hond.

Psychisch

Zeer gemotiveerde en realistische patiënt.

Communicatief

Geen bijzonderheden

FIM

FIM Totaal		69
Motor FIM		34
Zelfzorg		
Eten/drinken	6	
Uiterlijke verzorging	7	
Wassen	3	
Kleden bovenlichaam	5	
Kleden onderlichaam	2	
Gebruik toilet	1	
Sfincter controle		
Blaas management	1	
Darm management	1	
Transfers		
Bed / Stoel / Rolstoel	2	
WC	1	
Bad / Douche	1	
Verplaatsing		
Lopen / Rolstoel	3	
Trappen	1	
Cognitieve FIM		35
Communicatie		
Begrip	7	
Expressie	7	
Sociale Cognitie		
Sociale interactie	7	
Probleem oplossend vermogen	7	
Geheugen	7	

Leeftijd: 75
Geslacht: M

Medische diagnose

Kniedesarticulatie links dd 28-9-2005 omwille van irreversibele ischemie linker voet.

Nevendiagnose

1987: gastrectomie (adenoca); verscheiden vasculaire ingrepen

Revalidatiediagnose

Linker kniedesarticulatie

SAMPC

Somatisch

Transfers met hulp. Zet enkele stapjes met hulp van looprek. Fantoompijn.

ADL

Hulp voor wassen en kleden.

Maatschappelijk

Patiënt is gehuwd; zijn echtgenote heeft rugproblemen. Hij heeft 2 kinderen en 3 kleinkinderen; 1 dochter woont naast hem en is zeer betrokken. Patiënt woont in een woning met verdieping; bad- en slaapkamer zijn boven; er is een drempel aanwezig aan de voordeur. Patiënt is gepensioneerd en was voordien schoolhoofd. Als hobby's meldt hij fietsen, tuinieren, kaarten, dagblad lezen en kruiswoordraadsels. Het fietsen en het tuinieren zou patiënt graag hervatten.

Psychisch

GB

Communicatief

GB

FIM

FIM Totaal		76
Motor FIM		43
Zelfzorg		
Eten/drinken	6	
Uiterlijke verzorging	6	
Wassen	2	
Kleden bovenlichaam	4	
Kleden onderlichaam	2	
Gebruik toilet	2	
Sfincter controle		
Blaas management	6	
Darm management	6	
Transfers		
Bed / Stoel / Rolstoel	2	
WC	2	
Bad / Douche	2	
Verplaatsing		
Lopen / Rolstoel	2	
Trappen	1	
Cognitieve FIM		33
Communicatie		
Begrip	7	
Expressie	7	
Sociale Cognitie		
Sociale interactie	7	
Probleem oplossend vermogen	6	
Geheugen	6	

Code: GW
Leeftijd: 57
Geslacht: M

Medische diagnose

12-02-2006 CVA: bloeding basale ganglia links met uitbreiding naar pariëtaal

Nevendiagnose

/

Revalidatiediagnose

Rechter hemiplegie, slikstoornios, cognitieve stoornis, afasie, incontinent voor stoelgang en urine

SAMPC

Somatisch

Sterk gestoorde zitbalans; afwezige stabalans. Afwezige arm-handfunctie rechts. Transfer met behulp van 2 personen of tillift. Slikstoornissen waardoor voeding via PEG-sonde, niets per os; incontinent.

ADL

Volledig hulpafhankelijk. Niets per os.

Maatschappelijk

Patiënt is 2 x getrouwd geweest en nog niet gescheiden van zijn tweede vrouw. Hij heeft een nieuwe vriendin waarmee hij niet samenwoont. Hij heeft 2 dochters, maar heeft geen contact meer met de oudste. Patiënt woont in een woning met slaapkamer boven, badkamer beneden. Beroepshalve werkte hij als onderhoudstechnicus.Hobby: knutselen aan radio's.

Psychisch

Vermoeden van cognitieve stoornissen, moet nog gescreend worden.

Communicatief

Kan ja en nee knikken op eenvoudige opdrachten.Volledige motorische afasie.

FIM

FIM Totaal		28
Motor FIM		13
Zelfzorg		
Eten/drinken	1	
Uiterlijke verzorging	1	
Wassen	1	
Kleden bovenlichaam	1	
Kleden onderlichaam	1	
Gebruik toilet	1	
Sfincter controle		
Blaas management	1	
Darm management	1	
Transfers		
Bed / Stoel / Rolstoel	1	
WC	1	
Bad / Douche	1	
Verplaatsing		
Lopen / Rolstoel	1	
Trappen	1	
Cognitieve FIM		15
Communicatie		
Begrip	3	
Expressie	2	
Sociale Cognitie		
Sociale interactie	4	
Probleem oplossend vermogen	3	
Geheugen	3	

Code: PC
Leeftijd: 33
Geslacht: V

Medische diagnose

MS (diagnose gesteld in 2000)

Nevendiagnose

Epilepsie

Revalidatiediagnose

Functionele achteruitgang

SAMPC

Somatisch

Visusbeperking van het linker oog, met lichte inkrimping van het gezichtsveld. Functionele achteruitgang ovv krachtsverlies thv rechter onderste lidmaat en rechter hand, met geassocieerde gevoelsstoornissen thv rechter lichaamshelft. Toenemende handfunctiemoeilijkheden rechts; patiente laat af en toe voorwerpen vallen. Krachtsverlies thv heupflexoren rechtsvoetdorsiflexie (4/5). Toenemende gangmoeilijkheden; atactische gang zonder hulpmiddelen. Patiente valt af en toe (evenwichtsverlies). Patiënte staat weigerachtig tegen hulploopmiddelen. Er is evenwel een matig uitgesproken vermoeidheid (MS-gerelateerde vermoeidheidsklachten). Pijnklachten ter hoogte van rechter schouder. Klachten van urge, waarbij patiente om de 2-3 u naar het toilet moet. Nycturie : 3x per nacht. Geen urinaire incontientie. Klachten van constipatie. Geen oedemen.

ADL

Zelfstandig wassen en aankleden, doch nood aan steun zeker bij douche en baden.

Maatschappelijk

Patiënte woont samen , heeft geen kinderen. Zij is arbeidster, waarbij zij "orderpicking" uitvoert. Zij had aangepast werk gekregen, doch op 25/02/2006 werd haar contract beeindigt op medische redenen (CAO 26 werd niet door de werkgever aanvaard). Patiënte woont in een huis met één verdieping, op het bovenverdiep zijn slaapkamer en badkamer gelegen. Patiënte volgt af en toe thuiskinesitherapie. Hobbies zijn wandelen, zwemmen en lezen.

Psychisch

Sinds een 2-tal jaren heeft patiënte klachten van geheugen- en concentratiestoornissen (zij vergeet regelmatig zaken). Wisselende gemoedstoestand.

Communicatief

Klachten van woordvindingsmoeilijkheden. Soms verslikt patiënte zich in haar eigen speeksel.

FIM

FIM Totaal		103
Motor FIM		75
Zelfzorg		
Eten/drinken	6	
Uiterlijke verzorging	6	
Wassen	6	
Kleden bovenlichaam	4	
Kleden onderlichaam	4	
Gebruik toilet	6	
Sfincter controle		
Blaas management	7	
Darm management	7	
Transfers		
Bed / Stoel / Rolstoel	6	
WC	6	
Bad / Douche	6	
Verplaatsing		
Lopen / Rolstoel	6	
Trappen	5	
Cognitieve FIM		28
Communicatie		
Begrip	6	
Expressie	7	
Sociale Cognitie		
Sociale interactie	5	
Probleem oplossend vermogen	4	
Geheugen	6	

Code:	HK
Leeftijd:	55
Geslacht:	M

Medische diagnose

Ernstige coxartrose rechts, waarvoor THP rechts.

Nevendiagnose

/

Revalidatiediagnose

THP

SAMPC

Somatisch

Pre-op: mankend gangpatroon, fietsen niet meer mogelijk; quadricepsatrofie; krampen re OL; postoperatief onverwikkeld verloop.

ADL

Pre-op zelfstandig; postop hulp voor wassen kleden onderlichaam; hulp voor transfers.

Maatschappelijk

Gehuwd, 2 dochters; voltijds sportverzorger; hobby's tuinieren en fietsen;

Psychisch

GB

Communicatief

GB

FIM

FIM Totaal		97
Motor FIM		62
Zelfzorg		
Eten/drinken	7	
Uiterlijke verzorging	7	
Wassen	3	
Kleden bovenlichaam	7	
Kleden onderlichaam	3	
Gebruik toilet	3	
Sfincter controle		
Blaas management	7	
Darm management	7	
Transfers		
Bed / Stoel / Rolstoel	5	
WC	5	
Bad / Douche	4	
Verplaatsing		
Lopen / Rolstoel	3	
Trappen	1	
Cognitieve FIM		35
Communicatie		
Begrip	7	
Expressie	7	
Sociale Cognitie		
Sociale interactie	7	
Probleem oplossend vermogen	7	
Geheugen	7	

Cases in French

Code:	EW
Age	52
Sexe	M

Diagnostic médical

Accident lors duquel un arbre est tombé sur le patient: fracture D11 et D12 avec contusion de la moëlle épinière de D10 à D12; oedème médullaire de la vertèbre D8. Osteosynthèse de D10 à L1.

Diagnostic supplémentaire

Hypertension artérielle
Hypercholesterolémie
Fracture de l'omoplate gauche en tant qu'enfant
Fistule anale fistel (chirurgie il y a 17 an)
Arthroscopie du genou droit il y a 20 an
Appendectomie.

Diagnostic de réadaptation

Paraplégie complète D11 (ASIA A)

Bilan fonctionnel (selon le modèle "SAMPC")

Somatique

Le patient n'a plus aucune sensation au niveau des MI; à partir du nombril il sent des paresthésies. Paralysie des MI. Sonde Transuréthrale, incontinent pour les selles (toucher rectal pour les défécations). Avec support le patient peut s'asseoir au bord du lit, il porte un corset.

AVJ

Le patient se lave le torse de façon indépendente mais a besoin d'aide pour la partie inférieure du corps.

Social

Le patient est marié et a 2 enfants qui habitent chez eux.Maison de plein pied bien qu'il y ait des marches pour entrer. Le patiënt est un mineur à la retraîte. Il conduit une voiture ainsi qu'une moto. Il est très actif dans sons club d'athlétisme tant au niveau de la gestion qu'en tant que soignant-masseur. Il a un chien.

Psychique

Patient réaliste et très motivé.

Communicatif

Pas de remarques

MIF (Mesure d'Indépendance Fonctionelle)

MIF Total		69
MIF Moteur		34
Les soins personnels		
Alimentation	6	
Soins de l'apparence	7	
Hygiène/toilette	3	
Habillage: partie supérieure	5	
Habillage: partie inférieure	2	
Usage des toilettes	1	
Le contrôle des sphincters		
Contrôle de la vessie	1	
Contrôle des intestins	1	
Les transferts		
Lit / Chaisse / Fauteuil roulant	2	
Aller aux toilettes	1	
Baignoire / Douche	1	
La locomotion		
Marche / fauteuil roulant	3	
Escaliers	1	
MIF Cognitif		35
La communication		
Compréhension auditive	7	
Expression verbale	7	
La conscience de monde extérieur		
Capacité d'interagir et de communiquer socialement	7	
Résolution des problèmes	7	
Mémoire	7	

Code:	MV
Age	75
Sexe	M

Diagnostic médical

Desarticulatio du genou gauche pour ischémie irréversible du pied gauche.

Diagnostic supplémentaire

1987: gastrectomie (adenoca); différentes interventions vasulaires

Diagnostic de réadaptation

Desarticulatio du genou gauche

Bilan fonctionnel (selon le modèle "SAMPC")

Somatique

Transferts avec aide. Peut faire quelques pas avec un cadre de marche. Douleurs fantômes.

AVJ

Aide pour la toilette et l'habillage.

Social

Le patient est marié; son épouse a des problèmes de dos. Ils ont 2 enfants et 3 petits enfants; 1 habite la porte à côté et est très impliquée. Maison avec étage où se trouve la chambre à coucher et la salle de bain; une marche à la porte d'entrée. Le patient est un directeur d'école retraîté. Loisirs: vélo, jardinage, jouer aux cartes, lire le journal et mots croisés.Il aimerait bien reprendre le jardinage et le vélo.

Psychique

pas de remarques

Communicatif

pas de remarques

MIF (Mesure d'Indépendance Fonctionelle)

MIF Total		76
MIF Moteur		43
Les soins personnels		
Alimentation	6	
Soins de l'apparence	6	
Hygiène/toilette	2	
Habillage: partie supérieure	4	
Habillage: partie inférieure	2	
Usage des toilettes	2	
Le contrôle des sphincters		
Contrôle de la vessie	6	
Contrôle des intestins	6	
Les transferts		
Lit / Chaisse / Fauteuil roulant	2	
Aller aux toilettes	2	
Baignoire / Douche	2	
La locomotion		
Marche / fauteuil roulant	2	
Escaliers	1	
MIF Cognitif		33
La communication		
Compréhension auditive	7	
Expression verbale	7	
La conscience de monde extérieur		
Capacité d'interagir et de communiquer socialement	7	
Résolution des problèmes	6	
Mémoire	6	

Code: GW
Age 57
Sexe M

Diagnostic médical

AVC: hémorragie du ganglion basal gauche, s'étendant vers le lobe pariëtal

Diagnostic supplémentaire

/

Diagnostic de réadaptation

Hémiplegie droite, trouble de la déglutition, trouble gognitif, aphasie, incontinence urinaire et fécale

Bilan fonctionnel (selon le modèle "SAMPC")

Somatique

Equilibre assis fortement, position debout impossible. Main-bras afunctionnel à droite. Transferts à l'aide de deux personnes ou aide technique. Nutrition par gastrostomie percutanée, rien par voie orale. Incontinence.

AVJ

Dépendence totale de tierce personne pour tous les AVJ.

Social

Le patient a été marié deux fois, il est séparé de la deuxième épouse (pas divorcé) et il a une amie mais habite seul. Il a deux filles mais n'a plus de contact averc l'ainée. Il habite une maison avec nu étage ou se trouve la chambre à coucher, la salle de bain est au rez de chaussée. Loisirs: bricoler des radios.

Psychique

Suspicion de troubles cognitifs. Un examen neuropsychologique doit encore être effectué.

Communicatif

Peut faire signe de la tête pour répondre oui ou non à des questions simples. Aphasie motrice totale.

MIF (Mesure d'Indépendance Fonctionelle)

MIF Total		28
MIF Moteur		13
Les soins personnels		
Alimentation	1	
Soins de l'apparence	1	
Hygiène/toilette	1	
Habillage: partie supérieure	1	
Habillage: partie inférieure	1	
Usage des toilettes	1	
Le contrôle des sphincters		
Contrôle de la vessie	1	
Contrôle des intestins	1	
Les transferts		
Lit / Chaisse / Fauteuil roulant	1	
Aller aux toilettes	1	
Baignoire / Douche	1	
La locomotion		
Marche / fauteuil roulant	1	
Escaliers	1	
MIF Cognitif		15
La communication		
Compréhension auditive	3	
Expression verbale	2	
La conscience de monde extérieur		
Capacité d'interagir et de communiquer socialement	4	
Résolution des problèmes	3	
Mémoire	3	

Code: PC
Age 33
Sexe F

Diagnostic médical

SEP (diagnostic connu depuis 5 an)

Diagnostic supplémentaire

Epilepsie

Diagnostic de réadaptation

Déterioration fonctionnelle

Bilan fonctionnel (selon le modèle "SAMPC")

Somatique

Trouble de la visoin à l'oeil gauche et diminution du champ visuel. Déterioration fonctionnelle sous forme de perte de la force musculaire au niveau de l'hémicorps droit (jambe et main), associé à des troubles sensitifs à gauche. Trouble fonctionnel à la main droite, augmentant; la patiente laisse tomber des objets de temps en temps.Perte de la force musculaire des fléchisseurs de la hanche et les releveurs du pied droit (4/5).Trouble de la marche augmentant; marche atactique sans aide technique. Chutes occasionnelles (perte d'équilibre). La patiente est récalcitrante par rapport à une aide à la mobilité.Fatigue modérée (suite à la SEP).Douleur à l'épaule droite. Urgence urinaire (toute les 2 à 3 h), nycturie (3/nuit). Pas d'incontinence; Constipation. pas d'oedème.

AVJ

Toilette et habillage ed façon indépendente mais besoin d'une aide certaine pour prendre une douche ou un bain.

Social

La patiente cohabite, elle n'a pas d'enfants. Elle est ouvrière ("orderpicking"). Elle avait reçu un poste de travail adapté mais il y a quelques mois son contrat a été terminé pour des raisons médicales (le CAO 26 a été refusé par l'employeur). La patiente habite une maison à un étage ou se trouve la chambre à coucher et la salle de bain.Elle suit de temps en temps de la kiné. Loisirs: promenade, natation, lecture.

Psychique

Depuis environ deux an la patiente se plaint de problème de la concentration et de mémoire (elle oublie régulièrement des choses). Etat émotionnel variable.

Communicatif

Trouble pour trouver ses mots. Parfois fausses déglutition dans sa salive.

MIF (Mesure d'Indépendance Fonctionelle)

MIF Total		103
MIF Moteur		75
Les soins personnels		
Alimentation	6	
Soins de l'apparence	6	
Hygiène/toilette	6	
Habillage: partie supérieure	4	
Habillage: partie inférieure	4	
Usage des toilettes	6	
Le contrôle des sphincters		
Contrôle de la vessie	7	
Contrôle des intestins	7	
Les transferts		
Lit / Chaisse / Fauteuil roulant	6	
Aller aux toilettes	6	
Baignoire / Douche	6	
La locomotion		
Marche / fauteuil roulant	6	
Escaliers	5	
MIF Cognitif		28
La communication		
Compréhension auditive	6	
Expression verbale	7	
La conscience de monde extérieur		
Capacité d'interagir et de communiquer socialement	5	
Résolution des problèmes	4	
Mémoire	6	

Code: HK
Age 55
Sexe M

Diagnostic médical

Coxartrose sévère à droite (douleur à la marche et en faisant du vélo depuis environ un an)

Diagnostic supplémentaire

/

Diagnostic de réadaptation

Prothèse totale de hanche

Bilan fonctionnel (selon le modèle "SAMPC")

Somatique

Pré-op: boîte, ne peut plus faire de vélo, atrophie du quadriceps, crampes au MI droit; déroulement post-op sans complications;

AVJ

Pré-op indépendence; post-op aide pour la toilette et l'habillage de la partie du corps inférieure; aide pour les transferts;

Social

Marié, 2 filles; soignant de sportif plein temps; loisirs: jardinage et vélo;

Psychique

pas de remarques

Communicatif

pas de remarques

MIF (Mesure d'Indépendance Fonctionelle)

MIF Total		97
MIF Moteur		62
Les soins personnels		
Alimentation	7	
Soins de l'apparence	7	
Hygiène/toilette	3	
Habillage: partie supérieure	7	
Habillage: partie inférieure	3	
Usage des toilettes	3	
Le contrôle des sphincters		
Contrôle de la vessie	7	
Contrôle des intestins	7	
Les transferts		
Lit / Chaisse / Fauteuil roulant	5	
Aller aux toilettes	5	
Baignoire / Douche	4	
La locomotion		
Marche / fauteuil roulant	3	
Escaliers	1	
MIF Cognitif		35
La communication		
Compréhension auditive	7	
Expression verbale	7	
La conscience de monde extérieur		
Capacité d'interagir et de communiquer socialement	7	
Résolution des problèmes	7	
Mémoire	7	

Example of the closed part of the questionnaire in Dutch

Voorbeeld											
Revalidatieproces		Financieringstype	Aantal sessies / week	Hospitalisatie		Ambulant			Statuut		Vervoers-conventie
Fase	Duur (weken of maanden)			Sp dienst	Andere dienst	Dienst Fys. Gen. & Rev.	Revalida-tiecen-trum	Ander	F-statuut	E-statuut	
1	2s	☐ Kinesitherapie monodisciplinair (M)									
		☐ Logopedie monodisciplinair (R)									
		☐ K15									
		■ K30	5		X						
		☐ K60									
		☐ Typeconventie 9.50									
		☐ Specifieke conventie 7.71									
2	4m	☐ Kinesitherapie monodisciplinair (M)									
		☐ Logopedie monodisciplinair (R)									
		☐ K15									
		☐ K30									
		☐ K60									
		☐ Typeconventie 9.50									
		■ Specifieke conventie 7.71	5	X							
3	2m	■ Kinesitherapie monodisciplinair (M)	2					X		X	
		☐ Logopedie monodisciplinair (R)									
		☐ K15									
		☐ K30									
		☐ K60									
		■ Typeconventie 9.50	3				X				X
		☐ Specifieke conventie 7.71									
4	Permanent	■ Kinesitherapie monodisciplinair (M)	3 à 5					X		X	
		☐ Logopedie monodisciplinair (R)									
		☐ K15									
		☐ K30									
		☐ K60									
		☐ Typeconventie 9.50									
		☐ Specifieke conventie 7.71									

APPENDIX CHAPTER 7 : CLINICAL PATHWAYS FOR REHABILITATION

Amputation of lower extremities search algorithms

We searched the Pubmed database. As limits the publication years 2000-2006 were used. The search algorithms were (critical pathways (MESH)) (N=1470), (amputation(MESH)) (N=5404), (critical pathways (MESH) AND amputation(MESH)) (N=7), (critical pathways (free text) AND amputation (free text)) (N=9), (amputees (MESH)) (N=457), (critical pathways (MESH) AND amputees (MESH)) (N=1), (Rehabilitation (MESH)) (N=27222), (critical pathways (MESH) AND rehabilitation (MESH)) (N=31), (integrated care pathway (free text)) (N=1). In total, these searches resulted in 3 articles we read full text. We could not use one of them in our study.

We searched the Cinahl database. The first search algorithm was (critical path (MH) AND amputation (MH)) (N=4). It all concerned older publications from before 2000. Other search algorithms were (critical path (MH) AND amputation care (MH)) and (critical path (MH) AND amputation stumps (MH)) (N=0); (critical path (MH) AND below knee amputation (MH)) and (critical path (MH) AND above knee amputation (MH)) (N=2).

Contacted Experts in the domain of amputation of lower extremities

Werkgroep Amputatie en Prothesiologie (WAP)

- Willem van de Meij
- Harmen van der Linde
- Bea Hemmen
- Wojtek Polomski
- Sebastiaan Beeker
- Tjerk de Ruiter
- Bert Kap
- Clemens Rommers
- Jenny van Dorp
- Fred de Laat
- Erwin Baars
- Griet Gijsemberg
- Nienke Roux-Otter
- Verlouw
- Marieke Paping
- Eleonore Verhaak
- Fred van der Meer
- Sandra van Manen
- Jose van Dijk
- Tanneke Schoppen
- Han Wiggerts
- Willem Wetzelaar

Multiple sclerosis search algorithms

In the Pubmed search the algorithms were (rehabilitation (MeSH) AND multiple sclerosis (MeSH)) (N=595), (critical pathway AND multiple sclerosis) (N=8), (clinical pathway AND multiple sclerosis) (N=8), (care pathway AND multiple sclerosis) (N= 15), (care map AND multiple sclerosis) (N=2), (integrated care pathway AND multiple sclerosis) (N=0), (critical pathway (MeSH) AND multiple sclerosis (MeSH)) (N=7).

Cochrane library search algorithms were (clinical care pathway AND multiple sclerosis) (N=4), (critical care pathway AND multiple sclerosis) (N=0), and (care pathway AND multiple sclerosis) (N=0).

Contacted experts in the domain of multiple sclerosis

Via selected publications:

- A. Thompson – Insitute of neurology – London - UK
- D. Rossiter - Insitute of neurology – London - UK
- Hospital San Dureta - Palma de Mallorca - Spanje
- 4. Hospital San Dureta - Palma de Mallorca - Spanje (!!!ander e-mailadres)
- C.W. Wallesh – Klinik fur Neurologie der Universitat Magdeburg - Duitsland
- M. Clanet – Federation de neurologie - CHU Toulouse Purpan - Frankrijk
- H. Lassmann – Division of neuroimmunology - University of Vienne - Oostenrijk
- G. H. Kraft – dep. of rehabilitation medicine – University of Washington MS Centre- Seattle - Australië
- Kesselring – Valens - Zwitserland

Via RIMS website:

- J. Lutz - Zwitserland
- Kysthospitalet – Stavern - Noorwegen
- Bjorkgarden – Savar – Zweden
- Masku Neurological Rehabillitation Centre – Masku – Finland
- K. Gross – Estonian MS Society – Tallinn – Estonia
- AGESEP 31 – Rieux-Volvestre – Frankrijk
- AGESEP 31 – Rieux-Volvestre – Frankrijk
- Walton Centre for Neurology – Liverpool - UK
- J. Petty – Royal Hallamshire Hospital – UK
- J. Mertin – Duitsland
- R. Jones – Bristol General Hospital - UK
- Hamilton - UK
- Lapland Rehabilitation Center - Rovaniemi – Finland
- J. Vastenholt – Het roessingh - Nederland
- T. Henze – Reha-zentrum Nittenau - Duitsland
- Brandenburgklinik – Bernau –Duitsland

- Instituto di Rehabilitazione S. Stefano – Ancona – Italie
- Centre medical – Moranant – Frankrijk
- Fundacion Esclerosis Multiple - Barcelona - Spanje
- Eugenia Epalza Rehabilitation Center – Bilbao - Spanje
- J. Downes – Douglas Grand Rehabilitation Center - UK
- C. Vaney - Zwitserland

Via department of health

- H. Rowlands – NHS – UK
- J. Lunan - UK
- J. McKenzie – NHS - UK

Via national multiple sclerosis society

- N. Reitman - Professional resource center National MS Society – New York - USA

Selected publications in the domain of multiple sclerosis

Only the two clinical pathways obtained via expert contact were analysed and compared:

- Melsbroek, Beglium – National MS Centre – Dr. A. Van Nunen
- London, U.K. – Hospital for neurology – Prof. A. Thompson

Publications considered as relevant but without a detailed description of a clinical pathway:

- Phoenix, Arizona - Madonna MG, et al., Multiple sclerosis pathways: an innovative nursing role in disease management, J Neurosc Nurs, 1999, Dec;31(6):332-5
- Atlanta, Georgia - Anonymous, MS Pathway encourages physician buy-in, Hosp Case Manag, 1997 Aug;5(8):140,145-6
- London, U.K. – Rossiter D, et al. Introduction of integrated care pathways for patient with multiple sclerosis in an inpatient neurorehabilitation setting, Disabil Rehabil 1995;17(8):443-8
- London, U.K. – Rossiter D, et al. Integrated care pathways in multiple sclerosis rehabilitation: completing the audit cycle, Mult Scler 1998;4(2):443-8, London, UK.
- Gloucester, U.K. - Warner R, et al. Improving service delivery for relapse management in multiple sclerosis, Br J Nurs 2005 Jul 28 Aug 10;14(14):746-53
- London, U.K. – Edwards SG, et al. Integrated care pathways: disease specific or process-specific? Clin med 2004 Mar-Apr;4(2):132-5
- Palma de Mallorca, Spain – Molina Martinez FJ, et al. Clinical pathway: bases, description and potential use in neurology. Neurologia 2003 Oct;18(8):439-5
- Magdeburg, Germany – Abragam A, et al. Peer review of routine clinical case reports – an instrument of quality management? Nervenarzt 2002 Oct;73(10):956-66

Spinal cord injuries search algorithms

The first search algorithm in Pubmed was (Critical Pathway (Mesh)) AND (Spinal Cord Injuries (Mesh)). Limits: > 2000/01/01. This search resulted in 7 articles. 2 of them were relevant. But these two articles we already found via the website of the AAPM&R. Via one of the withheld publications we found a link to a publication about advantages of critical rehabilitations of the patient with spinal cord injury.

Contacted experts In the domain of spinal cord injuries

- Rehabilitation Centre, PROPARA, France.
- Steven Kirshblum, Medical doctor, Director of Spinal Cord Injury Program
- Kessler Institute for Rehabilitation, West Orange, USA.
- Marcel Dijkers, Associate Professor of Rehabilitation Medicine
- Mount Sinai School of Medicine, New York, USA.
- Michael Scott, Medical doctor, Chair Dept of Neurorehabilitation, Chief Spinal cord Injury Rehabilitation
- Rancho Los Amigos National Rehabilitation Center, Downey.
- Ammar Kassouha, Medical doctor, Chef de Clinique
- Secteur des paraplégiques, Hôpitaux Universitaires de Genève, Switzerland.
- Anita Killingworth, Macmillan Advanced Nurse Practitioner, Orthopaedic oncology
- The Royal Orthopaedic Hospital,United Kingdom.
- Guy Vanderstraeten, Professor in Fysische Geneeskunde&Revalidatie
- Universitair ziekenhuis Gent, Belgium.
- Kurt Wille, Medical doctor,
- Hof Ter Schelde, Belgium.
- Larry Nossaman, Medical doctor, Missouri, USA.
- Diane Playford, United Kingdom.
- Dirk van Kuppevelt, Medical doctor
- Sint Maartenskliniek, Nijmegen, The Netherlands.
- NVDG (Nederlans-Vlaams Dwarslesie Genootschap) , Utrecht, The Netherlands
- Ruth Marshall, Medical doctor, orthopaedic, amputee and spinal cord Injury Rehab Service
- Hampstead Rehabilitation Centre/Royal Adelaide Hospital, Australia.
- Irene Bryson, CG and ICP Facilitator
- Logan West, Crichton Hall, Dumfries, United Kingdom.
- Following British Orthopaedic Assosiation guidelines (Professor C G Greenough, MD Mchir FRCS, Consultant Spinal Surgeon and Clinical Director and P Edmond, FRCS, Clinical Advisor, Golden Jubilee Spinal Cord Injuries centre, The James Cook University Hospital, London, UK)

- Lydie Zbuzkova
- Homolka hospital, Prague, Tsjechië.
- Al-Khodairy Abdul
- Sion, Switzerland.
- Heather Edwards, United Kingdom.
- Lyn Muller, New Zealand.
- Edwin Drossaer, Medical doctor, Australia.
- Edwin Drossaer, Medical doctor, the Netherlands.
- Joyce M. Fries, MS, Scripps Mercy Hospital, San Diego, California, USA.

Selected clinical pathways for Spinal Cord Injuries

1. Decreasing Roadblocks and Improving outcomes: The Spinal Cord Injury Clinical Pathway, Shands Hospital at the University of Florida, USA. (Acute phase)
2. Development and Implementation of a Clinical Pathway for Spinal Cord Injuries, University of Louisville Hospital, Kentucky, USA. (Acute phase)
3. Clinical Pathways for Individuals with Spinal Cord Injury, Shepherd Center, Atlanta, Georgia, USA. (Acute and Post-acute phase)
4. Processus Paraplegie: Al-Khobdairy Abdul, Sion, Switzerland, Europe. (Post-acute phase)

Selected clinical pathways for rehabilitation related to Total hip replacement

1. Total hip replacement, St John Hospital and Medical Center, US.
2. Total Hip Replacement CareMap, Lakes Region General Hospital, US.
3. Integrated Care Pathway for Hip replacement, Rotherham General Hospitals, UK.
4. Generic Total Hip arthroplasty, COP, Geelong Private Hospital, Australia.
5. Total Hip Replacement Protocol and Hip Replacement Collaborative Care Team Protocol, North West London Hospital NHS Trust, Central Middlesex Hospital, UK.
6. Hüftendoprothese (TEP), Kreisklinikum Schwarzwald-Baar, Germany.
7. Klinisch pad totale heupprothese, BZIO Oostende, België.
8. Total Hip Replacement Integrated Clinical Pathway, Peterborough and Stanford Hospitals, UK.
9. Total Hip Replacement, Airedale, UK.
10. Total Hip Replacement, Isle of Wight Healthcare NHS, UK.
11. Occupational Therapy Benchmarks Within Orthopedic (Hip) Critical Pathways. Sharon D. Novalis, Michele Fricke Messenger, Lee Morris. Am J Occup Ther 2000, Volume 54, number

Clinical pathways for Amputation of lower extremity

Selected clinical pathways for amputation of lower extremity

- KP Revalidatie na beenamputatie, Virga Jesse Ziekenhuis Hasselt, Belgium
- Above knee / below knee amputation clinical pathway, Shangi General Hospital, Shangai
- Care pathway: amputation of leg, Airedale Hospital, NHS Trust, U.K.
- Rehabilitation after amputation, Moss Regional Amputee Rehabilitation Center, U.S.

Example of A clinical pathway for amputation of lower extremity

ADMISSION/PRE-OPERATIVE PHASE
MEDICAL
Medical Assessment
Anaesthetic Assessment
Operation explained
Consent obtained
Blood samples for; FBC, U&Es LBP, Crossmatch 3 units
CXR
ECG
Prescribe all medications
Prescribe Fragmin
NURSING
Nursing assessment
TPR & BP
Urine analysis - MSU if indicated
Weight
Assess Waterlow score - action as required and document
Measure and fit TED
Identity bracelet
Identify any allergies - red identity band if needed
Introduce to ward layout and routines
Advise patients and relatives about visiting times
Advise patient about care of their belongings and valuables
Inform location of fire exits
Explain methods of pain management post-op
Provide Op-fax literature and ward booklet

Explore any anxieties
Discuss discharge date
Consider referral to: Social Worker
Dietician
Physio - Amputee school
Occupational therapy
Starve for theatre according to protocol
Follow anaesthetists instructions
Commence Peri-operative checklist
OUTCOMES
Patient demonstrates understanding of:
Plan of care
Fasting protocol
Fully prepared for theatre

OPERATION DAY
MEDICAL
Review all test results
NURSING PRE-OP
Assist patient into the bath
Assist into Op gown
Give pre-medication as prescribed
Complete peri-operative checklist
Escort to theatre - Notes and x-rays to accompany patient
Check oxygen and suction in working order
Prepare bed area for patient's return from theatre
NURSING POST-OP
Maintain clear airway, administer oxygen as prescribed
Record BP and Pulse - ½ hourly until stable
1 hourly until stable
2 hourly until stable
4 hourly for 48 hours post-op then reassess
Assist with hygiene needs
Give mouth care as required
Monitor urine output

Catheter care
Administer IV fluids as prescribed
Commence oral fluids and diet when awake
Observe fluid balance
Administer analgesia as prescribed and monitor effectiveness
Administer anti-emetics as required, if needed
Observe wound for leakage
Maintain drain patency, and record amount collected
Ensure TED insitu and comfortable, unless contraindicated
PHYSIO
Pre-op assessment (Chest)
PHARMACY
Review medications
OUTCOMES
EXTENSION PLAN USED
Patient understands Plan of care
Pain is controlled
Haemodynamically stable
Wound clean and dry
Hydration levels met by IV infusion and oral fluids
Urine output reaches at least 30 mls/hr
Temperature 38c or below
Mouth clean
Wound drains yield expected amounts haemoserous drainage

POST OPERATIVE ACUTE PHASE
MEDICAL
Check Chest
Check TPR & BP/fluid balance
Recommence diet
IVI - Discontinue if oral intake adequate
Check wound and redivac drainage consider removal
Assess for adequate pain control
Order blood tests for tomorrow

Explain progress
NURSING
Explore any anxieties
Bedbath/Towel bath
4 hourly TPR/BP until stable
Discontinue IV fluids as prescribed
Assist with mouth care as required
Catheter care
Record fluid balance
Maintain oxygen therapy for 24 hrs post-op then for 2 consecutive nights
Assist out of bed and into chair at bedside, for short period
Assess wound and redress if leaking remove drains on doctors orders
Give analgesia if pain score 2< monitor effects
Give all prescribed medications
Maintain drain patency and record drainage volumes
Encourage independence
Administer anti-emetics as required, if needed
Report any problems to doctor
Assist with elimination needs, record any bowel movements
Reassess Waterlow score
Assessment and prevention of pressure damage
TEDs ensure proper fit and comfortable
Liaise with Amputee school re-patients progress
WARD PHYSIO
Assess patient
Encourage breathing exercises
PHARMACY
Review prescription
OUTCOMES OF PHASE
EXTENSION PLAN USED
Patient understands Plan of care
Hydration levels met
Urine output drains at least IL/day
Pain is controlled
Wound clean and dry
Wound drains removed
Temperature 38.C or below

Mouth clean
Diet and fluids tolerated

Source: Airedale NHS Trust (www.library.nhs.uk/pathways/)

POST OPERATIVE INTERMEDIATE PHASE
MEDICAL
Check Chest
Check TPR & BP/fluid balance
Check wound
Assess for adequate pain control indication of phantom limb pain?
Order blood tests for tomorrow
Explain progress
NURSING
Explore any anxieties
Assisted wash/shower
Daily TPR/BP if apyrexial/stable
Remove catheter if output satisfactory, and patient mobile
Increase amount of time spent out of bed and encourage independence
Increase transfer skills learnt in physio
Assess wound and expose (redress if leaking)
Give analgesia if pain score 2< monitor effects
Administer anti-emetics as required, if needed
Remove drains on Consultants instructions
Give all prescribed medications
Assessment and prevention of pressure damage
Report any problems to doctor
Assist with elimination needs, record any bowel movements
Reapply TEDs
Review communication sheet from physio
PHYSIO
Attend amputee school if medically fit
Ensure communication sheet goes with patient
PHARMACY
Review prescription

EXTENSION PLAN USED
OUTCOMES OF PHASE
Patient understands Plan of care
Catheter removed micturates without difficulty, voids at least 1L/per day
Pain is controlled
Wound shows no sign of infection
Temperature 38.C or below
Bowels opened independently
No signs of DVT
Transfers independently from bed to chair

CONVALESCENCE PHASE
MEDICAL
Review patients progress daily
Order blood tests as indicated by patients progress
Ensure that discharge planning is underway
Liaise with relatives as required
NURSING
Explore any anxieties
Maintain a safe post op recovery by liaising with medical staff on ward rounds
Ensure that the patient remains pain free, give appropriate analgesia as required and evaluate effectiveness. Involve the pain control team if needed.
Maintain optimum level of hygiene, give assistance as required
Maintain the patients'optimum level of mobility, prevent DVT and pressure damage
TED
Assist with mobilisation if required
Regularly reassess waterlow score and take appropriate action
Assist patient to attend amputee school daily, liaise with physios
Ensure that the patients' eliminatory needs are met - record bowel movements, observe for adequate urine output without any difficulties
Encourage patient to practice transfer moves with the nursing staff
Promote wound healing - observe wound daily, report any changes to the medical staff. Create individual care plan if complex dressings required.
Maintain optimum level of hydration and nutrition - refer to dietician if needed
Maintain a normal sleep pattern - give night sedation if prescribed

Monitor TPR & BP daily if stable, to detect any changes from the normal
Plan for discharge from hospital-involving relatives/significant other
PHYSIO
Continue to monitor patients progress and intervene as indicated. Prepare patient for discharge. Consider home visit.
SOCIAL WORK
Refer to department if needed and liaise closely with them regarding the patients progress.
PHARMACY
Review all medications
OT
Intervention as required.
OUTCOMES OF PHASE
EXTENSION PLAN USED
Patient understands Plan of care
Patient understands discharge plan
Pain controlled
Wound shows no sign of infection
Apyrexial less than 37.5C
Tolerates diet and fluids
Independent within own limitations
Sutures removed

DISCHARGE PHASE
MEDICAL
Review patient and ensure fit for discharge
Complete discharge summary
Prescribe TTOs
Determine OPD appt. time (Surgical and Oncology if required)
Medical certificate Y/N
NURSING
Complete discharge plan
Inform amputee school of discharge date
Arrange district nurse for check home visit (dressings if required)

PHYSIO
Review
Ensure patient is mobilising safely
Stair practice if indicated
Provide aids if required
Give advice regarding home exercise
PHARMACY
Review prescription
SOCIAL WORKER
NAME:
Liaise with the department regarding the discharge plans
OT
Provide 'aids' at home if indicated
OUTCOMES OF PHASE
Patient understands discharge plan
Patient discharged home safely or to appropriate place of care

Clinical pathways for Multiple sclerosis

Example of a clinical pathway for multiple sclerosis

NHNN Neuro Rehabilitation Unit

UCL HOSPITALS

MS Integrated Care Pathway

Patients Name:			
Date of Birth:			
Gender:			
Hospital Number:			
Keyworker:		Occupation:	
Deputy Keyworker:			
Team:	Blue ❑	Red ❑	Green ❑
Re-admission:	Yes ❑	No ❑	
Admission Date:		Late Admission: (meaning if goal setting is not conducted in the admission week)	Yes ❑ No ❑

Instructions for Staff

This is the MS ICP, launched in May 1999 and updated in March 2000, comments and suggestions on how it could be improved are most welcome and should be made to Richard Sachs or documented on the back page.

FEEDBACK: NEW IMPROVED VARIANCE CODES!

Please note that new variance codes have been issued. 260, 270 and 310 have all been expanded as these three codes account for 49% of all variances recorded. It will now be possible, to select a more accurate code to reflect events. **For example**, where previously '270' was employed to state that *any* member of staff was 'not available/ away from unit', now '271' 'Medical Staff not available/ away from unit' can be employed to better describe the variance. This data should enable us to better understand where and when pressures on individual professional occupations occur.

DO YOU WANT MORE DETAILS? IF SO PLEASE CONTACT RICHARD SACHS FOR FURTHER INFORMATION.

Pre-Admission Details

Assessment	(please tick)			Date	Name
In-patient assessment	yes ❑				
out-patient assessment	yes ❑				
Initial multidisciplinary assessment completed?	yes ❑	no ❑			
Team present?	yes ❑	no ❑			
Initial assessment form completed?	yes ❑	no ❑			

1

Information	(please tick)			Date	Name
Written aims given to patient?	yes ❑	no ❑			
Mixed sex wards information given to patient?	yes ❑	no ❑			
Background information from Hospital					
• requested?	yes ❑	no ❑	n/a ❑		
• received?	yes ❑	no ❑	n/a ❑		
Background information from Community:					
• requested?	yes ❑	no ❑	n/a ❑		
• received?	yes ❑	no ❑	n/a ❑		
NRU information booklet given to patient?	yes ❑	no ❑			
Admission Office informed?	yes ❑	no ❑			

Carer	(please tick)			Date	Name
Carer contact discussed?	yes ❑	no ❑	n/a ❑		
Agreed?	yes ❑	no ❑	n/a ❑		
Initial Assessment form on unit?	yes ❑	no ❑			

Week 1: Date___/___/___

Assessment	(please tick)			Date	Name
Medical clerking - within 24 hrs?	yes ❑	no ❑			
Patient's joint assessment form completed?	yes ❑	no ❑			
Joint assessment by team and action plan agreed with patient?	yes ❑	no ❑			
• within 24 hours?	yes ❑	no ❑			
• Key Worker present at the Joint assessment	yes ❑	no ❑			
• All team members present at the Joint assessment?	yes ❑	no ❑			
• was the carer present at the Joint assessment?	yes ❑	no ❑	n/a ❑		
Individual discipline notes/films/reports received?	Medical ❑				
	Nursing ❑				
	PT ❑				
	OT ❑				
	SLT ❑				
	Psych ❑				
	Social Worker ❑				
Transfer method agreed?	yes ❑	no ❑	n/a ❑		

Nursing	(please tick)			Date	Name
Waterlow score completed?	yes ❑	no ❑			
Medical Assessment	(please tick)			Date	Name
Contact made with GP?	yes ❑	no ❑			
Drug Regime	(please tick)			Date	Name
Weekly review - completed?	yes ❑	no ❑	n/a ❑		

Discharge Planning	(please tick)			Date	Name
Hospital/community liaison commenced?	yes ❑	no ❑	n/a ❑		
Appropriate internal/external referrals	yes ❑	no ❑	n/a ❑		
• If 'yes' specify					

Psycho-social	(please tick)			Date	Name
Was the patient orientated to the ward?	yes ❑	no ❑	n/a ❑		
Emotional Assessment?	yes ❑	no ❑			
On emotional support register?	yes ❑	no ❑	n/a ❑		
Cognitive assessment undertaken?	yes ❑	no ❑	n/a ❑		
Has the carer been contacted?	yes ❑	no ❑			

Goal setting & review	(please tick)			Date	Name
Friday goal setting in context of patient's views?	yes ❑	no ❑	n/a ❑		
Provisional discharge date set?	yes ❑	no ❑	n/a ❑		
Key worker present at Goal setting?	yes ❑	no ❑	n/a ❑		
All team members present at Goal setting?	yes ❑	no ❑	n/a ❑		
Outcome measures completed:	Barthel		❑		
	FIM		❑		
	Handicap Scale		❑		
	Visual Analogue		❑		
	Timed Walk		❑		
	Kurtzke Score		❑		
Has video been recorded?	yes ❑	no ❑	n/a ❑		
Patient on weekend leave?	yes ❑	no ❑	n/a ❑		

Sessions	PT	OT	SLT	Psych	SW	Joint Sessions (specify)
Estimated:						
Achieved:						
Carer present?	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑

Week 2: Date____/____/____

Goal setting & review	(please tick)			Date	Name
Have the goals been agreed at the Monday Team Meeting?	yes ❑	no ❑			
Is the list of goals by the patient's bed	yes ❑	no ❑			

Discharge Planning	(please tick)			Date	Name
Length of stay discussed by team and agreed?	yes ❑	no ❑	n/a ❑		
External Referrals?			n/a ❑		

Neurological status and Drug regime	(please tick)			Date	Name
Weekly review - **completed?**	yes ❑	no ❑			

Nursing	(please tick)			Date	Name
Waterlow Score completed?	yes ❑	no ❑			

Referrals/Assessment	(please tick)			Date	Name
Dietician?	Seen ❑				
Hospital Visits	Qs ❑	Other ❑	n/a ❑		

Psycho-social support	(please tick)			Date	Name
Carer contact	yes ❑	no ❑			
Counselling?	yes ❑	no ❑	n/a ❑		

Sessions	PT	OT	SLT	Psych	SW	Joint Sessions (specify)
Estimated:						
Achieved						
Carer present?	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑

Weekend Leave	(please tick)			Date	Name
Patient on Weekend Leave?	yes ❑	no ❑	n/a ❑		

Week 3: Date___/___/___

Goal Setting	(please tick)			Date	Name
New goals set?	yes ❑	no ❑	n/a ❑		
Length of Stay & discharge date reviewed?	yes ❑	no ❑	n/a ❑		
Key Worker present at Goal Setting?	yes ❑	no ❑	n/a ❑		
All team members present at Goal Setting?	yes ❑	no ❑	n/a ❑		

Discharge Planning	(please tick)			Date	Name
External referrals?	yes ❑	no ❑	n/a ❑		

Neurological Status and drug regime	(please tick)			Date	Name
Weekly review completed?	yes ❑	no ❑	n/a ❑		

Nursing	(please tick)			Date	Name
Waterlow Score completed?	yes ❑	no ❑			

Referrals/Assessment	(please tick)			Date	Name
Dietician?	Seen ❑				
Hospital Visits	Qs ❑	Other ❑	n/a ❑		

Sessions	PT	OT	SLT	Psych	SW	Joint Sessions (specify)
Estimated						
Achieved						
Carer present?	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑

Weekend Leave	(please tick)			Date	Name
Patient on Weekend Leave?	yes ❑	no ❑	n/a ❑		

Week 4: Date___/___/___

Goal Setting	(please tick)			Date	Name
New goals set?	yes ❑	no ❑	n/a ❑		
Length of Stay & discharge date reviewed?	yes ❑	no ❑	n/a ❑		
Key Worker present at Goal Setting?	yes ❑	no ❑	n/a ❑		
All team members present at Goal Setting?	yes ❑	no ❑	n/a ❑		

Neurological Status and drug regime	(please tick)			Date	Name
Weekly review **completed?**	yes ❑	no ❑	n/a ❑		

Nursing	(please tick)			Date	Name
Waterlow Score completed?	yes ❑	no ❑			

Referrals/Assessment	(please tick)			Date	Name
Dietician?	Seen ❑				
Hospital Visits	Qs ❑	Other ❑	n/a ❑		

Sessions	PT	OT	SLT	Psych	SW	Joint Sessions (specify)
Estimated:						
Achieved						
Carer present?	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑

Weekend Leave	(please tick)			Date	Name
Patient on Weekend Leave?	yes ❑	no ❑	n/a ❑		

Week 5: Date___/___/___

Goal Setting	(please tick)			Date	Name
New goals set?	yes ❑	no ❑	n/a ❑		
Length of Stay & discharge date reviewed?	yes ❑	no ❑	n/a ❑		
Key Worker present at Goal Setting?	yes ❑	no ❑	n/a ❑		
All team members present at Goal Setting?	yes ❑	no ❑	n/a ❑		

Neurological Status and drug regime	(please tick)			Date	Name
Weekly review **completed?**	yes ❑	no ❑	n/a ❑		

Nursing	(please tick)			Date	Name
Waterlow Score completed?	yes ❑	no ❑			

Referrals/Assessment	(please tick)			Date	Name
Dietician?	Seen ❑				
Hospital Visits	Qs ❑	Other ❑	n/a ❑		

Sessions	PT	OT	SLT	Psych	SW	Joint Sessions (specify)
Estimated:						
Achieved						
Carer present?	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑

Weekend Leave	(please tick)			Date	Name
Patient on Weekend Leave?	yes ❑	no ❑	n/a ❑		

Week 6: Date__/__/__

Goal Setting	(please tick)			Date	Name
New goals set?	yes ❑	no ❑	n/a ❑		
Length of Stay & discharge date reviewed?	yes ❑	no ❑	n/a ❑		
Key Worker present at Goal Setting?	yes ❑	no ❑	n/a ❑		
All team members present at Goal Setting?	yes ❑	no ❑	n/a ❑		

Neurological Status and drug regime	(please tick)			Date	Name
Weekly review **completed?**	yes ❑	no ❑	n/a ❑		

Nursing	(please tick)			Date	Name
Waterlow Score completed?	yes ❑	no ❑			

Referrals/Assessment	(please tick)			Date	Name
Dietician?	Seen ❑				
Hospital Visits	Qs ❑	Other ❑	n/a ❑		

Sessions	PT	OT	SLT	Psych	SW	Joint Sessions (specify)
Estimated:						
Achieved						
Carer present?	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑

Weekend Leave	(please tick)			Date	Name
Patient on Weekend Leave?	yes ❑	no ❑	n/a ❑		

Please use continuation sheet if necessary

Discharge Week: Date__/__/__ Discharge Day: Date__/__/__

Assessment	(please tick)			Date	Name
Care manager allocated?	yes ❑	no ❑	n/a ❑		
Has video been recorded?	yes ❑	no ❑	n/a ❑		
Discharge information pack completed?	yes ❑	no ❑			
Information given on voluntary agencies?	yes ❑	no ❑			
Outcome measures reassessed prior to discharge:	Barthel ❑				
	FIM ❑				
	Handicap Scale ❑				
	Visual Analogue ❑				
	Timed Walk ❑				
	Kurtzke Score ❑				

Goal setting & review	(please tick)			Date	Name
Final review of goals taken place?	yes ❑	no ❑			
Key Worker present at Goal Setting & review?	yes ❑	no ❑	n/a ❑		

Goal setting & review (con't)	(please tick)			Date	Name
All team members present at Goal Setting & review?	yes ❑	no ❑	n/a ❑		

Medical assessment & drug regime	(please tick)			Date	Name
Medical assessment, weekly review **completed?**	yes ❑	no ❑	n/a ❑		
Drug regime, weekly review **completed?**	yes ❑	no ❑	n/a ❑		

Nursing	(please tick)			Date	Name
Waterlow Score completed?	yes ❑	no ❑			

Discharge Planning	(please tick)			Date	Name
Has Monday discharge review taken place?	yes ❑	no ❑	n/a ❑		
Has case conference taken place?	yes ❑	no ❑	n/a ❑		
Were relevant **community/NRU** personnel present?	yes ❑	no ❑	n/a ❑		
Has joint therapy report been completed and sent off within 5 working days?	yes ❑	no ❑	n/a ❑		
Key Worker present at Joint Discharge Review?	yes ❑	no ❑	n/a ❑		
All team members present at Joint Discharge Review?	yes ❑	no ❑	n/a ❑		
Have individual reports been completed?	yes ❑	no ❑	n/a ❑		
Full medical discharge summary completed and sent within 5 working days?	yes ❑	no ❑	n/a ❑		
Telephone call to GP made?	yes ❑	no ❑	n/a ❑		
Further medical out-patient appointments made?	yes ❑	no ❑	n/a ❑		
If yes please specify?					
Is patient/carer competent in management of medication	yes ❑	no ❑	n/a ❑		

Transport arranged	(please tick)			Date	Name
• Ambulance	yes ❑	no ❑	n/a ❑		
• Taxi	yes ❑	no ❑	n/a ❑		
• Own	yes ❑	no ❑	n/a ❑		

Referrals/Assessment	(please tick)			Date	Name
Hospital Visits	Qs ❑	Other ❑	n/a ❑		
If other, please specify					

Psycho-social support	(please tick)			Date	Name
Are carer & patient involved in discharge plans?	yes ❑	no ❑	n/a ❑		
Has carer attended therapy sessions?	yes ❑	no ❑	n/a ❑		

7

Sessions	PT	OT	SLT	Psych	SW	Joint Sessions (specify)
Estimated:						
Achieved						
Carer present?	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑	yes ❑ no ❑

Actual Discharge	(please tick)		Date	Name
Was patient discharged to predicted accommodation?	Home ❑	Other ❑		
Were valuables returned to patient on discharge?	yes ❑	n/a ❑		

Home Assessment Visit 1	(please tick)			Date	Name
Home Assessment completed?	yes ❑	no ❑	n/a ❑		
Persons present at Home Assessment?					
	OT		❑		
	PT		❑		
	Nurse		❑		
	Social Worker		❑		
	Patient		❑		
	Carer		❑		

Home Assessment Visit 2	(please tick)			Date	Name
Home Assessment completed?	yes ❑	no ❑	n/a ❑		
Persons present at Home Assessment?					
	OT		❑		
	PT		❑		
	Nurse		❑		
	Social Worker		❑		
	Patient		❑		
	Carer		❑		

Post Discharge	(please tick)		Date	Name
Medical (Neuro)	yes ❑	no ❑		
Medical (Other)	yes ❑	no ❑		
MDT Follow up	yes ❑	no ❑		
District Nurse	yes ❑	no ❑		
Cont Advisor	yes ❑	no ❑		
Community Care Pkg	yes ❑	no ❑		
Wheel Chair Service	yes ❑	no ❑		
Hospital PT	yes ❑	no ❑		
Hospital OT	yes ❑	no ❑		
Social Services OT	yes ❑	no ❑		
Community OT	yes ❑	no ❑		
Hospital SLT	yes ❑	no ❑		
Community SLT	yes ❑	no ❑		
CRT	yes ❑	no ❑		
Community PT	yes ❑	no ❑		
Has the Keyworker checked the form is completed?	yes ❑			

Goal Categories Assessment

Shaded goal categories should not be used as they are unsuitable for this patient, unless the patient has a relevant secondary condition

	Week No: Date:	Week No: Date:	Week No: Date:	Week No: Date:	Week No: Date:
Activity Tolerance (1)					
Behavioural (2)					
Continence Bladder Care (3.1)					
Continence Bowel Care (3.2)					
Fatigue Management (4)					
Feeding/ Swallowing (5)					
Gait/Mobility (6)					
Home Care Tasks (7)					
Home Community (8)					
Intelligibility (9)					
Respiratory Support (10)					
Language (11)					
Learning/ Memory (12)					
Leisure (13)					
Medical (14)					
Mood (15)					
Other (16)					
Perception/ Neglect (17)					
Personal Care (18)					
Posture Seating (19)					
Pressure Relief (20)					
Problem Solving (21)					
Social/ Carer (22)					
Tone Management (23)					
Transfers (24)					
Upper Limb (25)					
Work (26)					

Variances

Date	Variance	Code	Action Taken	Name	Type
					goal? ❑ procedural? ❑
					goal? ❑ procedural? ❑
					goal? ❑ procedural? ❑
					goal? ❑ procedural? ❑
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					goal? ❑ procedural? ❑

Variances

Date	Variance	Code	Action Taken	Name	Type
					goal? ❑ procedural? ❑
					goal? ❑ procedural? ❑
					goal? ❑ procedural? ❑
					goal? ❑ procedural? ❑
					goal? ❑ procedural? ❑
					goal? ❑ procedural? ❑

Codes

Patient/Condition	Code	Internal System	Code
Patient cognitive difficulties/ memory	10	Date or time of treatment changed	210
Patient cognitive difficulties/ other	20	Planned meeting cancelled	220
Patient behavioural problems	30	Awaiting other consultation	230
Patient fatigue	40	Goal timing inappropriate	240
Neurological deterioration	50	Plan of action inappropriate	241
UTI	60	Goal considered inappropriate	250
Other infection	70	Goal setting on a day other than Friday	251
MRSA positive	71	Nursing Staff not available but on unit	260
Pressure area concern	80	Medical Staff not available but on unit	261
Tone problems	81	OT Staff not available but on unit	262
Pain	90	PT Staff not available but on unit	263
Patient mood disturbance	91	SW Staff not available but on unit	264
Confidence	100	Psych Staff not available but on unit	265
Neurological improvement	101	SALT Staff not available but on unit	266
Patient/Carer	Code	Nursing Staff not available/away from unit	270
Patient not available but on unit	110	Medical Staff not available/ away from unit	271
Patient on isolation suite	111	OT Staff not available/ away from unit	272
Patient at Queen Square	120	PT Staff not available/ away from unit	273
Patient at other hospital	130	SW Staff not available/ away from unit	274
Patient not on unit (& not at QS)	131	Psych Staff not available/ away from unit	275
Patient declines treatment	140	SALT Staff not available/ away from unit	276
Patient self-discharge	141	Staff part-time	279
Patient disagrees with goals	150	Extra therapy sessions given	280
Patient disagrees with Plan of Action	151	Staff on annual leave	290
Carer disagrees with goals	160	Staff on sick leave	300
Carer support level	170	Reduced staffing (Nursing)	310
Carers unavailable	180	Reduced staffing (Medical)	311
Patient not well motivated	190	Reduced staffing (OT)	312
Patient well motivated	191	Reduced staffing (PT)	313
Safety	200	Reduced staffing (SW)	314
Underestimated Patient's cognitive state/ conditions	201	Reduced staffing (Psych)	315
External System	Code	Reduced staffing (SALT)	316
Alternative accommodation unavailable/ adaptions incomplete	400	Equipment not available	320
Home care not yet available	410	Department closed	330
Transfer to other unit/ hospital delayed	420	Internal follow-up/ treatment delay	340
Transport delay	430	Inadequate information from QS	350
Community care assessment/ external assessment delayed	440	Document omission	360
Accommodation not suitable	450	Late admission	370
Unavailability of equipment	460	Early discharge for positive reasons	380
Follow-up therapy not available	470	Early discharge for negative reasons	381
Funding difficulties	480	Other	Code
Inadequate information from other hospital	490	Other	500
Patient transferred to Queen Square	491	No Carer	501
		Carer at work	502
		Carer too far away	503
		Carer unaware of time of meeting	504
		Patient did not want carer at Joint Assessment	505

Comments & Administration

Please use this space to communicate any message with regard to either the layout or content of the ICP, this information will be treated confidentially unless otherwise requested. Your comments on your ICPs are valued and will be used in further refining the ICPs. Please also mention if you would be interested in seeing a particular aspect of patients ICPs being reported on. All questions highlighted in yellow will be reported on, feedback to staff will occur on a quarterly basis. If you are the Key worker for this particular ICP and it has been returned to you, an explanation will be documented below. Urgent questions and queries with regard to the ICPs should be addressed to Richard Sachs (UCLH 3417). DO NOT DISTRIBUTE ICPs TO PERSONS OUTSIDE UCLH NHS TRUST - requests for copies of ICPs need to be co-ordinated centrally, please refer the inquirer to Richard Sachs as a fee will be charged, funds raised will be reinvested in the ICP programme.

This ICP has been returned to the Key Worker because errors or omissions have meant data entry cannot commence. Please complete/correct and return to:

Date received:

Date returned to Key Worker (if necessary):

Date received back from Key Worker:

Date data entry completed:

Total Weekend Leave	(please tick)			Total
Patient on Weekend Leave?	yes ❑	no ❑	n/a ❑	

Total Sessions	PT	OT	SLT	Psych	SW	Joint Sessions (specify)
Total Estimated:						
Total Achieved:						
Total Carer present at:						

Clinical pathways for Spinal cord injury

Example of a clinical pathway for spinal cord injury

Source: Morrison SA. Case in point. Clinical pathways for individuals with spinal cord injury. Phys Ther Case Reports 1998; 1 (3): 129-39

DAY/DATE	Admission Day First 24*	Acute Phase	Phase 1	Phase 2	Phase 3	Phase 4	Discharge Outcomes
UNIT	Day 1						
ORIENTATION • Pre Admission Inf. • Family Orientation	• Complete family orientation checklist (Admissions, CM, RN) • Admission greeting (CM) • Assist with meals and housing prn (CM) ° unit tour completed (RN or tech)	° undetermined time (criteria based). See rehab criteria for entering rehab phase	° Review care path with patient and approp care-giver (All) ° formal medical conference held with patient/family				
HEALTH STATUS • Consults/Tests • Assessments: • Cognitive • Nutrition • Respiratory Management • Medications • Skin Integrity • Pain • Neurological Level • Strength/ Endurance/ROM	° Admitting MD orders verified • Urology; Int Med; Ed; PT; OT; TR; Voc; Nutrition; Counseling consulted as appropriate ° Initiate interdisciplinary evaluation • Assessment of spinal stabilization and mobility orders (attending MD). • Check with Urologist to D/C foley; begin IC q 4 hr (RN) • H&P; Labs; X-ray of injury level and fx, CXR; Diet; Meds; pain control; Lovenox /Zantac (resident) • C&S urine to be done ONLY when Urology orders • BFS, DVT prophylaxis • Weigh patient (RN) • Assess BCR positive/negative (RN) • Assess. complete (RN) ° leg measurements complete (RN) ° skin assessment complete. ET consult if needed. Begin appropriate skin tx ° Speech consult if patient has history of dysphasia or brain injury	° repeat BFS 1 month after initial study to DC Lovenox and Zantac ° establish pain management program as appropriate (MD,RN) ° IVP/renal scan (for adlos) completed (RN) ° Monitor IC volumes when < 500cc q 4hr for 48 hours, decrease IC's to q 6 hr (RN) ° if reflex occurs, obtain urine C&S and treat if appropriate. Apply incontinent device if approp. (RN) ° if reflex persists, check with urologist re:videourodynamics (RN) ° assess BCR and establish bowel program (am vs pm)	• Appr. strengthening program initiated and maintained, (PT; OT) • Pain Management. Check with MD's to wean Percocet to Darvocet to Tylenol (RN)- • maintain appr. IC. schedule; ↑ to q6h when volume ≤500cc for 48* (RN)- • After urodynamics completed. If Reflex Bladder, check with Urologist to add Hytrin or Ditropan. (RN) (Urolgoy) • Obtain ET consult prn ° monitor patient nutritional status and intervene as appropriate ° able to verbalize skin checks, padding, positioning, and turn times	• IVP completed (?) • Urodynamics completed? • self LE ROM mod assist (3) (PT) ° performs skin checks with moderate assist (3)	° self LE ROM min assist (4) • Self Meds– continue throughout stay	° Initiate interdisciplinary DC summary (team) • Lovenox D/C'd after 30 days; repeat BFS before D/C'ing Lovenox. ° self LE ROM (6) • ↑ IC's to QID if volumes WNL and medically appropriate (RN)	• Pt will have gained adequate UE strength/endurance for performance of functiona goals. • Pt skin will be free from skin breakdown • Pt will have IC vol. WNL on QID schedule. • Pt will be knowledgeable about Meds. • Pt will have regular schedule for Bowel Program. ° pt will not have any unresolved pain issues

DAY/DATE	Admission Day First 24°	Acute Phase	Phase 1	Phase 2	Phase 3	Phase 4	Discharge Outcomes
UNIT	Day 1						
PSYCHOSOCIAL • Sexuality • A&D • Group Counseling • Family Counseling	• Initial Counseling visit	° chaplain meets with pt ° follow-up on advance directives (chaplain) ° confirm awareness of pastoral services ° contact sex therapist as need is identified by pt/family (ED)	• Initial Counseling Assessment complete. Refer to psych. and/or A&D group as necessary • Referral made to A/D group for: 1) A&D Hx; 2) accident involvement; 3) family concern • Referral made to psychological services for: 1) Hx of psychotropic meds; 2) Hx of psychiatric problems; 3) significant psychopathological behavior including active psychosis; suicidal ideation; personality disorder; homicidal ideation; depression or anxiety impeding rehab. progress, or potential to interfere; cognitive impairment (i.e. cognitive assessment). ABI psychologist notified if Obvious ABI (see ABI pathway.) If assessment delayed then SCI psychologist notified. • Contact sex therapist as need is identified by pt/and family (ED)- • Peer Support - AFTER Medical Conference held pt. attend at least one meeting • Referrals made for one to one peer support contact as necessary (peer support)-	• Counseling meet with pt/family weekly or as scheduled- • Begin group counseling			• Return to work when possible or appr. (e.g. work re-training, schoo etc.), Identified and being pursued. • pre-Injury lifestyle attained as closely as possible (e.g. hobbies, sports, role in family, e • Can verbalize info. needed for lifelong adjustment issues as th relate to aging with a disability (e.g. know to expect that adjustment a lifelong process wher to go for counseling pr
EDUCATION •Family Training •Conferences •Therapeutic Pass •Key Classes •Academics for Adolescents	° patient and family complete unit orientation	° Medical conference held (CM,MD) ° Family Training Schedule confirmed with patient/ family (CM) ° education makes contact and distributes manual as appropriate ° education begins 1:1 key classes for low-lit patients and appropriate cognitively impaired patients	• Medical Conference held (Team) • Begin pt key classes (ED) (1:1 for low lit patients and patients with cognitive deficits • Family Training & Family Key Class to begin after med. Conf. has occurred (ED) • For adolescents academic classes initiated; (3 hours/week) No classes June, July, Aug.—	• Key Classes x 12 (ED) - • Begin working on Family Training list (all)		° Family training completed successfully by pat and appropriate caregiver (team)	• Patient able to verbaliz causes; signs; tx; and prevention in areas of skin; Bowel; Bladder ar respiratory managemen • Family able to support as needed and interven in crisis situations. ° pt able to verbalize me SE, schedule and purpose.
MOBILITY •Sitting Tolerance •Weight Shifts •Transfers •Bed Mobility •W/C Mobility •Ambulation	•Mobility plans estab. (PT) •Bed rest until results from BFS (-) obtained	° increase sitting tolerance with the angle and time to meet rehab criteria ° verbalization of goals for transfers and weight shifts ° pt can verbalize rationale and schedule for weight shifts	• ↑ sitting tolerance @ 90° to 8 hrs. (PT) • Wt shift (5) (needs cueing) q 30° (PT) • Mat mobility (4) • Transfer Mat/Bed (3) (level surface) (PT) • W/C mobility Level surfaces inside (6) • W/C mgmt (5) except wheelie bar management	• ↑ sitting tolerance to 8-12 hours (PT) • Wt shift (6) ° mat mobility (7) • Bed Mobility (4) ° mat/bed transfer (4) • RTS transfer (2) • Tub Bench with clothing (3) • W/C Mobility ↑↓ Ramps (6)	• ↑ sitting 8-12 hours ° Independent Bed mobility (6-7) ° mat/bed transfer (5) • RTS transfer (3-4) • Tub Bench transfer without clothing (3) • Car transfer (3)	• ↑↓ 3 steps (3) • Curbs 4 inch (4) 6 inch (3) ° bed mobility (7) ° bed/mat transfer (6-7) ° RTS transfer (4-5) ° tub bench transfer without clothing (6) • Car transfer (4) • floor transfer (2) • upright of W/C (2)	• I (6-7) depression wt. shifts. • I (6-7) bed mobility • I (7) with doors, elevato and ramps • sitting 8-12 hours • I (7) W/C management • I (6-7) Bed transfer ° min ass (4) car transfer • Min assist to supervisior (4-5) with RTS transfer • Mod I (6) with tub benc • Min I (4) with wheelies

DAY/DATE	Admission Day First 24°	Acute Phase	Phase 1	Phase 2	Phase 3	Phase 4	Discharge Outcomes
UNIT	Day 1						
					• Wheelies (3) • Introduce curb/step (PT) negotiation. Performs with max assist (2) •W/C Mgmt 7-including wheelie bar mgt	° wheelies (4)	• Min A (4) with 4 in curbs Mod A(3) with 6 in curbs • Max A (2) floor transfer • Max A (2) to upright W/C • Mod A (3) ↑↓ steps
ADL •Feeding •Grooming •Dressing •Bladder •Bowel •Skin Checks •Bathing •Padding/Positioning •Home Management •Driving	•OT initial contact •Turn schedule initiated (RN) •Bowel program begun (RN) ° bladder program begun. Urology notified RE for DC or continuation of foley (RN)	° provide general information on transportation (AT) ° initiate and continue appropriate strengthening protocols. (PT,OT) ° independent with grooming, feeding and communication skills.	• UE dressing independ (7)(OT) • LEdrsng in bed mod assist (3) •Initiate I.C. training (RN) . performs with max assist (2) •Initiate skin checks teaching .Pt performs with min assist (PT; OT; RN) ° pt has regular schedule for bowel and bladder program • Bowel Program Training with min assist (4) bed (am/pm); (RN) •Initiate proning in therapy (PT) - - Pt prones with min assist - Pt tolerates 1 hour of proning on the mat	• Increase turn times at night by 1 /Q hour a week (RN) • I.C. training mgmt mod assist (3) (OT, RN • Inter-disciplinary BP mtg and initiate training (OT, PT; RN) • Increase proning at night by 1/2 hour each week • Bowel training on approp. equipment with mod assist (3), (OT, PT, RN)- • Pre driving assessment complete (AT) • Driving eval scheduled as appr. (AT) ° LE dressing in bed (4) ° mod I with skin checks (6) •Begin proning @ night x 3 hours (RN)	• LE drsng in W/C mod assist (3) ° IC training mgt (4) • Change Bowel Program to QOD, if appr. ° bowel training on approp equipment with min assist (4) (team) • bathing with min assist (4) (PT,OT,RN) • Self padding and positioning with mod assist (3)(OT,RN) • Light Home mgmt with min assist (3) (OT) • Heavy Home Mgmt with max. assist (2) (OT) ° LE dressing in bed (6)	° LE dressing in wc with min assist (4) ° IC training mgt mod indep (6) • Driving if appr. (OT) ° Mod indep with bathing (6) ° self padding and positioning with min assist (4) ° self padding and positioning with min assist (4) (OT,NSG) ° light home mgt (4) ° Heavy home mgt (2) ° bowel training on approp equipment (6) ° pt able to prone at night x 8 hours ° LE dressing in bed (7)	• I with UE & LE drsng in bed ° min assist (4) LE dressing in wc • Mod I (6) Bathing • Mod I (6) with Bowel & Bladder programs • min assist (4) with self-padding & positioning Management. • Min assist (4) with light Home Mgmt • Max. assist (2) with Heavy Home Mgmt • Mod I (6) with driving • Mod I (6) with skin checks
COMMUNITY REINTEGRATION •Leisure Education Classes •Leisure Skill Development •Mobility Training •Community Outings •Leisure Counseling •Vocational Counseling		° assessment of need for vocational services begun ° make DRS referral if appropriate (Voc) ° DRS intake and voc eval scheduled (8-10 hours; in smaller increments as tolerated by pt. Higher priority for non-Atlanta Georgia residents.	° confirm awareness for TR activities and calendar ° Referrals made to appropriate TR specialist(s) and priorities are set. ° Begin leisure counseling: ° schedule leisure ed classes x4 (mon and Thurs 1600 and 1700) ° will attend 1 out of 4 LE classes as approp:	• DRS Intake & voc. eval scheduled (6 HRS x 1) (high priority for non-Atlanta Ga. residents) (Voc.) ° Begin leisure counseling: ° Begin leisure skill instruction ° Attend comm. reint. outings as approp ° will attend 1 out of 4 LE classes as approp:	° Begin leisure counseling: ° Cont leisure skill instr ° Attend comm. reint. outings as approp ° will attend 1 out of 4 LE classes as approp:	° Begin leisure counseling: ° Cont leisure skill instruction ° Attend comm. reint. outings as approp ° will have completed LE classes ° Receives leisure resources DC packet ° reports knowledge of at least 2 leisure	• Voc. Eval staffing @ 8 week F/U appt. • Pt/family will verbalize understanding and be able to identify appr. community resources for vocational asst./planning. • Pt will have plan for successful return to work/school. • Pt will have vocational plan if return to work/school not possible

DAY/DATE	Admission Day First 24°	Acute Phase	Phase 1	Phase 2	Phase 3	Phase 4	Discharge Outcomes
UNIT	Day 1						
						resources ° Attends mob tr.: • Pre-Vocational eval if. appr. (OT).	
EQUIPMENT •Initial Assessment & Rx's •Prescriptions •Seating Clinic •Brace Clinic •Assistive Technology •Final Rx's •Loaner Equipment	•Thigh high TEDs x 2 pair. (RN) ° admission kit ° bleach vinegar	° initial Rx's and LOMN written (PT,OT) ° initiate and continue home management/communication needs (i.e. call systems, phone, ECU) (AT)	•Initial Rx written (PT) (if not done due to short or no acute phase) •Initial seating clinic held as needed (PT) (if not done due to short or no acute phase	• Procure appr. Bowel equip, prn (OT) • Rx's and letters of medical necess. to DME coordinator (PT) ° RS and LOMN sent to vendor for bids ° RX and LOMN sent to ECM for vendor assignment • Initial equip documents to Rehab. Equip. • Trial W/C's used-	° complete PEF if approp.	• W/C finalized (PT) • Final seating clinic (PT) • Final Rx's written (PT, MD) • Loaner equipment issued (PT) • Bath equip. procured (PT) - WC maint completed	• Final equipment ordered. • Bath equip issued to pt. • Loaner equip. for pt received & adjusted • cushion care & maint. (7) • W/C maint. (7)
DISCHARGE PLANNING •Return to Work/School •Community Referrals •Financial/Insurance Status & Referrals	•Verify D/C plan (CM)		•Initial review of D/C goals and signature (PT, OT, TR). •Contact Employer and/or school for re-entry (Voc.)	• Confirm D/C date and plans with family (CM)—— • I.D. transportation @ D/C (CM)- • Consider H. Health. OP, or day program referrals (CM) • Confirm D/C training with staff and pt/family for Day 29-30. (CM) • Complete FAP, PEF; ins. info. as appropriate (CM) • Home eval returned (CM; PT) • Meet with pt/family to problem solve on re-entry issues prn (voc.)- • Goal setting conference held for adolescent and other pts. as appr. (Team)	° confirm HH, OP or day program referrals • Patient receives home Mod. form with written recommendations (PT) • Schedule school/work site eval. (OT, VOC.) • submit D.C supply list to CM (RN)	• Final review of D.C goals (PT; OT; TR; RN) • Complete PEF, FAP (OT, PT) • OP Referral's as appr. (PT) • Complete school/work site eval if appropriate (OT, voc.)	• Appropriate referrals made

Clinical pathways for Stroke rehabilitation

Source: the Cochrane Collaboration: In-hospital care pathways for stroke (Review). Kwan J, Sandercock P

- Hydo B. Designing an Effective Clinical Pathway for Stroke. American Journal of Nursing 1995;95(3):44-51. (U.S.)
- Rymer MM, Summers D, Soper P. Development of clinical pathways for stroke management. An example from Saint Luke's Hospital, Kansas City. Clinics in Geriatric Medicine 1999;15(4):741-64. (U.S.)

Source: NHS Library

- Integrated Care Pathway for Patients with Stroke – Hammersmith Hospitals NHS (U.K.)
- Integrated Care Pathway Stroke – South Manchester University Hospitals (U.K.)

Source: CVZ

- Integrated Care Pathway Stroke – Brighton Health Care (U.K.)

Source: Grey literature

- Sulch D, Perez I, Melbourn A, Kalra L. Randomized Controlled Trial of Integrated (Managed) Care Pathway for Stroke Rehabilitation. Stroke 2000;31;1929-1934. (U.K.)

Source: University Hospitals of Leuven (direct contact)

- Revalidatie Gira patiënten

Example of a clinical pathway for Stroke

Source: Sulch, D. et al. Stroke 2000;31:1929-1934

STROKE CARE PATHWAY DOCUMENT
(interventions with suggested timing)

Stroke date:

Rehabilitation week 1	Day 1/2	Day 3/4	Day 5/6
Medical Investigations	Medical/Neurological assessment, Neurological score Check CT scan results Review blood pressure Aspirin, Anticoagulation, Lifestyles Are all investigations completed? If not send relevant investigations: Blood glucose, cholesterol, carotid duplex scan, ECHO Special investigations if <60 years Prevention of complications Review discharge plans	Medical Assessment Check all assessments completed Review all investigations: Commence secondary prevention measures: Aspirin, Statin, Antihypertensive Blood Glucose control Smoking Advice Anticoagulate if embolic & infarct < 2.5cm. diameter on CT scan	Medical assessment. All assessments complete? All investigations seen? Appropriate secondary measures in place? Blood pressure controlled? Patient/family aware of diagnosis, prognosis, prevention? Review discharge plans
Nursing Continence Skin integrity Mood Education	Perform initial assessment Commence Core care plans. Assess and plan for further individualised care plans. Advise patient and family of ward routine. Check swallowing and refer to SLT Referral to OT and early discharge planning Refer to dietician	Detailed assessment for urinary continence. Joint planning with therapists Liaise with dietician. Keep patient/family updated with progress, risk prevention, support literature Assess feasibility of early discharge Contact social services	Review Observation charts Visible continence management plan Consider self medication/education Liaise with pharmacist Discharge planning reviewed Discuss discharge options with patient and relatives
Physiotherapy Position/transfers Mobility	Assessment of transfer abilities (bed, chair), trunk control and limb positioning	Assessment for balance & mobility for early discharge Visible management plan by the bedside	
Occupational Therapy	Assessment for balance, power, co-ordination and proprioception.	Assessment ADL , neglect & perception. Consider fast track referral to social service OTs.	Assessment for discharge safety & ADL in early recovery Visible management plan for OT input
Speech Therapy: Cognition Speech/ Communication	Reassess dysphagia Initial assessment of speech and language Visible management plan for dysphagia	Discuss SLT with relatives Visible management plan for speech and language threapy	Assessment for videofluoroscopy Book slot for videofluoroscopy
Dietetics Nutrition/ Hydration	Assess fluids/food intake Review adequacy of: Method of feeding Food content and consistency Recommend supplements		Consider PEG in patients on NG feeding

Please date and initial interventions in the Patient Multidisciplinary Care Document. All variances must be documented

STROKE CARE PATHWAY DOCUMENT
(interventions with suggested timing)

Rehabilitation week	2	3	4	5
Medical	Review blood pressure: need for treatment: Anticoagulation if AF and eligible Prevention of complications Review discharge plans	Prevention of complications Diagnosis, prognosis and prevention discussed with patient/carer Review discharge plans	Prevention of complications Review discharge plans Review secondary prevention. Reinforce lifestyles advice	Final assessments Neurological score Discharge plans & notification Follow up arrangements
Nutrition and swallowing	Maintains weight Tolerates normal diet. Receives therapy if swallowing problems (refer core plans) . Videofluoroscopy	Normal diet Maintains weight If not: refer core plans	Understands diet and special instructions	Maintains weight Competent with diet
Bowel/Bladder	Demonstrates continence or Bladder /bowel training to continue (refer core plans)	Continence control established. If not alternative strategies (refer core plans)	Continent and controlled. If not alternative strategies in place.	Continent and controlled If not, adequate arrangements made
Skin integrity	Dry and intact if broken: refer core plans	Dry and intact Discuss with patient/family implications of positioning.	Skin clear and intact.	Skin clear and intact. Positioning instructions
Mood/Cognition	Ongoing evaluation and support	Screening for depression Commence treatment if appropriate.	Treatment for depression if appropriate.	Continue treatment if appropriate.
Safety	Maintains safe position Does not wander Follows instructions	Safe positioning Safe transfers	Safe on unit. Manageable with available support at home.	Safety demonstrated at home.
Mobility/transfer	Demonstrates baseline abilities	Pre gait abilities Feasibility of ambulation	Progress to ambulation with aids.	Outpatient rehabilitation initiated.
ADLs	Baseline skills in • Feeding • Hygiene/grooming • Dressing	Feeding/hygiene, grooming after means provided. Toilet transfers with help of one. Dressing/undressing skills.	ADL practice Kitchen assessment Plan home visit.	Home visit Aids and adaptations Care package available Fix discharge date
Education	Aware of rehabilitation process Discusses reasonable discharge options	Carer learns transfer technique. Carer/patient demonstrates knowledge of medicines.	Patient/carer understands prognosis and disability. Carer practices "hands on" techniques	Understands care package. Aware of discharge date

Please date and initial interventions in the Patient Multidisciplinary Care Document. All variances must be documented

Clinical pathways for Total hip replacement

Example of clinical pathway for Total hip replacement

Source: Integrated Care Pathway for Hip Replacement, Rotherham General Hospital, NHS Trust (www.library.nhs.uk/pathways/)

Isle of Wight Healthcare NHS

NHS Trust

INTEGRATED CARE PATHWAY

Primary Total Hip Replacement		
Hosp. No DOB Name		Consultant
Address		Ward
Post Code		Named Nurse
GP		
ALLERGIES (including drug, latex etc.)		
Expected length of stay		

GUIDELINES FOR THE USE OF THIS ICP

This ICP replaces all previous admission documentation for both nursing and medical records.

All staff using the pathway must complete the signature sheet on the opposite page

This ICP guides the patient through a suggested pathway of care, if the patients care should deviate from the pathway this must be recorded in the variance box, giving details of reason and action taken.

This ICP is not "cast in stone" and if in your clinical judgement the pathway is not the most appropriate care for the patient, it may be suspended.

Pre-admission clinic

THE NURSE AND DOCTOR SEEING THE PATIENT IN THE PRE-ADMISSION CLINIC NEED TO RECORD DETAILS AS PRESENTED IN THE PATHWAY

NURSING ASSESSMENT

On admission to the ward the admitting nurse needs to complete the core information and nursing assessment sheets.

DAILY SHEETS

These are presented in chronological order, and document the care given to the patient during their stay.

THEATRE DOCUMENTATION

Anaesthetics sheets, operative notes, and recovery sheets are inserted into the pathway in chronological order using the treasury tags.

Uses for multidisciplinary communications / discussion with relatives etc,

- Dr Rounds
- Discussion with relatives
- Communication with other disciplines

SIGNATURE SHEET

Please give your full name, designation, full signature and initials below if you write in this pathway. This is for legal purposes.

FULL NAME (printed)	DESIGNATION	FULL SIGNATURE	INITIALS

Abbreviations used in this Care Pathway

BD	Twice daily	Intravenous
BMI	Body Mass Index	Myocardial infarction
CM	Care Manager	Midstream specimen of urine
CXR	Chest x-ray	Occupational Therapist
CVA	Cerebrovascular accident	Patient controlled analgesia
DVT	Deep vein thrombosis	Pulmonary embolism
ECG	Electrocardiogram	Patient's own drugs
FBC	Full blood count	Swelling of ankles
G&S	Group and save	Shortness of breath
ICP	Integrated care pathway	Tuberculosis
ID	Identification	White blood count
	Intramuscular	

PRE-ADMISSION CLINIC –

Date:

Does the patient still feel that surgery is appropriate Yes ☐ No ☐

Time Seen:

If no, action to be taken: _____

Diagnosis Proposed operation AGE
History of presenting complaint / orthopaedic history

Pain (please initial)		Function (please initial)	
Intense & permanent		Can't walk	
Severe even at night		Only with crutches	
Severe on walking		Only with sticks	
Tolerable – limited activity		1 hour with stick	
Mild – with activity		Long distance with stick	
Slight		Without stick – slight limp	
No pain		Normal	

Risk factors (initial if present)	Initial		
Age > 65		Previous DVT / PE	
BMI > 30		Varicose Veins	
Smoker		Bone Metastases	
Leg ulcers		Skin lesions	

Past medical history inc. operations and any problems with blood transfusions / anaesthesia

Medication (Frequency & dose)

Allergies

Steroids

Anticoagulation

Review of systems

BP	Pulse	Temperature	Height	Weight	Urinalysis

TB Yes ☐ No ☐ Rheumatic fever Yes ☐ No ☐ Hepatitis Yes ☐ No ☐

Rheumatoid arthritis Yes ☐ No ☐

General		Gastrointestinal	
Weight loss	Yes ☐ No ☐	Appetite	
Fevers	Yes ☐ No ☐	Abdo pain	Yes ☐ No ☐
Fatigue	Yes ☐ No ☐		
Fits / faints	Yes ☐ No ☐	Dysphagia	Yes ☐ No ☐
Jaundice	Yes ☐ No ☐	Dyspepsia / DU	Yes ☐ No ☐
Diabetes	Yes ☐ No ☐	Bowels	
Insulin ☐ Tablet ☐ Diet ☐			
Comments		Comments	

Cardiovascular		Respiratory	
Angina / MI	Yes ☐ No ☐	Cough	Yes ☐ No ☐
Palpitations	Yes ☐ No ☐	Sputum	Yes ☐ No ☐
Hypertension	Yes ☐ No ☐	SOB / asthma	Yes ☐ No ☐
SOA / orthopnoea	Yes ☐ No ☐	Smoker	Yes ☐ No ☐
CVA	Yes ☐ No ☐	Number Smoked	
Claudication	Yes ☐ No ☐	Alcohol	Units/wk
DVT	Yes ☐ No ☐		
Comments		Comments	

Genitourinary		Comments	

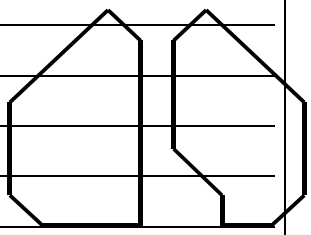
Dysuria	Yes ☐ No ☐	
Frequency	Yes ☐ No ☐	
Nocturia	Yes ☐ No ☐	
Incontinence	Yes ☐ No ☐	
Relevant family history / Social history		
Lives with		
Occupation		
Accommodation type		

PRE-ADMISSION CLINIC – DOCTOR

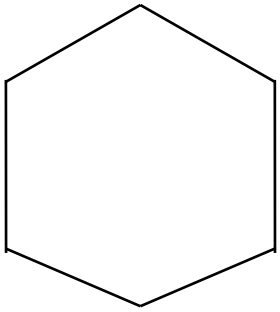
Examination

Heart sounds

Breath Sounds



Abdomen



Hip examination

		Fixed
Hip Flexion		
Hip Abduction		
Hip Adduction		
Hip Rotation		

Leg length discrepancy

Affected leg MM

Shorter Longer (please delete)

Summary

Signature – assessing Doctor

Date & Time

Investigations * see guideline	Date done & initial	Date result received & initial	Results and initial
Hb (135 – 175)			
WBC (4.0 – 11.0)			
Platelets (140 – 400)			
Sodium (136 – 146)			
Potassium (3.5 – 5.1)			
Urea (2.0 – 6.5)			
Creatinine (60 – 130)			
Glucose			

G&S			
X matched			
ECG*			
CXR*			
Urinalysis– If +ve - MSU			
MRSA Screening			

Surgery postponed / cancelled or postponement / cancellation avoided	Initial
Details	
Action taken	

Pre-Assessment			
NURSE		Time	Initial
Date of planned admission given	Date		
Date of operation given	Date		
ICP explained to patient / carer			
Education regarding surgery and rehabilitation given			
Physiotherapy leaflet given			
Occupational therapy leaflet & questionnaire given			
Controlling pain after surgery leaflet given			
Suggested discharge date recorded on discharge planning sheet			
Discharge discussed with patient / carer			
Patient in pre-assessment clinic < 2 ½ Hours			
Special requests from Consultant (e.g. equipment needed etc.) Details			
Special request actioned by			
Time patient left Pre-assessment clinic			
DOCTOR			
Consent taken by Consultant			
Medication Prescribed (Prophylactic Antibiotics / Anticoagulation)			
THR intended prosthesis Exeter / Elite ☐ Other ☐			

Date & Time	Pre Admission Consultant review	Sign

Date & time	Multidisciplinary communication / discussion with relatives etc.	Sign
Date & time	Variance – Reason & Action taken	Sign

CORE INFORMATION	
Next of kin / carer details	**Preferred contact**
Relationship	Relationship
Name	Name
Address	Address
Post code	Post code
Tel No.	Tel No.
GP details	Other details
Name	Marital status
Address	Religion
	Ethnic group
	Place of Birth
Tel. No.	Occupation
Primary Healthcare Involvement	Valuables
	Recorded
	Disclaimer Signed Y ☐ N ☐
Allergies	Sensitivities

Pre-assessment nurse signature	Admitting Nurse on ward signature
	Details checked & still current

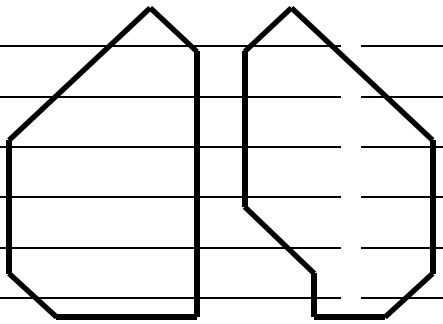
NURSING ASSESSMENT							
	Date	BP	Pulse	Temp	Height	Weight	Urinalysis
Pre assessment							
On admission							

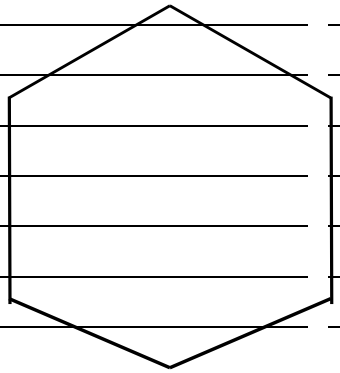
ACTIVITY	BEFORE ADMISSION	ON ADMISSION
Breathing		
Diet inc Nutrition score		
Eliminating		
Hygiene requirements		
Mobilising Inc Waterlow Score		
Sleep pattern		
Communication		
Foreseeable discharge problems: i.e. unable to self care, transport required		Action

Discharge discussed with patient	Yes ☐ No ☐	Yes ☐ No ☐
Primary Health Care involvement and referrals Notify existing care support		Action

Signature – assessing Nurse		
Date & Time		

Admission Review		
Did the patient attend a pre –assessment clinic Yes ☐ No ☐		
If Yes, continue with section below. If No complete pre-assessment documentation / tests		
Any change in medical / surgical status since pre-assessment Yes ☐ No ☐		
If yes, comment below		





Any action taken	Details	Time	Initial
Referred to Senior			
Referred to Anaesthetist			
Referred to Medical team			
Cancel / postpone surgery			

ADMISSION DAY			
Date	Time patient arrived		
	Time bed allocated		
NURSE		Time	Initial
Orientated to ward			
Valuables / Disclaimer – property book number			
Plan of care discussed with patient / carer			
PODs in storage cupboard			
ID band in situ			
Manual handling assessment completed			
Check referrals to CM & OT if applicable			
Confirm discharge arrangements			
PHYSIOTHERAPIST			
Pre-op advice given - deep breathing and ankle exercises explained			
PHARMACY			
Pharmacy review of medications			
DOCTOR			
Mark limb			
Reviewed by Doctor – continue care as per pathway			

Date & Time	**Multidisciplinary communication / discussion with relatives etc.**	**Sign**

Date & time	Variance – Reason & Action taken	Sign

OPERATIVE DAY				
Date	Time patient returned from theatre			
NURSE Initial for each shift (or as appropriate)		AM	PM	Nocte
Pre operative care				
Pre op checklist complete				
No further food from →				
No further fluids from →				
Administer pre medication as prescribed				
Prophylactic anticoagulation given (Not spinal anaesthetic)				
Post operative care		AM	PM	Nocte
Observation as per post op care				
Commence fluid balance chart				
Catheter care given				
Commence diet & fluids as tolerated → Time				
Maintain IVI as per regime				
Check wound dressing- Condition→				
Drains patent amount drained at midnight →	mls			
Pain management – PCA IM Epidural Intrathecal				
Pain score assessed / observation recorded as per guidelines				
Manual handling reassessed				
Waterlow reassessed – Score →				
PHYSIOTHERAPIST Initial as appropriate		AM	PM	
Seen by physio – continue as per protocol				
PHARMACY Initial as appropriate				
Pharmacy review of medications				
DOCTOR Initial as appropriate		AM	PM	Nocte
Reviewed by Doctor – continue care as per pathway				

Date & Time	Multidisciplinary communication / discussion with relatives etc.	Sign

Date & time	Variance – Reason & Action taken	Sign

POST OPERATIVE DAY 1			
Date			
NURSE Initial for each shift (or as appropriate)	AM	PM	Nocte
4 hourly pulse, blood pressure			
Maintain fluid balance chart			
Eat & drink normally			
Catheter care given			
Check wound dressing- Condition→			
Drains patent amount drained at midnight → mls			
Pain score assessed / observation recorded as per guidelines			
Waterlow reassessed – Score →			
Medication given as per prescription			
Hygiene needs met			
PHYSIOTHERAPIST Initial as appropriate	AM	PM	
Seen by physio – continue as per protocol			

Physio - Details			
PHARMACY Initial as appropriate	AM	PM	
Pharmacy review of medications			
DOCTOR Initial as appropriate	AM	PM	Nocte
Check FBC sent			
Reviewed by Doctor – continue care as per pathway			
Post-operative x-ray requested			

Date & Time	Multidisciplinary communication / discussion with relatives etc.	Sign

Date & time	Variance – Reason & Action taken	Sign

POST OPERATIVE DAY 2			
Date			
NURSE Initial for each shift (or as appropriate)	AM	PM	Nocte
4 hourly BP & P			
Pain score assessed / observation recorded as per guidelines			
Maintain fluid balance			
IV fluids given as per regime			
Check wound dressing- Condition →			
Drains removed – amount drained → mls			
Encourage diet &fluids			
Waterlow reassessed – Score →			
Blood transfusion given as per policy (if required)			
Bowels opened since operation			
Hygiene needs met			
Medication given as per prescription.			
Manual handling reassessed			
PHYSIOTHERAPIST Initial as appropriate	AM	PM	
Seen by physio – continue as per protocol			
Physio - details			
PHARMACY Initial as appropriate	AM	PM	
Pharmacy review of medicines			
DOCTOR Initial as appropriate	AM	PM	Nocte
Post-operative x-ray checked and approved			
Review FBC – Is a blood transfusion required Yes No If yes record reason			
Reviewed by Doctor – continue care as per pathway			

Date & Time	Multidisciplinary communication / discussion with relatives etc.	Sign

Date & time	Variance – Reason & Action taken	Sign

POST OPERATIVE DAY 3				
Date				
NURSE Initial for each shift (or as appropriate)		AM	PM	Nocte
Observations if stable record BD				
Pain score assessed / observation recorded as per guidelines				
Maintain fluid balance				
Check wound dressing - Condition→				
Eat & drink normally				
Waterlow reassessed – Score →				
Nutrition score reassessed Score →				
Blood transfusion given as per policy (if required)				
Bowels opened since operation				
Medication given as per prescription.				
Hygiene needs met				
PHYSIOTHERAPY Initial as appropriate		AM	PM	
Seen by Physio – continue as per protocol				
Physio –details				
PHARMACY Initial as appropriate		AM	PM	
Pharmacy review of medications				
OCCUPATIONAL THERAPY Initial as appropriate		AM	PM	
Seen by OT				
DOCTOR Initial as appropriate		AM	PM	Nocte
Reviewed by Doctor – continue care as per pathway				

Date & Time	Multidisciplinary communication / discussion with relatives etc.	Sign

Date & time	Variance – Reason & Action taken	Sign

Days post operation (insert date)						
(Please initial as appropriate)	4TH			5th		
NURSE	AM	PM	Nocte	AM	PM	Nocte
Wound dressing checked						
Pain score assessed						
Waterlow reassessed every 3rd day						
Manual handling reassessed 5thday						
Hygiene needs met						
Medication given as per prescription.						
Observations stable						
Observations Daily from 5th day						
Catheter removed 4th Day						
PHYSIOTHERAPY						
Mobilised as per protocol						
PHARMACY						
Pharmacy review of medications						
OCCUPATIONAL THERAPY						
Reviewed by OT						
DOCTOR						
Reviewed by Dr - Continue As per pathway						

Date & Time	**Multidisciplinary communication / discussion with relatives etc.**	**Sign**

Date & time	Variance – Reason & Action taken	Sign

Days post operation (insert date)						
(Please initial as appropriate)	6th			7TH		
NURSE	AM	PM	Nocte	AM	PM	Nocte
Wound dressing checked						
Pain score assessed						
Waterlow reassessed every 3rd day						
Hygiene needs met						
Medication given as per prescription.						
Daily Observations stable						
PHYSIOTHERAPY						
Mobilised as per protocol						
PHARMACY						
Pharmacy review of medications						
OCCUPATIONAL THERAPY						
Reviewed by OT						
DOCTOR						
Reviewed by Dr - continue as per pathway						

Date & Time	**Multidisciplinary communication / discussion with relatives etc.**	**Sign**

Date & time	Variance – Reason & Action taken	Sign

Days post operation (insert date)						
(Please initial as appropriate)	8TH			9th		
NURSE	AM	PM	Nocte	AM	PM	Nocte
Wound dressing checked						
Pain score assessed						
Waterlow reassessed every 3rd day						
Hygiene needs met						
Medication given as per prescription.						
Daily Observations stable						
PHYSIOTHERAPY						
Mobilised as per protocol						
PHARMACY						
Pharmacy review of medications						
OCCUPATIONAL THERAPY						
Reviewed by OT						
DOCTOR						
Reviewed by Dr – continue as per pathway						

Date & time	Variance – Reason & Action taken	Sign

Days post operation (insert date)						
(Please initial as appropriate)	10TH			11th		
NURSE	AM	PM	Nocte	AM	PM	Nocte
Wound dressing checked						
Pain score assessed						
Waterlow reassessed every 3rd day						
Hygiene needs met						
Medication given as per prescription.						
Daily Observations stable						
PHYSIOTHERAPY						
Mobilised as per protocol						
PHARMACY						
Pharmacy review of medications						
OCCUPATIONAL THERAPY						
Reviewed by OT						
DOCTOR						
Reviewed by Dr – continue as per pathway						

Date & Time	Multidisciplinary communication / discussion with relatives etc.	Sign

Date & time	Variance – Reason & Action taken	Sign

DISCHARGE PLANNING					
Pre-Assessment details	**Suggested date of discharge**				
Ongoing management information					
Discharge from Ward / Dept			Valuables returned to patient Yes / No		
			Signature obtained Yes / No		
Discharge destination			Venflon removed Yes / No		
			Date fit for discharge / transfer		
GP name Tel No Post code			Date actual discharge / transfer		
			Reason for delay if more than 24 hours		
Next of kin / carer contacted re transfer Yes / No					
Date contacted					
		N/A	Date arranged	Patient/carer aware date	Arranged Nurse /Clerk signature
Doctors discharge letter					
Discharge information (Acorn)					
Pressure injury discharge details					
Transfer requirements -notes					
Transfer requirements -X-rays					
Transfer requirements -Care plans					
To take away drugs sheet (TTA) or drug sheet copied					
Transport ambulance / car/ own					
Dressings					
	Referral				

OPD/Day hospital					
Physiotherapy					
Occupational therapy					
Specialist Nurse					
District Nurse/Midwife					
Practise Nurse/Midwife					
Named care manager					
Discharging Nurse/name and signature					

Days post operation (insert date)						
(Please initial as appropriate)						
NURSE	AM	PM	Nocte	AM	PM	Nocte
Wound dressing checked						
Pain score assessed						
Waterlow reassessed every 3rd day						
Hygiene needs met						
Medication given as per prescription.						
Daily Observations stable						
PHYSIOTHERAPY						
Mobilised as per protocol						
PHARMACY						
Pharmacy review of medications						
OCCUPATIONAL THERAPY						
Reviewed by OT						
DOCTOR						
Reviewed by Dr – continue as per pathway						

Date & Time	**Multidisciplinary communication / discussion with relatives etc.**	**Sign**

Date & time	Variance – Reason & Action taken	Sign

Days post operation (insert date)						
(Please initial as appropriate)						
NURSE	AM	PM	Nocte	AM	PM	Nocte
Wound dressing checked						
Pain score assessed						
Waterlow reassessed every 3rd day						
Hygiene needs met						
Medication given as per prescription.						
Daily Observations stable						
PHYSIOTHERAPY						
Mobilised as per protocol						
PHARMACY						
Pharmacy review of medications						
OCCUPATIONAL THERAPY						
Reviewed by OT						
DOCTOR						
Reviewed by Dr – continue as per pathway						

Date & Time	**Multidisciplinary communication / discussion with relatives etc.**	**Sign**

Date & time	Variance – Reason & Action taken	Sign

APPENDIX CHAPTER 8 : INTERNATIONAL CLASSIFICATION

Results of the search strategies

ORGANISATION AND REHABILITATION AND MULTIPLE TRAUMA

Zoekalgoritme:

("Organization and Administration"[MeSH] OR "Professional Review Organizations"[MeSH] OR "Organizations, Nonprofit"[MeSH] OR "Health Planning Organizations"[MeSH] OR "Health Maintenance Organizations"[MeSH] OR "Health Care Economics and Organizations"[MeSH] OR "Managed Care Programs"[MeSH] OR "Risk Adjustment"[MeSH] OR "Organizational Case Studies"[MeSH] OR "Health Expenditures"[MeSH] OR "European Union"[MeSH])

AND

("Rehabilitation"[MeSH] OR "rehabilitation"[Subheading] OR "Rehabilitation Nursing"[MeSH] OR "Rehabilitation Centers"[MeSH] OR "Rehabilitation of Speech and Language Disorders"[MeSH] OR "Rehabilitation, Vocational"[MeSH] OR "Activities of Daily Living"[MeSH] OR "Treatment Outcome"[MeSH])

AND

("Multiple Trauma"[MeSH])

Results

All	Clinical trial	Pub in 5 years	Review
348	19	173	42

De exclusie criteria zijn:

Generieke criteria:

- Alle klinische interventies in een acute fase.
- M.a.w. medisch klinische activiteiten.
- Alle medicamenteuze studies
- Alle farma-economische studies

Specifiek voor deze pathologie:

- Onderwerpen gaande over pediatrische trauma's
- Organische verwondingen: lever, nieren, hersenen
- Complicaties in de acute fase
- Oorzaken van multiple trauma: vrouwenvoetbal/terrorist

Na toepassing van de exclusie criteria zijn er 108 artikelen weerhouden.

ORGANISATION AND REHABILITATION AND AMPUTATION (25 NOVEMBER 2006)

Zoekalgoritme

("Organization and Administration"[MeSH] OR "Professional Review Organizations"[MeSH] OR "Organizations, Nonprofit"[MeSH] OR "Health Planning Organizations"[MeSH] OR "Health Maintenance Organizations"[MeSH] OR "Health Care Economics and Organizations"[MeSH] OR "Managed Care Programs"[MeSH] OR "Risk Adjustment"[MeSH] OR "Organizational Case Studies"[MeSH] OR "Health Expenditures"[MeSH] OR "European Union"[MeSH])

AND

("Rehabilitation"[MeSH] OR "rehabilitation"[Subheading] OR "Rehabilitation Nursing"[MeSH] OR "Rehabilitation Centers"[MeSH] OR "Rehabilitation of Speech and Language Disorders"[MeSH] OR "Rehabilitation, Vocational"[MeSH] OR "Activities of Daily Living"[MeSH] OR "Treatment Outcome"[MeSH])

AND

("Amputation"[MeSH])

Results

All	Clinical trial	Pub in 5 years	Review
297	22	120	30

De exclusie criteria zijn:

Generieke criteria:

- Alle klinische interventies in een acute fase.
- M.a.w. medisch klinische activiteiten. (surgery's: deep brain stimulation)
- Alle medicamenteuze studies
- Alle farma-economische studies

Specifiek voor deze pathologie:

- Preventie van amputatie in het kader van Diabetes
- Psychosociale predictoren (oa; gemeten bij phantoompijn)
- Risicofactoren bij patiënt aan de hemodialyse
- Fysiologische studies (o.a. peripheral arterial disease)
- Karakteristieken van prothese (knie,…) bij amputatie van lidmaat
- Vinger amputaties

Na toepassing van de exclusie criteria zijn er 133 artikelen weerhouden.

ORGANISATION AND REHABILITATION AND CVA/STROKE (NOVEMBER-DEC 2005)

Zoekalgoritme:

("Organization and Administration"[MeSH] OR "Professional Review Organizations"[MeSH] OR "Organizations, Nonprofit"[MeSH] OR "Health Planning Organizations"[MeSH] OR "Health Maintenance Organizations"[MeSH] OR "Health Care Economics and Organizations"[MeSH] OR "Managed Care Programs"[MeSH] OR "Risk Adjustment"[MeSH] OR "Organizational Case Studies"[MeSH] OR "Health Expenditures"[MeSH] OR "European Union"[MeSH])

AND

("Rehabilitation"[MeSH] OR "rehabilitation"[Subheading] OR "Rehabilitation Nursing"[MeSH] OR "Rehabilitation Centers"[MeSH] OR "Rehabilitation of Speech and Language Disorders"[MeSH] OR "Rehabilitation, Vocational"[MeSH] OR "Activities of Daily Living"[MeSH] OR "Treatment Outcome"[MeSH])

AND

("Cerebrovascular Accident"[MeSH] OR "Infarction, Posterior Cerebral Artery"[MeSH] OR "Brain Stem Infarctions"[MeSH] OR "Infarction, Middle Cerebral Artery"[MeSH] OR "Infarction, Anterior Cerebral Artery"[MeSH] OR "Hemiplegia"[MeSH])

Results

All	Clinical trial	Pub in 5 years	Review
869	108	642	129

De exclusie criteria zijn:

Generieke criteria:

- Alle klinische interventies in een acute fase.
- M.a.w. medisch klinische activiteiten.
- Alle medicamenteuze studies
- Alle farma-economische studies

Na toepassing van de exclusie criteria zijn er 490 artikelen weerhouden.

ORGANISATION AND REHABILITATION AND SPINAL CORD INJURY (20 DECEMBER 2005)

Zoekalgoritme

("Central Cord Syndrome"[MeSH] OR "Spinal Cord Injuries"[MeSH] OR "Paraplegia"[MeSH] OR "Quadriplegia"[MeSH] OR "Trauma, Nervous System"[MeSH]) NOT (("brain diseases"[MeSH Terms] OR brain diseases[Text Word]) OR ("cranial nerves"[MeSH Terms] OR cranial nerves[Text Word]) OR ("autonomic nervous system"[MeSH Terms] OR autonomic nervous system[Text Word]) OR (musculoskeletal and neurological [All Fields] AND system[All Fields]))

AND

("Organization and Administration"[MeSH] OR "Professional Review Organizations"[MeSH] OR "Organizations, Nonprofit"[MeSH] OR "Health Planning Organizations"[MeSH] OR "Health Maintenance Organizations"[MeSH] OR "Health Care Economics and Organizations"[MeSH] OR "Managed Care Programs"[MeSH] OR "Risk Adjustment"[MeSH] OR "Organizational Case Studies"[MeSH] OR "Health Expenditures"[MeSH] OR "European Union"[MeSH])

AND

("Rehabilitation"[MeSH] OR "rehabilitation"[Subheading] OR "Rehabilitation Nursing"[MeSH] OR "Rehabilitation Centers"[MeSH] OR "Rehabilitation of Speech and Language Disorders"[MeSH] OR "Rehabilitation, Vocational"[MeSH] OR "Activities of Daily Living"[MeSH] OR "Treatment Outcome"[MeSH])

Results:

All	Clinical trial	Pub in 5 years	Review
981	78	381	81

De exclusie criteria zijn:

Generieke criteria:

- Alle klinische interventies in een acute fase.
- M.a.w. medisch klinische activiteiten. (surgery's: deep brain stimulation)
- Alle medicamenteuze studies
- Alle farma-economische studies

Specifiek voor deze pathologie:

ORGANISATION AND REHABILITATION AND HIP REPLACEMENT (DECEMBER 2005)

Zoekalgoritme:

("Arthroplasty, Replacement, Hip"[MeSH])

AND

("Organization and Administration"[MeSH] OR "Professional Review Organizations"[MeSH] OR "Organizations, Nonprofit"[MeSH] OR "Health Planning Organizations"[MeSH] OR "Health Maintenance Organizations"[MeSH] OR "Health Care Economics and Organizations"[MeSH] OR "Managed Care Programs"[MeSH] OR "Risk Adjustment"[MeSH] OR "Organizational Case Studies"[MeSH] OR "Health Expenditures"[MeSH] OR "European Union"[MeSH])

AND

("Rehabilitation"[MeSH] OR "rehabilitation"[Subheading] OR "Rehabilitation Nursing"[MeSH] OR "Rehabilitation Centers"[MeSH] OR "Rehabilitation of Speech and Language Disorders"[MeSH] OR "Rehabilitation, Vocational"[MeSH] OR "Activities of Daily Living"[MeSH] OR "Treatment Outcome"[MeSH])

Results

All	Clinical trial	Pub in 5 years	Review
297	40	227	39

De exclusie criteria zijn:

Generieke criteria:

- Alle klinische interventies in een acute fase.
- M.a.w. medisch klinische activiteiten.
- Alle medicamenteuze studies
- Alle farma-economische studies

Specifiek voor deze pathologie:

- Evaluaties van operatietechnieken
- CO analyse van heupprothese technieken
- Onderwerpen gaande over beenherstel (bone remodelling)
- Onderwerpen gaande over complicaties bij het plaatsen van een heupprothese
- Onderwerpen gaande over preventie van trombolyse
- Revisie van de heup
- Bloeddonatie Complicaties in de acute fase
- Oorzaken van multiple trauma: vrouwenvoetbal/terrorist

Na toepassing van de exclusie criteria zijn er 112 artikelen weerhouden.

ORGANISATION AND REHABILITATION AND MS (NOVEMBER 2005)

Zoekalgoritme

("Multiple Sclerosis"[MeSH])

AND

("Organization and Administration"[MeSH] OR "Professional Review Organizations"[MeSH] OR "Organizations, Nonprofit"[MeSH] OR "Health Planning Organizations"[MeSH] OR "Health Maintenance Organizations"[MeSH] OR "Health Care Economics and Organizations"[MeSH] OR "Managed Care Programs"[MeSH] OR "Risk Adjustment"[MeSH] OR "Organizational Case Studies"[MeSH] OR "Health Expenditures"[MeSH] OR "European Union"[MeSH])

AND

("Rehabilitation"[MeSH] OR "rehabilitation"[Subheading] OR "Rehabilitation Nursing"[MeSH] OR "Rehabilitation Centers"[MeSH] OR "Rehabilitation of Speech and Language Disorders"[MeSH] OR "Rehabilitation, Vocational"[MeSH] OR "Activities of Daily Living"[MeSH] OR "Treatment Outcome"[MeSH])

Results

All	Clinical trial	Pub in 5 years	Review
212	13	113	37

De exclusie criteria zijn:

Generieke criteria:

- Alle klinische interventies in een acute fase.
- M.a.w. medisch klinische activiteiten. (surgery's: deep brain stimulation)
- Alle medicamenteuze studies
- Alle farma-economische studies

Specifiek voor deze pathologie:

- Effectstudies van de behandeling van specifieke symptomen bij Multiple Sclerose; o.a. pijnbehandelingen
- Validatie studies van therapieën; o.a. weerstandstraining, telephone-administered cognitive-behavioral therapy
- Ervaringen als MS- patiënt; o.a. op seksueel gebied
- Fracturen door Multiple Sclerose

Na toepassing van de exclusie criteria zijn er 132 artikelen weerhouden.

Dutch health care system

DUTCH HEALTH CARE INSURANCE

In parallel to the changes in the organization and financing principles, some major changes took place in the compulsory insure model, as it emerged in the post WW II period. The groundings of the health insurance are to be found in the sickness fund act (ziekenfondswet-ZFW), originally providing insurance for similar social groups and people in similar employment conditions, a separate scheme for the elderly (+65) and a voluntary scheme for groups who did not fall under the compulsory health insurance. Due to financing problems of this insurance model, a first major reform took place in the mid 1980's, mainly focusing on the category of elderly people. The reforms implied a shift for certain people towards the private insurance market, leading to difficulties to pay premiums, as the premiums on the private market are not related to income.

A reform in 1997, dealing with this equity issue, raised the ceiling for sickness fund insurance. More pensioners became eligible for cover under the ZFW after 65. Some technical reforms on this issue were introduced afterwards, mainly focusing on students and self-employed people.

The Dutch system had a compulsory insurance against exceptional medical expenses (Algemene Wet Bijzondere Ziektekosten-AWBZ). Initially, the scope of this act was mainly on the high costs in hospital or intramural care, but over time different other forms fell under this scheme (e.g. in the 1980's psychiatric care was taken out of the ZWF and placed within the AWBZ). The same happened with aids and appliances; in the beginning of the 1990s, pharmaceutical services, genetic testing and rehabilitation and audiology treatment were added to the AWBZ.

In the mid 1990's a second major wave of reforms was introduced in the health insurance model, developing a more explicit view on a three compartments model: a first compartment based on the AWBZ, a second compartment based on ZFW/private insurance, and a third compartment of voluntary supplementary insurance for long-term care and treatments that cannot be insured by individuals.

The three-tiered system based on a combination of private insurance companies (either independently or under contract to the government) and public entities is abolished through the Health Care Insurance Act 2005 and replaced with a mandatory universal system (ZVW) Government involvement is reduced significantly and health insurers should become main actors in promoting cost containment, through competition and by enforcing open enrollment with health insurers and regulating agencies. The government remains responsible for defining the frameworks for health insurance.

Since January 2006 the new, mandatory national health system, imposes individuals to purchase private health insurance. One legal health insurance for all dutch citizens is introduced: it provides in a legally guaranteed standard package of reimbursed treatment and care. Financing is supported by employer and employee income-based contributions to the new Health Insurance Fund, direct premium payments to insurers by individuals, and public funds. People can sign in on (complementary to the legal basic package) private insurances. It should offer the consumer a broad spectrum of choice between insurers, and enable them to by cheaper or more differentiated packages of insured care.

Insurance providers must offer services throughout the country. However, providers that insure fewer than 850,000 people may limit their services to one or more provinces. Insurers are not allowed to deny coverage to any individual or create a differentiated set of premiums based on age, gender, or medical situation. They will be compensated for unfavorable concentrations of risk by the risk equalization component of the Health Insurance Fund.

Organisation of the Dutch Rehabilitation Sector

Sources : www.revalidatie.nl; http://vra.artsennet.nl; Landelijke databank Revalidatie 2002; http://www.brancherapporten.minvws.nl; www.hartstichting.nl; www.NICTIZ.nl; www.zonmw.nl

Contacts : e.rolink@revalidatie.nl (Beleidsmedewerker Landelijk Coördinatiepunt DBC Revalidatie)

Organization

A. General organization

The rehabilitation care in the Netherlands is organized in acute hospital settings as well as in 24 Rehabilitation Centres throughout the country (see www.revalidatie.nl). In both cases, the service can be on in-hospital or on out-hospital base (www.dbconderhoud.nl/informatie/categoraal). The content of the rehabilitation care was defined by law on 22-8-1996, and has been described in a document of the Rehabilitation Specialist Union in 2001 (http://vra.artsennet.nl) . The indications for treatment by a rehabilitation specialist are confined to disorders of the musculoskeletal system or the nervous system (including cognition, communication and behaviour), that are so complex as to make specialized knowledge indispensible, or that tend to become permanent. E.g. physical rehabilitation of myocardial infarction or COPD (chronic obstructive pulmonary disease) belongs to the responsibility of the cardiologist respectively pneumologist; in severe cases the advice of a rehabilitation specialist can be obtained.

According to AB Ward (2005) (ref), 248 rehabilitation specialists are practicing in the Netherlands (1.65/100.000 population), compared to 450 in Belgium (4.40/100.000 population). Of the 24 Dutch Rehabilitation Centers, 14 are connected to University Hospitals ("Academiseringsovereenkomst"), and hence are considered to be "top reference centres".

According to the " Landelijke databank Revalidatie", in 2002 for 22 out of the 24 rehabilitation centres (2 were considered to belong to the hospital care) had 1533 beds; and 17 out of these 22 centres hospitalized 6113 adult patients (apart from the ambulatory treatments provided). The global service (in as well as out patient) was provided by about 2250 paramedici and about 300 rehabilitation specialists. This doesn't take into account how many patients were looked after in the rehabilitation wards of acute hospitals since these belong to the hospital care. According to the visited website, specific numbers on this topic are not separately available (http://www.brancherapporten.minvws.nl).

B. Network Development

Last years, a lot of attention has been paid to network development in orde to provide more continuity of care for the patient ("ontschotting van de zorg"). One well-advanced example is found in the organization of "Stroke-Networks" also called "Stroke-Services", a network of health care services built around a "Stroke Unit" or in-patient rehabilitation service specialized in stroke care. (e.g. a stroke unit in an acute hospital that works together with a one or two rehabiltation centres and some nursing homes or home care services). The "Commissie CVA-Revalidatie", a working group of the "Nederlandse Hartstichting" (www.hartstichting.nl), recommended in 2001 stroke services as the best way to take care of stroke patients, based on the opinion of the experts of the working group. Apart from the networking, they advised to assure continuity of care by transmural patient notes and/or by a transmural nurse. In 2004, the NICTIZ (Nationaal ICT Instituut in de Zorg, www.NICTIZ.nl) published a prototype of how to transfer patient information between services (see website: "Specificaties CVA-keteninformatiesysteem"). Throughout the Netherlands, at least 80 Stroke Services were founded last years, and a pilot project to benchmark these networks was organized. In 2004, this pilot project in which 3 regional stroke networks were compared, the "Edisse study", was finished (www.zonmw.nl). Two major

problems to realise good transmural continuity of care, were waiting lists e.g. for nursing homes and on the other hand the fact that many agreements had to be made between the partners before good networking was possible. Each network had some good as well as some worse points, and a blueprint for an "ideal" network was presented. Since then, more stroke networks have been benchmarked and prestation indicators for transmural care are under development (www.zonmw.nl). The NICTIZ also provides Stroke network benchmarking; some of the evaluation sheets are available on their website (see "CVA Benchmark").

QUALITY: PERFORMANCE INDICATORS

In 2000, it was decided in a consensus meeting between stake-holders (government, insurance companies, patient organizations…) to develop prestation-indicators for rehabilitation care, in order to simplify comparison between different settings for insurance companies as well as for patients. On April 1st 2005, all Dutch rehabilitation centres started indeed with the description of their prestations in 2004 by means of a set of "performance indicators". Results for 2004 and 2005 for the 24 centers are available (www.revalidatie.nl). Important topics are patient and family satisfaction, safety, efficacy, waiting lists, efficiency, transparancy, networking, expertise, research and education.

Efficacy is measured in the % of patients that had a written treatment agreement ("behandelovereenkomst"); registration by the rehabilitation centre of the % of patients that reached the goals put forward at the beginning of the treatment; and registration of the % of patients that was discharged home. The system of registration can be chosen by the rehabilitation centre itself, but has to be transparant and is made publicly available. Efficiency is quantified by the amount of treatment hours (RBU) provided by the centre. Whereas for all other performanceindicators most centres made their results available, no centre made his amount of RBU per patient available. Transparancy is expressed as the time since and the results of external audits by the Government and by peer-review (Vereniging van Revalidatieartsen Nederland). Expertise is measured by the participation in working groups, national or regional. Concerning research and education, all rehabilitation centres participated in research and 19/24 centres initiated their own research in 2005.

FINANCING

(Source:www.revalidatie.nl; e.rolink@revalidatie.nl)

One of the characteristics of the current Dutch health care reïmbursement system, is the payment according to a "DBC"-system (see general introduction). Apart from the classification of prestations according to the DBC, it is foreseen in this sytem that 10% of the price of a certain DBC category can be negotiated between health insurance and health providers (the so-called "B-segment"). Not for all sectors of health care the DBC-system has been introduced yet, and for the rehabilitation sector the theoretical model only recently has been finished. Some early registration experiments have been conducted yet, and from Jan 1st 2007 on, each rehabilitation center will have to register according to the model but will still be financed according to the old system. Depending on the results of this general registration, it is foreseen that the system should be in use from Jan 1st 2008 on; however, without the principle of negotiation (only paid in the "A-segment" of reïmbursement and not in the "B-segment").

REHABILITATION DBC FINANCING: PRINCIPLES (SEE TABLE 1.8.1)

Not taken into account the consultations or therapeutic acts (e.g. filling of a baclofen-pump) by the medical specialist (for which 10 separate declaration categories are foreseen), the financing of rehabilitation according to the rehabilitation-DBC-system is based on the number of therapy sessions. Rehabilitation therapy implies a multidisciplinary (two or more therapists) setting in a rehabilitation centre. Monodisciplinary therapy can only be taken into account if it concerns a special therapy which is not available on regular basis outside the rehabilitation centre. The payment system makes a distinction between "ambulatory" and "inpatient" as well as between "children" and "adults". For each of these 4 categories (e.g. inpatient adults) 8 different

declaration possibilities (based on number of sessions) have been created (see figures, for details see www.revalidatie.nl). On the whole, there are 40 different tariffs or rates for therapy. (It is to be noted that the rehabilitation treatment of children in schools for special education is also included in this financing model, and also is based on hours of therapy, be it per half year). E.g. (see figure 1.8.1) if 72 sessions of rehabilitation are provided for an ambulatory adult out-patient, payment is according to category 64, no matter whether it was fysiotherapy, speech therapy… It will probably be foreseen that top reference centres get a higher price for their prestations. How to foresee for the difference in payment according to the seniority or the educational level of the personnel still has to be clarified.

Apart from the four basic categories (ambulatory-inpatient and children-adults) and the global number of therapy sessions, it has to be registered each time a certain professional (speech therapist, manual therapist…) performs some activities with/for a certain patient, called "CTG-activities". This implies "face-to-face" activities (actual treatment by physiotherapist, speech therapist, psychologist…) as well as "non- face-to-face" activities (such as report writing, team discussions, adaptation of a brace...) which should take minimal 10 minutes' time to be registered. Certain specific rehabilitation nurse acts (e.g. decubitus care) also have a therapy registration number. For inpatient care, an additional "hospital stay number" ("verpleegdag") has to be registered, in which most of the regular care activities automatically are included.

The DBC requires also registration of the medical diagnosis (note: not of the functional capacity of the patient). There are 7 categories of diagnoses, based on the ICD-9: disorders of locomotor system; amputations; brain disorders; other neurological disorders; spinal cord injury; disorders of respiratory or cardiovascular system or skin including burns; chronic pain including psychological disorders. These diagnostic classes are further subdivided into 45 subcategories. The diagnosis itself does not influence the tariff but is used to create a national database. It is also registered whether the treatment is the first rehabilitation treatment for the index diagnosis or whether it is a "continuation" after the first treatment was ended.

A patient can enter in a DBC-trajectory by referral of his GP or a medical specialist. One DBC treatment trajectory can take one day up to one year. A treatment trajectory is ended at the end of the year, when the treatment is stopped or when a patient starts in one of the other categories (e.g. the inpatient trajectory is stopped when the patient starts an ambulatory treatment; an ambulatory trajectory is then started). Also when the treatment is interrupted for a certain time, the trajectory is stopped and another one is started.

Table 1.8.1A: DBC type list (version 5.6) (Source: Landelijk Coördinatiepunt DBC Revalidatie, Okt. 2006)

DBC behandelassen per behandelvormtype		Behandelvormtype	
		1	consult, diagnostiek en beperkte revalidatie
		2	specialistische revalidatie behand. (SRB)
		3	polikl. revalidatie peuter-/schoolgroepen
		4	poliklinische revalidatie Kinderen
		5	klinische revalidatie Kinderen
		6	poliklinische revalidatie Volwassenen
		7	klinische revalidatie Volwassenen
		8	intercollegiaal consult
1	**consultair**		
alleen revalidatie-arts en/of verlengde arm			
10	éénmalig revalidatieconsult		
11	1 controle consult in DBC-behandeltraject		
12	> 1 controle consult in DBC-behandeltraject		
8	**intercollegiaal consult**		
8	intercollegiaalconsult(en)		
2	**specialistische reval. behand. (SRB) ***	**5**	**klinische revalidatie Kinderen**
20	specialistische medicatiebehandeling zonder anesthesie	**50**	2-7 dagen
21	specialistische medicatiebehandeling met anesthesie	**51**	8-21 dagen
22	intrathecale (baclofen)pomp instellen, vullen en/of bijstellen	**52**	22-49 dagen
23	elektro-ejaculatie zonder anesthesie	**53**	50-84 dagen
24	elektro-ejaculatie met anesthesie	**54**	85-126 dagen
25	injecties onder radiologische geleiding	**55**	127-175 dagen
		56	176-273 dagen
		57	274-365 dagen
3	**polikl. reval. peuter-/schoolgroepen ****	**6**	**poliklin. revalidatie Volwas.**
30	< 11 uur patiëntgerichte tijd per half jaar	**60**	< 11 uur patiëntgerichte tijd
31	11-20 uur patiëntgerichte tijd per half jaar	**61**	11-20 uur patiëntgerichte tijd
32	21-40 uur patiëntgerichte tijd per half jaar	**62**	21-40 uur patiëntgerichte tijd
33	41-60 uur patiëntgerichte tijd per half jaar	**63**	41-60 uur patiëntgerichte tijd
34	61-80 uur patiëntgerichte tijd per half jaar	**64**	61-80 uur patiëntgerichte tijd
35	81-120 uur patiëntgerichte tijd per half jaar	**65**	81-120 uur patiëntgerichte tijd
36	121-180 uur patiëntgerichte tijd per half jaar	**66**	121-180 uur patiëntgerichte tijd
37	> 180 uur patiëntgerichte tijd per half jaar	**67**	> 180 uur patiëntgerichte tijd
4	**poliklin. revalidatie Kinderen**	**7**	**klinische revalidatie Volwassene**
40	< 11 uur patiëntgerichte tijd	**70**	2-7 dagen
41	11-20 uur patiëntgerichte tijd	**71**	8-21 dagen
42	21-40 uur patiëntgerichte tijd	**72**	22-49 dagen
43	41-60 uur patiëntgerichte tijd	**73**	50-84 dagen
44	61-80 uur patiëntgerichte tijd	**74**	85-126 dagen
45	81-120 uur patiëntgerichte tijd	**75**	127-175 dagen
46	121-180 uur patiëntgerichte tijd	**76**	176-273 dagen
47	> 180 uur patiëntgerichte tijd	**77**	274-365 dagen

* parallelle dbc bij openstaande dbc

** minimaal declaratie per 1 februari en 1 augustus

Table 1.8.1B: DBC type list (version 5.6) (Source: Landelijk Coördinatiepunt DBC Revalidatie, Okt. 2006) (con't)

	DBC zorgtype	DBC zorgvraag
11	reguliere zorg	**1 = recent, 2 = niet recent**
13	intercollegiaal consult	1e revalidatiebehandeling (PRB of KRB) die een patient ondergaat binnen 6 maanden na ontstaan van een niet aangeboren aandoening
21	voortgezette zorg, vervolg DBC	

DBC diagnosen per hoofdgroep *

10	**Aand. bewegingsapparaat**
10	Aangeboren aandoeningen B.E.
11	Aangeboren aandoeningen O.E.
12	Overige aangeboren aand. beweging
13	Overige aandoening B.E.
14	Overige aandoening O.E.
15	Aandoening wervelkolom, romp
16	Reumatische aandoeningen
17	Multitrauma
19	Overig aand. bewegingsapparaat
20	**Amputaties BE**
20	Amputatie door of boven de elleboog
21	Amputatie onderarm/hand, excl. vingers
22	Amputatie vinger(s)
23	Amputatie B.E. niet gespecificeerd
25	Amputatie bovenbeen en hoger
26	Amputatie voet onderbeen en knie
27	Amputatie te(n)en
28	Amputatie O.E. niet gespecificeerd
30	**Hersenen**
30	Cerebrale functiestoornissen, incl. cong.
31	DCD (Development Coördination Disorder)
32	CVA
34	Contusio cerebri
35	Infectieuze hersenaandoeningen
36	Tumor cerebri
39	Overige hersenaandoeningen

40	**Neurologie**
40	Neurologie cerebrospinaal
41	Plexusletsel
42	Perifeer zenuwletsel, zenuwaandoeningen
43	Neuro musculaire andoeningen
49	Overige neurologische aandoeningen
50	**Dwarslaesie**
50	Dwarslaesie hoog: C1-C8, T1-T6
51	Dwarslaesie laag: T7-T12 en lager
52	Spina bifida
53	Ernstige decubitus t.g.v. dwarslaesie
60	**Organen**
60	Huidaandoen., incl. decubitus en ulcus cruris
61	Brandwonden
62	Hartaandoeningen
63	Bloedvaten
64	Respiratore aandoeningen
69	Overige orgaanaandoeningen
70	**Chronische pijn en psych.stoorn.**
70	Chronische Pijnsyndroom WPN 1
71	Chronische Pijnsyndroom WPN 2
72	Chronische Pijnsyndroom WPN 3
73	Chronische Pijnsyndroom WPN 4
74	Overige pijn
75	Psychische stoornissen

* De dbc-diagnose betreft een clustering o.b.v. hoofddiagnosen. Elke dbc-diagnose is 1 op 1 gerelateerd aan de hoofddiagnose. De diagnosen zijn gebasserd op de ICD9-DE-REV standaard.

France: Health care policy-making and organisation

The Ministry of Health controls a large part of the regulation of health care expenditure, on the basis of the overall framework established by parliament.

The ministry allocates, among other tasks, the budgeted expenditure between the different sectors and, where hospitals are concerned, between the different regions. In the framework of this report we will mainly focus on this last issue.

- The General directorate of health, part of The Ministry of Health, is responsible for health policy.
- A separate directorate of hospital and health care is responsible for the management of resources for the whole of the health care providers.
- The directorate of social security is responsible for financial matters, and for supervising social security organizations (including the health insurance funds).
- A general directorate for social policy is responsible for the social aspects of health care (such as care for disabled, elderly or vulnerable people).

The Ministry of Health also has external services at local level: directorates of health and social affairs in the regions and departments (DRASS and DDASS).

Policy making

A National Health Conference takes place once a year to propose priorities and suggest policy directions to the government and parliament. From 2002, the conference is also responsible for monitoring respect for patients' rights.

The High level Committee on Public Health *(Haut Comité de Santé Publique)* provides guidance and assists in decision-making regarding public health problems and issues related to the organization of health care. It undertakes regular overviews of the population's health status, prepares general analyses and forecasts of public health problems, contributes to the definition of public health objectives and makes proposals for strengthening preventive measures.

Accreditation

The National Agency for Accreditation and Evaluation of Health Care (ANAES) was created in 1997 and had following tasks:

- to elaborate and disseminate practice guidelines;
- to promote the development of clinical skills in hospitals and doctors' practices, by editing a guide and training professionals;
- to carry out an accreditation process for all hospitals (both public and private);
- to provide guidance regarding the procedures that should be eligible for reimbursement by the health insurance funds;

In 2005 the ANAES is integrated and reformed into the HAS ("haute autorité de la santé") The HAS is the new organism responsible for accreditation of health care services and for independent scientific health care policy research.

Regional Planning: networks and hospital planning

From the early 1990s a process of regionalizing the organization and management of the French health care system started. This process was based on the directorates of health and social affairs in the regions (DRASS), which were given increasing responsibilities for hospital planning and budget allocations to hospitals. The regional level is structured to direct the health care provision in a strategic way and to manage it coherently. The 2001 Social Security Funding Act reinforced this trend by providing regional hospital agencies

with a mandate to authorize experiments to set up networks of health care providers. It must however be emphasized that these are only relatively recent reforms.

The "regional hospital agencies" (ARH) are responsible for hospital planning (for both public and private hospitals), financial allocation to public hospitals and adjustment of tariffs for private for-profit hospitals (within the framework of national agreements). They bring together, at the regional level, the health services of the state and health insurance funds, which previously shared management of this sector. ARH directors are appointed by the Council of Ministers and are directly responsible to the Minister of Health.

The "regional unions of the health insurance funds" (URCAMs) bring together the three main health insurance schemes at the regional level. In relation to the ARHs, whose role is operational, their function is more to influence and stimulate, and they do not have authority over the regional and local funds.

Regional Strategic health plans

Until 2003, hospital planning involved a combination of two tools: the medical map as a quantitative tool and the Regional Strategic Health Plan (SROS) as a more qualitative tool. In 2003 the government decided to abandon the medical map and to integrate all planning tools into the SROS (Schéma Régional d'Organisation Sanitaire), the so called SROS 3 approach. (**http://www.parhtage.sante.fr/re7/site.nsf**)

The SROS sets out the goals over a five-year period, in areas corresponding to national or regional priorities. The plans have to promote networks of hospitals within a region, in which each hospital cooperates to provide care at the level most appropriate to its technical capacity. Overall, the network will be able to provide a comprehensive range of care, but individual hospitals will be responsible for more or less serious cases.

The SROS also provides the regional hospital agencies (ARH) with a framework for granting authorizations, approving proposals submitted by institutions and negotiating the contracts that ARHs must enter into with every hospital in the region – whether public, private non-profit or private for-profit.

At the department level (a region consists of different departments), the general councils supervise and finance *non medical* services through social assistance budgets;

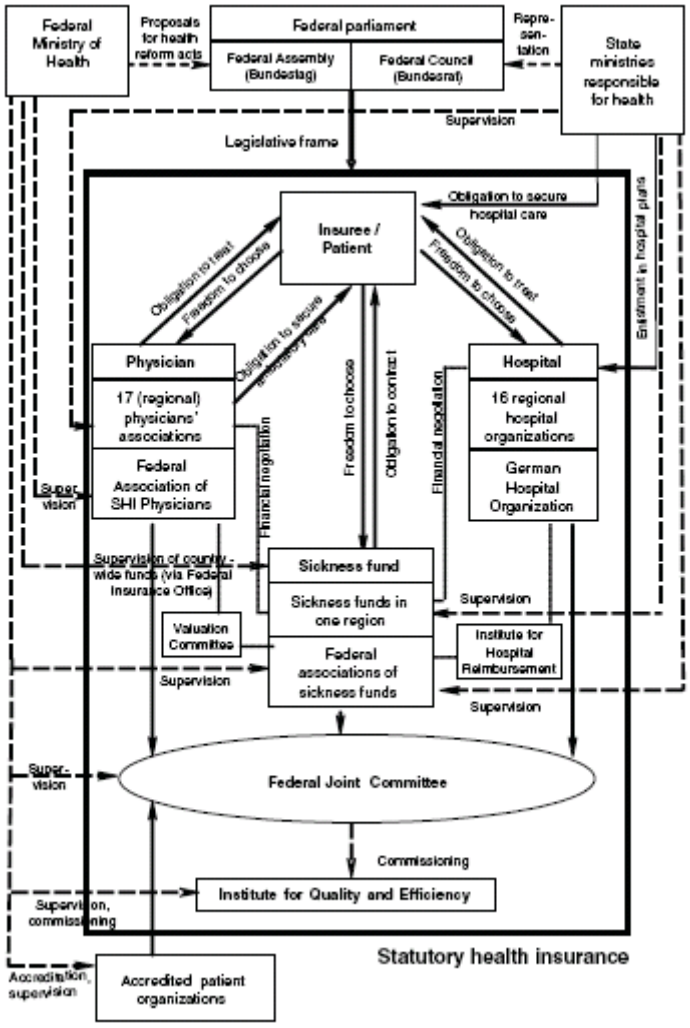
Facilities combining social and medical services come under the joint supervision of the state and the general councils, including

- institutions and services for elderly and disabled people;
- social welfare and work programmes responsible for the financial support of low-income elderly and disabled people in institutions and for financing assistance in the home.

Germany

The organisational structure[271]

Both the providers and payers are involved in the discussion on financing and delivering health care covered by statutory insurance schemes. The corporatist bodies constitute the self regulated structures that determine the financing and delivery of benefits covered by statutory health insurance (SHI) within the legal framework defined by the government (federal and Länder).



corporatist organisations are self-regulated organisations of payers and providers. On the payers' side, the most prominent organisations are the sickness funds. They have a central position in the health insurance system. The sickness funds are obliged to collect contributions from their members. In return these funds negotiate prices, quantities and quality with providers on behalf of their members. The contract between member and sickness fund result in covering services without prior permission of the sickness fund with the exception for rehabilitation services

The associations of physicians and dentists have more or less a corporatist monopoly on ambulatory care. More recently, also hospitals started to associate and select representatives to take part in the decision-making. However, hospitals are not considered as corporatist institution. Sickness funds negotiate contracts on prices and services with individual hospitals.

The control and regulation of the activities in different health care sectors is negotiated in joint committees. Representatives of providers and payers are chosen for joint

committees on federal and Länder level on which benefits, prices and standards are defined (federal level) and horizontal contracts between different actors are negotiated, and their members are controlled and sanctioned (regional level). The most important body on the discussion of the benefits is the negotiation between sickness funds and physicians (Federal Committee of Physicians and Sickness Funds). Among many other things, this committee is responsible for directives on providing rehabilitative entitlements. The most important committee discussing the benefits on rehabilitation is the Committee on Ambulatory Care.

Health care delivery in Germany is typified by a clear delineation between public health services, ambulatory care and hospital care.

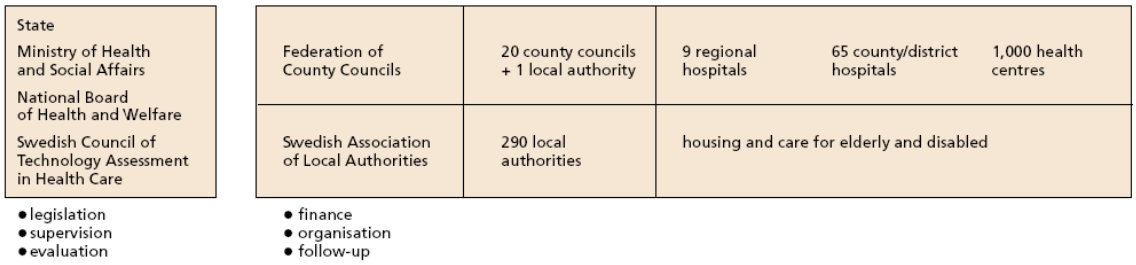
Hospital care is outlined by federal legal framework. Planning and regulation are done at Länder level, resulting in variation in offer among the different Länder (states). The provision of services in hospitals is mainly determined by the hospital plan of the state and the negotiations between the hospital and the sickness funds. Besides hospital financing, public health services are the major responsibilities of Länder

The 'strict' legal and financial delineation between the different sectors hampered the integration of hospital and ambulatory. The Reform Act of SHI 2000, enhanced by reforms in 2002 and 2004, enabled (by means of incentives) the implementation of models of integrated care.

Sweden

The Health and Medical Services Act regulates the responsibilities of county councils and municipalities in health and medical care. The Act is designed to give county councils and municipalities considerable freedom with regard to how their health services are organised The national level defines the health care plan. The administration of healthcare plan is decentralized in the hands of the county councils Central government's role is to give grants to councils for care The providers are mainly public with some private practitioners. The political responsibility for the financing and provision of all health services (including medical rehabilitation) lies with the county councils, whereas local municipalities are responsible for delivering and financing long-term care for the elderly and the disabled, and for long-term psychiatric care.

Organisation of the Swedish health services



Counties usually divide themselves into several healthcare *districts*, each of which is run by an elected board. The counties are grouped loosely into six *medical care regions* that are designed to improve co-operation in highly specialised care, research and training. Each region has a population of 1-2 million and includes at least one university hospital. The regional medical care system is responsible for patients whose medical problems require the collaboration of a large number of specialists and sophisticated diagnostic or treatment facilities.

The county councils plan the development and organization of health care according to the needs of their residents. The county councils have the overall responsibility for all health care services delivered, and have authority over hospital structure. They own and run the hospitals, health centres and other health institutions, supplemented by private providers which, in most cases, have contracts with the county councils to provide certain services. The counties control the establishment of new publicly financed private practices and the rules about the number of patients that private practitioners can see

each year and set the fee schedule that must be adhered to if a private provider wants to be reimbursed by the social insurance system.

County councils have increased patients' freedom as to where and by whom they will be treated. Patients can choose their primary care clinic, their GP and their preferred hospital. They can also choose whether to be treated at a health centre or to go directly to a hospital outpatient department.

In some counties, a referral from a GP is needed if a person wishes to see a specialist. A referral may also be needed to receive care outside his or her county. Contracting out of certain health care services has increased in some regions, mainly in the larger urban health care regions.

The waiting time for health care services varies greatly depending on the type of service required and the county council. During the second half of the 1990s, the county councils introduced a system intended to allow individuals to choose where to seek care (free health care seeking). These agreements are not regulated by law. It is up to each county council to decide on the framework and the extent of such agreements. However, according to the Health and Medical Services Act, if a patient is not offered appropriate care in the county council in which he/she resides, the county council has to arrange for the patient to receive treatment at a hospital in another county council. A patient can also, by law, seek a second opinion in another county council area. However, the county council is not obliged under law to offer care to people not residing in its geographical area. Thus, if neighbouring county councils also have long waiting lists, the patient still has to wait for care.

A private health care provider must have an agreement with the county council in order to be reimbursed from social insurance. With respect to elective treatment, long waiting lists are a problem. In 1992, a 3-month guarantee was issued for 12 selected treatments. The treatment guarantee meant that if a county council could not provide treatment within 3 months, the patient was to be offered treatment at a hospital in another county or at a private facility. Nonetheless, long waiting lists for elective treatment continue to be a challenge for the county councils. These waiting lists may be one of the reasons behind the growing market for voluntary health insurance in Sweden

Care for the elderly and the disabled is regulated by the Social Services Act of 1980, which states that the elderly have the right to receive public services and help at all stages of life. People with disabilities are entitled to support also under the Act Concerning Support and Service for Persons with Certain Functional Impairments. Most tasks articulated in these two Acts are the responsibility of the municipalities. In 1992, a major change was introduced through the ÄDEL Reform, whereby the responsibility for long-term inpatient health care and care for the elderly was transferred from the county councils to the local municipalities. A few years later, the municipalities took over the responsibility of care for the physically disabled ("Handikapp-reformen", 1994) and for those suffering from long-term mental illness ("Psykiatri-reformen", 1995). Through these reforms, about one fifth of total county council health care expenditure was transferred to the municipalities.

Since 2003, a recentralization of specialist and emergency care within geographical areas is being aimed for– for example, smaller county councils have started to cooperate on specialist care in larger regions. In 2003, the Parliamentary Committee on Public Sector Responsibilities was formed, with the purpose of analysing the current separation of responsibilities between the three levels of government.

APPENDIX CHAPTER 9

No Appendix to chapter 9.

APPENDIX CHAPTER 10

Treatment Protocols for five selected pathologies (expert proposal)

Overview of treatment protocols for average case of five selected pathologies (hospital and/or ambulatory post-acute rehabilitation), as proposed by panel of 7 experts in rehabilitation medicine.

Total hip replacement

Subgroup 1: Patients with polypathology requiring pluridisciplinary treatment

Hospitalisatie Revalidatieafdeling

aantal dagen	25
aantal weken	3,6

Medische input	aantal uur/week	aantal uur per verblijf
revalidatiearts	0,75	2,7
arts zorgbegeleiding		0,0

Paramedische input	aantal uur/sessie	aantal sessies per week	aantal uur per patiënt per verblijf	Tot uur	
Multidisciplinaire behandeling		5	20,09	22,76786	
Individueel	1				
In groep (4 patiënten/groep)	0,5				
kinesitherapeut	60%				
Ergotherapeut	30%				
Logopedist					
Sociaal werker	10%				
Sportkinesitherapeut	0%				*
verpleegkundige					
Psycholoog	0%				
TOTAAL	**100%**	**0**			

Total hip replacement

Subgroup 2: Fragile patients requiring pluridisciplinary treatment

Hospitalisatie Revalidatieafdeling

aantal dagen	7
aantal weken	1,0

Medische input	aantal uur/week	aantal uur per verblijf
revalidatiearts	0,75	0,8
arts zorgbegeleiding		0,0

Paramedische input	aantal uur/sessie	aantal dagen per week	aantal uur per patiënt per verblijf	Tot uur	
Multidisciplinaire behandeling		5	5,63	6,375	
Individueel	1				
In groep (4 patiënten/groep)	0,5				
kinesitherapeut	60%				
Ergotherapeut	30%				
Logopedist					
Sociaal werker	10%				
Sportkinesitherapeut	0%				*
verpleegkundige					
Psycholoog	0%				
TOTAAL	**100%**	**0**			

Geen ambulante revalidatie voor deze groep
Cave dat subgroup 2 niet in subgroup 1 terecht komt (financieringsincentieven!)

Lower extremity amputation (post-acute)

Specifieke ruimte voor deze populatie: protheseruimte

Subgroup 1: Onderbeen met prothese (85% vasculair)

Hospitalisatie Revalidatieafdeling

aantal dagen	28
aantal weken	4

Medische input	aantal uur/week	aantal uur per verblijf
revalidatiearts	1,5	6
arts zorgbegeleiding		0

Paramedische input	aantal uur/sessie	aantal dagen per week	aantal uur per patiënt per verblijf	Tot uur
Multidisciplinaire behandeling		5,5	44,00	50
Individueel	2			
In groep (4 patiënten/groep)				
kinesitherapeut	70%			
Ergotherapeut	20%			
Logopedist				
Sociaal werker	5%			
Sportkinesitherapeut				*
verpleegkundige				
Psycholoog	5%			
TOTAAL	**100%**	**0**		

Geen ambulante revalidatie

Lower extrem amput (post-acute)

Specifieke ruimte voor deze populatie: protheseruimte

Subgroup 2: Bovenbeen met prothese (85% vasculair)

Hospitalisatie Revalidatieafdeling

aantal dagen	70
aantal weken	10

Medische input	aantal uur/week	aantal uur per verblijf
revalidatiearts	1,5	15
arts zorgbegeleiding		0

Paramedische input	aantal uur/sessie	aantal dagen per week	aantal uur per patiënt per verblijf	Tot uur
Multidisciplinaire behandeling		5,5	137,50	152,5
Individueel	2,5			
In groep (4 patiënten/groep)				
kinesitherapeut	70%			
Ergotherapeut	20%			
Logopedist				
Sociaal werker	5%			
Sportkinesitherapeut				*
verpleegkundige				
Psycholoog	5%			
TOTAAL	**100%**	**0**		

Lower extremity amputation (post-acute)

Specifieke ruimte voor deze populatie: protheseruimte

Subgroup 2: Bovenbeen met prothese (85% vasculair)

Ambulante revalidatie

aantal sessies	20
aantal weken	10

Medische input	aantal uur/week	aantal uur per ambulante revalidatie
revalidatiearts	0,5	5
assistent revalidatiearts		

Paramedische input	aantal uur/sessie	aantal sessies	aantal uur ambulante reva	Tot uur
Multidisciplinaire behandeling		20	50	55
Individueel	2,5			
In groep (4 patiënten/groep)				
kinesitherapeut	70%			
Ergotherapeut	20%			
Logopedist				
Sociaal werker	5%			
Sportkinesitherapeut				*
verpleegkundige				
Psycholoog	5%			
TOTAAL	**100%**	**0**		

Spinal cord injury (para)

Specifiek toestel: Loopband met gewichtsondersteuning

Hospitalisatie Revalidatieafdeling

aantal dagen	175
aantal weken	25

Medische input	aantal uur/week	aantal uur per verblijf
revalidatiearts	2	50
arts zorgbegeleiding		0

Paramedische input	aantal uur/dag	aantal dagen per week	aantal uur per patiënt per verblijf	Tot uur	
Multidisciplinaire behandeling		5,5	446,875	496,875	
Individueel	3				
In groep (4 patiënten/groep)	1				
kinesitherapeut	50%				
Ergotherapeut	30%				
Logopedist					
Sociaal werker	5%				
Sportkinesitherapeut	10%				*
verpleegkundige					
Psycholoog	5%				
TOTAAL	**100%**	**0**			

Spinal cord injury (para)

Specifiek toestel: Loopband met gewichtsondersteuning

Ambulante revalidatie

aantal sessies	60
aantal weken	20

Medische input	aantal uur/week	aantal uur per ambulante revalidatie
revalidatiearts	0,5	10
assistent revalidatiearts		0

Paramedische input	aantal uur/sessie	aantal sessies	aantal uur ambulante reva	Tot uur	
Multidisciplinaire behandeling		60	75	85	
Individueel	1				
In groep (4 patiënten/groep)	1				
kinesitherapeut	50%				
Ergotherapeut	30%				
Logopedist					
Sociaal werker	5%				
Sportkinesitherapeut	10%				*
verpleegkundige					
Psycholoog	5%				
TOTAAL	**100%**	**0**			

Spinal cord injury (tetra)

Hospitalisatie Revalidatieafdeling

aantal dagen	273
aantal weken	39

Medische input	aantal uur/week	aantal uur per verblijf
revalidatiearts	2	78
arts zorgbegeleiding		0

Paramedische input	aantal uur/dag	aantal dagen per week	aantal uur per patiënt per verblijf	Tot uur
Multidisciplinaire behandeling		5,5	697,125	775,125
Individueel	3			
In groep (4 patiënten/groep)	1			
kinesitherapeut	50%			
Ergotherapeut	30%			
Logopedist	5%			
Sociaal werker	5%			
Sportkinesitherapeut	5%			*
verpleegkundige				
Psycholoog	5%			
TOTAAL	**100%**	**0**		

Spinal cord injury (tetra)

Ambulante revalidatie

aantal sessies	78
aantal weken	26,00

Medische input	aantal uur/week	aantal uur per ambulante revalidatie
revalidatiearts	0,625	16,25
assistent revalidatiearts		0,00

Paramedische input	aantal uur/sessie	aantal sessies	aantal uur ambulante reva	Tot uur	
Multidisciplinaire behandeling		78	97,5	113,75	
Individueel	1				
In groep (4 patiënten/groep)	1				
kinesitherapeut	50%				
Ergotherapeut	25%				
Logopedist	5%				
Sociaal werker	5%				
Sportkinesitherapeut	5%				*
verpleegkundige	5%				
Psycholoog	5%				
TOTAAL	**100%**	**0**			

Multiple Sclerosis

Hospitalisatie Revalidatieafdeling

aantal dagen	28
aantal weken	4

Medische input	aantal uur/week	aantal uur per verblijf
revalidatiearts	2	8
arts zorgbegeleiding		0

Paramedische input	aantal uur/dag	aantal dagen per week	aantal uur per patiënt per verblijf	Tot uur
Multidisciplinaire behandeling		5,5	71,5	79,5
Individueel	3			
In groep (4 patiënten/groep)	1			
kinesitherapeut	50%			
Ergotherapeut	25%			
Logopedist	10%			
Sociaal werker	5%			
Sportkinesitherapeut				*
verpleegkundige				
Psycholoog	10%			
TOTAAL	**100%**	**0**		

MS Ambulant

Ambulante revalidatie

aantal sessies	52
aantal weken	26

Medische input	aantal uur/week	aantal uur per ambulante revalidatie
revalidatiearts	0,5	13
assistent revalidatiearts		

Paramedische input	aantal uur/sessie	aantal sessies	aantal uur ambulante reva	Tot uur
Multidisciplinaire behandeling		52	65	78
Individueel	1			
In groep (4 patiënten/groep)	1			
kinesitherapeut	50%			
Ergotherapeut	25%			
Logopedist	10%			
Sociaal werker	5%			
Sportkinesitherapeut				*
verpleegkundige				
Psycholoog	10%			
TOTAAL	**100%**	**0**		

CVA

Hospitalisatie Revalidatieafdeling

aantal dagen	112
aantal weken	16

Medische input	aantal uur/week	aantal uur per verblijf
revalidatiearts	2	32,00
arts zorgbegeleiding		0,00

Paramedische input	aantal uur/dag	aantal dagen per week	aantal uur per patiënt per verblijf	Tot uur
Multidisciplinaire behandeling		5,5	198	230
Individueel	2			
In groep (4 patiënten/groep)	1			
kinesitherapeut	50%			
Ergotherapeut	25%			
Logopedist	10%			
Sociaal werker	5%			
Sportkinesitherapeut				*
verpleegkundige				
Psycholoog	10%			
TOTAAL	**100%**	**0**		

CVA

Ambulante revalidatie

aantal sessies	120
aantal weken	60

Medische input	aantal uur/week	aantal uur per ambulante revalidatie
revalidatiearts	0,5	30
assistent revalidatiearts		

Paramedische input	aantal uur/sessie	aantal sessies	aantal uur ambulante reva	Tot uur
Multidisciplinaire behandeling		120	150	180
Individueel	1			
In groep (4 patiënten/groep)	1			
kinesitherapeut	50%			
Ergotherapeut	25%			
Logopedist	10%			
Sociaal werker	5%			
Sportkinesitherapeut				*
verpleegkundige				
Psycholoog	10%			
TOTAAL	**100%**	**0**		

Prices, reimbursment tariffs and calculations of centre revenues and RIZIV/INAMI expenses for rehabilitation protocols of five pathologies.

K30/K60 NOMENCLATURE

			Number of sessions	Price, including out-of-pocket payment	Reimbursement tariff	Total centre revenues	Total RIZIV expenses
THR polypathology	hospitalization	sessions of 1 h (K30)	0	31,08	27,98		
		sessions of 2 h (K60)	18	62,16	55,95	1.119	1.007
			18			**1.119**	**1.007**
THR fragile	hospitalization	sessies van 1u (K30)	0	31,08	27,98		
		sessies van 2u (K60)	5	62,16	55,95	311	280
			5			**311**	**280**

			Number of sessions	Price, including out-of-pocket payment	Reimbursement tariff	Number of sessions charged or reimbursed at K30 and/or K60	Number of sessions speech therapy	Price per session speech therapy	Total centre revenues
Stroke	hospitalization	sessies van 1 u (K30)	0	31,08	27,98	0			
		sessies van 2u (K60)	88	62,16	55,95	88			5470,08
	Ambulatory	sessies van 1 u (K30)	0	31,08	27,98	0	30	16,75	
		sessies van 2u (K60)	120	62,16	55,95	32			2491,62
			208						**7961,7**
MS	hospitalization	sessies van 3u (K60)	22	62,16	55,95	22			
		sessies van 1 u (K30)	0	31,08	27,98	0			1367,52
	Ambulatory	sessies van 1 u (K30)	104	31,08	27,98	98	13	16,75	3263,59
			126						**4631,11**
SCI (para)	hospitalization	sessies van 3u (K60)	137	62,16	55,95	120			
		sessies van 1 u (K30)	0	31,08	27,98	0			7459,2
	Ambulatory	sessies van 2u (K60)	60	62,16	55,95				
		sessies van 1 u (K30)	0	31,08	27,98				0
			197						**7459,2**
SCI (tetra)	hospitalization	sessies van 3u (K60)	214	62,16	55,95	120			
		sessies van 1 u (K30)	0	31,08	27,98	0			7459,2
	Ambulatory	sessies van 2u (K60)	78	62,16	55,95		10	16,75	
		sessies van 1 u (K30)	0	31,08	27,98				167,5
			292			*120*			**7626,7**
LEA BK	hospitalization	sessies van 2u (K60)	22	62,16	55,95	22			
			22						**1367,52**
LEA AK	hospitalization	sessies van 2,5u (K60)	55	62,16	55,95	55			3418,8
	Ambulatory	sessies van 2,5u (K60)	20	62,16	55,95	5			310,8
			75						**3729,6**

CONVENTION 9.50

	Group	Maximum number of sessions at R30/R60 (X)	Price R30 (per session of 1 h)	Price R60 (per session of 2 h)	Price after first X sessions	Maximum number of sessions (Y)	Revenues per session after Y sessions
Stroke	A2	120	31,08	62,16	41,15	460	5,87
MS	A2bis				41,15		
SCI (para)	A2	120	31,08	62,16	41,15	460	5,87
SCI (tetra)	A2	120	31,08	62,16	41,15	460	5,87
LEA below knee	A4	60	31,08	62,16	38,31	195	
LEA above knee	A4	60	31,08	62,16	38,31	195	

			Number of sessions for which R30 (1h) or R60 (2h) is charged	Price, including out-of-pocket payment*	Number of sessions at tariff R30 or R60	Price excess sessions above maximum number R30/R60 allowed**	Number of sessions charged at price excess sessions	Number of sessions speech therapy	Price per session speech therapy°	Total revenues	Total RIZIV expenses
Stroke	hospitalization	sessions of 1 h	0	31,08	0	41,15	0				
		sessions of 2 h	88	62,16	88	41,15	0			5470,08	4923,6
	ambulatory	sessions of 1 h	0	31,08	0	41,15	0	30	16,75		
		sessions of 2 h	120	62,16	32	41,15	88			6112,82	5781,22
			208							**11582,9**	**10704,82**
MS	hospitalization	sessions of 3 h	22	62,16	22						
		sessions of 1 h	0	31,08	0					1367,52	1230,9
	ambulatory	sessions of 1 h	104	31,08	104			13	16,75	3450,07	3398,07
			126							**4817,59**	**4628,97**
SCI (para)	hospitalization	sessions of 3 h	137	62,16	120	41,15	17				
		sessions of 1 h	0	31,08	0	41,15	0			8158,75	7413,55
	ambulatory	sessions of 2 h	60	62,16		41,15	60				
		sessions of 1 h	0	31,08		41,15	0			2469	2378,4
			197							**10627,75**	**9791,95**
SCI (tetra)	hospitalization	sessions of 3 h	214	62,16	120	41,15	94				
		sessions of 1 h	0	31,08	0	41,15	0			11327,3	10582,1
	ambulatory	sessions of 2 h	78	62,16		41,15	78	10	16,75		
		sessions of 1 h	0	31,08		41,15	0			3377,2	3259,42
			292		*120*		*172*			**14704,5**	**13841,52**
LEA below knee	hospitalization	sessions of 2 h	22	62,16	22						
			22							**1367,52**	**1230,9**
LEA above knee	hospitalization	sessions of 2,5 h	55	62,16	55					3418,8	3077,25
	ambulatory	sessions of 2,5 h	20	62,16	5	38,31	15			885,45	831,75
			75							**4304,25**	**3909**

REIMBURSEMENT TARIFFS:

* R30: 27.98

* R60: 55.95

** 1 h therapy: 41.15

** 2 h therapy: 39.64

° tariff: 16.75

CONVENTION 7.71

		Total number of sessions	Number of sessions 1-3h	Number of sessions 4-6h	Revenues per 1-3h session	Revenues per 4-6 h session	RIZIV expenses per 1-3h session	RIZIV expense per 4-6 h session	Total centre revenues	Total RIZIV expenses
Stroke	Hospitalization	88	0	88	0	119,00	63	119,00	10.472	10472,00
	Ambulatory	120	120	0	56	103,00	54,49	101,49	6.720	6538,80
									17.192	**17010,80**
MS	Hospitalization	22	0	22	0	166,5	0	166,50	3.663	3663,00
	Ambulatory	104	104	0	108,49	166,5	108,49	164,99	11.283	11282,96
									14.946	**14945,96**
SCI (para)	Hospitalization	137	0	137	0	119,00	63	119,00	16.303	16303,00
	Ambulatory	60	60	0	56	103,00	54,49	101,49	3.360	3269,40
									19.663	**19572,40**
SCI (tetra)	Hospitalization	214	0	214	0	119,00	63	119,00	25.466	25466,00
	Ambulatory	78	78	0	56	103,00	54,49	101,49	4.368	4250,22
									29.834	**29716,22**
LEA above knee	Hospitalization	55	0	55	0	119,00	63	119,00	6.545	6545,00
	Ambulatory	20	20	0	56	103	54,49	101,49	1.120	1089,80
									7.665	**7634,80**

Sensitivity analyses

In this appendix results of sensitivity analyses are presented. The baseline column replicates the results of staff costs calculated according to the protocol and average standard costs. The columns labelled "Days-low" and "Days-high" (or "Sessions-low" and "Sessions-high" for ambulatory rehabilitation) represent the results assuming that the duration of a treatment (or the number of sessions) is 25% lower or 25% higher than stipulated in the protocol. The results in the columns "Wage-low" and "Wage-high" are obtained under the assumption that wage costs are on average 10% lower or 10% higher than the wage costs used in the baseline model. Finally, the column "All-low" assumes that both duration (-25%) and wage costs (-10%) are smaller than in the baseline calculation, whereas the column "All-high" assumes that both duration (+25%) and wage costs (+10%) are higher than in the baseline calculation.

THR polypathology							
	Assumptions						
Parameters	Baseline	Days-low	Days-high	Wage-low	Wage-high	All-low	All-high
Days	25	18.75	31.25	90%	110%		
Weeks	3.6	2.7	4.5				
	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay
Cost medical staff	198	149	248	179	218	134	273
Cost paramedical staff	718	538	897	646	790	485	987
Total staff costs	916	687	1 145	825	1 008	618	1 260

THR fragile							
	Assumptions						
Parameters	Baseline	Days-low	Days-high	Wage-low	Wage-high	All-low	All-high
Days	7	5.25	8.75	90%	110%		
Weeks	1.0	0.8	1.3				
	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay
Cost medical staff	56	42	69	50	61	37	76
Cost paramedical staff	201	151	251	181	221	136	276
Total staff costs	257	192	321	231	282	173	353

LEA BK with prosthesis							
	Assumptions						
Parameters	Baseline	Days-low	Days-high	Wage-low	Wage-high	All-low	All-high
Days	28	21	35	90%	110%		
Weeks	4.0	3.0	5.0				
	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay
Cost medical staff	444	333	555	400	489	300	611
Cost paramedical staff	1 630	1 223	2 038	1 467	1 794	1 101	2 242
Total staff costs	2 075	1 556	2 593	1 867	2 282	1 400	2 853

LEA AK with prosthesis, hospitalisation							
	Assumptions						
Parameters	Baseline	Days-low	Days-high	Wage-low	Wage-high	All-low	All-high
Days	70	52.5	87.5	90%	110%		
Weeks	10.0	7.5	12.5				
	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay
Cost medical staff	1 111	833	1 388	1 000	1 222	750	1 527
Cost paramedical staff	5 095	3 821	6 369	4 586	5 605	3 439	7 006
Total staff costs	6 206	4 655	7 758	5 585	6 827	4 189	8 533

LEA AK with prosthesis, ambulatory							
	Assumptions						
Parameters	Baseline	Sessions-low	Sessions-high	Wage-low	Wage-high	All-low	All-high
Sessions	20	15	25	90%	110%		
Weeks	10.0	7.5	12.5				
	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay
Cost medical staff	370	278	463	333	407	250	509
Cost paramedical staff	1 853	1 390	2 316	1 668	2 038	1 251	2 548
Total staff costs	2 223	1 667	2 779	2 001	2 445	1 501	3 057

SCI (paraplegia), hospitalisation							
	Assumptions						
Parameters	Baseline	Days-low	Days-high	Wage-low	Wage-high	All-low	All-high
Days	175	131.25	218.75	90%	110%		
Weeks	25.0	18.8	31.3				
	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay
Cost medical staff	3 702	2 777	4 628	3 332	4 073	2 499	5 091
Cost paramedical staff	16 166	12 124	20 207	14 549	17 782	10 912	22 228
Total staff costs	19 868	14 901	24 835	17 881	21 855	13 411	27 318

SCI (paraplegia), ambulatory							
	Assumptions						
Parameters	Baseline	Sessions-low	Sessions-high	Wage-low	Wage-high	All-low	All-high
Sessions	60	45	75	90%	110%		
Weeks	20.0	15.0	25.0				
	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay
Cost medical staff	740	555	926	666	815	500	1 018
Cost paramedical staff	2 713	2 035	3 391	2 442	2 984	1 831	3 731
Total staff costs	3 454	2 590	4 317	3 108	3 799	2 331	4 749

SCI (tetraplegia), hospitalisation							
	Assumptions						
Parameters	Baseline	Days-low	Days-high	Wage-low	Wage-high	All-low	All-high
Days	273	204.75	341.25	90%	110%		
Weeks	39.0	29.3	48.8				
	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay
Cost medical staff	5 776	4 332	7 220	5 198	6 353	3 899	7 942
Cost paramedical staff	24 911	18 683	31 138	22 420	27 402	16 815	34 252
Total staff costs	30 687	23 015	38 358	27 618	33 755	20 713	42 194

SCI (tetraplegia), ambulatory							
	Assumptions						
Parameters	Baseline	Sessions-low	Sessions-high	Wage-low	Wage-high	All-low	All-high
Sessions	78	58.5	97.5	90%	110%		
Weeks	26.0	19.5	32.5				
	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay
Cost medical staff	1 203	902	1 504	1 083	1 324	812	1 655
Cost paramedical staff	3 484	2 613	4 355	3 136	3 832	2 352	4 791
Total staff costs	4 687	3 515	5 859	4 219	5 156	3 164	6 445

MS, hospitalisation							
	Assumptions						
Parameters	Baseline	Days-low	Days-high	Wage-low	Wage-high	All-low	All-high
Days	28	21	35	90%	110%		
Weeks	4.0	3.0	5.0				
	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay
Cost medical staff	592	444	740	533	652	400	815
Cost paramedical staff	2 555	1 916	3 194	2 299	2 810	1 725	3 513
Total staff costs	3 147	2 361	3 934	2 833	3 462	2 124	4 328

MS ambulatory							
	Assumptions						
Parameters	Baseline	Sessions-low	Sessions-high	Wage-low	Wage-high	All-low	All-high
Sessions	104	78	130	90%	110%		
Weeks	52	39	65.5				
	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay
Cost medical staff	1925	1444	2407	1733	2118	1299	2647
Cost paramedical staff	4646	3484	5807	4181	5110	3136	6387
Total staff costs	36571	6571	4928	8213	5914	4435	9035

Stroke, hospitalisation							
	Assumptions						
Parameters	Baseline	Days-low	Days-high	Wage-low	Wage-high	All-low	All-high
Days	112	84	140	90%	110%		
Weeks	16.0	12.0	20.0				
	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay
Cost medical staff	2 370	1 777	2 962	2 133	2 606	1 599	3 258
Cost paramedical staff	7 075	5 306	8 844	6 368	7 783	4 776	9 728
Total staff costs	9 445	7 084	11 806	8 500	10 389	6 375	12 987

Stroke, ambulatory							
	Assumptions						
Parameters	Baseline	Sessions-low	Sessions-high	Wage-low	Wage-high	All-low	All-high
Sessions	120	90	150	90%	110%		
Weeks	60.0	45.0	75.0				
	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay	Cost/stay
Cost medical staff	2 221	1 666	2 777	1 999	2 444	1 499	3 054
Cost paramedical staff	5 360	4 020	6 700	4 824	5 896	3 618	7 370
Total staff costs	7 581	5 686	9 477	6 823	8 340	5 117	10 425

APPENDIX CHAPTER 11

No Appendix to chapter 11.

APPENDIX CHAPTER 12

The evaluation and selection of a classification/assessment tool for Rehabilitation Care in Ontario, Canada

The Information on the rehabilitation reform in Ontario, Canada, is coming from the Web Site of the Ontario Joint Policy and Planning Committee (JPPC), consulted on November 21th 2006 **(http://www.jppc.org).** The JPPC is a partnership between the Ontario Ministry of Health and Long Term Care and Ontario's Hospitals through the Ontario Hospital Association . Its role is to recommend and facilitate implementation of hospital reform within the context of the broader health care reform agenda.

Ontario has been working on the development of an integrated funding model for rehabilitation. This work has been hindered by a lack of a general agreement on the patient classification system and assessment tool to be used for rehabilitation. A group of experts from different fields has been mandated to evaluate and recommend the implementation of a classification and assessment tool used for different purpose: inpatient and outpatient resource allocation, quality indicators, outcome measurement and care planning.

1. The first task of the group was to determine the criteria for evaluating assessment/classification tools for measuring rehabilitation care.
2. The group has decided to identify and to analyse 3 tools on the basis of a literature search and after consultation with experts :
    - The FIM system, used in inpatient, sub-acute and home care settings that provide rehabilitation services for patients 7 years or older. Patients can be classified into 80 FIM-FRGs that are homogeneous with respect to the duration of inpatient treatment in the USA.
    - The data set developed by the Canadian Institute for Health Information (CIHI) The set includes items from the FIM system plus enhanced elements added by CIHI including ICD comorbidities and IADL and data on cognition and community living skills
    - InterRAI Resident Assessment Instrument (Minimum Data Set) Post Acute care. It is one of the assessment tools for various sectors in the healthcare continuum including long term care, mental care and home care. The tool goes beyond functional assessment with more emphasis on clinical complexity, ADL, cognitive, nutrition measures

The advisory group has assessed the tool characteristics on basis on visit and established criteria. A consensus was reached to choose the FIM instrument beyond the MDS/PAC and between the 2 FIM based instruments, the selected tool was the CIHI FIM-based data set more appropriated to the Ontario context.

The recommendations formulated by the Ontario Ministry of Health and Long Term care (MOHLTC) are summarised beneath.

The MOHLTC mandated the collection of National Rehabilitation Reporting System (NRS) data in all adult inpatient rehabilitation beds. The minimum dataset and reporting system was developed by the Canadian Institute for Health Information (CIHI) and includes demographic, clinical and functional information for adult rehabilitation inpatients. One of the objectives of the introduction of the system in the field of rehabilitation was to develop and to implement a case mix methodology linked to a cost weighting system

Recommandations of the Ontario Ministry of Health and Long Term Care

See : http://www.jppc.org/

1. "MOHLTC mandate and fund the implementation and ongoing collection of rehabilitation care data using the CIHI FIM-based data set for patients in MOHLTC designated inpatient adult rehabilitation beds in Ontario hospitals by April 1, 2002 provided that:
   - MOHLTC and CIHI come to an understanding/agreement regarding **CIHI's role in the provision of a comprehensive set of services to Ontario related to the FIM-based data set, which includes:**
     - maintenance of a crosswalk with the UDS FIM data set to enable international data comparisons;
     - establishment of a process whereby Ontario stakeholders have the ability to significantly influence the future direction of FIM enhancements.
   - CIHI commits to further development and testing of a grouping methodology that can be employed for costing and funding hospital rehabilitation care in Ontario and potentially other provinces as well.
   - MOHLTC and CIHI agree to work together to foster a progressive environment that promotes the use of the CIHI FIM data set for outcome measurement, quality indicators and care planning for rehabilitation care.
2. MOHLTC incorporate a CIHI FIM-based data set into the upcoming rehabilitation pilot projects to test the effective delivery of rehabilitation services.
3. MOHLTC investigate and select appropriate classification and measurement tools for patients in:
   - MOHLTC designated inpatient paediatric rehabilitation beds;
   - MOHLTC-funded outpatient rehabilitation including:
   - Community care settings; and
   - Long-term care.
4. MOHLTC investigate the issue of how to harmonize data from public and private rehabilitation care in Ontario.
5. MOHLTC designate appropriate leadership to coordinate and manage an organized, timely standardized rollout/implementation process."

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