**Development of a model for organisation of and cooperation on home-based rehabilitation – an action research project**


## Abstract

### Purpose

To use general policy guidelines and staff experience of rehabilitation work in two boroughs in Oslo to develop a model for organisation and cooperation in home-based rehabilitation.

### Method

The project was conducted as a collaboration between researchers and employees in the two boroughs. It was a practice-oriented study designed as an action research project combining knowledge generation and improvement of practice. Data were collected at seven meetings, and individual, qualitative interviews with a total of 24 persons were conducted in the period February 2010 to June 2011.

### Results

Home-based rehabilitation occurred rarely in the boroughs, and this field received little attention. However, this project provided a broad discussion of rehabilitation involving all parts of the organisation of both boroughs. In the course of the project, researchers and borough staff together developed a model for the organisation of and cooperation on rehabilitation including a coordinating unit assigned the paramount responsibility for the rehabilitation and an interdisciplinary team organising the collaboration on the practical level.

### Conclusions

When implementing a model like this in primary health services we recommend involving several levels and service locations of the borough staff in order to legitimise the model in the organisation.

## Introduction

Demographic changes in much of the world are resulting in an increased number of older people with chronic diseases. This implies a growing need to control the costs of healthcare services [1]. Better utilisation of resources and better coordination between the different branches in the health service are needed. The Norwegian healthcare system is divided into two separate governmental levels: the specialist and the primary healthcare systems. Norwegian hospitals are organised within the specialist healthcare system, while the municipalities hold the responsibility for primary health services. The two levels act in accordance with different laws and regulations, and the coordination between the two levels is a challenge. The Coordination Reform was introduced in Norway on 1 January 2012 as a means of improving cooperation in the healthcare system [2]. The reform transfers responsibilities and resources from central to local government. The aims are fewer hospitalisations with the aid of better prevention, improved and more "holistic" clinical pathways, and more patients obtaining their health services through the municipality. This implies increasing emphasis on rehabilitation in the primary health service.

There is as yet no full or widely used definition of rehabilitation, but a model of the process has been proposed [3]: rehabilitation is an educational, problem-solving process that focuses on activity limitation and aims to optimise patient social participation and well-being, thus reducing stress on the carer/family. Rehabilitation has moved away from the original medical model, and more emphasis is now placed on the users' own goals in the rehabilitation process and on them being given help to formulate a different understanding of their situation within a new framework [3,4]. User participation is vital. When more patients are to obtain their health services through the municipality [2], more emphasis must be placed on rehabilitation in the patient's home. Home-based rehabilitation makes it possible to base the rehabilitation process on daily activities in home surroundings, and to make use of local

services in the rehabilitation process. This makes it easier for the patient to resume earlier activities, possibly adapted to a new situation [4]. For older patients, home-based rehabilitation appears to be as effective as rehabilitation in a care home, in hospital or in a day hospital [5,6]. The benefit of rehabilitation is best documented for stroke patients [7,8,9,10]. Home-based rehabilitation seems better than usual home care, and intensive home-based rehabilitation is better than non-intensive [11]. Coordinated services are necessary, and interdisciplinary community stroke teams are to be preferred [12,13,14]. Other patient groups also seem to benefit from rehabilitation: patients with Parkinson's disease [15], various neuromuscular disorders [16], dementia [17,18] and those requiring rehabilitation following joint replacement at the hip and knee due to chronic arthropathy [19]. Older adults with musculoskeletal conditions seem to have equal or higher gains from home-based rehabilitation compared with inpatient rehabilitation [20]. The fact that home-based rehabilitation has not been documented as inferior to rehabilitation in a care home or hospital environment with regard to older persons' rehabilitation outcomes [5], suggests that this type of rehabilitation is quite safe for older patients.

According to the Norwegian Health and Care Act (author's translation) [21], Norwegian municipalities are required to provide rehabilitation services. Rehabilitation is described as *time-limited, planned processes with clear aims and means, where a number of actors cooperate to provide necessary assistance to the user's own efforts to achieve optimal functioning and mastery, independence and participation socially and in the community* [22]. Since 2001, users requiring coordinated services have had a statutory right to an individual care plan, and since 2012 to a personal coordinator. Since 2001, a coordinating unit (CU) for (re)habilitation in the municipalities has been stipulated by law.

**Aim**

Knowledge of what is appropriate organisation of rehabilitation work in the municipality is necessary for a good rehabilitation service. This project aimed to use general policy guidelines and staff experience of rehabilitation work in two boroughs in Oslo to develop a model for the organisation of and cooperation on home-based rehabilitation.

**Material and method**

The project was conducted as a collaboration between two researchers (the two first authors) and employees (one of whom is the third author) in two Oslo boroughs. Rehabilitation of stroke patients was chosen as an example because the illness has a sudden onset, is reasonably clearly defined and has a high prevalence. Furthermore, stroke rehabilitation has a well documented effect. The principles for rehabilitation are the same irrespective of the type of illness or functional disorder, and the results of this study are therefore assumed to have transferability for rehabilitation work in general. We collaborated on the study with the Norwegian Association for Stroke Survivors, who contributed user experience at three meetings. According to the wishes of the boroughs, the project was limited to home-based services. As parts of the City of Oslo municipality, the two boroughs are organised in the same way. Home nursing and practical assistance are organised according to a purchaser-provider split, the ideal being to have a clear distinction between those who assess the need for a service and determine the scope of the services and those who provide the services in practice [23]. The office placing the purchase order makes a decision regarding home nursing and practical assistance, while referrals for physiotherapy and occupational therapy services come directly in both boroughs. In both boroughs a coordinating unit for rehabilitation was located in the purchasing office, but this was on the whole unknown to the providers, and the units' tasks were described very vaguely.

With our departure point in an understanding of rehabilitation as an educational, problem-solving process that focuses on activity limitations and aims to optimise patient

social participation and well-being [3], we chose to conduct a practice research study with an action research design that combines knowledge generation and improvement of practice [24, 25]. The two key objectives – to obtain knowledge about rehabilitation and to develop sound strategies for rehabilitation work – are synthesised in a cycle of activities in which each phase learns from the previous one. Working with the boroughs, the researchers took the general policy guidelines for rehabilitation as the point of departure. We acquired knowledge of rehabilitation work in practice in the boroughs through meetings and interviews carried out in the period February 2010 to June 2011. The meetings were arranged at our initiative and functioned as a combination of work meetings and focus group interviews at which the participants answered questions from the researchers and discussed the topics amongst themselves. In the first phase the focus of investigation was on the 'what is the problem?' question: how should the borough's work and cooperation on rehabilitation be conducted and organised? At the first meeting, the questions group participants were asked included describing which aspects of rehabilitation they were successful with and which they were less successful with. The second phase was the discussion, and the third was the researchers' bringing back their interpretation of the situation and opening up their analysis for those involved and letting them judge. The next phase was the action, carrying out the tasks we had agreed upon, followed by the evaluation of the action. These phases constitute an action cycle. On the basis of discussions and reflections at the meetings, specific areas were selected for further work in smaller work groups of borough employees in collaboration with the researchers. These proposals were then discussed in the group as a whole. For example "insufficient interdisciplinary work in practice" was one of the themes identified in the first group meeting in Borough B. Our work on this topic through one action cycle is illustrated in figure 1.

*Insert figure 1 about here*

Other topics identified and worked on in other action cycles were for example "anchoring rehabilitation in the organisation", "who is to be rehabilitated" and "who is to carry through the rehabilitation process". The constant addition of new cycles forms an action spiral. The knowledge accumulated by the researchers was constantly brought back to the participants at meetings where we worked together to shape areas for further work in the project and strategies for this work. Individual interviews were conducted in parallel with the meetings throughout the project period. Experience and views that emerged at meetings and through interviews with employees and managers in the knowledge generation process were used in this way to further develop rehabilitation work and a rehabilitation model.

Borough A chose to end their collaboration with us after one year, while the collaboration with Borough B was accomplished as planned.

*Meetings*

We held four meetings with the whole group in one borough, three in the other. Seven to ten employees attended. Representatives of the purchasing office, providers of home-based services and managers at different levels attended the meetings. Various professional groups were represented: nurses, auxiliary nurses, home helps, physiotherapists, occupational therapists and social workers. Many participants in the meetings had never met. Between these meetings we sometimes met employees in smaller groups working on specific issues.

*Individual interviews*

Altogether 24 persons were interviewed (see table 1): 15 employees in the boroughs, five employees in two nursing homes, two in two hospitals and two general practitioners (GPs). Four informants were interviewed twice.

*Insert table 1 about here*

Seven of the informants were managers/middle managers. Nineteen women and five men were interviewed. The informants were selected with the aid of a contact person in each borough with a view to obtaining the widest possible spread of field of work, occupational background and representatives from among both managers and practitioners. All the informants had many years of experience from their own field of work.

We also wanted to interview actors who cooperated on a specific rehabilitation case, preferably a stroke patient, alternatively a patient with another diagnosis if a stroke patient was not found. In one borough a patient who had been rehabilitated at home was found after nine months; in the other borough none were found in the course of one year. Eight of the 24 informants were interviewed about the rehabilitation of a relatively young woman who had suffered a stroke. No personal data were collected.

Before the interviews, we developed interview guides with topics such as what rehabilitation in the borough is, what it ought to be and cooperation on rehabilitation. The interviews were recorded on digital recording equipment and transcribed virtually word for word. The application was submitted to the Regional Committee for Medical and Health Research. The project was not found to be part of the Committee's mandate since it is not regarded as medical or healthcare research conducted with the purpose of generating knowledge about illness or health. The project was approved by the Norwegian Social Science Data Services.

*Data analysis*

Our qualitative data consisted of interview transcripts and records from meetings. They were analysed using a systematic text condensation method consisting of four steps [26]. The first step was to read all the material to obtain an overall impression. We then re-read the material and noted relevant topics that were discussed at meetings and interviews, identified meaning-bearing units associated with the topics, coded them and assembled them in code groups under their respective headings. In the third step of the analysis we condensed the contents of each code group. The last step was to condense the texts into accounts – an analytical text – that constituted our results. Telling remarks were selected to illustrate our points.

## Findings

*The lack of home-based rehabilitation in the boroughs*

When the researchers asked employees at interviews to talk about the rehabilitation work in the borough, the majority, in both boroughs, immediately described rehabilitation at the municipal nursing home. They related that patients are seldom rehabilitated in their homes, and our experience of it being so difficult to find a patient who was rehabilitated at home illustrates this. According to the hospital employees, home-based rehabilitation seldom occurs in the other boroughs/municipalities in the catchment area of the two major university hospitals they represented either.

Considerable disagreement as to what home-based rehabilitation is and what it ought to be emerged at both interviews and meetings in both boroughs. There were distinct differences between what the different occupational groups understand by rehabilitation; physiotherapists and occupational therapists in both boroughs, at nursing homes and in the

primary health service, largely indicated a shared understanding. They pointed out that rehabilitation must consist of defined, targeted processes where a number of professional groups, preferably at least three, work across disciplines towards a common goal, and that there must be a plan for attaining the scheduled goals. The plan was indicated as being a good starting point for evaluating achievement of goals and for determining whether the rehabilitation should be continued or concluded. The importance of helping the patient to re-establish participation in the community before the end of the rehabilitation process was stressed.

Opinions among the nursing staff were divided. Several nurses called it rehabilitation when physiotherapists trained patients after a femoral neck fracture, but others disagreed and were of the opinion that more than two services had to be involved in rehabilitation. A number of the informants described rehabilitation as training the user to do things alone, and said that the goal of rehabilitation is for the user to become self-sufficient. Many were not so concerned with defining and delimiting rehabilitation, and some – particularly managers and representatives of the purchasing offices – were of the view that such delimitation is inadvisable. One purchaser said:

*"As I see it, here is a person with various needs. What can we do to enable them to manage as well as possible from day to day and be as self-sufficient as possible over time? Do we have to be so concerned with definitions? Isn't it more important to look at the unique situation of each individual, and manage to stand back and not help too much?"*

One manager, a nurse, put it like this:

*"I think it's unnecessary to delimit rehabilitation as a special activity. As I see it, home-based rehabilitation is that our users manage to live in their own homes as long as possible – that*

*they manage to maintain their functional level with the aid of the healthcare service around them, if the healthcare service functions and manages to cooperate."*

Several stressed that it is difficult to bring in the theme during times with tight municipal budgets because rehabilitation is perceived as resource-intensive. A physiotherapist said:

*"I think we'll be suspected of wanting more resources if we talk about rehabilitation."*

It emerged from the discussion at the meetings in both boroughs that in the course of the project many employees who were not previously particularly involved in rehabilitation work gained a clearer idea of rehabilitation as a field of activity and an awareness that participants had varying views on what rehabilitation is. In Borough B they nevertheless concluded in the course of the first two meetings that it was necessary to have their own definition of what rehabilitation should be in this borough. Many maintained, at both meetings and interviews, that an adopted definition that delimits and clarifies rehabilitation and that everyone can relate to will save a lot of time and many pointless discussions in pertinent situations.

*Interdisciplinary cooperation and user participation*

In interviews and meetings in both boroughs informants stressed good interdisciplinary cooperation as a condition for rehabilitation. A positive cooperative climate and considerable willingness were described, but several stressed inadequate structures and routines for cooperation in the boroughs. Many interviewees voiced a need for a visible coordinating function with overall responsibility for ensuring that all those who work on the rehabilitation of a patient work towards the same specific goal.

In the specific rehabilitation case we followed in Borough B, all the services were in place from the start, but they were not coordinated, and several informants described much parallel work. The occupational therapist stressed that because of inadequate cooperation, they failed to communicate a perspective on rehabilitation to all parties who provided services for the user during the rehabilitation phase:

*"I think we have wasted some opportunities because of lack of cooperation. For example, my job could have been more targeted in collaboration with the speech therapist. We also see that the patient gets help with things she has practised doing with me, and that she manages fine on her own, instead of attempting to maintain these skills."*

Two service providers contributing in the rehabilitation case told us that the project and the attention that has been focused on this rehabilitation case had made them more aware of what rehabilitation is, and what the joint effort means for the patient's recovery process. The general practitioner involved in the rehabilitation case was interested in collaboration, but pointed out that due to time pressure he was not able to attend all the meetings in the patient care team.

Many informants stressed user participation as essential in rehabilitation work, and the employees in both boroughs were concerned with having the users involved in decision-making processes. However, individual plans for users and organising cooperation into patient care teams were rare in the home-based services because they were regarded as work-intensive. A patient care team and an individual rehabilitation plan for the relevant patient were not established until several months later, and the patient/close family was not involved in working out the plan. One informant pointed out that by that time they should already have evaluated the effectiveness of the rehabilitation, and perhaps finished it. A number of

informants spoke of busy days and the difficulty of getting staff to be coordinators and to draw up a plan. A recurring theme in the Association for Stroke Survivors was that their families felt a need for a named person that they could contact through the course of the rehabilitation.

Framework conditions that make cooperation on rehabilitation cases difficult were pointed out at interviews and meetings. Above all, many drew attention to the fact that the home-based service's purchaser/provider organisation has a number of unfortunate consequences. One said:

*"It's a problem that home nurses work according to decisions taken by others than the providers of the services, and they aren't allowed to do anything other than what is stated in the decision. Needs change constantly during a rehabilitation process, and decisions have to be constantly altered – on application – by the service providers. We have to deal with a lot of red tape in order to get anything done. Everything has got so cumbersome since the purchaser-provider organisation was brought in."*

The time pressure in the home-based service was also stressed. Many employees at both meetings and interviews expressed a need for more time for collaboration and more meeting places because cooperation is contingent on the parties knowing each other and each other's responsibilities and competencies. Many believed that regular interdisciplinary meetings are a prerequisite for good rehabilitation work. Some regarded it as a problem that electronic communication is appreciated in order to reduce face-to-face contact. One said:

*"I think it's a pity that we are to collaborate on Gerica (the computerised patient records system). As a result, people don't know each other, and there's little flexibility."*

Another problem was pointed out as well: it is only possible to take individual decisions in Gerica, and the various professional groups draw up their own plans. This makes it difficult to coordinate the various measures in a single rehabilitation programme and develop a joint individual rehabilitation plan.

*Resources and competencies*

Competency was a recurring topic at interviews and meetings. The need for provider services to possess competencies specifically in rehabilitation was stressed by occupational therapists and physiotherapists in particular. In both boroughs it was pointed out that the purchaser had limited rehabilitation expertise. The purchaser related that as a rule they had a first meeting with patients while they were in hospital to assess the needs of the patient concerned for services. In both boroughs, physiotherapists and occupational therapists are very seldom present at these assessment visits. This means there is a risk that potential rehabilitation patients are not identified.

In the interviews and meetings in both boroughs the significance of limited resources was pointed out. Several informants said that rehabilitation could be desirable, but that it was assumed to be resource-intensive and therefore difficult in the present reality. A home-based services manager expressed it as follows:

*"We have to keep to the budget. Occupational therapists and physiotherapists can't work on their own with rehabilitation; there has to be anchorage at the top. We can identify users with rehabilitation potential, but how much are we willing to invest in them? What will it cost? We can provide a limited number of hours per month, and the numbers approved by the decisions must not exceed this limit."*

The purchasing office confirmed that the home-based service must not provide assistance in excess of what the user needs. Several people pointed out as a possible dilemma that there may be discrepancies between the rehabilitation professionals' assessment of needs and the purchaser's responsibility for decisions and resources.

**Discussing rehabilitation and developing a model for rehabilitation work**

As a result of constant discussions on what rehabilitation is and how it is to be organised, the topic received considerable attention in both boroughs. Representatives of various services and offices and different levels in the organisation were involved. Also in Borough A, which wanted to terminate the collaboration with us, rehabilitation was put on the agenda. They chose to keep to the official definition of rehabilitation and to conduct a rehabilitation project on their own that covered a limited number of patients who were to be rehabilitated in their homes. In Borough B, the field of rehabilitation underwent distinct development during the project period. The employees discussed and agreed on criteria for those who are to be rehabilitated: persons with loss of physical function but with potential/motivation and a functional level sufficient to enable improvement of function, and with a need for at least three services.

They also developed a model for the organisation of and cooperation on rehabilitation with the interdisciplinary work organised in a rehabilitation team and with the rehabilitation anchored in the organisation via a coordinating unit.

*Coordinating unit*

The need for someone to have the paramount responsibility for rehabilitation in the borough was a recurring theme at the meetings and interviews in both boroughs. In borough B a prominent and well defined coordinating unit (CU) was developed in the course of the project period. The unit was located in the purchasing office and was given a clear systemic responsibility for routines and training in the areas of cooperation on users requiring coordinated services, individual plans, patient care teams and coordinator. In addition, the CU was required to maintain an overview of the rehabilitation service in the borough. We think this is a suitable way of organising rehabilitation in a borough/municipality. On the individual level, the CU's responsibility ought to involve receiving all communications concerning the need for home-based rehabilitation and initiating interdisciplinary cooperation by contacting the rehabilitation team, which has the responsibility for the further rehabilitation work and cooperation on the practical level (see figure 2).

*Rehabilitation team*

Several informants pointed out a need for coordinating rehabilitation work at the practical level and proposed, independently of one another, to give an interdisciplinary team the responsibility. A physiotherapist, an occupational therapist, a representative for home nursing and one for practical assistance were recommended as members, plus a representative from the coordinating unit in the purchasing office. It was indicated that a GP should be in the team, but this was regarded as unrealistic in practice. It was proposed that the GP should instead be called in as needed for rehabilitation cases, and this seems to be in accordance with the interviewed GP's view.

The CU's cooperation with the team is crucial: the CU is to contact the rehabilitation team when receiving a request or an application about the need for rehabilitating. The team members normally do their usual work, but must be able to step in as needed to determine

whether a patient should be rehabilitated or not. If rehabilitation is approved, the team is to assess the need for assistance, and because the purchasing office is represented in the team, the team has the authority to allocate services. The team must work intensively for a period – preparing a rehabilitation plan, establishing a patient care team, appointing a coordinator, and starting a rehabilitation programme. The team then withdraws, and the ordinary home-based services continue the rehabilitation process. The patient care team with the providers performing the rehabilitating work continues throughout the rehabilitation process.

*Insert figure 2 about here?*

In this way the patient gets highly competent assistance in the first, important phase of the rehabilitation process. One additional advantage of this form of organisation is that those taking over will learn the way of thinking and methods of rehabilitation, thereby adding to the expertise of the entire home-based service in the employees' day-to-day work. An interdisciplinary team of this kind with the mentioned occupational groups was established in Borough B. The team was experienced as a good training method because the team transfers the responsibility for rehabilitation to ordinary services, which are thereby involved in the rehabilitation work.

*Or insert figure 2 about here?*

## Discussion

### *Lack of home-based rehabilitation in the boroughs*

Norwegian municipalities are obliged to offer rehabilitation. This study shows that home-based rehabilitation as a specific activity had been at a standstill for many years and was

virtually absent in both boroughs. Statements from hospital informants indicated that this was the case in other boroughs/municipalities in Eastern Norway as well.

The results indicate that staff at managerial level are reluctant to define and delimit the activity. This may be attributable to the fact that rehabilitation is linked to increased resources. The informants point out that the purchaser lacks rehabilitation competence. The fact that physiotherapists and occupational therapists are not represented in the purchasing office of the two boroughs may be one reason that rehabilitation receives little attention. Home-based rehabilitation of the elderly and chronically ill appears, however, to be functioning (see Introduction), and this knowledge should constitute part of the basis for decision making in the municipalities' discussion on prioritisation.

The Norwegian Regulations on rehabilitation define rehabilitation [22], but the definition is wide and no specific requirements are made with respect to content or scope. In Borough B they defined rehabilitation more precisely and enabled the staff to obtain a clearer and more consensual understanding of the field. A definition approved by employees on different organisational levels may reduce the time spent on discussing what rehabilitation is for each new patient.

The results show a clear lack of anchorage of rehabilitation work in the two boroughs' organisations, and the rehabilitation case we followed clearly reflected the lack of a coordination system. The coordinating unit in Borough B organised in the purchasing office and with well defined responsibilities seemed to function very satisfactorily.

*Special aspects of rehabilitation work*

Rehabilitation implies complicated and interwoven work tasks, while modern management ideologies – with management by objectives and results – require rehabilitation work to be broken down into smaller, measurable units. Most larger Norwegian municipalities, including

all the boroughs in Oslo, have chosen to organise their home-based services according to a purchaser-performer model. The point is that decisions concerning services are taken according to standardised time estimates per part-task by someone who is not close to the patient. Making a rehabilitation diagnosis, however, requires clinical competency and must be done by professionals who monitor the patient over time [27]. Wade points out that individuality is the opposite of standardisation. The patients' rehabilitation needs may vary considerably over time, and a tightly managed service can make it difficult to offer good rehabilitation services adjusted to rapidly changing needs.

Interdisciplinary collaboration is a prerequisite for a good rehabilitation service, and this is discussed extensively in the projects. The employees in Borough B came to the conclusion that they wanted to organise their collaboration in a rehabilitation team. Interprofessional collaboration is personally, professionally and organisationally demanding, and it takes time. Busyness, few meeting places and time pressure on service delivery provide challenging conditions for collaboration. Furthermore, the different focuses and ideologies of the various professional groups can be a challenge. Knowledge of each other's roles and interprofessional trust are prerequisites, and this demands time and meeting places [28]. It is well documented in literature that the team is an appropriate organisation of cooperation [28], and it is likely to be a more effective and efficient way of delivering rehabilitation [14]. When the rehabilitation team's participants know each other from the start, the cooperation will probably be facilitated. McColl points out that this arrangement gives more practical, academic and emotional support to team members; it broadens the potential range of interventions and expertise available to the patient [28]. When ordinary home services in Borough B take over the responsibility for the rehabilitation work, they hopefully take over the rehabilitation attitude and evaluation.

Rehabilitation places emphasis on the users' own goals, and on them receiving help to formulate a new understanding of their situation within a new framework [3,4]. Kendall stresses commitment to the user as an important rehabilitation competency, i.e. understanding the user's preferences, making user participation possible, and involving the user in the process [29]. This is a matter of personal qualities and skills such as the ability to listen, patience, the ability to engage in dialogue and discussion. These skills can to a certain extent be learned, and this is conditional on an organisation and management that support learning and a culture that values good practice [ibid]. Interdisciplinary cooperation and user participation demand time, and not least calm surroundings, to be physically and mentally present with the patient, and are challenging within the framework of today's organisation of services. Moreover, it may be a problem that the provider at times may appraise the patients' own aims as too ambitious or too low, and limited resources may in particular make it impossible to fulfil the patients' wishes and goals.

*Action research as a means of generating knowledge and developing models*

The uniqueness of action research is that it combines research and improvement of practice. We found that the method was appropriate for developing a model for the organisation of and cooperation on rehabilitation in Borough B in collaboration with borough employees. Broad-based work was carried out here to highlight the field of rehabilitation, and Borough B was very successful in establishing a distinct rehabilitation model. Rehabilitation as a separate, well defined activity was well anchored in the organisation, and responsibility for collaboration was clearly assigned. The clarification of the definition of rehabilitation probably results in less disagreement and discussion in practice. In our view, the action research design was appropriate for involving many employees from different offices and

various levels in the organisation in the rehabilitation discussion, which has created far greater awareness of the field of rehabilitation.

Borough A chose to end their collaboration with us after one year without arriving at a rehabilitation model. Rehabilitation was, however, set on the agenda and discussed on a broad basis in many different fora and at various levels also in this borough. Through three meetings and seven interviews completed in the borough, we acquired detailed information about the employees' views on rehabilitation. As in Borough B, they argued in favour of anchoring the rehabilitation work in a coordinating unit in the purchasing office and of organising the practical rehabilitation work as an interdisciplinary cooperation. A rehabilitation model developed in Borough A would probably not have been very different from the model developed in Borough B. The two boroughs chose not to collaborate in the project, and Borough A's leaving the project had no consequences for Borough B's work.

One reason for Borough A's leaving the project may be poor handling of the collaboration on our part. Meyer describes challenges in action research [30]: the researcher takes the actors' perspective into account but still maintains control, evaluating what is said against his or her own frame of reference. We, as researchers, may have had one notion of how a model for organisation and cooperation should be developed, while the staff had other ideas about it. If we had been better at clarifying mutual expectations in the introductory phase and listened more closely to the staff input, this cooperation would perhaps have continued.

A limitation of the study is that it was chiefly professionals who were interviewed, and that the needs of patients and families were not directly explored. However, five representatives of the Norwegian Association for Stroke Survivors attended three meetings with the researchers who were conducting the study. They contributed to interpreting the

results and were of the opinion that we had pointed out the most important aspects of the services regarding meeting the needs of the patients/close family.

## Conclusions

This action research project involving several levels of borough staff contributed to drawing considerable attention to rehabilitation in both boroughs, and to the project developing a model organisation of and collaboration on rehabilitation. We argue that the model described here can reduce important challenges in rehabilitation. The rehabilitation team provide competence in deciding the patient's need for rehabilitation and in starting the rehabilitation process, and constitute a suitable structure for the interdisciplinary collaboration. When the team transfers the responsibility for further rehabilitation to the home-based services, these services are given plentiful opportunities for learning practical rehabilitation in daily nursing and healthcare work. The coordinating unit's paramount responsibility for rehabilitation ensures that rehabilitation as an acknowledged activity has its anchorage in the organisation. When implementing a model like this we recommend involving all levels of the organisation in the development work in order to legitimise the model in the organisation. Moreover, it is important not to make the process too bureaucratic. We found that working in groups with representatives from different occupational groups, different service locations and different levels was suitable. It is probably judicious to spend time on reaching agreement on what is to be done in rehabilitation, who is to have the responsibility and who is to perform the work – a description of the work process that must be followed, even if those involved may not agree on all the details.

## Declaration of interest

The authors report no declarations of interest.

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