Research programme:

From disease to daily living
- Centre of Research in Rehabilitation (CORIR)

Department of Clinical Medicine, Aarhus University and Aarhus University Hospital, Denmark

2010 – 2016
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Aarhus University Hospital
Preface
This research programme is the overall framework for health research conducted by persons with a medium-cycle higher education. The research programme describes the strategic focus on clinical research at Aarhus University Hospital, from molecule to human being. It is obvious to focus on rehabilitation as it involves the professional and multi-disciplinary effort by health professionals, and because rehabilitation involves the entire patient pathway.

The research programme intends to support and stimulate formation of networks between researchers with different health professional and health scientific backgrounds to further develop and use qualifications in the best possible way.

The research programme does not intend to limit research freedom, the researcher’s right to choose clinical research areas and to challenge established ways of thinking within clinical practice. Rehabilitation is to be understood in a broad sense, which provides the opportunity to critically pursue own ideas and clinical problems in connection with research.

To increase research activity among staff with a medium-cycle higher education requires a long-term and persistent effort especially because there is no tradition to conduct scientific work in these groups of health professionals. It is my hope that this strategic research effort will improve rehabilitation of patients in contact with the hospital.

It is essential that the research programme is operationalised with concrete protocols and research projects. The research programme will be an overall framework where concrete clinical research projects can be planned, initiated and implemented.

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**Introduction**

This research programme covers “from disease to daily living”. This means the ability to perform activities of daily living, and to live a meaningful life similar to other citizens. The theme of the research programme is rehabilitation of all patients in contact with the hospital. This theme has been selected because it involves all health professions, it focuses on the patient pathway and it offers the possibility to conduct both disciplinary and multi-disciplinary research. Rehabilitation encompasses health promotion, prevention, examinations, diagnostics, nursing, treatment as well as physical training and exercising.1 (www.sst.dk)

The research programme emphasises research conducted inside the hospital, in close relation to clinical practice and patients. Research into rehabilitation facilitates studies within own profession. Additionally, a multi-disciplinary research team using different scientific competences can conduct clinical research.

The research programme is not limited by a specific approach to research. The research question decides the choice of method. Studies must be clinically relevant, must benefit patients, and include the most recent initiatives in health technology and health informatics - e.g. telemedicine.
Background

Through the last decade, length of stay at hospitals has been reduced. The reduced length of stay and increased number of out-patient services require an optimized effort before, during and after hospital contact to ensure sufficient rehabilitation. The research programme thus calls for close cross-sectorial collaboration.

A university hospital has a special obligation to conduct research at international level. Approximately 42,000 patients (2010) are annually admitted to Aarhus University Hospital, for highly technological and highly specialised diagnostics, treatment, care and physical training. Moreover, the hospital has extensive day surgery and out-patient activities. Aarhus University Hospital is obliged to provide patients with optimal, evidence-based treatment and care in close collaboration with Aarhus University. Thus it is important that the strategy for the Faculty of Health Science at Aarhus University reads “Research will be intensified in prevention, health promotion and rehabilitation”.

The programme „Healthy Throughout Life“ from the Danish government suggests a broader and more holistic approach to create coherence between the effort of health professionals and the individual. Social inequality is a huge challenge for the future healthcare service system. It makes it necessary to organise the work as patient pathways and to collaborate in multi-disciplinary teams. Lack of multi-disciplinary efforts has consequences for e.g. diagnostics, quality of treatment, use of resources, and efficiency but also for the quality experienced by the patient. Therefore, it is important that strengths and competences among health professionals supplement each other. Coherent patient pathways demand a joint effort and common goals for the staff groups involved. The establishment of a research programme focusing on rehabilitation makes it possible for Aarhus University Hospital, to initiate, investigate, compare and test coherent pathways for patients and relatives. A strengthening of research among professionals with a
medium-cycle higher education is thus a significant contribution to generate knowledge of the effect and consequences of the future health professional performance.\textsuperscript{3,9}

**Purpose**
The purpose of the research programme is to promote research-based patient rehabilitation by:

- Generating knowledge about the coherence between the patient’s condition and the importance of the rehabilitation effort during the course of disease
- Generating knowledge about the effect and consequences of a cross-sectorial and a multi-disciplinary effort
- Creating coherence between research projects and actual clinical practice

Additionally, the purpose is to

- Develop networks between new and existing research environments
- Establish multi-disciplinary and international research environments
- Create a clear and inviting research frame for future researchers

**Conceptual framework**
In Denmark, there is an increased interest in rehabilitation as the outcome of rehabilitation has benefits for both people and society. In the "White paper on the concept of rehabilitation", rehabilitation is described as a process involving the patient’s everyday life, surroundings and conditions of life. Moreover, the rehabilitation must be evidence-based and include multi-disciplinary and cross-sectorial efforts. Rehabilitation is thus understood as an evidence-based practice covering the entire patient pathway as well as cross-sectorial transitions.\textsuperscript{3,9}

The Danish National Board of Health defines rehabilitation as: "A health activity including elements of both prevention and health promotion. The
The purpose is to ensure that the patient, who is at risk of experiencing limitations in physical, mental and social abilities to function, obtains an independent and meaningful life". (www.sst.dk)

Habilitation is based on the same foundation as rehabilitation but differs in the sense that it concerns children and adolescents with a congenital or early-acquired loss of functioning.

Rehabilitation and habilitation are characterised by being multi-disciplinary and comprise several sectors, professions and specialities.\(^3,10\)

The model for rehabilitation in The International Classification of Functioning, Disability, and Health\(^11\) (ICF) made by WHO is used as the frame of concept for the research programme. The model is based on integration of a bio-psycho-social thinking with the purpose of obtaining a synthesis between different dimensions of health and disease on the biological, individual and social level. The model is used to describe how people live with their health condition (Figure 1, p. 14). Concurrently, an evaluation of personal and social resources is included.\(^11\) (see also note \(^a\)). The model is used as an international framework in rehabilitation research\(^12\), and is well integrated in the process of rehabilitation.\(^13\)

\(^a\) An international classification is part of the model. The aim of the classification is to form a basis for a common and standardized language as well as a conceptual framework to describe health functional ability and associated conditions. ICF includes a terminology which can be used across professions, and sectors.\(^11\)
Content of the research programme
The research programme comprises all types of studies and research methods investigating rehabilitation of both in- and out-patients at Aarhus University Hospital. In the research programme patients in contact with the hospital are included. The research programme also encompasses research projects shedding light on the organisational and economic analyses of rehabilitation.3

Organisation
The coordination of the research programme will be ensured through a programme management group. Kristjar Skajaa and Head of Department of Clinical Medicine at Aarhus University is responsible for all clinical research at Aarhus University Hospital, and head of the research programme. The programme management group includes professors and other staff from the clinical departments at the hospital with interest in the programme, and representatives from Aarhus University. The research programme and the coordination hereof are rooted at Department of Clinical Medicine, Aarhus University. The establishment of the research programme has a time frame of at least six years.

All participants within the research programme have an obligation to publish their results in peer-reviewed journals. It must appear from articles and other material that the project in question is a part of the research pro-
gramme (Centre of Research in Rehabilitation (CORIR)) at the Department of Clinical Medicine in collaboration with the clinical department where the research project is initiated.

**Milestones**

In the long term, the research programme will attract national and international researchers and increase the number of new researchers (PhDs) and research-qualified staff (masters and candidates).

The research programme has the following milestones:

- **2010-2012**
  - 2 PhD students
  - 4 master and candidate students
  - 2 bachelor students
  - 1 guest professorship

- **2012-2014**
  - 3 PhD students
  - 6 master and candidate students
  - 4 bachelor students

- **2014-2016**
  - 4 PhD students
  - 6 master and candidate students
  - 6 bachelor students
  - 1 Professor in clinical rehabilitation

**Collaboration and network**

The aim is to establish collaboration with the best and most relevant national and international researchers within the area of rehabilitation. This includes i.a. international guest lecturers, guest professorships and close collaboration with the Faculty of Health Science, Aarhus University.
**Financing**

The research programme demands extensive financing expected to be covered by public and private funding. The programme management will make a plan of distribution of funds to the research projects involved in the programme.

The research programme is expected to establish facilities supporting method development within the medium-cycle higher education programmes such as laboratory facilities, examination rooms as well as exercise, training, and test facilities.

**Ethics**

All projects will comply with the Helsinki II Declaration. If relevant, the projects will be approved by the Central Denmark Region Committees on Biomedical and Research Ethics, the Danish Data Agency, Clinical Trials Gov Identifier and the GCP-unit at Aarhus University Hospital.
Perspectives

The research programme is expected to be of crucial importance to in- and out-patients at Aarhus University Hospital, through reduced morbidity and mortality and improved functional ability and quality of life. Moreover, the programme is expected to have socio-economic consequences, as it will contribute to optimal use of resources.

In addition, the programme is expected to constitute a unique potential for conducting extensive multi-disciplinary research. Moreover, it is of considerable importance to the research collaboration between Aarhus University and Aarhus University Hospital.

Furthermore, the programme will coordinate and develop the health professional research effort and contribute to ensuring evidence-based practice. It will raise the scientific level among researchers with medium-cycle higher educations.

Finally, the programme is expected to promote formation of networks among clinical researchers nationally and internationally, and to establish facilities and a research environment to facilitate method development.
Reference

Figure 1. The conceptual framework of the research programme “From disease to daily living”.

Model in the International Classification of Functioning, Disability and Health (ICF).

The ICF model for rehabilitation is used as the conceptual framework in the research programme “From disease to daily living”, Centre of Research in Rehabilitation (CORIR) at Aarhus University Hospital. The model is based on integration of a bio-psycho-social thinking with the purpose of obtaining a synthesis between different dimensions of health and disease on the biological, individual and social level. The model is used to describe how people live with their health condition. Concurrently, an evaluation of personal and social resources is included.