8 INTERNATIONAL COMPARISON

8.1 GENERAL INTRODUCTION

This part of the research focuses on a search for international experiences with the reorganisation of the rehabilitation sector. As rehabilitation is organized differently for children and adolescents (age <17 years) and for adults (age >17 years), we focus on the adults.

The aim of this chapter is to describe experiences in the (policy) choices made in organising the musculoskeletal and neurological rehabilitation in a selection of countries. The organisation of any health care sector has to be understood in general, against the background of historical policy choices. Within the practical constraints of this research, the study contextualises the organisation of the rehabilitation sector within the overall health care system. Rehabilitation approaches develop within the features of insurance models, competency domains of central and decentralised agencies and local problems of health care provision.

8.1.1 Research questions in this part of the study

- How does a selected sample of countries organise and finance (post-acute) musculoskeletal and neurological rehabilitation?
- What are the current health service debates and organisation models proposed and developed for the post-acute musculoskeletal and neurological rehabilitation sector?
- Are there any specific quality initiatives taken related to the organisation of the post-acute musculoskeletal and neurological rehabilitation sector?
- Can anything be learned about the organisational choices made in different countries for the current Belgian debate on post-acute musculoskeletal and neurological rehabilitation?
- What choices are made for some of the selected pathology groups?

8.2 METHODS

8.2.1 Selection of the countries

Of course, the practical constraints of the research limited the number of countries to be compared. The selection of the countries, was based on criteria related to the health care system, developments in the rehabilitation sector, previous research experience in rehabilitation and an endorsement of the selection by the external expert group.

Countries were selected based on the role of the state, the role and model of health insurances (private, public, mixed models) and knowledge about ongoing debates in the reorganisation of the rehabilitation sector. A selection was made of countries developing their health systems in a more North European tradition, a more south-European tradition, and countries in which insurers are taking over an important role as catalysts in the organisation of health services.

A decision was made to focus on a description of the rehabilitation sector in: The Netherlands, France, Sweden, Germany and the US.

8.2.2 Peer-reviewed journals

A first step, aiming at describing the organizational models of rehabilitation for the selected countries, consisted of searching the Medline database (through PubMed).
A general search was done the last trimester of 2005 and the first trimester of 2006 using the related mesh terms:


AND


For each country a more specific search was done introducing search terms for multiple sclerosis, spinal cord injury, total hip replacement, stroke and lower extremity amputation (see Appendix to chapter 8).

8.2.3 Comments

Taking into account the research question (specific organisational information on the rehabilitation sector) this search strategy is not offering a lot of relevant results. The medical peer reviewed journal databases mainly focus on clinical studies, far less on specific health services studies. The MeSH terms seem not always adequate to pinpoint particular organizational or policy issues. As a result, very little information can be obtained about the organization and health services models in the selected countries. It would be of no added value to deploy “selection of evidence” tables, because the selections steps (title and abstracts) already showed that a “circumstantial” approach would be needed. All the details of this approach can be found in the Appendix to chapter 8.

For the pathology groups, some information was found resulting from a search in the medical peer reviewed databases. Again, the majority of the articles focuses on treatment and care, not organisational or policy issues. One exception to be quoted, is Germany for which more (local language) articles could be found.

An additional search in the CIRRIE-database (Center for International Rehabilitation Research Information and Exchange) gave similar results, without much added value for our particular research questions.

8.2.4 Other information sources

Factual information had to be gathered based on informal contacts within the sector, as most information in peer reviewed journals is dealing with clinical issues. Due to the lack of relevant (descriptive) information on organisational models in the peer reviewed journals, this part of the study is heavily relying on work prepared by WHO-health systems observatory (in particular the HIT-reports), a particular issue of the “journal of health economics” on the health benefits basket in different countries, on reports from professional organizations and on public information from administrative authorities. The information gathered draws also to a large extent on informal and personal communications with people (research institutes, administrators) from the countries studied.
8.3 THE NETHERLANDS

8.3.1 Health care organisation in general

The Dutch health care system is characterized by some fundamental policy changes since the end of the 1980’s. In general terms, and due to problems both of serving the population and of financing (cost containment), the system is trying to make the shift towards a more flexible, demand oriented and market driven model. Policy makers are less imposing the particular organization regimes, but are creating the frameworks of a welfare state in which providers and the public is offered more flexibility in using and providing health care. The system reform is often identified as a movement from a "public regulated system" towards a "regulated market model": The recent shift towards "market oriented models" implies a shift of the steering power from the public to the private sector.

The health care system changes are built on the assumption that more market forces will enable a more efficient and effective health care system, and especially a more flexible system that is able to handle the fast changing health care needs and demands of the public. The health care system changes aim at improving the quality whilst also controlling public expenditure.

8.3.2 Health insurance

Since the mid 1990’s two major insurance regimes affected the use and right to medical and social care: de ziekenfondswet (ZFW) en de Algemene Wet Bijzondere Ziektekosten (AWBZ) The ZFW and AWBZ provided for benefits in kinds, while the AWBZ also provides for cash benefits.

- Treatment and services available under ZFW are (in general terms): medical and surgical treatment (including limited number of sessions for physiotherapy and speech therapy); obstetric care, dental care, pharmaceuticals, non psychiatric hospital admissions; aids and appliances; transport, maternity care and care in an audiology centre; costs for genetic testing, haemodialysis, services for patients with chronic recurring respiratory problems, rehabilitation, and services of a thrombosis prevention unit.

- The underlying principle of AWBZ is that people should continue to live in their homes as long as possible, whether they receive care at home or in an institution: For the AWBZ seven distinct functions are defined: domestic help, personal care, nursing care, supportive guidance (helping in the organization of daily life), activating guidance, treatment, and accommodation

Since January 2006 a new, mandatory national health system, imposes individuals to purchase private health insurance. A standardized basic coverage (Basisverzekering) is guaranteed for all citizens by means of the Ziekte-Verzekerings-Wet (health care insurance law) (ZVW):

- Medical care, including hospitalization (up to 365 days) and specialists;
- Dental care for children (under age 18);
- Specialist dental care and dentures for adults;
- Pharmaceuticals;
- Maternity and postnatal care for up to ten days after childbirth;
- Ambulance and transportation costs; and
- Some medical and paramedical rehabilitation services.
Supplemental plans are available on an individual basis or collectively via an employer plan or similar group arrangement. Insurance companies will not be required to accept all applicants for supplemental insurance. Companies are free to determine the scope of coverage and premium levels for supplemental policies.

The “wet maatschappelijke ondersteuning” (WMO) (law societal support) will replace the AWBZ. A clear separation in the overall insurance model will be made between chronic conditions and temporary conditions. The medical and paramedical parts of the AWBZ will in the future be transferred to the ZFW. The WMO will be mainly guaranteeing social support coordinated by the local communities.

8.3.2.1 **Health care policy making and organisation**

The historical changes in the Dutch health care system can be characterized as a movement towards territorial decentralization, and in the last decade a movement towards integration and coordination of the different levels of the health care providers. The Dutch system holds to a model of centralized supervision, but operational responsibilities in health and social care are delegated to the local and regional authorities.

The ministry of health, welfare and sport (VWS) sets out the health, health care and social care policies, together with the minister. Local authorities bear joint responsibility and play a complementary (local) role.

Regional networks of municipal public health services take up the care on preventive level and health promotion (among other public health tasks).

Primary care is centralized around family physicians that play a role as gatekeepers. Secondary care is mainly provided in hospitals. These hospitals have both inpatient and outpatient services. The 9 university hospitals, regionally distributed, play a role as “leading” hospitals for specialist medical interventions.

In the 1990’s measures were taken to bridge the (organizational and financing) gap between outpatient and inpatient care, by means of “transmural” (integrated) care: a mechanism to coordinate and organise continuity of care for the patients. These initiatives developed as “projects”, most of the time focused on specific groups of chronic patients, with intermittent acute care needs. However, the financing system did not facilitate an easy implementation of a smoothly functioning transmural (or integrated) care system.

The most important part of residential social services consists of nursing homes and homes for the elderly. Residential homes are particularly established for those people who are not able or feel unsafe to live independently at home. A distinction has to be made between somatic nursing homes (disabled people needing multidisciplinary monitoring and treatment) and psycho-geriatric nursing homes (for people with dementia).

Admissions to residential care have decreased in the last years, because of transmural initiatives (e.g. day care centres) on the care side and improvement of availability of home care services.

8.3.2.2 **Financing**

The hospitals were financed through a fixed budget system. The problems with waiting lists culminated in 1997 in measures making additional money available to reduce unacceptable waiting times.

In 2005 a new hospital financing system was introduced by law: the “diagnosis-treatment-combination” (Diagnose Behandel Combinaties (DBCs)), a DRG-like system describing all products and procedures provided in hospitals. DBCs are defined as the whole set of activities (diagnostic and therapeutic interventions) of the hospital and medical specialists from start till discharge, using the ICD-10 classification. A patient can

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http://www.minvws.nl/dossiers/dbc/
enter in a DBC-trajectory by referral of his general practitioner (GP) or a medical
specialist. The introduction of the DBC financing model goes hand in hand with an
extended registration system.

A DBC treatment trajectory can take one day up to one year. A treatment trajectory is
ended at the end of the year, in case the treatment is stopped or in case a patient starts
a different dbc (e.g. the inpatient trajectory is stopped when the patient starts an
ambulatory treatment; an ambulatory trajectory is then started).

DBCs distinguish between list A (prices fixed by the National Health Tariffs authority)
and list B (an fixed part and a part of the prices negotiated by Sickness Funds and
hospitals). DBC’s are used as a framework for price negotiations between health
insurers and hospitals. Agencies were created to manage the implementation and follow
up of the DBC financing model aa

Congruent with a market driven approach, major efforts are now being put into the
development of performance indicators. These performance indicators are mainly seen
as a quality tool, and a facility for consumers to support informed choices on the health
care market. The development of these performance indicators is still in an early stage,
although a lot of debates are taking place on the conceptual level.

- The Dutch health care system is characterized by territorial
decentralisation.
- A market-driven approach has been introduced (purchaser-provider).
- Integration of care and networking of health care organisations is
stimulated.
- The “Ziekteverzekeringswet” insures for medical expenses.
- The AWBZ used to insure for exceptional medical expenses and long term
care.
- The financing of medical activities in hospitals is based on “Diagnose
Behandel Combinaties”, and is performance related. Extensive
registration is set up.

8.3.3 The organization of the rehabilitation sector
(See also Appendix to chapter 8 (1.8.2.2))

8.3.3.1 The underlying conceptual ideas

The Dutch rehabilitation “logic” differentiates between different levels on a continuum
from “general and simple” toward “specialised and specific”. In conceptual terms a
differentiation is made between (a) simple rehabilitation (b) general multidisciplinary
rehabilitation (c) specialized target (pathology) group oriented multidisciplinary
rehabilitation and (d) highly specialized rehabilitation (“topreferente”). bb

For relatively “simple” rehabilitation a referral is needed from the medical specialist to
the physical therapist. In the case of complex issues, a medical rehabilitation specialist
becomes in charge of the patient.

A “complex” situation is generally assessed as a medical condition in which the risk of
long term impairment or handicap is real. For specific cases the rehabilitation physician
will mobilize a multidisciplinary team in case of discharge of the patient to a home
setting.

aa  http://www.dbconderhoud.nl/
bb  http://www.revalidatie.nl/index_3.htm
8.3.3.2 Rehabilitation facilities

Rehabilitation is organized in acute hospital settings as well as in 24 Rehabilitation Centres throughout the country and a part in nursing homes. In both cases, the service can be in- or out-patient. Of the 24 Dutch Rehabilitation Centers, 14 are connected to University Hospitals (“Academiseringsovereenkomst”) and have an agreement to do research and organize teaching. They are considered to be “top reference centres”.

24 regional rehabilitation centres and hospital departments offer specialized rehabilitation services.

Most Dutch hospitals have a policlinic function for rehabilitation medicine, in which a staff of physical therapists, occupational therapist and social workers is employed. These services operate generally in close collaboration with acute intramural rehabilitation departments.

Rehabilitation hospitals/centers are established for longer term intensive rehabilitation. Their activities are falling under the “cure” compartment (ZVW). However for some categories they currently still provide rehabilitation falling under the “care” compartment (AWBZ), which is generally offered in nursing facilities.

Nursing facilities can also provide intramural and policlínical rehabilitation services. Somatic nursing homes (verpleeghuizen) are for disabled people in need of continuous multidisciplinary monitoring, care and treatment. The nursing homes aim in particular at an older population of patients, that are not eligible for a policlínical treatment or for which the intensive treatments in a rehabilitation clinic is judged as being not opportune. Moreover, the bed-capacity of the rehabilitation centres is too limited to accept this older patient group. But the rehabilitation activities in the nursing homes should also focus on reactivation. The somatic nursing homes have a multidisciplinary staff consisting of physiotherapists, occupational therapists, speech therapists and psychologists. Certain nursing homes offer policlínical services, generally focusing “day care”, more than on active rehabilitation.

Recently, a lot of attention has been paid to the integration and coordination of facilities in order to provide more continuity of care for the patient (“ontschotting van de zorg”). One of the most important area’s in the context of this project, is the development of networks for stroke, more recently labeled as stroke services (see infra).

8.3.3.3 Indication setting

Patients in rehabilitation institutions need an indication setting for a multidisciplinary intensive approach, (for diagnostics, advice or treatment)

The criteria used for indication setting are based on:

- the expected level of recovery;
- the multiplicity of the (expected) impairments or handicap, combined with the complexity of the rehabilitation goals put forward, taking into account the life-course stage and the premorbid level of the patient;
- the learning capacity and training capacity of the patient;
- the potential of a patient to live in a regular (adapted) housing and living situation.

The indication setting is developed according to a standardized model (SAMPC (somatic) and/or RAP (mobility)), but is not using scales on a systematic basis. The indications for treatment by a rehabilitation specialist are confined to disorders of the musculoskeletal system or the nervous system (including cognition, communication and

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cc [www.revalidatie.nl](http://www.revalidatie.nl)
dd [www.dbconderhoud.nl/informatie/categorieal](http://www.dbconderhoud.nl/informatie/categorieal)
behaviour), that are so complex as to make specialized knowledge indispensable, 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 cardiology, respectively pneumologist; in severe cases the advice of a rehabilitation specialist can be obtained. The indication has to be approved by the health insurer. Patients with complementary private insurance have (depending on the type of insurance) the right for more insured physiotherapy in private physiotherapy practices.

For the upcoming reforms, four indication categories will be distinguished for the activities falling under ZVW: (a) diagnosis, diagnostic test in complement to the initial diagnosis (b) temporary co-treatment, (c) treatment as part of a recovery trajectory (d) continuous specific care. Other categories already exist with the AWBZ framework, for which nothing will change. It has to be said that it are only proposals. Before 1 January 2007, nothing will change.

8.3.3.4 Financing reforms in rehabilitation

(See also Appendix to chapter 8 (1.8.2.2))

For the rehabilitation in specialized rehabilitation centres and rehabilitation units of general hospitals, 47 DBC's are in the process of being defined in 2006, but are not yet endorsed by the government. The negotiations and identification of these DBC's are particularly difficult. It will probably be foreseen that top reference centres get a higher price for their activities. One of the debated points is also how to discount for differences in seniority or educational level of the staff.

DBC's are conceptualised as “treatment trajectories”. As different rehabilitation facilities can be involved in the treatment of a patient during a rehabilitation period, the financing model funds for periods of registered activities from the DBC-lists within the facilities. It has also to be registered whether it is the first rehabilitation treatment or a “continuation” after the first treatment was ended.

7 main diagnostic categories are distinguished (locomotor apparatus, amputation, brains, neurology, spinal cord injury, organs, chronic pain and psychic disorder (and one particular DBC for multidisciplinary interaction). It should be noted that the classification into a certain DBC is only based on medical diagnosis and does not imply a functional assessment. Separate DBC's are created for polyclinical rehabilitation and rehabilitation for children. Within these head categories about 45 detailed categories are identified. The details of the activities and the subclassification is still under negotiation at this stage.

The consultations or therapeutic acts of the medical specialist are coded in 10 separate declaration categories. Each time a certain professional (speech therapist, manual therapist…) performs some activities with/for a certain patient, these are registered in a separate code. It can be “face-to-face” activities (actual treatment by physiotherapist, speech therapist, psychologist…) or “non-face-to-face” activities (such as report writing, team discussions, adaptation of a brace…) of minimal 10 minutes duration. Certain specific rehabilitation nurse acts (e.g. decubitus care) are registered by means of a therapy registration number. The activities are called “College Tarieven Gezondheidszorg-activities” as each hospital receives a yearly adjusted budget calculated on different factors. Although at the beginning of the rehabilitation episode a rough estimation of therapy duration and intensity has to be made by the rehabilitation specialist, at the end of the therapy the amount of accomplished sessions is refunded. As such, the system closely resembles a fee-for-service system.

Rehabilitation therapy has to imply 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.

From 1 January 2008 onwards, the 24 rehabilitation centres will be operating according to the DBC model (be it that no negotiated part B will be implemented). Until then...
they are financed in terms of reported rehabilitation treatment hours (RBU Revalidatie Behandeluren)\(^6\).

A model of function-oriented financing for intramural health care under AWBZ is put in place since 2005 for inpatient long term care-facilities. Providers will be financed on a budget calculation taking into account the “functions” provided (functiegerichte bekostiging) The health care policy makers try to stimulate the health care providers to take into account the particular regional needs of the population, and to develop social and health care arrangements (intramurale zorgarrangementen) combining a set of “functions” adapted to these needs. A more fundamental financing reform is prepared (to be introduced in 2007) based on the “level of care” offered (calculated on the average number of hours of care and treatment for a certain level of severity). 15 levels of care will be differentiated, and a patient will be indicated for a certain level of care. Some aspects of rehabilitation will be taken into account in care facilities, but it will mainly be “maintenance” rehabilitation. Baskets of care (“zorgwaartepakket”) will be identified related to the characteristics and care needs of the patient. The care baskets differentiate between a spectrum of long term intensive support and shorter time recovery needs, but do not deal with the (para)medical aspects\(^{147}\). For each specific basket a (maximum) price will be set.\(^{148}\)

8.3.4 Quality in rehabilitation

The formal procedures to develop quality assurance are since the reforms of the health care system based on “performance indicators”, formal audits of the centres and quality management incentives based on registration.

Reflections started on the principles for the development of “rehabilitation treatment frameworks” (revalidatie behandelkaders: formerly identified as quality profiles). They are used as frameworks within which treatment-programmes on the level of the facilities have to be identified. The frameworks are intended as quality and accreditation instruments and try to incorporate the reflection on DBC’s and performance indicators. A rehabilitation treatment framework is developed as a set of minimal conditions to be met when providing rehabilitation activities. It will be used as a tool for quality audits. Frameworks have been developed for cognitive rehabilitation, cancer rehabilitation, and rehabilitation for pain\(^{149}\). These rehabilitation frameworks have to be developed according to a standard template and follow a predefined working procedure. The frameworks currently available, only have the status of “discussion papers”.

8.3.4.1 Performance indicators

The development of performance indicators of medical rehabilitation facilities is still in its early stages, and seems to be a difficult exercise.

In 2000, it was decided in a consensus meeting between stake-holders (government, insurance companies, patient organizations…) to develop performance-indicators for rehabilitation care, in order to simplify comparison between different settings for insurance companies as well as for patients. In 2004 a so called “basic set” of performance indicators has been developed\(^{150}\). Nine dimensions were identified, along the quality lines of structure, process and outcomes: satisfaction, patient safety, effectiveness, timeliness, efficiency, transparency, collaboration, competency and competencies development and research and teaching.

In 2005 the rehabilitation institutions had to start registering on an experimental basis for these indicators. In april 2006 a first digital report has been published comparing rehabilitation facilities on the results for the basic set of indicators. The reporting is
The aim of the quality approach is to develop and implement a set of 20 outcome measures in 2009. Some further work has to be done to further develop the system for specific patient groups. The development of the indicators is a collaborative exercise of universities, rehabilitation physicians and research units, funded by VWS.

In the framework of the development of integrated care for stroke patients (see infra) some particular propositions are made for 11 performance indicators for integrated stroke care. These indicators will be used in the “benchmark reports ketenzorg-CVA”. After an evaluation of pilot-initiatives of integrated care in stroke (edisse-study), integrated stroke care was introduced in 23 Dutch regions. For this new initiative, 19 indicators were used in order to assess the performance of the networks\(^{[1]}\). These performance indicators have yet no formal endorsement as a quality instrument.

- **The Dutch rehabilitation concept differentiates 4 levels of rehabilitation on a continuum:** “general and simple” “general multi-disciplinary” “specialised and specific” and “top reference”.
- **Rehabilitation is organized in acute hospital settings as well as in 24 Rehabilitation Centres throughout the country and partly in nursing homes. Fourteen rehabilitation centres have the status of “top-reference” centre (link with universities).**
- **Patients in rehabilitation institutions need an indication setting.**
- **The rehabilitation sector will be financed in the DBC model in 2008. Until then the financing is based on an activity based model.**
- **“Function-oriented” financing for intramural health care under AWBZ is in place for inpatient long term care-facilities. A further financing reform is prepared including the “level of care” offered (calculated on the average number of hours of care and treatment for a certain level of severity).**
- **The quality approach in rehabilitation will have to fit the DBC financing and performance model. A “basic set” of performance indicators is being developed and registered. “Rehabilitation treatment frameworks” are intended as quality and accreditation instruments. They describe the set of minimal conditions to be met when providing rehabilitation activities.**

### 8.3.5 Example: Stroke

In recent years, a lot of “project based” attention has been paid to the organisation of facilities for people with stroke. Different pilot initiatives have been launched to guarantee better coordinated and integrated care between acute, post-acute, and home care arrangements (CVA-ketenzorg). The “Commissie CVA-Revalidatie”, a working group of the “Nederlandse Hartstichting” (www.hartstichting.nl), recommended in 2001 “stroke services” (conceptualized as integration of rehabilitation activities) 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.

The concept of stroke unit is used for a specific neurology department providing (sub)acute treatment within the hospital. On average people stay between 10-14 days. About 80% of the hospitals have such a stroke unit. ‘Specialised rehabilitation stroke units’ are part of rehabilitation centres, aiming at rehabilitation for independent living. The duration of stay can be up to six months. A ‘nursing rehabilitation stroke unit’ is a specialised department in nursing-facilities, most of the time rehabilitating people that are probably not returning home. There are only few units in each region. Some care institutions for the elderly have some specific units for elderly stroke patients. As the
Dutch system has opted for a regional approach, every region has a specialized rehabilitation unit, accepting stroke patients: there are no national reference centres.

Depending on the medical condition of the patient, there are several options for referral. In case of a hospital treatment, the first week is focusing on stabilizing the medical condition. From the second week, the multidisciplinary needs-assessment should have started. This needs assessment is the basis on which referral is prepared.

An important part (about 40%) of the stroke patients admitted in the hospital is returning home. About 32% is referred (temporarily of definitive) to a nursing facility. 5-13 % of patients that stayed in a hospital is referred to a rehabilitation centre. About 20 % of this group is still in the centre after 6 months. A vast majority of the patients is referred home after the post acute phase. Some of these patients will need additional medical and care support. Another group cannot immediately be referred home and are transferred to a nursing home or rehabilitation facility for further rehabilitation. The referral is organised on a regional basis as far as possible. Some people for which no progress is expected will be transferred to nursing homes only. The rehabilitation strategy in these facilities has a different purpose. For this referral, chains of care have been identified in which the regional collaboration between different centers is stipulated. The major aim of these chains is to shorten the length of stay in acute settings, to improve the problems with waiting lists, and to realize a more cost efficient care of stroke patients.

Within the regions, regional coordination agreements (afstemmingsafspraken) are made in order to realize the chain of care model. In the EDISSE study (Evaluation of Dutch Integrated Stroke Service Experiments) three experimental stroke services were analysed in depth with respect to costs, health effects, quality and organisation of care, and compared to three reference regions representing current standard care for stroke in the Netherlands. EDISSE was a non-randomised non-controlled observational study. In all “stroke service” experiments, hospitals, nursing homes, rehabilitation centres, general practitioners and home care worked together in order to provide co-ordinated care. The practical organisational design of the experiments varied considerably.) 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.

For the particular issue of stroke it was observed that all of services have professional staffmembers with specific training in stroke rehabilitation. However, the rehabilitation centres can not guarantee a presence of specifically trained personnel in stroke 24-hours a day, since the rehabilitation centres are also dealing with other pathologies.

Further reflections on organisational networks and integration of care services of stroke patients have lead to the development of a methodology to benchmark the initiatives on integrated stroke care management. These initiatives hold the coordination in acute, post-acute and long term phases. Benchmarking is considered as a potential tool to assess quality and outcomes of the care offered. Based on experiences in the quoted Edisse study and CBO-innovation initiatives in health care (so called CBO-doorbraakprojecten, some of them coached by “kwaliteitsinstituut gezondheidszorg”), lead to a benchmark study. Measures included measures about structure characteristics of the region in which a network was active, Questionnaires of the members of the organisation(s) and patients and informal carers satisfaction. The benchmarking model is very closely related to ideas about performance approaches. However, the authors of the report state that further analysis is needed on the indicators used for benchmarking networks of care. Moreover, benchmarking requires particular efforts and commitment of the organisations involved, to participate in the benchmarking activities.

A different pilot-project related to the development of networks of care and the benchmarking, focuses on the development of data-information and management models adapted to the networks of care (cva keteninformatiesysteem CVA-KIS). This
system develops a dataset to be used to register data about patient characteristics and rehabilitation activities in the networks of care. The system is not only intended to register data, but also to support health care providers in the workflow. As the identification of the data needed is based on a Delphi technique, some indications can be found on what the professionals think what is needed to register. In general terms, a better registration of the patients co-morbidities, secondary diagnoses and a clearer registration of the rehabilitation aims per facility is considered as necessary. As the indication rules for transfer between facilities are not fixed, it is hoped for that the benchmark-reports will lead to a more comparable and uniform approach between regions for patient referral.

The use of outcome scales.

The discussion about the use of outcome scales is of current interest, but not very developed. At this stage one recommends at least the use of the Barthel-index. In order to assess and discuss the therapeutic aims of the patient, some professionals suggest to use the Canadian Occupational Performance Measure (COPM), or the AMDAS Stroke-unit discharge guideline, to assess the rehabilitation potential of the patient. Since a lot of efforts are going to the development of DBC’s, the debates of the use of scales id focusing on ICD-9, ICF and Barthel (and especially on how to develop an efficient registration of all these scales, and make them useful tools).

**Stroke is particularly interesting example for its initiatives on developing networks of care.**

### 8.3.6 Example: Lower extremity amputation

The total group of amputations constitutes only a minor part of the combined out- and inpatient rehabilitation in the Netherlands: 2% of outpatient and 6% of inpatient rehabilitation for adults (2003). About 3300 major amputations of the lower limb occur in the Netherlands. Pernot et al. have estimated the average rehabilitation period for persons with a lower limb amputation at 35 weeks. There are no rehabilitation centres playing a role as reference centre.

The largest part of people with a LEA (about 40%) are referred to a nursing facility. Another part is directly referred home, and continues multidisciplinary rehabilitation in a policlinic of a hospital or a rehabilitation facility. Only a minority of the group (10-15%) starts a clinical rehabilitation in an inpatient rehabilitation setting. There are no fixed indication rules for the referral to one or another setting. As a general principle, the patients’ choice is the primary stimulus for a service. The indication is generally also affected by the physical condition, the motivation and the learning capacities of the patient. It is generally accepted that the functional outcome can be assessed two weeks after the event, by taking into account the age, motivation and learning potential and the one leg equilibrium. Especially the older people (75-80+) prefer to return as soon as possible in their own region or at home. This choice is largely influenced if partners (family or friends) have difficulties to visit a hospital or rehabilitation setting.

Admission to an inpatient rehabilitation setting generally is foreseen about 10 days after the surgical intervention. The admission to a nursing facility takes about 10 to 20 days. Wound care is an important issue in the timing of referral.

In a nursing facility, about 30% receives a prosthesis, in a rehabilitation facility this proportion is about 85%. Prosthesis rehabilitation training is offered in nursing facilities, hospitals and rehabilitation settings. But for more elaborated prosthesis rehabilitation, people are generally referred to a rehabilitation center. There is no specific rehabilitation program for people without a prosthesis. Small scale research gives indications of variations in the prescription of prosthetics. Policy makers are urging to develop a clinical guideline with more clear criteria for prescribing a prosthesis, and a draft guideline has recently been developed.
There is no consensus on the use of outcome scales in rehabilitation, and different scales were used in different Dutch regions. The Sickness impact profile (SIP-68) scale and the Groningen Activity Restriction Scale (GARS) 160 timed up and go test (TUG) Barthel score en de FIM are used. The one leg equilibrium scale is often used. There is however no indication if these scales are used systematically in all the centres.

- Prosthesis rehabilitation training is offered in nursing facilities, hospitals and rehabilitation settings. For elaborated prosthesis rehabilitation, people are generally referred to a rehabilitation centre.
- There are no fixed indication rules for the referral to one or another setting.
8.4 FRANCE

8.4.1 Health care organisation in general

The French health care system is a centralised mixed system combining elements of various organizational models:

- It is a publicly funded system characterized by freedom of choice and unrestricted access for patients and freedom of practice for professionals;
- The organizational model is built on health insurance funds and strong state intervention. It is complex and pluralistic in its management, with co-management by the state and the health insurance funds;
- It combines public and private health insurance, which finance the same services by the same providers for the same populations;
- It combines public and private care, including private for-profit hospitals;

8.4.1.1 Health insurance

The financial management of health care in France is mainly regulated through the statutory health insurance as a branch of the wider social security. It covers the entire population of France. The health insurance system offers wide-ranging reimbursement in the fields of preventive, curative, rehabilitative, and palliative care.

There are three main schemes within the statutory health insurance system: a general (employees in commerce and industry and their families), an agricultural scheme for farmers and their families, and a scheme for self-employed people. In 2004 an insurance fund was established specifically for dependent elderly people. In 1999 universal health insurance coverage (CMU) was established on the basis of residence in France (99.9% coverage for medical expenses).

The health insurance is compulsory and covers all households regardless of health status, income, number of persons, etc. It provides a somewhat uniform field of reimbursement, with the "basket of goods and services" covered by the insurance funds being identical for all the statutory schemes, and a same reimbursement rate for the three main insurance schemes (since 2000).

Health benefit catalogues are drawn up at national level with the whole range of goods and services reimbursed by the statutory scheme. The reimbursement of goods and services depends on their inclusion in defined lists, identified through advice of ad hoc scientific commissions and agencies, such as the former National Agency for Accreditation and Evaluation in Health Care (ANAES)- the current haute autorité de santé (HAS), checking for the effectiveness and/or safety of these procedures and the conditions under which they need to be performed.

More selection is occurring in the insured services delivered by private sector profession in their own practices or in private for-profit hospitals. Services dispensed in public hospitals or private not-for-profit hospitals are mainly the subject of implicit definition since they were paid for by a global budget.

8.4.1.2 Health care policy-making and organisation

The French health care system is a very centralized model, with an important role for the regions. Regions are responsible for the factual organization and execution of health

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This paragraph is mainly based on the report "health systems in transition: France, WHO, 2004."
care policy, while the central authorities define the policy and operational framework. (see Appendix to chapter 8)

8.4.1.3 Financing

The financing model is subject to important reforms. The Social Security Act of 2003 (Loi de financement de la sécurité sociale, LFSS) changed the inpatient acute care funding rules, but implementation is still in progress. The nomenclature for physicians’ procedures, the CCAM, applies from that date to both private and public hospitals. The reform will also change the remuneration schemes of inpatient and outpatient care.

- Services provided in inpatient or outpatient acute care will be financed through a payment-per-case system for all hospitals (700 Groupes Homogènes de Malades (GHM), considering co-morbidities and a nationally fixed tariff (Groupe Homogène de Séjours, GHS).
- Outpatient procedures will be paid on a fee-for-service basis
- Organ retrieval and emergency services by annual lump sum payments.

Physicians are always paid separately and directly on a fee-for-service basis, except in public hospitals, where tariffs include specialists’ salaries.

- France has a publicly funded system characterized by freedom of choice and unrestricted access for patients and freedom of practice for professionals.
- France has a compulsory insurance system, but a large proportion of the population has private (complementary or supplementary) insurance.
- France is a centralized model, but has delegated a lot of operational responsibilities to the regions. 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.
- The SROS (Schéma Régional d’Organisation Sanitaire) is the regional planning tool for health care provision. The SROS provides the regional hospital agencies (ARH) with a framework for granting authorizations, approving proposals submitted by institutions and negotiating contracts.
- Services provided in inpatient or outpatient acute care will be financed through a payment-per-case system for all hospitals (700 Groupes Homogènes de Malades (GHM), corrected for co-morbidities and a nationally fixed tariff (Groupe Homogène de Séjours, GHS).

8.4.2 The organisation of the rehabilitation sector

8.4.2.1 The underlying conceptual ideas

Rehabilitation is conceptually organised around three levels of care

- The specialized level of care has to answer very specific needs of a particular group of patients within a region. At this level specialised “reference” centres are identified, in charge of advanced medical and paramedical care. These services fall under the responsibility of a physician, and medical and paramedical team with specific competencies for the pathology
- A second level is created for high needs or specific care needs requiring particular competences. This level is typically foreseen for the non-complex neurological pathologies (such as MS and stroke) and for geriatric care.
The “low” level is created for general multidisciplinary rehabilitation and medical care, generally attached to hospital services and typically foreseen for short term rehabilitation, often in close collaboration with the SSR.

A specific regulation of 1997 defines five functions of technical and support tasks for continuous care or rehabilitation:

- limit the impairments through rehabilitation,
- somatic and psychological rehabilitation through intensive treatment or teaching compensatory techniques, education of the patient (and his peers),
- follow up in after care and control of pain
- taking initiatives for reintegration in society.

These principles have to be realised through the development of a continuity of care model (filières de soins).

The organization of the rehabilitation sector has a clear regional orientation. Four geographical levels are distinguished, conceptually closely related to the notion of “filières de soins”. They aim at serving people as close as possible to their home, integrating them into daily life as far as possible:

- The interregional or regional level: on the interregional level services are responsible for highly specialised care for pathologies with low incidence/prevalence (e.g. burn units, visual deficits or auditive deficits), but for which specific technology and infrastructure is needed.

- On the regional level, specialised centres, using particular technologies, having an adapted infrastructure and competences but for which also the idea of accessibility for people of the region is taken into account.

- The “intermediate” level, is defined as the less specialized rehabilitation services, clearly serving the people from a geographically near area. It are services not requiring very specific technologies or infrastructure.

- The local level (niveau de proximité) is the alternative form of hospital services, offering medical and rehabilitation care at home.

The regulations “soins de suite et de réadaptation” (SSR) form the framework for middle-long term rehabilitation services (moyen sejours) are as follows. As a general principle, the SSR aim at patients coming from acute or post-acute settings or other SSR, and are primarily aimed at social reintegration for those people in need of a global medical-rehabilitation for deficiencies or impairments, in need of a medical follow up, or in need of functional rehabilitation. They are conceptualized as the “in-between-services” between acute hospital environments and the home care setting (or long term care facilities). There are “general” SSR and SSR specializing in geriatriy, cardiology and nutrition. The agenda for the SSR is centrally set by means of circular letters (circulaires) (lettre circulaire DH/EO4/97 n°841 du 31 décembre 1997 relative aux orientations en matière d’organisation des soins de suite ou de réadaptation ; la lettre circulaire DHOS/03/DGAS/AVIE n°2003-257 du 28 mai 2003 relative aux missions de l’hôpital local (notamment dans son paragraphe « Développer l’hospitalisation en soins de suite et de réadaptation »). In 2005 HAS/ANAES has published a report on the state of the art of SSR, in which the roles and missions of different services are clearly described.
8.4.2.2 Rehabilitation facilities

Rehabilitation can take form in intramural settings (hospitals, specialized rehabilitation and nursing facilities), in ambulatory form (day hospitals) or in home care, depending on the clinical status of the patient. The most important post-acute facilities are university based rehabilitation units, general hospital rehabilitation units and rehabilitation centres:

- The mission of MPR (medicine physique et réadaptation) in university hospital centres is focused on teaching, research and expertise highly specialised rehabilitation and has to participate in networks of care.
- MPR services within hospitals are polyvalent rehabilitation services not necessarily involved in highly specialised rehabilitation
- Rehabilitation centres are specialised and polyvalent facilities often reference centres for specific pathology groups, and also expected to participate in networks of care. Teaching and research can be part of their mission

Due to historical reasons, France has an uneven geographical distribution of rehabilitation centers. For this reason units for rehabilitation in acute hospitals (both in Centres Hospitaliers, and almost always in Centres Hospitalier Universitaires) play an important role in rehabilitation in the different regions. They focus on the medical and paramedical issues of rehabilitation.

The services for medical rehabilitation (medicine physique et réadaptation MPR) are specialized rehabilitation units generally linked to hospitals, and often with a day care function.

The reforms prepared in the mid 1990 aim at guaranteeing a regional, needs based approach, and developing a more smooth patient flow. Through the “filières de soins”, these hospital services are urged to collaborate with other inpatient and home care facilities, for other dimensions of rehabilitation care. Through these models, one hoped to reduce lengths of stay in inpatient settings, manage the issue of waiting lists, and coordinate the services offered to the needs of the patients.

An important rather new “French” development is the development of the “hôpital à domicile”, delivering medical and rehabilitation services, for people returned home. Not all regions have this service available, but it is a type of service that is developed more and more.

For those people unable to (immediately) return home after the post-acute phase, different types of long term-care facilities are available: (Unités de soins de longue durée, maison d’accueil spécialisée (MAS) foyer d’accueil médicalisé (FAM) and « établissement hébergeant des personnes âgées dépendants », (EHPAD)).

8.4.2.3 Indication setting in rehabilitation

For some types of treatment, such as physiotherapy and spa treatment, the prescription from a physician does not provide the status for reimbursement. Coverage by statutory health insurance is subject to the prior authorization (entente préalable) of the physicians advising the health insurance funds, after examination of the patient’s case history and a possible interviewing of the patient. However, France is not using a systematic model of indication setting: the indication setting is left to the clinical authority of individual physicians.

8.4.2.4 Financing of the institutions

Rehabilitation facilities are falling under the hospital financing regulations. Public and most private non profit hospitals receive a prospective global budget defined by AHR (taking into account historical budgets, relative costs per DRG and priorities in the

http://www.anmsr.asso.fr/anmsr00/crf/intro.html
SROS). Individual hospitals and the AHR work according to a model of contracting, defining the tasks and commitments of the hospital (quality of care, efficiency, activities,...) Private hospitals have a topic oriented billing system, independent of the fees to paid for the physicians. As a result, prices do vary enormously per region and between hospitals.

8.4.3 Quality

The “charte de qualité en medicine physique et de réadaptation” is used as a formal quality agreement and as a complement to different regulations defining the constituent norms of rehabilitation services. But this agreement is mainly limited to a formal statement.

In general one could say that France is mainly reflecting on the conceptual and “principles” level about quality. Several documents are being prepared, but no real quality models or indicators as a collective instrument are implemented. The principles proposed are not to be considered as quality tools in the technical meaning of the word.

The quality policies and approaches in rehabilitation are getting inspiration from the CARF accreditation methodology. A working group has been developing criteria for rehabilitation care for different “locomotor” pathologies (“Critères de prise en charge en médecine physique et de readaptation”). The text of the working group is considered as an important reference document in France for the rehabilitation approach for different pathologies.

The infrastructural and equipment characteristics of the facilities (as a condition for quality rehabilitation) are being summarised too.

Different “circulaires” have been developed identifying the expected level of quality and the norms for treatments (e. g. Circulaire n° 2004-280 du 18 juin 2004 relative à la filière de prise en charge sanitaire, médico-sociale et sociale des traumatisés crânio-cérébraux et des traumatisés médullaires ; Circulaire n° 2003-517 du 3 novembre 2003 : relative à la prise en charge des accidents vasculaires cérébraux) ;

Rules of accreditation apply to the institutions providing Rehabilitation Care. The ANAES- “manuel d'accréditation des établissements de santé”, (with a chapter on SSR) sets some organizing principles, and focuses on patients rights. It also introduces the idea of using functionality scales, but this issue has to be developed further.

For the institutions providing SSR as a segment of their activity, a specific section in the accreditation reports offers an overall appreciation of these services. The accreditation is however not using specific indicators.

In general, accreditation is used to be more structure oriented, but slowly quality standards started to be integrated. Most of the emphasis has been on hospital acquired (nosocomial) infections, there are some specific norms (process oriented) and objectives. However, real quality assessment tools are not used yet.

In order to develop follow-up systems, some regions very recently started to develop (epidemiologic) registration systems, including a follow up of patients.

Rehabilitation is conceptually organised around three levels of care: a specialized level for very specific needs of a particular group of patients within a region. A second level is created for high needs or specific care needs requiring particular competencies. The “low” level is created for general multidisciplinary rehabilitation and medical care, generally attached to hospital services and typically foreseen for short term rehabilitation.

http://www.syfmer.org/referentiel/qualite_mpr/syfcharte04.html
The organisation of the French rehabilitation sector has a clear regional orientation. Four geographical levels are distinguished: interregional, regional, intermediate and local level.

The regulations “soins de suite et de readaptation” (SSR) form the framework for middle-long term rehabilitation services.

Rehabilitation can take form in intramural settings (hospitals, specialized rehabilitation and nursing facilities), ambulatory (day hospitals) or home care, depending on the clinical status of the patient.

France is not using a systematic model of indication setting: the indication setting is left to the clinical authority of individual physicians.

Rehabilitation facilities are falling under the hospital financing regulations.

France is mainly reflecting on the conceptual and “principles” level about quality. Several documents are being prepared, but no real quality models or indicators as a collective instrument are implemented.

### 8.4.4 Example: Stroke

The approach of stroke rehabilitation fits into the model of the SSR (“soins de suite et de réadaptation”). The organisation model should hold the notion of integrating the activities of different services and developing “chains of care”.

A circular letter (“circulaire”) was endorsed in November 2003 for the treatment and rehabilitation for people with stroke (Circulaire n°2003-517 du 3 novembre 2003 relative à la prise en charge des accidents vasculaires cérébraux). The circular letter describes the formal conditions, and creates opportunities within the SROS, to develop facilities for taking care of stroke patients close to home (hôpitaux de proximité).

An Anaes-study has focused on the different aspects of treatment of stroke patients. The study focuses on clinical guidelines, including post-acute rehabilitation. This report is not paying a lot of attention to organizational matters in stroke rehabilitation, except that some infrastructural issues are mentioned. A major recurrent recommendation is that networks of care services have to be developed in order to provide integrated care.

In August 2005 the HAS-ANAES has launched an evaluation tool-kit for assessing the scope of care offered for stroke patients. The tool-kit aims at supporting the services in doing auto-evaluations and improving the quality of care. It is supposed to steer the future quality assessments of stroke services.

### 8.4.5 Example: Multiple Sclerosis

Rather recently, an assessment has been made analyzing the state of the art of MS-related topics in France. As is the case in many other countries, MS and the particular needs of MS-patients, make the organisation of rehabilitation for this group of patients a particular issue. In general terms the treatment and follow up of MS patients in France is very heterogeneous.

Only in few regions, specific initiatives have been set up to coordinate the treatment and care of MS-patients. Since 2001, some regional networks are formally recognized as MS-care networks (“réseau de soins sclérose en plaques (SEP”), and others are in preparation. The major network-aim is to offer different kinds of (para)medical and social care in a coordinated way, as close as possible to the patient.

Some regions are (at this stage) not covered at all by a formal network of care. Moreover, there is a great disparity between the existing networks in the number of participating patients. The operational conditions of these networks are very dissimilar,
for professional participation as well as the patient inclusion, as there are no common indication standards.

Inpatient care and support is generally offered in specialized hospital units for short stays. Long term specialized inpatient facilities exist, but are very few in number, leading to particular problems for MS patients with very severe complications. There are currently 5 centres for long term stay for highly dependent MS patients with specific medical and paramedical needs (offering about 230 beds). Experts confirm that the need for this kind of facilities is a lot bigger, but no precise epidemiological estimates are available (MS patient organizations claim that 2000 of these beds should be available to answer the needs).

Other centres have developed units for MS patients within their general neurological functions. The capacity of the centres varies enormously, some offering 1 to 2 beds, while others have about 60 beds available for MS patients. The average period of stay is between 2 and 6 weeks.

The coordination of medical care is generally in the hands of a private or hospital based neurologist (neurologue de proximité), having to play a role in the network of carers (réseau). The hospital settings vary, as not all hospitals have a neurology department. It can however happen that some of these hospitals hire the services of a neurologist, doing the follow-up of the patients. Many neurologists in France have a private practice within the hospitals (des attachés).

Some university hospitals (Dijon, Rennes) organize themselves inspired by a Canadian specialized model of clinical practice for MS. During a whole day, and in collaborative practice with different physicians, the whole spectrum of problems of different MS patients is assessed. These centres also try to work in networks of care.

More common forms of multidisciplinary follow-up (medico-social) of MS patients are found in regional hospitals (generally funded through proper means of the hospital and private gifts).

For assessing the status of MS patients, the Expanded Disability Status Scale (EDSS, also named Kurtzke scale) is used, measuring 8 functional domains and enabling the neurologist to give a Functional system score. The scoring scale is mainly used as tool to assess the severity of the condition of the patient, and mainly as a clinical tool to assess the progress of MS. The scores are also used as an informal indication setting tool for offering particular health care services.

8.4.6 Example: Spinal Cord Injury

France has no really integrated approach of the rehabilitation of people with spinal cord injuries. However recently particular concerns are developed on the organization of care.

A circular letter (Circulaire DHOS/SDO/01/DGS/SDSD/DGAS/PHAN/3 B n° 2004-280 du 18 juin 2004) focuses on the organisation of care for patients with SCI and TBI, with a particular attention on necessary care and the demand for continuity of care. The SROS (schéma régional d’organisation sanitaire) should provide in foreseeing the necessary conditions.

The "Académie Nationale De Médecine" has formulated recommendations on the rehabilitation of SCI patients. The main line of reasoning is that specific and specialised rehabilitation centres are needed in the French rehabilitation landscape. The "Académie" recommends to develop a territorial map and a list of reference centres for the French territory. The Académie recommends to create 12 reference rehabilitation centres, with a maximum of 3 or 4 for the Ile the France and neighbouring departments. The recommendation is however not clear on the criteria used to make this recommendation.
8.5 GERMANY

8.5.1 Health care organisation in general

A fundamental aspect of the German health care system is the sharing of decision-making powers between the federal government, the individual states (Länder), and designated self-governmental institutions. Responsibilities are delegated to membership-based, self-regulated institutions of payers and providers. These institutions adopt the status of quasi-public corporations and guarantee the financing and delivery of benefits outlined in the legal framework of the statutory health insurance. They are involved in financing and delivering health care.

As is the case in many other countries, the role of private parties is penetrating the organisational principles of the health care model.

8.5.1.1 Health insurance

In the Statutory Health Insurance (SHI), covering 88% of the population, sickness funds, their associations and associations of SHI-affiliated physicians and dentists negotiate on the insured care. The most important body in the benefit negotiations between sickness funds and physicians concerning the scope of benefits is the Federal Joint Committee. Based on the legislative framework the Committee issues directives relating to all sectors of care.

Citizens have a free choice of sickness funds. Employees with a gross monthly income not exceeding a certain amount (€3,862 in 2004) are mandatory to have a membership in a sickness fund. Higher income levels can opt out. Private insurance companies provide health insurance policies that are substitutive or supplementary to the SHI.

The autonomous sickness funds are organized on a regional and/or federal basis. They are obliged to raise contributions from their members and to determine the contribution rate necessary to cover expenditures. Their responsibilities include contracting, negotiating prices, quantity and quality assurance measures. Services covered by such contracts are usually accessible to all fund members without any prior approval by the fund, except for preventive spa treatments, rehabilitative services and short-term home nursing care that require an indication setting.

A risk structure compensation scheme is in place which prevents the sickness funds to refuse people at a higher risk for health care services. Members and their dependents are entitled for the benefits: prevention of disease, screening for disease, emergency and rescue care and treatment of disease. In the latter category ambulatory care, care by allied health professionals and certain areas or rehabilitative care are included. Ambulatory care is only described in generic terms whereas care by allied health professionals is more elaborated. These services that are reimbursed by the SHI are linked to indications and therapeutic targets and need to be prescribed by a physician.

8.5.1.2 Health care policy making and organisation

The legislative authority regulates the procedures with which the contractual partners determine the scope of SHI services. The “Federal Joint Committee” issues directives about adequate and cost-effective medical interventions for the insured persons. In the Länder as well as in the federal government, a department of health is installed, although not always as a distinct ministry. The sickness funds 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.

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

See Appendix to chapter 8.

8.5.1.3 Financing

In 2000 the Australian system of diagnosis-related groups (DRGs) was adopted as the basis for developing a German DRG hospital financing system. The development of a DRG catalogue is seen as a starting point towards a more explicitly benefit catalogues where all approved interventions are listed and grouped around the relevant diagnoses.

The Institute for the Payment System in Hospitals (InEK) is intended to support the introduction and the further development of the DRG system. The Institute defines the DRG case groups, maintains the DRG system, and its severity classification system, develops a coding directive. The Institute is also responsible for the calculation of DRG cost weights and individual adjustments with in the DRG system.

A catalogue lists all procedures (services) performed in hospitals in accordance with respective clinical diagnoses. The DRG system also constitutes the catalogue of services and benefits covered by the SHI scheme for inpatient care. The inclusion of new health care services in the DRG system is made available at the beginning of each year. (based on ICD 10)

- The German health care system shares decision-making powers between the federal government, the individual states (Länder) and designated self-governmental institutions. Responsibilities are delegated to membership based, self-regulated institutions of payers and providers.
- All employees below a given income level must subscribe to an independent not-for-profit sickness fund. Individuals above that income level have the right to opt out and arrange private coverage (a minority of the population). The role of the sickness funds is publicly regulated.
- The sickness funds have a central role. Sickness funds contract for health care services and negotiate prices, quantity and quality assurance measures.
- 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.
- The Australian system of diagnosis-related groups (DRGs) was adopted as the basis for developing a German DRG hospital financing system.

8.5.2 The organisation of the Rehabilitation sector

8.5.2.1 The underlying conceptual ideas

Rehabilitation is defined as a multidisciplinary team approach adapting to the patient’s needs. During the recovery period, these needs vary resulting in different goals in different phases. A distinction is made between medical, vocational and social rehabilitation.

Because of the historical formal segmentation between hospital care, rehabilitation care and ambulatory care, delays or inconsistencies occur(ed) in the referral for further rehabilitation. As mentioned earlier since 2000-2004 models of ‘Integrierte Versorgung (integrated care model)’ were set up for heart failure and hip joint replacement. The SHI, care providers and hospitals develop agreements to organise the full range of services, from acute care to the completion of rehabilitation period.
Patients older than 70 years are less eligible to these models and are referred to geriatric rehabilitation. Geriatric rehabilitation is a special category of rehabilitation in Germany offering less intense rehabilitation compared to the other models.\textsuperscript{169}

Figure 8.1: The 'Phasenmodell' in neurorehabilitation (BAR, Die Bundesarbeitsgemeinschaft für Rehabilitation, 1999)

Specifically, for neurorehabilitation a conceptual ‘Phasenmodell’ was developed to streamline the thinking about rehabilitation services. The model distinguishes 6 phases (see Figure 8.1). The patient may not go through all phases neither pass them in chronological order. In Phase A, the acute treatment is the major priority. As soon as the patient is medically stable, the first rehabilitation interventions can take place. Phase B is a phase in which the patient still may need intensive care support and has not reached a sustained phase of full consciousness. If the patient evolves to a condition enabling active participation in the rehabilitation process and where significant improvement for his functional independency can be expected, the patient will move to Phase C: a period of intensive rehabilitation where supervision of nurses and medical staff is still needed. If no improvement is expected, it will be decided to transfer him to a long-term nursing care setting (Phase F).

If no further nursing support is needed but improvement is still expected, the patient will then continue to Phase D.

Phase A through phase D is organised in different types of intramural settings. Acute hospitals have the necessary technical equipment and expertise to support the patient in
his life-threatening condition. For Phase B, services need to have an intensive care unit or can call upon immediate access to a hospital in the direct neighbourhood. In practice these inpatient settings can be: acute hospitals, specialised clinics in neurology or general rehabilitation clinics.

Patients in Phase C are still hospitalised and treated in a rehabilitation centre or specialised clinic, as they require supervision of nursing care and medical treatment or follow up. Phase D patients can be helped in an inpatient or outpatient service. Patients in Phase E are mostly cared for in an outpatient setting. Phase F patients expect no recovery and have high functional dependency and are supported in long-term care settings with nursing support.

The “bundesarbeitsgemeinschaft fur rehabilitation” has developed recommendations for the organisation of neurological and musculoskeletal rehabilitation. But these recommendations focus mainly on the clinical approach of the patients (in certain phases of their disease within organizational formulas).

Other reflections started on the development of “mobile rehabilitation” trying to bring rehabilitation services to the home. The focus of these reflections is mainly geriatric rehabilitation.

8.5.2.2 Rehabilitation facilities

Medical post-acute rehabilitation is mainly offered in specialised rehabilitation clinics, although out-patient and part-time in-patient care has considerably grown. Within the past decades changes were implemented in the organization of rehabilitation, mainly trying to ensure smooth patient flows, and offering rehabilitation services at home (integrated care). Moreover, the insurance negotiations have had a major impact on the provision models of services as insured parties receive different rehabilitation benefits depending on the insurance type.

The rules for providing and financing social services are regulated at federal level. The social code book (Sozialgesetzbuch, SGB) forms the core of the legislation. Regulations relevant for rehabilitation are mostly found in volume 5 and 9 of the SGB.

- Several research networks are established to clarify (among other research themes) the role of different services in this rehabilitation process but no definite conclusions can be drawn from these studies.

8.5.2.3 Indication setting

In daily practice, approvals for admission to rehabilitation facilities are needed by the insurance companies.

Early rehabilitation in hospital obtained a new legal basis with the Sozialgesetzbuch IX (SGB IX) of 2001. In § 39 section 1 SGB V, early rehabilitation was for the first time explicitly described as part of hospital treatment. However, the German system is still seeking ways to optimise the use of rehabilitation facilities and looks for standardised models of indication setting. Currently a lack of generally accepted indication criteria for early rehabilitation services is experienced and the aims, objectives and methods need to be specified.

Based on Delphi methodology a group of interested experts from different fields and backgrounds to achieve an interdisciplinary consensus in terms of conceptual definitions and terminology for all early rehabilitation care services in the acute hospital was developed. Examples of typical cases from the various fields of early rehabilitation care were identified and described. Furthermore, the report points out a number of other

http://www.bar-frankfurt.de/Empfehlungen.BAR?ActiveID=1083
http://www.dvfr.de/pages/static/1834.aspx
http://www.gesundheitsforschung-bmbf.de/_media/forschung_in_der_rehabilitation-englisch(1).pdf
problems in the area of early rehabilitation care, which have yet to be solved. In a position paper, indication guidelines were presented by a group of German experts. In the conceptual model for neurorehabilitation the Barthel Index is used as an indication setting tool to discriminate between phase B, C and D. ([0-30]=B; [35-65]=C; [70-100]=D)

8.5.3 Quality in Rehabilitation

Germany has a longer experience with imposed “external” quality assurance initiatives in medical rehabilitation. Quality assurance programmes have been routinely implemented for most inpatient rehabilitative indications, and are characterized by their comprehensive approach. This is most of the time imposed by private insurance companies or sickness funds. In 1994 the German statutory pension insurance developed a model of quality assurance in rehabilitation, that was imposed in 1998. It is based on indicator tools relating to structural, procedural as well as outcome quality. The statutory health insurance has imposed quality assurance models, trying to guarantee effective and efficient rehabilitation. By developing clinical practice guidelines specific to rehabilitation, the pension insurance is the only sector of the German health system in which quality evaluation is carried out on the basis of clinical practice guidelines. The quality assurance programs are intended to impact on the allocation of patients as well as the financing of the rehabilitation services. So far, this is the first and only health care sector that has included the use of evidence-based practice guidelines into quality assurance activities. However, corresponding to the relative paucity in rehabilitation research there is no sufficient evidence for a lot of the therapeutic interventions. Accordingly, guidelines in rehabilitation will -initially- consist of a mixture of evidence- and consensus-based recommendations. There are many initiatives by the providers of rehabilitation as well as the scientific medical societies to develop and implement rehabilitative clinical practice guidelines, e.g. the guidelines programme of the BfA (Federal Insurance Institute for Salaried Employees), which is aimed at developing rehabilitation process guidelines for selected indications (mainly vocational rehabilitation), the guidelines activities of the VDR (Federation of German Pension Insurance Institutes), and the input of the "Guidelines" commission of the DGRW (German Society of Rehabilitation Science). Since 1998, the German Federal Pension Insurance for Salaried Employees (BfA) has funded several research projects aimed at developing clinical practice guidelines for medical rehabilitation. The elaboration of standards is aimed at avoiding over-provision, under-provision or misdirected provision of care and, simultaneously, at ensuring that quality assured treatment is offered to the rehabilitees. Also, it is intended to increasingly implement evidence-based medicine in a sector of the health system in which research has so far been underrepresented. The guidelines are since 2005 being integrated into the BfA’s quality assurance system. Using a standardized protocol, therapeutic processes for individual disorders were evaluated as to whether they were evidence-based. After successful implementation of the program, a substantial reduction of practice variation among rehabilitation institutions is hoped for. For that reason, comparative quality analyses are the focus of the quality assurance programmes. In the context of the Quality Assurance Programme for Rehabilitation provided by the German statutory health insurance, the structural quality of 18 neurological rehabilitation units was assessed. It is argued that Assessing the structural quality of rehabilitation units on the basis of defined standards allows for a benchmark between units as well as for improvements within the individual units. These comparative analyses have shown that centres with little experience with severely affected rehabilitation patients achieve on average lesser effects on somatic functional and psychosocial levels. The external pressure to develop quality assurance, and the increased competition for patients between rehabilitation centres have lead to the development and research on more effective and efficient rehabilitation models.

For outpatient rehabilitation facilities, quality assurance programmes are under development.
Currently, rehabilitation centres face the problem of treating patients from different health insurance companies. Sometimes different proofs of quality have to be demonstrated, leading to a large overhead and administrative cost. Efforts are now on their way to guarantee a convergence of the different quality assurance programs. Reflections have started to take form on the quality of services and quality assurance programs in integrated care.

Recent efforts are made to refine the standards used in the quality assurance programs. Some projects are focusing on the study of the structural standards for inpatient rehab units treating patients for musculoskeletal, cardiac, neurological gastroenterological, oncological, pneumological and dermatological diseases. The aim of these projects is to distinguish between basic criteria that every inpatient rehab setting has to fulfill, and the more specific structural characteristics of each of the rehabilitation specialisms. Relevant structural criteria were defined in expert meetings by means of a modified Delphi-technique with five inquiries. "basal criteria" and "assignment criteria" were defined. The criteria are grouped in two domains: general structural characteristics (general characteristics and equipment of rooms; medical/technical equipment; therapy, education, care; staff) and process-related structures (conceptual frames; internal quality management; internal communication and personnel development). The structural standards are applicable to units for musculoskeletal, cardiac, neurological, gastroenterological, dermatological and pneumological rehabilitation. These projects are in this stage mainly research and/or pilot projects.

Integrated care models are being developed for rehabilitation, taken into account phases of rehabilitation. A conceptual model has been developed for neurological rehabilitation.

- In Germany, medical post-acute rehabilitation is mainly offered in specialised rehabilitation clinics, although outpatient and part time inpatient care has grown considerably.
- Approvals for admission to rehabilitation facilities by the insurance companies are needed.
- Quality assurance programmes have been routinely implemented in rehabilitation, most of the time imposed by private insurance companies or sickness funds. The statutory health insurance has imposed quality assurance models. Quality assurance programs are intended to impact on the allocation of patients as well as the financing of the rehabilitation services.
- Patients older than 70 years are less eligible to these models and are referred to geriatric rehabilitation. Geriatric rehabilitation is a special category of rehabilitation in Germany offering less intense rehabilitation compared to the other models.
8.5.4 Example: stroke and neurological rehabilitation

The organisation of neurological rehabilitation has been described in the paragraph “underlying conceptual ideas”. Additionally it is worth mentioning that early rehabilitation in neurology (phase B) is mainly carried out in specialised neurological hospitals and in rehabilitation hospitals and, very rarely, in general hospitals.

8.5.5 Example: LEA and THR

The conceptual reflection in terms of a “phasenmodell” is not used for Rehabilitation after orthopaedic surgery, implying that individual needs are far less considered. In the acute phase, patients stay in the acute hospital. The duration of the inpatient stay is mainly defined by the prospective payment system based on the RDRG’s.

Patients are discharged home or to a rehabilitation hospital for further training. In the latter situation, the period is defined under ‘Anschlussheilbehandlung (AHB)’ and refers to the period directly after acute hospitalisation.

An approval by the health insurance companies prior to admission is necessary. The initial length of stay approved is 3 weeks. A prolongation of inpatient stay can be requested by the physician and needs to be approved by the health insurance company before it is granted. Patients discharged home may use rehabilitation services at home or in a system of outpatient services.

In general, the rate of total hip replacements (THR) in Germany can be considered as one of the highest in Europe, next to France and Switzerland. In 2003, estimations were made at 145-183 THPs per 100,000 habitants in Germany compared to 66-90/100,000 and 101-132/100,000 for Italy and the United Kingdom respectively. The average length of stay in the acute hospital was 14.1 days in 2005. International comparison on the average LOS after THR revealed that this is longer than hospitals in the UK and US. A longer pre-operative hospitalization and the admission to the intensive care unit as a general practice rule were suggested as explanations for these higher LOS in Germany. After a stay in the acute hospital patients are mainly referred to Anschlussheilbehandlung (AHB), which is a service of inpatient rehabilitation following an acute hospital stay. On average, the AHB-LOS is 15.7 days. As mentioned earlier, the German health care system is characterized by the sectoring system between acute hospitals and rehabilitation services. Recent health-policy measures were implemented to facilitate enhanced collaboration between both sectors by introducing integrated health care plans [Integrierte Versorgung]. The implementation occurs over several phases and THR is one of the first indications using this type of health care plan. However, data on the effects of the integrated health care plan for THR on LOS were not found.

The incidence of lower extremity amputations in Germany is estimated at 230-660/100,000 habitants for diabetes patients and 2-9/100,000 for non-diabetes persons. No significant changes were observed in the incidence for the period between 1990-1998. More recent data were not found. The average total length of stay in the acute hospital and rehabilitation centre was 9.8 months. In the group of patients with complications, the average LOS was 19.9 months. No distinction was being made between the LOS in the acute hospital and the LOS in the rehabilitation unit. Additionally, it was not clear if only the inpatient rehabilitation was considered or whether it concerned the total rehabilitation period, inpatient as well as outpatient. As only one source was found on the care trajectories of patients with amputations of lower extremity, generalization of the findings is jeopardised.
8.6 SWEDEN

8.6.1 Health care organisation in general

The Swedish health care sector has undergone several important reforms during the past decades. Generally, national reforms that have had an impact on the health care system have focused on three broad areas: the responsibilities of provision of health care services, priorities and patient’s rights in health care and cost containment.

8.6.1.1 Health insurance

The social insurance system is managed by the Swedish Social Insurance Agency. No basic or essential health care or drug package is defined within Swedish health care. Insurance is mandatory. It covers individuals’ expenditures for health care and prescribed drugs.

There are direct, small fees for medical attention payable by patients; these fees are in the form of flat-rate payments. County councils have been able to determine their own user charges for hospital and primary care within the national framework since 1991. This practice has resulted in increased and differentiated patients’ fees. Ceiling amounts are defined on the total amount that any citizen must pay in any 12-month period. The ceiling for individual co-payments for prescribed drugs is separated from the other health care services.

In 2002, a new fee system was introduced for care of the elderly and the disabled. The purpose is to ensure that all individuals have a certain amount of money to cover living expenses (a reserve sum) once all fees are paid. For elderly and the handicapped, and depending on the level of service and care, together with the number of hours of assistance accorded per month, each municipality sets its own fee schedule in accordance with nationally determined reserve sums and maximum fees.

The market for voluntary health insurance is growing. One of the reasons is the long waiting lists for elective treatment under the county councils. The main benefit of having supplementary insurance is that it allows quick access to a specialist in ambulatory care when necessary. Another benefit might be the possibility of jumping waiting lists for elective treatment.

8.6.1.2 Health care policy making and organisation

The Swedish health care system is organized on three levels: national, regional and local. Health and medical care is separated into three levels:

- regional health care
- county health care
- primary health care (health centres)

Hospitals are mostly independent public facilities. The degree of privatization in hospitals varies among counties. There are nine regional hospitals, some 70 county and provincial hospitals and just over 1000 health centres.

More than half of Sweden’s county councils and regions are currently planning to change the structure of their health care organisation. The main elements of the changes involve a combination of extended primary care and specialised hospital care, which is to be concentrated and centralised. Technological developments, competence requirements and cost efficiency are steering the development, so that hospitals and clinics focus on certain specialties or operations.

For highly specialized care, Sweden is divided into six large medical care regions, within which the county councils cooperate to provide the population with highly specialized

The highly specialised centres are university hospitals. The regional hospitals treat all the rare and complicated diseases and injuries. The counties that do not have a regional hospital have agreements with the counties that have the highly specialised care.

The high degree of decentralisation is seen as an important feature of the health care system, but is also questioned because of some inefficiencies. Especially the differentiation in health care approaches between the counties is considered as a problem. A committee is currently reviewing the structure of government and the division of responsibilities and is due to report in 2007. There is a strong case for reducing the number of county councils to perhaps half a dozen or fewer. Some commentators would go further, eliminating that layer of government entirely and shifting responsibility for the hospital sector to the central government (similar to Norway).

8.6.1.3 Financing

The Funding of the Swedish health care system comes from County and local (municipal) taxes, and parish taxes (about 2/3), Central government grants to counties about (1/10) Patient fees (2%) and Mandatory payroll tax from employers and employees (about a quarter)

Most county councils introduced in the 1990’s some form of purchaser-provider model, whereby the traditional system of fixed annual allocations to hospitals was to some extent abandoned. The main features of shift were: separation of production and financing; resource allocation to health districts in relation to the needs of the population; and introduction of public competition between health districts (purchasers) and hospitals (providers). Most county councils have decentralized a great deal of the financial responsibility to health care districts through global budgets. Special purchasing units, normally headed by an elected committee of local politicians, have been formed with the task of formulating the requirements which should be made of the hospitals by the county councils and of evaluating quality and prices. Resource allocation principles vary among the county councils. A small group of about five county councils continues to develop per-case payment with expenditure ceilings for some services (primarily hospitals) and capitation models for primary care.

As a purchaser the County Council must make agreements to purchase the appropriate levels and volumes of care from competing providers. As providers, the hospitals, care centers, doctor and practitioners compete for business and have operational responsibility for providing care to the agreed upon levels and volumes, with payment either on a DRG (Diagnosis Related Group) basis or on some kind of per capita payment, often supplemented by some performance-related provisions. The extent of DRGs and other classification systems varies among regions and county councils. Per case reimbursements for outliers, such as complicated cases that grossly exceed the average cost per case, may be complemented by per diem payments. Payment is made according to results or performance.

Contracts are often based on fixed prospective per case payments, complemented with price or volume ceilings and quality components. DRGs are the most common case system with respect to short-term somatic care. Primary health care providers are usually paid through global budgets.

The DRG-based financing models replaced the fixed-budgets models after huge critique on increasing waiting list and debates on the accountability of the use of the budgets. At one point attempts were made to give all the hospitals equal reimbursement per treatment but this goal – stressing competition on equal terms – resulted in big deficits for a number of hospitals. In response, purchasers in Swedish county councils decided to accept paying some hospitals a little more and some a little less than the national standard. After an early and intensive “market negotiation period” the market policy turned increasingly to longer-term and more cooperative contracts to define relations between hospitals and the county councils, because of the changing health care landscape. At first the reforms enjoyed uncritical support by a broad spectrum of
stakeholders. Gradually participants in the reform process recognized inherent tensions among the goals of the reform, conflicts between reform programs and fundamental social and political values, unrealistic assumptions about the effects of competition, technical and organizational obstacles to implementation, and threats to interest groups.\(^{189}\)

- Sweden has a public health care model, going through important reforms in the last two decades.
- Insurance guarantees universal coverage: services included are not specified.
- Free choice of provider is guaranteed, but some referral is required in special care if patients choose a provider outside the county council.
- The Swedish health care system is organized at three levels: national, regional and local.
- The county councils play a major role in organizing and financing health care. The county councils have the overall responsibility for all health care services delivered, and have authority over hospital structure. County councils and regions are currently planning to change the structure of their health care organization involving a combination of extended primary care and centralization of specialized hospital care.
- For highly specialized care, Sweden is divided into six large medical care regions, within which the county councils cooperate.
- County councils determine their own user charges for hospital and primary care. Ceiling amounts are defined on the total amount paid in any 12-month period.
- There are global budgets for the counties. The DRG-based financing models replaced fixed-budgets models after huge critique on increasing waiting list and debates on the accountability of the use of the budgets.
- Most county councils introduced some form of purchaser-provider model. Special purchasing units on district level have been formed with the task to formulate the requirements which should be made of the hospitals by the county councils and to evaluate quality and prices.
- Resource allocation principles vary among the county councils.
8.6.2 The organisation of the Rehabilitation sector

8.6.2.1 The underlying conceptual ideas

In Sweden rehabilitation is a concept including all medical, psychological, social and work-related measures to help sick and injured to regain conditions for an improved life. Different institutions are responsible for different areas, but it are mainly the local social and health services that are getting the prime responsibility to organize rehabilitation.

The county councils are responsible for patients until they are fully medically treated, more specifically until they no longer require hospital care. After this phase, the physician (together with staff from social care services, other outpatient services and the patient) develops a care-plan designed to achieve further rehabilitation. Once the patient is fully medically treated and a care-plan has been developed, responsibility for the patient is transferred to the municipality.

The responsibility for home nursing and rehabilitation lies between the county councils and the municipalities, which causes tensions.

The municipalities are responsible when people need rehabilitation without hospitalization: generally maintenance training (conscious training to prevent loss of function and to maintain or improve the functions of the individual)

The counties, however, are responsible for discharged patients to have a carefully arranged plan of rehabilitation. All patients who need it, have a continuing rehabilitation plan, no matter who has the responsibility. But, it is difficult to make a clear delimitation between rehabilitation in the health system (counties) and maintenance training and prevention of loss of function in the social system (municipalities). A gradual shift from the specialised rehabilitation at hospitals to the rehabilitation that is normally carried out in the municipalities appears to be taking place. Between the two sectors a grey area in which patients can get jammed insofar as none of the rehabilitative bodies accept responsibility for the rehabilitation of a given patient. The delimitation between the two sectors (in connection with the obligation to continue or to start training) are typically related to the discharge from hospitals.

The collaboration and the division of labour between hospital and health and social care units vary from municipality to municipality and from one hospital department to another.

8.6.2.2 Rehabilitation facilities

The Swedish rehabilitation facilities do cover the range from acute hospital facilities, over specialised units within the hospitals, inpatient and outpatient hospital services, specialised rehabilitation centres and long term care facilities.

The county-wise organisation makes it almost impossible to sketch a clear picture on how these facilities play a role in the rehabilitation landscape. There are great local variations in the numbers of beds and rehabilitation practices.

Collaboration between services has been suggested as a means to increase effectiveness and reduce costs especially in the care and rehabilitation of long-term illness. In Sweden, a special legislation named SOCSAM was introduced in 1994, enabling financial collaboration between governmental and municipal authorities for crossing the boundaries between medical rehabilitation and social welfare related rehabilitation. But the development of really integrated seamless care is still to be debated.

In the more recent period the debate on coordination of care was partly driven by county council cost containment. There are considerable problems in the “grey area” where responsibility moves from county councils to municipalities. The municipalities claim that patients are now sent home “quicker and sicker” because counties have a financial incentive to discharge them as early as possible. Municipalities are sometimes unable to provide necessary medical care and they have no direct access to medical
facilities. The counties counter that municipalities are not providing enough elderly or long-stay beds and claim that one in ten hospital beds is still occupied by someone who is medically ready to be discharged and who should be treated in primary care or at home. In 2004, a committee delivered recommendations on improving the boundary between health and social care, and proposed putting a greater responsibility on municipalities to provide integrated social and health care while giving them the ability to hire their own doctors if they feel that the counties are not allocating enough physician time to municipal home care (SOU, 2004).

8.6.2.3 Financing rehabilitation

The financing of the post-acute stroke rehabilitation centres is organised in a fixed budget system. (contrary to the acute sector that is financed on a DRG-system). Purchaser-provider negotiation decide on the amount of care there will be offered for the budget. The budget includes infrastructure; e.g hospital beds, cleaning etc, staffing, extra examinations (such as a new MR examination), training equipment for use at the hospital.

Specifically for rehabilitation, a Nordic European pilot study (in which Swedish teams participate) aims at integrating functional status measures based on ICD-10 coding, (including a critical analysis of ICF, FIM, FRG, AN-SNAP). The project aims at developing a method to measure activity and participation of the patient on special care. But a real wide scale implementation of the ICF is not realised yet. For ICF to become used more widely there is a consensus that more developed guidelines are needed as a complement to the classification.

There Nordic work group is also developing reflections on how to link between acute inpatient care and rehabilitation and will develop a proposal for rehabilitation in 2007. There is yet no link with the current NordDRG systemoo..

8.6.3 Quality

The National Board of Health and Welfare issued a set of regulations on quality issues for all health services to develop continuous quality improvement. The regulations emphasize on monitoring and quality-improvement measures focusing on technical quality and safety and issues related to the people for whom health services are intended.

The National Quality Registers are used as supportive tools for analyses of the medical quality and outcomes in specific parts of the healthcare system. The national quality registers mainly cover highly specialised care provided at hospitals, whilst primary health care largely lacks joint follow-up systems. Standardised patient questionnaires are used and Safety problems and shortcomings in care are registered, e.g. by the Medical Responsibility Board, Patient Insurance Fund, and in the National Board's Risk Database. Data from National Health Data Registers can be used to monitor health care utilisation, morbidity and mortality on a population level. Some 40 national health care quality registers, are developed each containing data on health care outcomes and treatment for a large number of categories of illness. These registers serve as a knowledge base for continuous improvement.190, 191

Although the prerequisites for monitoring the quality of care in Sweden are good, further development of models and methods for performance assessment are needed. Sweden has for instance no databases and quality indicators in primary care and care for many chronic diseases and psychiatric disorders. Hence, the quality of services cannot be defined for a large proportion of health services delivered.

In 2001, the National Board of Health and Welfare, jointly with the Federation of Swedish County Councils and the Swedish Association of Local Authorities started a reflection on a comprehensive and coherent system for review and for exchanging and maintaining information within treatment and care. Part of the exercise also focussed on

∞ www.nordclass.uu.se/verksam/norddrge.htm
the development of Quality Indicators. Quality indicators will be used to assess and compare the results of treatment and care, and for reviewing operations. Quality indicators should give all stakeholder insight into health care practice.

The model is similar to that used in Dutch health care systems, and very much related to performance indicators.

However, the Swedish quality pilot projects pay a lot of attention to the needs at population, group an individual levels. A lot of attention is now going into the development of a registration, in which individual needs are assessed through scales or rating systems.

In rehabilitation issues, the future assessment will focus on functionality and will be compared to identified targets set in different stages. The electronic registration system of needs and targets, aims at providing documentation for decision-making on treatment and care, for reviewing and studying outcomes and as such as a quality tool at various levels (individual, operational, regional and national levels).

- In Sweden, the organizational model of rehabilitation takes into account the level of specialisation and the needs of the population to provide rehabilitation care.

- Related to the important role of primary care, it is sometimes difficult to make a clear delimitation between rehabilitation in the health system (counties) and maintenance training and prevention of loss of function in the social system.

- Rehabilitation facilities cover the range from acute hospital facilities, over specialised units within the hospitals, inpatient and outpatient hospital services and specialised rehabilitation centres to long term care facilities.

- General regulations for health care emphasize on monitoring and quality-improvement measures focusing on technical quality and safety, and issues related to the people for whom health services are intended. National Quality Registers are used as supportive tools for analyses of the medical quality and outcomes in specific parts of the healthcare system. Reflections started on developing a model of quality indicators for the health care sector.

8.6.4 Example: Lower Extremity Amputation

According to the Swedish National Board of Health and Welfare (SNBHW), more than 3000 patients undergo amputation annually in Sweden. The amputation rate increases with age, and most amputations are performed on patients over 60. After the operation some follow-up treatment, and some extensive rehabilitation and nursing care has to be organised. Sweden has no standard approach for this rehabilitation after LEA. Rehabilitation for LEA is offered in regional and University rehabilitation units. In general it are only those people for which prostheses are matched, that are referred to rehabilitation centres. Most of the (especially older) groups remain short time at the rehabilitation unit of the hospital, before returning home.

An older study 192 retrospectively scrutinized medical records of patients underwent major lower limb amputation during 1980-82 were. The records showed 131 amputations were performed in 106 patients at the district hospital and 22 amputations on 17 patients at the local university hospital, referral centre, altogether 57 men and 66 women. Of the amputees 47 per cent were older than 80 years. Final amputation level was above-knee in 61 per cent of the patients treated at the district hospital. For patients who came from and eventually returned to their own homes the mean hospital stay amounted to 184 days (postoperative deaths excluded). After amputation 26 patients were trained to wear a prosthesis and 16 of these used the prosthesis 2 years after amputation..

A more recent prospective study 193 described the overall treatment and outcome of patients who underwent major LEA. The study took place over a five year period in the
Health Care District of North-East Skane, Sweden for about 190 patients. Prostheses were delivered to 43% of all patients with primary amputations. These patients spent a median of 13 days at the orthopaedic clinic. 55 days at the rehabilitation unit.

A retrospective study analysd medical and nursing records of 45 patients who had undergone LEA at Uddevalla General Hospital. Hospitalization, rehabilitation and nursing-related data related to subjects alive after 6 months were compared with data concerning those deceased during hospital stay and within 6 months after amputation. The aetiology of the diagnosis leading to the LEA was cardiovascular disease in the majority of cases. The most common amputation level was below the knee. The patients surviving after 6 months had permanent problems in the area of nutrition, elimination, skin ulceration, sleep, pain and pain alleviation. The patients who died during the hospital stay had problems in all these areas.

8.6.5 Example: stroke

Although the organisation models can differ per county, rehabilitation of stroke patients is organised according to an overall general approach in Sweden. The general approach follows the process outlined in the Evidence based national guidelines for stroke care, issued by the Swedish Board of Health and Welfare. The board monitors the quality of care and whether the correct measures are taken to implement the guidelines.

A vast majority of the stroke patients are discharged home. Depending on their needs the rehabilitation process is continued in ambulatory form at hospitals in case of comprehensive needs. If the patient is referred to a nursing home, the rehabilitation is continued at a low level by the paramedical staff attached to that facility. For those patients directly returning home from a stroke unit, and needing further rehabilitation, the health services of the municipalities are taking charge of the rehabilitation.

A smaller group (around 9% of the total) of stroke patients is referred to post-acute inpatient rehabilitation units within the hospitals. That can be general mixed neurological rehabilitation units (serving both TBI (about 25%) and stroke (about 60%)) or general geriatric rehabilitation units.

The quality approach in stroke rehabilitation is supported by a tradition of stroke registration. The steering committee for “Riks-Stroke”, frames and outlines quality indicators reflecting structure, process and outcome. All hospitals in Sweden admitting patients with acute stroke (85) participate since 1998. Annually, each hospital receives a written report in which the local results are compared with the national data and with comments and suggestions on improvements for the care. Data collection includes information on the patient’s gender, age, history of previous stroke, life situation prior to the current stroke and level of mobility and need of assistance in three ADL functions, namely dressing, bathing, and going to the toilet. Items related to acute care include, the time from the onset of symptoms to admission to hospital, type of department to which the patient is admitted (medical, neurological or geriatric), whether or not the unit has organized stroke care (stroke unit), the patient's level of consciousness on admission, whether or not a CT-scan was done, and, in patients who died, whether or not an autopsy was done. In addition, drug treatment during the acute phase has been added since 1998. Items registered at discharge included: the duration of the acute admission to hospital; diagnosis of the stroke subtype; the patient's status at discharge (alive or dead), details of further management (at home or in an institution) and whether or not they required further care in an institution. A 3-month follow-up of the patients is included.

Results from Riks-Stroke show that women, in comparison with men, are more often living in institutions three months after stroke. Women also less often receive secondary stroke prevention.

PP the information is based on a personal communication of Prof. Katharina Stibrant Sunnerhagen, Insitute of Neuroscience and Physiology - Rehabilitation Medicine The Sahlgrenska Academy Göteborg University, SWEDEN

qq www.riks-stroke.org
Research using the stroke register has demonstrated that there are wide variations between hospitals in the proportion of patients admitted to a specialised acute stroke unit (more than one quarter of all stroke patients do not receive care in a stroke unit), variations in secondary prevention (Wide variations in the use of oral anticoagulants in stroke patients with atrial fibrillation, between hospitals), but also between counties and health care regions and in the proportion of patients in institutional care at 3 months.

A separate registration initiative for inpatient rehabilitation has been initiated by the Swedish Association of Rehabilitation and Physical Medicine. This registration focuses on all aspects related to inpatient rehabilitation activities and patient profiles. The purpose of the register is to improve the quality of care for the persons and has been in work since 1998 with annual reports. The register is now transferring to a web based modality, where the unit can get momentary feedback on the data entered. The data include demographics, mismanagement during the stay (falls, UTI, pressure sores etc), available rehabilitation resources, identification of functional limitations according to the ICF, ADL function, rehabilitation plan, quality of life etc and a follow up at one year checking the follow up of the rehabilitation plan.

8.7 US

8.7.1 Health care organisation in general

Health care policy in the US is based on completely different principles than the European welfare regimes. Especially the health insurance logic is not based on the well-known European variants of solidarity based Bismarck or Beveridge state insurance models. It is precisely this health insurance model that has a major impact on the organisation of health services.

8.7.1.1 Health insurance

The types of health insurance are group health plans, individual plans, workers' compensation, and government health plans such as Medicare and Medicaid.

About 2/3 of the American population is privately insured, often through collective employers insurances. The benefit packages are the result of negotiations and premiums paid. About one quarter of the population is insured through public programmes, especially focusing on elderly and poor people (Medicaid, Medicare). Some public insurances aim at particular groups (children, military personnel, agricultural sector,…). These last programmes will not be discussed.

A large part (about 70%) of the inpatient rehabilitation services is organised in the context of medicare payment policy, which is to a large degree operating under control of the federal government.

**Fee-for-Service**

Health insurance can be classified into fee for-service (traditional insurance) and managed care. Both group and individual insurance plans can be either fee-for-service or managed care plans.

Fee-for-service plans traditionally offer greater freedom when choosing a health care professional. In a Fee-for-service model the insurance company reimburses the doctor, hospital, or other health care provider for all or part of the fees charged. A premium is paid and there is usually a yearly deductible (an amount specified by the terms of the insurance policy), which means benefits do not begin until this deductible is met. After the person has paid the deductible the insurance company pays a portion of covered medical services.

**Managed care**

In Managed care plans (for both groups and individuals) a person's health care is managed by the insurance company. Managed care refers primarily to a prepaid health
services plan, often limiting a patient to health care professionals listed by the managed care insurance company. Approvals are needed for some services, such as visits to specialist doctors, medical tests, or surgical procedures. The highest level of coverage is only guaranteed for services from providers affiliated with their managed care plan.

The following are types of managed care plans:

- Health Maintenance Organization (HMO)
- Preferred Provider Organization (PPO)
- Point of service (POS)

Health Maintenance Organization (HMO) is a type of health care plan where members pay a flat monthly rate to have access to a specified group of medical professionals. Members are limited to this group of participating providers and must see a primary physician to have access to any specialized medical service. HMOs are usually associated with specific geographical areas. It is actually a form of health insurance combining a range of benefits in a group basis. A group of doctors and other medical professionals offer care through the HMO for a flat monthly rate with no deductibles. However, only visits to professionals within the HMO network are covered by the policy. All visits, prescriptions and other care must be cleared by the HMO in order to be covered. A primary physician within the HMO handles referrals.

The HMO is the primary provider of managed care, and it does so in four basic models sharing one important feature: the health care providers may not bill patients directly for services rendered, and must seek any and all reimbursement from the HMO.

A PPO combines the benefits of fee-for-service with the features of an HMO. If patients use health care providers from a PPO network, they will receive coverage for most of their bills after a deductible and, perhaps a copayment, is met.

A PPO contracts with individual providers and groups to create a network of providers. Members of a PPO can choose any physician they wish for medical care, but if they choose a provider in the PPO network, their co-payments—predetermined fixed amounts paid per visit, regardless of treatment received—are significantly reduced, providing the incentive to stay in the network. No federal statutes govern PPOs, but many states do regulate their operations.

Point of service systems (POS) is actually an integrated form of HMO and PPO. It is an insurance model in which the benefits are dependent on the role of a gatekeeper, that authorizes whether certain health services can be used. The model is based on a model of network health care providers. If the patients chooses a provider outside this network, a higher out-of-pocket part will be paid.

MEDICARE/MEDICAID

Medicare is a programme under the U.S. Social Security Administration that reimburses hospitals and physicians for medical care provided to qualifying people over 65 years old, for some younger individuals who have disabilities and for people who have end-stage renal disease. Enrolled individuals must pay deductible and co-payments, but much of their medical costs are covered by the program. Medicare is less comprehensive than some other health care programs, but it is an important source of post-retirement health care. Medicare is divided into three parts. Part A covers hospital bills, Part B covers doctor bills, and Part C provides the option to choose from a package of health care plans.

Medicaid is a program funded by the federal and state governments, which pays for medical care for those who can't afford it. It reimburses hospitals and physicians for providing care to qualifying people who cannot finance their own medical expenses.

Supplemental insurance covers expenses that are not paid for by a person’s health insurance.

http://www.cms.hhs.gov/
Health care policy making and organisation.

Health care is provided by a diverse array of entities:

- nonprofit health care provider (generally hospitals) operated by local or state governments, religious orders, or independent nonprofit organizations.
- for-profit health care providers (hospitals), which are usually operated by large private corporations.

There are many outpatient clinics which may be operated by any of the above organizations or may be a partnership of health care professionals (essentially a large medical or dental group). There are some health care professionals who individually, or in a group, practice for personal profit.

The provision and consumption of health and social care, is very much affected by the health insurance model, and the schedule of benefits it guarantees. Centres for medicare and Medicaid provide health care services for people falling under respective categories:

- Health care policy in the USA is based on completely different principles than the European welfare regimes. Public and private insurance only covers about 85% of the population.
- Some groups have access to publicly financed programmes: Medicaid serves the poor, Medicare serves the severely disabled and people above 65.
- Services depend on the type of insurance coverage. There are different models of health insurance.
- The insurers (of which the federal government is the largest) are the purchasers of health care services. The provision depends on negotiations.
- Health care is provided by both for profit and non-for profit and public facilities.

8.7.2 Rehabilitation

8.7.2.1 The underlying conceptual ideas

On the policy level, there is very little explicit conceptual reflection on the content and organisation of rehabilitation, as the organisational model is generally “left to the market”. However, some implicit ideas can be found when looking at the different facilities playing a role in rehabilitation.

8.7.2.2 Rehabilitation facilities

The following settings provide postacute care rehabilitation services:

- Acute inpatient intensive rehabilitation services
- Skilled nursing units (facility with a subacute unit)
- Skilled nursing facility (nursing homes)
- Inpatient rehabilitation facilities

Acute intensive rehabilitation is provided under the general or direct supervision of a physician and is intended to help the physically or cognitively impaired patient to achieve or regain his/her maximum potential for mobility, self-care, and independent living in the shortest possible time. Acute inpatient intensive rehabilitation services are covered services only when provided to a patient admitted to an acute care bed. It generally is offered in a section of a hospital which is licensed to provide skilled nursing services for longer periods of time than the usual hospital stay.
Skilled nursing units (SNU) are based in hospitals, either housed inside the hospital or in a separate building. They typically provide only short term care and rehabilitation services. The skilled nursing unit does not have a separate license because it is part of a licensed hospital. They are sometimes called Step-Down Units, to reflect the fact that patients are moved there subsequent to the original hospital stay, once hospital level care is no longer required. These units provide sub-acute care, a level of care “between hospital and home”. This form is also offered in skilled nursing facilities. It is care for patients of all ages who have been discharged from a hospital but need rehabilitation or complex medical services for recuperation before they can return home. Specialized, short term services may include extensive wound care, cardiac or stroke rehabilitation, intensive rehabilitation following joint replacement, multiple fracture or trauma rehabilitation, medically complex care and pain management. The goal of subacute care is to prepare patients to return home after restoring their mobility and independence.

Nursing Homes - also called Residential Health Care or Skilled Nursing Facility; is the general term for facilities offering long term nursing care. A freestanding SNF is a nursing home that provides skilled nursing care and is not attached to a hospital. A hospital-based SNF is a unit of an acute care hospital, and does not fall under the group of nursing home facilities.

Residents are admitted from their homes, other health care facilities and hospitals. It provides multi-disciplinary care to maintain residents at their highest functional level. A skilled nursing facility can serve for those who need short-term care following a hospital stay or long-term nursing supervision because of health issues or disabilities. Each facility defines its own level of care; not all facilities accept residents with complex medical problems.

- **SKILLED NURSING FACILITIES (SNF)** are licensed to provide twenty-four hour nursing care. Skilled nursing facilities are required to provide medical, rehabilitative and personal care.

- **SKILLED NURSING FACILITIES - DISTINCT PART (SNF-DP)** are skilled nursing facilities, which are a distinct part of an acute care hospital. In general, persons are admitted to these units from the acute care units of hospitals.

- **SKILLED NURSING FACILITIES-SPECIAL TREATMENT PROGRAM (SNF-STP)** are skilled nursing facilities with a special treatment program such as providing treatment to the mentally ill.

Inpatient rehabilitation facilities (IRF) can be independent or hospital based, but the vast majority (about 80%) is hospital based. IRFs provide intensive rehabilitation services—such as physical, occupational, or speech therapy—in an inpatient setting. Beneficiaries generally must be able to tolerate and benefit from three hours of therapy per day to be eligible for treatment in an inpatient rehabilitation facility. Medicare is the principal payer for IRF services.

To qualify as an IRF for Medicare payment, facilities must meet the Medicare conditions of participation for acute care hospitals and must meet all of the following additional criteria:

- have a preadmission screening process to determine that each prospective patient is likely to benefit significantly from an intensive inpatient rehabilitation program;

- have close medical supervision by a physician with experience or training in rehabilitation;

- have a director of rehabilitation, with training or experience in rehabilitation of patients, who provides services in the facility on a full-time basis;

- provide 24-hour rehabilitation nursing;

- use a coordinated multidisciplinary team approach;
• expect significant practical improvement for patients;
• have realistic goals for treatment aims; and
• each year, have no fewer than 75 percent of all patients admitted with
  1 or more of 13 specified conditions.

The 75 percent rule allows inpatient rehabilitation facilities to admit 25 percent of cases
without the specified diagnoses, so IRFs may treat some cases with diagnoses not
compliant with the rule without financial penalty. The purpose of this 75% rule is to
ensure that IRFs are primarily involved in providing intensive rehabilitation services. **

The diagnoses included in the 75 percent rule, were also known as the Healthcare
Financing Administration–10 (HCFA–10) These criteria were redefined in 2004 in the
CMS conditions (Stroke, Brain injury, Amputation, Spinal cord, Fracture of the femur,
Neurological disorders, Multiple trauma, Congenital deformity, Burns: The original
HCFA condition “polyarthritis” was redefined as: Osteoarthritis (After less intensive
setting); Rheumatoid arthritis (After less intensive setting) Joint replacement (Bilateral,
Age ≥85, Body mass index ≥50) and a separate condition Systemic vasculitides (After
less intensive setting).

This change contributed to the reduction in the volume of patients admitted to IRFs.
The most common rehabilitation condition for Medicare beneficiaries in 2004 was joint
replacement, followed by stroke and hip fracture.

8.7.2.3 Indication setting

For IRF one of the Medicare conditions is that a preadmission screening process to
determine that each prospective patient is likely to benefit significantly from an intensive
inpatient rehabilitation program. The purpose of prior authorization is to validate that
the service requested is medically necessary and meets criteria for reimbursement.
Prior Authorization does not automatically guarantee payment for the service; payment
is contingent upon passing all edits contained within the claims payment process; the
recipient’s continued Medicaid eligibility; and the ongoing medical necessity for the
service being provided. Prior Authorization requires a written initial physician
certification upon admission to Intensive Rehabilitation Services.

Medicare-medicaid agencies operate with interqual criteria.** InterQual Criteria are sets
of clinical indicators, that consider the level of illness of the patient and the services
required The criteria are grouped into 14 body systems, and there are 3 sets of criteria
for each body system: Intensity of Service, Severity of Illness Discharge Screens.
Intensity Severity Discharge (ISD) Level of Care Criteria are used to determine the
appropriateness of admission, continued services, and discharge, across the continuum
of care. ISD uses objective, clinical indicators to determine the proper level of care,
based on the patient’s severity of illness and service requirements, and to suggest an
appropriate care setting

8.7.2.4 Financing in rehabilitation

The Balanced Budget Act of 1997 mandated use of a prospective payment system (PPS)
to pay for Medicare patient stays at inpatient rehabilitation facilities (IRFs) and stated
that payment amounts should accurately reflect changes in IRFs’ patient case mix.

The Centers for Medicare and Medicaid Services (CMS) implemented the Inpatient
Rehabilitation Facility (IRF) Prospective Payment System (PPS) beginning on January 1,
Responsibility Act of 1982 (TEFRA), on the basis of their average costs per discharge,

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** for details see http://www.cms.hhs.gov/InpatientRehabFacPPS/LIRFF/list.asp#TopOfPage
** http://www.interqual.com/IQSite/about/history.aspx
up to an annually adjusted facility-specific limit. As of 2002, these facilities are paid entirely at prospective payment system (PPS) rates. uu

Under this PPS, IRFs are compensated for providing inpatient rehabilitation care based on a pre-determined amount per case according to the patient’s impairment, age, level of function and co-morbid conditions. Patients are assigned to one of more than 300 case-mix groups (CMGs) based on their characteristics—a diagnosis that requires rehabilitation, functional status, cognitive status, age, and comorbidities—as recorded in the IRF patient assessment instrument.

Payments to IRFs are also adjusted to account for additional costs due to certain facility-level characteristics, namely costs due to geographic wage index differences, rural location, and low-income patients.

The unit of payment in the IRF PPS is a Medicare-covered hospital stay, beginning with an admission to the rehabilitation hospital or unit and ending with discharge from that facility. Each case will be classified into a Case Mix Group. The IRF PPS utilizes a patient assessment instrument (IRF PAI), to classify patients into distinct groups based on clinical characteristics and expected resource needs. The FIM data set, measurement scale and impairment codes incorporated or referenced in the IRF PAI. This payment will be increased for outlier cases. Also, short-stay transfer cases will receive a payment for each day in the hospital plus a case-level payment equal to one-half of one day’s payment. But research already demonstrated the necessity to refine the instrument to predict costs. vv

Providers of skilled nursing services must comply with both the Prospective Payment System (PPS) eligibility criteria and the Medicare technical eligibility criteria. The PPS criteria are focused on the resources used in the care of the resident. The basic principles of PPS are comparable to those for IRF. The PPS reimbursement is an all-inclusive per diem rate. This rate is predetermined, adjusted for geographic differences in labour costs and case-mix. Adjustment for case-mix is based on the Resource Utilization Groups (RUGs). RUG is a system identifying 53 groups based on patient characteristics (e.g. presence of medical conditions and ADL score) and service use.

A rather important discussion at the beginning of this century, lead to an assessment of payment adequacy of the IRF. xx The major emerging issues from this assessment were: it is very difficult to assess who needs intensive rehabilitation in an inpatient setting, and maybe there is an opportunity to transfer people faster to other types of rehabilitation setting, for the follow up (outpatient, homecare, SNF) but it lacks clear tools to assess whether patients are treated in an appropriate setting. This issue of access and transfer is considered as an important one, though as rehabilitation can also be offered in other types, and less expensive facilities. The introduction of the new PPS seems to indicate that the length of stay within the IRF’s continues to reduce, while the medical outcomes remain comparable. Interesting is that the introduction of the PPS clearly lead to an increase in cost per case.

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uu [http://www.washingtonwatchdog.org/documents/fr/01/au/07/fr07au01-17.html](http://www.washingtonwatchdog.org/documents/fr/01/au/07/fr07au01-17.html)


8.7.3 Quality

An overview of quality and outcome measures for rehabilitation can be found xx.

The Federal Agency for Healthcare Research and Quality (AHRQ) of the Department of Health and Human Services is responsible for measuring the quality of health care in the United States. Since 2003, a yearly report, ‘the National Healthcare Quality Report’, has been issued on quality of services. At this stage, the clinical conditions discussed in the reports are not specifically linked to rehabilitation (e.g. cancer, diabetes, end-stage renal disease, HIV and AIDS, mental health) but it is intended to update the set of measures.

Quality of care in rehabilitation is not uniformly assessed across the United States and a variety of measurements is in use. The American Academy of Physical Medicine and Rehabilitation suggested five performance measurements which are focused on the level of the setting or the health care professional and are organized by external institutes yy.

The Commission on Accreditation of Rehabilitation Facilities (CARF), accredits the services of an organization based on preset standards. These differ by pathology (e.g. spinal cord, brain injury) and facility (e.g. hospital, outpatient). In total, 23 different programs are identified in the area of medical rehabilitation for which accreditation can be requested. Medical Rehabilitation programs include treatments for people who have had a stroke, brain or spinal cord injury, or pain that cannot be controlled by medication alone. Medical rehabilitation also includes return-to-work programs or occupational rehabilitation, which helps people regain skills they need so that they can return to work after an injury or illness. An organization seeking accreditation for a medical rehabilitation program must demonstrate the following:

- Service design and delivery that focus on the needs of the persons served.
- Assignment of designated, qualified, competent personnel to provide medical rehabilitation services.
- Program accessibility and designation of space for the provision of medical rehabilitation services.
- Accomplishment of predicted outcomes.
- Partnership with the persons served in decision making and the development of goals.
- A system of accountability that measures the success of the medical rehabilitation program by evaluating the outcomes achieved by the persons served.
- External communication to a variety of stakeholders regarding program performance.

The organization is asked to demonstrate to a survey team conformance to standards highlighting the organization's values and approaches in these areas. CARF standards are developed and revised through a series of panels, national advisory committees, focus groups, and field reviews:

- Core values and mission.
- Input from the persons served and other stakeholders.
- Individual-centered planning, design, and delivery.
- Rights of the persons served.


yy [http://www.aapmr.org/hpl/perfmeasure/pmr.htm](http://www.aapmr.org/hpl/perfmeasure/pmr.htm)
• Continuity of care.
• Quality and appropriateness of services.
• Leadership, ethics, and advocacy.
• Planning and financial management.
• Human resources.
• Accessibility.
• Health and safety.
• Outcomes management and performance improvement.
• Infrastructure management.

The Ambulatory Care Quality Alliance (AQA) provides a list of 26 quality indicators for peer review between settings.

The Joint Commission on Accreditation of Healthcare Organizations provides different core measure sets. Organizations enlisted in the program are enabled to compare their own performances with their peers. On the level of the health care professional, two performance measures are suggested. First, there is the 'Centers for Medicare and Medicaid Services – Physician Voluntary Reporting Program'. A list of 16 measures is asked to be reported which serve as a base for comparison between peers.

The ‘Physician Consortium for Performance Improvement’ which is part of the American Medical Association selected 96 performance measures on 17 clinical topics. As with the other systems, the variables are selected from electronic patients’ records and entered in a uniform database. Registered members have privileged access to the database to compare their own data with blinded grouped data from their peers.

As mentioned before, many other institutes provide similar services and are mainly based on the sample principle of comparison between peers.

http://www.aqaalliance.org/performancewg.htm
In the US, different facilities provide post-acute care rehabilitation services: Acute inpatient intensive rehabilitation services; Skilled nursing units (facility with a subacute unit); Skilled nursing facility (nursing homes); Inpatient rehabilitation facilities.

The vast majority of IRF’s are hospital based.

To qualify as an IRF for Medicare payment, facilities must meet Medicare conditions of participation for acute care hospitals and some additional criteria of which the most important is to have a preadmission screening process to determine that each prospective patient is likely to benefit significantly from an intensive inpatient rehabilitation program. Medicare IRF should have no less than 75 percent of all patients admitted with 1 or more of 13 specified conditions.

A prospective payment system (PPS) is used to pay for Medicare patient stays at inpatient rehabilitation facilities. IRFs are compensated for providing inpatient rehabilitation care based on a pre-determined amount per case according to the patient’s impairment, age, level of function and co-morbid conditions. The unit of payment in the IRF PPS is a Medicare-covered hospital stay (from admission to discharge).

For skilled nursing services the basic principles of PPS are comparable to those for IRF.

The IRF PPS utilizes a patient assessment instrument (IRF PAI), to classify patients.

Some initiatives exist on quality measures, but Quality of care in rehabilitation is not uniformly assessed across the United States and a variety of measurements is in use.

The Commission on Accreditation of Rehabilitation Facilities (CARF), accredits the services of an organization based on preset standards.

8.7.4 Example: Stroke

Accurate information on the current systems in stroke rehabilitation is difficult to obtain because the different health care providers, private and public, are not equally sharing their information. Post-acute care can be provided by home health agencies (HHA), skilled nursing facilities (SNF), inpatient rehabilitation facilities (IRF) or long-term care hospitals. HHA mainly provides therapy, nursing care and assistance from home health aides.

The main difference between IRF and SNF is the intensity of rehabilitation. Patients are eligible to be admitted in an IRF if they can sustain 3 hours of therapy while in SNF less intensive therapy is provided. Long-term care settings are focused on the provision of nursing care or constant supervision.
FIGURE 8.2: USA; DECISIONS ON DISCHARGE DESTINATION FROM ACUTE STROKE CARE SERVICES INVOLVE THE CLINICAL EVALUATION AS WELL AS SOCIAL INDICATORS OF THE PATIENTS
The majority of the patients are discharged home (50.3%, 2000), followed by discharge to skilled nursing facility (21.0%). However, also factors as geographical availability and the relationship between acute setting and IRF or SNF have been found to play a significant role in the decision on the patient being transferred to a SNF or IRF. The regional distribution of use of various types of post-acute care also shows much variation over the country.

For Medicare beneficiaries (not pathology specific), the use of SNF is the highest in West North Central, (61.8 discharges per 1000 beneficiaries in 1997) and the lowest in Middle Atlantic. For IRF, the highest use was measured in West North Central, the lowest in Pacific. For stroke, different referral patterns were found across the country. For example, in 1998, 74.5% of the Medicare patients who suffered a stroke were admitted to a SNF or IRF while this was 62.6% in East and West South Central. It was suggested that these differences were caused by several forces: practice styles, supply of services and local regulatory practices.

The median length of stay in inpatient rehabilitation setting (SNF and IRF combined) was 16 days in 2001 and significantly lower than in 1994 (26 days). Additionally, large differences are found between the different systems of health care providers. A comparative study between IRF of the Veteran Affairs (VA) versus non-VA IRF revealed a higher length of stay, a higher functional outcome and lower community discharges in the VA-system. Financial incentives to decrease the length of stay over time are considered as one of the main drivers behind this phenomenon. Ottenbacher et al. found that this was accompanied with an increase of mortality in the post-discharge period. The authors could not pinpoint an explanation for this finding. The discharge destination from inpatient rehabilitation settings are mainly to the community (67%) or to a long-term facility care (12%).

The presence of various health care systems and different stakeholders and agencies results in fragmented health care delivery leading to suboptimal treatments and inefficient use of resources. The American Stroke Association’s task force recognized this problem in a recent report and formulated recommendations to establish a more ‘integrated system coordinating patient access to the full range of activities and services associated with stroke prevention, treatment and rehabilitation…’ A general recommendation was that a stroke system should ensure effective collaboration between agencies. Also a standard approach in stroke care was recommended as well as performance measures on process and outcome of care should be identified. However, the recommendations lack the concrete suggestions how to establish such stroke systems. In the meantime, it was suggested that international comparative research in stroke rehabilitation could offer opportunities to study different care systems in the efficiency.
8.7.5 Example: Spinal Cord Injury

In general terms, the care trajectory after the acute event of a spinal cord injury (SCI) goes through acute care into rehabilitation and further back into the community or to a setting of chronic care.

No indications were found on the eligibility of acute hospitals to admit SCI patients. However, due to the status of emergency, patients may mainly be transferred to acute hospitals providing tertiary or high secondary services, the so called ‘referral hospitals’. These can provide care to patients with multi-system failure or in need of neurosurgery. The rehabilitation phase mainly follows subsequently the stay in the acute care setting. It is expected that the SCI patients will be mainly transferred to IRF settings. All IRF settings are eligible to admit SCI patients as there are no legislations in place which preset criteria. Moreover, SCI belongs to the list of 13 diagnostics eligible for the 75% rule in the PPS regulation implemented by CMS for IRFs.221

On the other hand, there are initiatives to facilitate rehabilitation settings to specialize in programs for SCI patients. First, there is the program of the Rehabilitation Services Administration, currently funded by the National Institute on Disability and Rehabilitation.222 It focuses on the development of a comprehensive service delivery system for patients with a spinal cord injury which also included a long-term follow after inpatient stay. In 1970, a first model spinal cord injury system (MSCIS) was granted. Since then, the number of hospitals that were offered support to further develop this integrative system was increased to 16 centers nationwide. Support is provided for five years. After each half a decade all hospitals need to reapply for this type of support.

This program also includes a collaborative national database on demographics and outcome after rehabilitation as well as information on follow-up status. Currently, data are available on 30,532 subjects and one of the major strengths is the standardized collection of patient-related and injury related information. The mean length of stay (LOS) in the acute care unit was 18 days in 2003 (most recent complete data). This represented a small increase since 1997 where the mean was 13 days. In most years, the LOS of patients with tetraplegia do not differ much with the average LOS of patients with paraplegia (19 days vs. 16 days, respectively). Mean LOS in rehabilitation was measured at 45 days. In 1974, this was 115 and has declined since then. In contrast with the acute stay, large differences are found in average LOS between tetraplegic and paraplegic patients. The mean LOS of patients with tetraplegia was measured at 51 days while patients with paraplegia had a mean LOS of 36 days in the rehabilitation unit.224

Accreditation can be considered as a second initiative to facilitate rehabilitation settings to provide a specialized, integrative program. In total 90 centers are certified by CARF fulfilling the requirement in excellence of practice.225

The discharge destination after the rehabilitation phase is mainly the private residence (88.1% (NSCISC data) and 92% [3]) followed by nursing home (4.1%).

Besides the MSCIS, no other information on establishing formal networking across settings was found. The trajectory of care is mainly driven by the freedom of choice, moderated by insurance regulations. In a system of ‘fee for service’ the patients have more complete freedom to choose their own providers of care. In models as ‘Managed Care Organizations’, ‘Health Maintenance Organizations’ and ‘Point of Service Organization’ the policyholder is limited in choosing health care providers by the list of preferred providers determined by the insurer.
8.7.6 Example: Total Hip Replacement

Prior to the introduction of the pre-paid system, patients undergoing total hip replacement remained in the acute hospital until they could be discharged home. Due to the increasing financial pressure on acute settings, leading to a reduction of length of stay, referral to inpatient rehabilitation services increased significantly as functional recovery was not established in the acute hospital. Rehabilitation is offered in various facilities: inpatient rehabilitation facilities (IRFs), Skilled Nursing Facilities (SNFs) or long-term care hospitals (LCTH).

Currently, referrals to post-acute facilities are not regulated and there are no criteria implemented defining patients eligible for particular services. Decision-making on discharge disposition is made by the physician in the acute hospital. In most cases, a discharge planner will be involved assuring a smooth transition into post-acute care setting. Percentages of patients being discharged to one of the post-acute services vary between 33% and 58%, mainly depending on the age of the studied group. However, the specific destination is more influenced by non-clinical factors. In a recent study by Buntin et al., availability of the post-acute facility as well as the network of the acute hospital were better predictors for discharge destination than any clinical indicator.

As service delivery varies largely between these post-acute facilities, it is expected that outcome will vary considerably. Recent studies showed superior outcomes for patients admitted to IRFs in comparison to SNF-patients. The hypothesis is made that this is due to the more intensive rehabilitation programs in the IRFs. The average length of stay varies between 10 days and 13 days mainly dependent on the need for revision surgery and age.

8.8 INTERNATIONAL COMPARISON

8.8.1 A basic schematic comparison of the different countries

Based on the information gathered we tried to schematically synthesise the organisation of musculoskeletal and neurological rehabilitation for the five different countries. As can be expected, we do not claim that these schemes cover all details and nuances. They are made as a tool for a quick comparison, and as a stepping stone for the recommendations in the final chapter.
8.8.1.1  The Netherlands

8.8.1.2  France
8.8.1.3  Germany

8.8.1.4  Sweden
8.8.2 Summary assessment

The organisation of rehabilitation facilities has to be understood against the background of historical policy choices in organisation, financing and health insurance issues, economic constraints and societal values and preferences of the entire health care system.

(Policy-)Reflections on the organisation of the rehabilitation sector, are being linked to conceptual issues about the role of rehabilitation. Policymakers are aware that more clear conceptual delineation of issues related to rehabilitation, is needed to streamline the health care organisation.

A well-defined framework for developing trajectories of care and integration of health services is not to be found in the countries studied. Although, it becomes apparent that similar reflections are taking place in order to realise an optimal use of the different kinds of health care services.

The debate about organising rehabilitation services is mainly focussing on the clear identification of the roles of services playing a role in acute care and treatment, rehabilitation and long term care.

In the different countries similar types of health services are identified as playing a role in rehabilitation. In general terms a distinction is accepted between different types of rehabilitation (related to the purposes and the patients (medical) needs).

The important challenge for most countries is now to identify timeslots for each phase and each type of rehabilitation care needed in these time slots. The criteria put forward to define the use of the facilities depend on the local availability of services, the rehabilitation purpose and the medical needs of the patient.

All the countries studied struggle to translate the different dimensions of rehabilitation targets in organisational facilities. A clear trend is emerging however: rehabilitation policies focus on a clear delineation between the content (and intensity) of rehabilitation, the phases of rehabilitation and the aims of rehabilitation interventions, in order to identify the roles or organisations and providers. Moreover, these roles have
to be identified in the logic of “trajectories of care” with “phases” and fitting in organisational “networks” or “chains of care”.

Some countries try to conceptually differentiate between “general rehabilitation”, “general multidisciplinary rehabilitation”, “complex multidisciplinary rehabilitation”, and “top reference multidisciplinary rehabilitation”. This distinction is based on the particular needs of the patients. Organisations and providers are being identified to fulfil tasks on this gradients. The planning of these centres is ought to be fitting with geographical and epidemiological characteristics. The functioning of these different types of facilities should be adapted to the logic of rehabilitation trajectories” in “networks” or “chains of organisations”

In all countries it can be observed that some centres function as “reference centres” for specific pathologies. They develop specific competences and knowledge related to specific disorders. However, these centres are not exclusive to a certain pathology. Neither does it mean that other centres cannot service similar pathology groups, especially if a limited number of rehabilitation centres serve a region. All centres offer rehabilitation support for different types of musculoskeletal and neurological problems (with maybe as a sole exception for MS).

In some countries the access to rehabilitation is controlled through the aims of rehabilitation. In Germany and the Netherlands, aged groups have a bigger chance to have a different facility providing (less intensive) rehabilitation.

Other facilities, can provide a certain level of medical and paramedical rehabilitation, but focus more on the longer term social aspects of rehabilitation. They mainly play a role in the provision of (inpatient or ambulatory) support for those who are unable to live independently.