CO-OPERATION AMONG REHABILITATION ACTORS FOR RETURN TO WORKING LIFE

Jenny Kärrholm
To my husband Patrick,
my sons Viktor and Erik
and my parents Ulla and Sven
This PhD project has been conducted within the national network “Centre for Rehabilitation Research” and in collaboration between the Karolinska Institutet and Department of Health Science, Mid Sweden University.
ABSTRACT

The overall aim was to increase knowledge of the problems and the advantages of multi-sectoral co-operation in vocational rehabilitation, with focus on systematic multi-professional team meetings. One of the aims was to quantify the effects of co-operation in vocational rehabilitation on sick leave days, using comparison groups. Another aim was to elucidate the problems and achievements of co-operation in vocational rehabilitation in the Nordic countries.

A study of the registers from the National Social Insurance Board of days on sick leave and the types of benefit paid, for a 12-months-period prior to a multi-sectoral co-operation intervention, 0-6 months after the intervention as well as for the subsequent 6-12 months, was conducted. Economic gains for society were also estimated. Sixty four municipal employees on long term sick leave who participated in the intervention were compared with matched controls who were subjected to “treatment as usual”. A questionnaire study was conducted involving 95 immediate superiors employed by the same municipality, who conveyed their views on co-operation both prior to and during the multi-sectoral co-operation intervention. A six-year follow-up of the same intervention, with the same 64 subjects and their controls was carried out with the same outcome measures: days on sick leave, types of benefit paid by social insurance and economic gains for society. A qualitative study was conducted with 23 semi-structured research interviews of 27 strategically chosen informants in the five Nordic countries, who were asked about what chief actors are involved in the vocational rehabilitation, what models of co-operation, collaboration or co-ordination exist, if problems exist with clients being referred from one instance to another without having their problems solved (“pillar-to-post”), if there is a need for co-operation and also what the differences are between possibilities and obstacles in co-operation in vocational rehabilitation.

The results showed that there was an overall difference in sick leave of 5.7 days per month and person over the six-year-period studied. When that much more time was spent working instead of on sickness absence, economic gains for society were generated at € 36600 per person over the 6-year-period and at a total of € 2.3 million for the actual intervention carried out for the 64 subjects. Effects were not demonstrable until the second half-year after closure of the intervention. The immediate superiors described the multi-sectoral co-operation as successful in reducing problems. They reported that the co-operation intervention in fact led to combined responsibility in finding solutions and better opportunities than previously for employees to resume regular or other jobs. Despite differences between the Nordic countries, the “pillar-to-post” problems are described by all informants. Co-operative solutions however differ. New reforms have recently been implemented in Norway and Denmark. Social insurance, employment and part of social services are all organized under one and the same authority on a local basis at municipal level in these two countries. Both countries have also distinguished between the management of planning and following-up rehabilitation activities from managing disbursements. The models for co-operation described share some common features, but there are still reports of differences in the possibilities and obstacles of co-operation from the different Nordic countries.

The studies demonstrate that multi-sectoral co-operation in vocational rehabilitation has a good effect on preventing sick leave days, generating substantial economic gains for society and that this effect lasts for at least six years. The results also show that good results may be accomplished for people on long term sick leave. There are many different versions of co-operative solutions in the different Nordic countries, all offering interesting examples for the future. Successful co-operation is possible to achieve without legislative enforcement.

Key words: Return-to-work, vocational rehabilitation, effects, sick leave, sickness absence, sick listing, multi-professional, multi-sectoral, co-operation, collaboration, co-ordination, economics, intervention, employer, superior, longitudinal studies, Nordic countries, social insurance, employment office, social service, health care.

ISBN 978-91-7357-335-1
LIST OF PUBLICATIONS

This thesis is based on the following publications, which are referred to in the following text by their Roman numerals.


IV Kärrholm J, Ekholm J, Bergroth A, Schüldt Ekholm, K. Co-operation models in Nordic vocational rehabilitation. Submitted to *Journal of Rehabilitation Medicine* 18 September 2007c, with a proposal to have it examined for publication as a supplement.

Manuscript of Study IV is printed separately.
## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>1</td>
</tr>
<tr>
<td>LIST OF PUBLICATIONS</td>
<td>3</td>
</tr>
<tr>
<td>DEFINITIONS</td>
<td>6</td>
</tr>
<tr>
<td>ABBREVIATIONS</td>
<td>7</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>9</td>
</tr>
<tr>
<td>AIMS OF THE STUDY</td>
<td>11</td>
</tr>
<tr>
<td>Study I. Effects of multi-sectoral co-operation</td>
<td>11</td>
</tr>
<tr>
<td>Study II. Views of immediate superiors on multi-sectorial co-operation</td>
<td>11</td>
</tr>
<tr>
<td>Study III. A 6-year follow-up of multi-sectoral co-operation</td>
<td>11</td>
</tr>
<tr>
<td>Study IV. Co-operation models in Nordic vocational rehabilitation</td>
<td>11</td>
</tr>
<tr>
<td>THEORETICAL FRAME</td>
<td>12</td>
</tr>
<tr>
<td>Integration</td>
<td>12</td>
</tr>
<tr>
<td>Co-ordination</td>
<td>13</td>
</tr>
<tr>
<td>Co-operation</td>
<td>13</td>
</tr>
<tr>
<td>Conventional co-operation</td>
<td>13</td>
</tr>
<tr>
<td>Collaboration</td>
<td>13</td>
</tr>
<tr>
<td>Models of co-operation</td>
<td>14</td>
</tr>
<tr>
<td>Co-operation between professionals</td>
<td>14</td>
</tr>
<tr>
<td>Co-operation between organizations</td>
<td>15</td>
</tr>
<tr>
<td>Co-operation between different sectors</td>
<td>15</td>
</tr>
<tr>
<td>Theoretical application</td>
<td>15</td>
</tr>
<tr>
<td>MATERIAL AND METHODS</td>
<td>16</td>
</tr>
<tr>
<td>Ethical considerations</td>
<td>16</td>
</tr>
<tr>
<td>Study Settings</td>
<td>16</td>
</tr>
<tr>
<td>The Stockholm Co-operation Project</td>
<td>16</td>
</tr>
<tr>
<td>Conventional vocational rehabilitation and co-operation</td>
<td>18</td>
</tr>
<tr>
<td>Subjects</td>
<td>19</td>
</tr>
<tr>
<td>Study I: Effects of multi-sectoral co-operation and Study III: A six-year follow-up of multi-sectoral co-operation</td>
<td>19</td>
</tr>
<tr>
<td>Study II: Views of immediate superiors on multi-sectorial co-operation</td>
<td>21</td>
</tr>
<tr>
<td>Study IV: Co-operation models in Nordic vocational rehabilitation</td>
<td>21</td>
</tr>
<tr>
<td>Procedures</td>
<td>22</td>
</tr>
<tr>
<td>Study I: Effects of multi-sectoral co-operation and Study III: A six-year follow-up of multi-sectoral co-operation</td>
<td>22</td>
</tr>
<tr>
<td>Study II: Views of immediate superiors on multi-sectorial co-operation</td>
<td>23</td>
</tr>
<tr>
<td>Study IV: Co-operation models in Nordic vocational rehabilitation</td>
<td>24</td>
</tr>
</tbody>
</table>
Economic methods .................................................................................................................. 25
Statistics .................................................................................................................................... 26
Study I: Effects of multi-sectoral co-operation ........................................................................ 26
Study II: Views of immediate superiors on multi-sectoral co-operation .................................. 26
Study III: A six-year follow-up of multi-sectoral co-operation .................................................. 27
Qualitative analyses ................................................................................................................. 27
Study II: Views of immediate superiors on multi-sectoral co-operation .................................. 28
Study IV: Co-operation models in Nordic vocational rehabilitation ........................................... 28

RESULTS ......................................................................................................... 29
Has the SMVR co-operation any effect on sick-leave days? ............................................. 29
Has the SMVR co-operation had any effects on production gains for society? ............... 32
Has the SMVR co-operation had any effect on the type of social insurance benefit received or is there no benefit? ................................................................................ 32
What was the immediate superiors’ experience of the SMVR co-operation? ................... 33
What problems or possibilities derive from different co-operation, collaboration and co-ordination solutions in the Nordic countries? ......................................................... 34

DISCUSSION .................................................................................................... 36
Why such substantial effects of the SMVR co-operation? ................................................. 36
Why the substantial effects on production gains for society? ........................................... 37
What experiences are there of co-operation in the Nordic countries? .......................... 38
Methodological aspects ...................................................................................................... 39

SUMMARY OF MAJOR FINDINGS AND CONCLUSIONS .................................. 42
Does the SMVR co-operation have effect on sick-leave? .................................................. 42
Does the SMVR co-operation have effects on production gains for society? ................. 42
Does the SMVR co-operation have effect on type of benefits? ........................................ 42
How do the immediate superiors’ experience the SMVR co-operation? .......................... 43
What problems or possibilities are there of co-operation, collaboration and co-ordination in the Nordic countries? ................................................................. 43

ACKNOWLEDGEMENTS ................................................................................ 46

REFERENCES .................................................................................................. 49
# DEFINITIONS

In the present thesis the following definitions have been used:

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-ordination</td>
<td>Co-ordination is a structural term referring to the elaboration of systems which promote different organizations’ goals for the best, i.e. organizing e.g. finance, administrative management and functional support to increase efficiency (in Swedish “samordning”). (Jakobsson et al, 2000; Jakobsson, 2004; Axelsson &amp; Axelsson, 2006)</td>
</tr>
<tr>
<td>Co-operation</td>
<td>Co-operation is when two or more organizations systematically design their decision-making or work processes towards a mutual goal. Co-operation may include collaboration as well as co-ordination (in Swedish “samverkan”). (Bergroth &amp; Olsson, 1985; Jakobsson et al, 2000; Jakobsson, 2004; Axelsson &amp; Axelsson, 2006)</td>
</tr>
<tr>
<td>Collaboration</td>
<td>Collaboration is when people communicate within or between organizations with the aim of achieving common goals (in Swedish “samarbete”). (Jakobsson et al, 2000; Jakobsson, 2004; Axelsson &amp; Axelsson, 2006)</td>
</tr>
<tr>
<td>Vocational rehabiliation</td>
<td>Vocational rehabilitation is medical, psychological, social and occupational activities aiming to re-establish among sick or injured people with previous work history their working capacity and prerequisites for returning to the labour market, i.e. to a job or availability for a job. (Gobelet &amp; Franchignoni, 2006).</td>
</tr>
<tr>
<td>“Pillar-to-post”</td>
<td>When clients are sent from one authority to another without having their problems solved (in Swedish “rundgång”).</td>
</tr>
</tbody>
</table>
## ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMVR co-operation</td>
<td>Systematic, multi-sectoral, client-centred and solution-oriented co-operation in vocational rehabilitation, i.e. the Stockholm Co-operation Project.</td>
</tr>
<tr>
<td>SG</td>
<td>Study group.</td>
</tr>
<tr>
<td>CG</td>
<td>Comparison group.</td>
</tr>
<tr>
<td>M-group</td>
<td>Subgroup with more than 8.5 days on sick leave per month during the period one year prior to the intervention.</td>
</tr>
<tr>
<td>L-group</td>
<td>Subgroup with less than 8.5 days on sick leave per month during the period one year prior to the intervention.</td>
</tr>
<tr>
<td>NAV</td>
<td>The new employment and welfare administration reform in Norway, which includes the former National Insurance Service, the National Employment Service and part of the municipal social services.</td>
</tr>
</tbody>
</table>
INTRODUCTION

A common problem in the Nordic countries, as well as in many other western countries, is that a substantial part of the labour force is excluded from working life due to sickness (Ds 2003:63). In a few years, labour will be scarce due to an increase in old-age pensioners (Nordic Council of Ministers, 2007). In addition, sickness absence generates tremendous costs to the community, which makes it even more important to help those who are sick listed back to work.

In recent years the public sector has experienced considerable cut backs in financial resources. This has led to welfare services becoming more and more specialised where boundaries are set around each organization’s specific operations in order to ensure achieving their own objectives (SOU 1996:113; Lindqvist, 2000; Upmark & Edlund, 2006). In working life today demands are higher on performance and of being healthy (Wikman, 2004) and it has become more and more difficult to qualify for sickness allowance, unemployment benefits or social allowance. Many people with poor health or with disabilities risk being excluded from the labour market (Proposition 1996/97: 63; Wikman, 2004; Holland et al, 2006). In the Nordic countries vocational rehabilitation involves many actors and a mutual problem is the lack of co-operation between them (Cranner et al, 2001). There is an ever increasing risk of clients falling between the systems or of being referred back and forth, without the problem being resolved. Insufficient co-operation is often presented as an obstacle in the rehabilitation process (Levi, 1990; Proposition 1996/97:63; SOU 1996:85; Lindqvist & Grape, 1999; SOU 2000:78; Socialstyrelsen, 2001; Larsson & Gard, 2003; Lindqvist, 2003; Holmgren & Dahlin Ivanoff, 2004; Van Duijin et al, 2004; Heijbel et al, 2005).

In order to come to terms with these problems the Norwegian government has accomplished a welfare reform, where the former National Insurance Service, the National Employment Service and parts of the municipal social services have merged to form one joint Labour and Welfare Administration (NAV) (Stortingsproposition, 2004-2005:46). The Danish government has also accomplished a reform to facilitate returning to work by merging the National Employment Office and the municipal employment services into Municipal Job centres (The Danish government, 2005; Frederiksen, 2007). In Sweden there have been various attempts at integration or co-operation since the early 1990’s (SOU 1996:85; Socialstyrelsen, 2001; SOU 2007:2), and currently introduced reforms by the Swedish government to promote people from being sick listed and help them re-enter the labour market have been a popular topic for discussion in the media (Reinfeldt & Husmark Pehrsson, 2007).

Welfare policies have developed differently in the different Nordic countries and it is highly probable that there are different solutions for improving efficiency in vocational rehabilitation. It was therefore considered to be of great interest to explore what there is to learn from one another’s different co-operation models.

Different co-operation models most probably induce different results. Co-operation probably responds differently to different groups as does the outcome measures, when and what is measured, which also affects the results. Research in this field is scarce, and there is not enough scientific support to draw one single general conclusion about whether or not co-operation is effective, if there is one co-operation model that is more effective than another, if different patient groups respond differently to co-operative
measures or which outcome measure at what time actually captures the effects (Alexan-
derson & Norlund, 2004a). There is therefore a definite need for further research (S
1999:08; SOU 2000:78; Socialstyrelsen, 2001; SOU 2002:5; Ovretveit & Gustafsson,

Over the past years research has found increasing links between sick leave and work
environment (Voss, Floderus & Diderichsen, 2001; Allebeck & Mastekaasa, 2004). Or-
ganizational problems such as staff cutbacks, expansion and major enlargements of a
workforce increase long-term sick leave (Voss, Floderus & Diderichsen, 2001; Szücs S,
reorganization correlates strongly to the level of long-term sick leave (Socialstyrelsen,
2001). Especially among women, sick leave has been associated with a poor psycho-
social work environment (Cheng et al, 2000; Högstedt et al, 2004). High job strain has
also been associated with a greater prevalence of psychological ill-health (Michie &
Williams, 2003), especially among women (Mausner-Dorsch & Eaton, 2000). Research
has shown that employers and work conditions play an important role in facilitating a
return to work (Ekberg & Wildhagen, 1996; Bourbonnais & Mondor, 2001; Selander et
al, 2002; Williams & Westmorland, 2002; Gard & Larsson, 2003; Nordqvist, Holm-
qvist & Alexandersson, 2003; Hagner & Cooney, 2003). According to Hagner and
Cooney (2003) it is evident that there is a trend, with greater reliance on and respect for
the support capacity of employers in vocational rehabilitation, which is why it is essen-
tial to include the employer’s perspective and to consider the immediate superiors’
views on co-operation with other organizations, if co-operation is to be successfully
implemented in the future. Only a few studies concern the immediate superiors’
perspective in the rehabilitation process and most of them focus on the employee’s
perspective.
AIMS OF THE STUDY

The overall aim of the present thesis was to acquire better knowledge of the problems and the advantages of multi-sectoral co-operation in vocational rehabilitation. One of the aims was to quantify effects of co-operation in vocational rehabilitation on sick leave days, using comparison groups. Another aim was to elucidate the problems and achievements of co-operation in vocational rehabilitation in the Nordic countries.

Study I. Effects of multi-sectoral co-operation

The aim was to evaluate the effects of a systematic, multi-sectoral, client-centred and solution-oriented co-operation project between a public employer, occupational health service and social insurance office in vocational rehabilitation, with matched controls, on sick leave days for long-term sick listed employees, the first and second half-year afterward. One of the aims was to estimate the possible economic gains for society. Another aim was to investigate the different social insurance benefits after intervention. (Kärrholm et al, 2006)

Study II. Views of immediate superiors on multi-sectoral co-operation

The aim was to investigate the immediate superiors’ views on co-operation in vocational rehabilitation prior to and during the systematic, multi-sectoral, client-centred and solution-oriented co-operation intervention in vocational rehabilitation for long-term sick listed employees. (Kärrholm et al, 2007a)

Study III. A 6-year follow-up of multi-sectoral co-operation

The aim was to evaluate during a period of six years, the effects of a systematic, multi-sectoral, client- and solution-oriented co-operation intervention between a public employer, occupational health service and the social insurance office in vocational rehabilitation, with matched controls, on sick-leave for long-term sick listed employees. One of the aims was to estimate the economic effects for society of this method of co-operation. Another aim was to investigate the different social insurance allowances after intervention. (Kärrholm et al, manuscript 2007b)

Study IV. Co-operation models in Nordic vocational rehabilitation

The aim was to explore problems and possibilities and obtain increased knowledge of co-operation, collaboration and co-ordination in vocational rehabilitation in the Nordic countries; Sweden, Iceland, Finland, Denmark and Norway. (Kärrholm et al, manuscript 2007c)
THEORETICAL FRAME

Numerous co-operative innovations have evolved in recent years, all with the aim of finding new innovative ways of delivering welfare services due to the failure of traditional governmental approaches in this field. Researchers as well as practitioners use different labels or concepts in describing these co-operative innovations, which prohibits reliable communication and understanding (Mandell & Steelman, 2003). Several attempts of conceptualization of activities conducted by welfare organizations when working together have been made (Schmitt, 2001; Kodner & Spreeuwenberg, 2002; Bronstein LR, 2003; Boon et al, 2004). So far no unified definitions have been reached, which is why this chapter provides the theoretical context in which different models of co-operation, collaboration and co-ordination are discussed in the present thesis.

Integration

Hvinden (1994) studied the concept of integration. According to him the definition of integration is to make whole, but relative to a context or a system. Hvinden (ibid) explained the concept of integration by the extent to which separate actors’ activities were compatible or to what degree the actors’ activities were co-ordinated. “In other words, an organization is integrated if its members or parts act in concert, as if they had a common or overall purpose.” (Hvinden, 1994, p.4). The concept of integration brings different actors or activities together and is described as a superior concept to co-ordination, collaboration and co-operation (Hvinden 1994; SOU 1996:85; Lindqvist & Grape, 1999; Jakobsson, 2004; Hultberg, 2005; Axelsson & Axelsson, 2006; Axelsson & Axelsson, 2007).

Integration is defined as vertical, when activities take place in a hierarchical structure between organizational units on different levels within an organization. Co-ordination is an example of vertical integration, where decisions usually are made at a higher level in the organization but implemented at a lower organizational level. Integration is defined as horizontal, when activities take place between organizations or units on the same hierarchical level. Collaboration is an example of horizontal integration, where the staff works closely together with intense communication between themselves and between the organizations. According to Hvinden (1994) horizontal integration must meet three conditions: 1. Mutual awareness of problems in common 2. Compatibility of perception and goals, and 3. Interdependence between actors. Co-operation on the other hand comprises both vertical and horizontal integration, and is explained by Hultberg (2005, p.33): “High degree of both vertical- and horizontal integration means that the hierarchy management decisions are wide enough to allow for more informal contacts between different organizations.”. However, the forms of vertical and horizontal integration always co-exist, but to a different degree (Figure 1). (Hvinden, 1994; Axelsson & Axelsson, 2006; Axelsson & Axelsson, 2007)
Co-ordination

Co-ordination is described by a high degree of vertical integration and a low degree of horizontal integration (Figure 1). This type of integration usually occurs in hierarchical context, where decisions to co-ordinate are made at a higher level and the implementation at a lower level (Axelsson & Axelsson, 2007). Co-ordination of activities can just as well be done without meeting in person. In co-ordination each involved organization’s boundaries may be kept and cases are referred between the participants (Danermark & Kullberg, 1999; Lindqvist, 2000; Socialstyrelsen, 2001; Jakobsson, 2004).

Co-operation

Co-operation is described by a higher degree of both vertical and horizontal integration (Figure 1). This means that there are elements of both co-ordination and collaboration, where there are co-ordinated bureaucratic forms and regulations for how to collaborate in teams exceeding bounds of organizations, professions or sectors (Axelsson & Axelsson, 2007). The point is to work together in order to accomplish the same goal. Co-operation is characterized as a meeting between specialists with respect for each actor’s competence and differences where resources may integrate in concrete cases (Bergroth & Olsson, 1985; Danermark & Kullberg, 1999; Jakobsson, 2004; Lindqvist, 2000).

Conventional co-operation

Conventional vocational rehabilitation is less structured and less consistent. Contacts are often made from one official to another and from one case to another, without structure or consistency. Multi-professional meetings are arranged ad hoc, with different actors, different aims, in different settings and only if some actor felt it was necessary. Focus is often on problems alone, more seldom on solutions and the different actors serve different goals. Such ad hoc meetings are not formalised in advance as they were in the SMVR co-operation and they lack long-term strategies or regularity. (SOU 1996:85; SOU 2000:78)

Collaboration

Collaboration is described by a low degree of vertical integration and a high degree of horizontal integration (Figure 1). This type of integration occurs in networks or teams for example, where communication and working together on a joint task is in focus (Socialstyrelsen, 2001; Jakobsson, 2004; Axelsson & Axelsson, 2007). Another way to
describe collaboration is as an interpersonal process where professionals with divergent training work with a convergent framework (Lorentz et al, 1999).

There are no distinct borders in-between the forms of integration. Table 1 shows an attempt to simplify systematization of the concepts co-ordination, co-operation, conventional co-operation and collaboration to the extent of integration.

Table 1. Extent of integration in co-ordination, co-operation and collaboration.

| Extensive horizontal integration | Co-operation | Collaboration |
| Limited horizontal integration  | Co-ordination | Conventional co-operation |

Models of co-operation

It is important to realize that there are also different models of co-operation, which contain different combinations and degrees of co-ordination and collaboration. Models of co-operation in vocational rehabilitation may vary from quite simple forms, such as systematic meetings between different professionals within the same organization for information exchange, to more complex forms such as co-located teams of rehabilitation actors from different organizations working with a joint budget to help individuals with a long-lasting solution for their problems (Axelsson & Axelsson, 2007).

How well different models of co-operation work depend on the level of differentiation between the organizations in either tasks or cultures; how much they differ in terms of objectives, functioning or attitudes etc. (Lawrence & Lorsch, 1967). If there is a low degree of differentiation between organizations, it is relevant to organize vertical integration or co-ordination of activities. If there is a high degree of differentiation between organizations, it is relevant to organize horizontal integration or collaboration (ibid).

There is no consensus in literature on how different models of co-operation are described, which is why it is difficult to present a unified typology. However, a distinction is made of co-operation between professionals, co-operation between organizations and co-operation between organizations from different sectors. These dimensions are important for understanding the complexity of co-operation models.

Another way to distinguish between different co-operation models may be the use of the prefixes “multi” and “inter”. “Multi” is used to describe joint activities that involve members with different professions, where the members contribute with their expertise separately relating to his or her own organization and with a little overlapping between members. “Inter” is used to describe joint activities that also involve members with different professions, but where the members no longer keep to their own organization’, but merge on common grounds and responsibilities. (Schofield & Amodeo, 1999; Boon et al, 2004; Norrefalk, 2006)

Co-operation between professionals

This is co-operation between people with different professions within the same organization. Whether or not they are defined as multi-professional or inter-professional is due to the functioning of its members. Co-operation in these teams may vary in terms
of how frequently they meet, how systematically they work and how formally regulated
they are. The degree of vertical and horizontal integration may also differ. (Bryson,
Crosby & Middleton Stone, 2006; Axelsson & Axelsson, 2007)

“Inter-disciplinary” is another concept used (Hultgren, 2005). Different disciplines in
vocational rehabilitation teams often relate to different professions, which is why the
concepts may be used as synonyms. Interdisciplinary teams are described as requiring
the skills of all members’ expertise, but also to produce more than each separate
member could accomplish (Norrefalk, 2003)

Co-operation between organizations
This is co-operation between people with different professions, who also come from
different organizations. These teams also co-operate by meeting regularly and plan for
mutual activities based on mutual goals (Bryson, Crosby & Middleton Stone, 2006;
Axelsson & Axelsson, 2007). Since different organizations are involved, this type of
cooperation model often includes a steering committee appointed to facilitate team co-
operation.

Imaginary organizations are defined as co-operation where formal organizations inte-
grate their operations well enough to be perceived as one separate unit over the formal
boarders with shared conceptions (Stenberg, 2000)

Co-operation between different sectors
This is co-operation between different professionals, from different organizations be-
longing to different sectors in society with different responsible authorities (Bryson,
Crosby & Middleton Stone, 2006; Axelsson & Axelsson, 2007). This adds to the com-
plexity of the co-operation model.

In order to reduce the risk of “pillar-to-post” problems when the welfare organizations
become more and more specialized, the officials need to co-operate across the different
sectors. (Lindqvist, 2000)

Theoretical application
Applying this conceptual framework on to the present multi-sectoral co-operation inter-
vention in vocational rehabilitation (SMVR co-operation) at present studied; the inte-
gration between the Social Insurance Office, The Occupational Health Service and the
employer could be defined as extensive both vertically and horizontally. A common
formal agreement between these organizations was reached and a steering committee
was appointed, which worked systematically together with a mutual agenda, providing
the SMVR co-operation team of staff members with the tools and mandate for the
work. The SMVR co-operation team met on common premises and worked closely
together with joint objectives across different sectors.
MATERIAL AND METHODS

Ethical considerations
Study I, II and III were approved by the Research Ethics Committee, Karolinska Institutet North, Sweden. Study IV was approved by the Ethics Committee at Mid-Sweden University, Sweden.

In Study IV the informants received an introductory letter with information regarding the aim and content of the study and in which they were asked if they were interested in participating. Their written consent, agreeing to be published by name, was sought and obtained. All informants were also accorded the opportunity to correct the written text as they thought necessary.

Study Settings
Study I, II and III used the same setting, a co-operation intervention programme called the Stockholm Co-operation Project (Jakobsson et al, 2000) in comparison with conventional vocational rehabilitation.

The Stockholm Co-operation Project
The Stockholm Co-operation Project is described as a systematic, multi-sectoral, client-centred and solution-oriented co-operation intervention (SMVR co-operation) in vocational rehabilitation between two municipal departments in Stockholm Municipality and with the municipality itself as acting employer (Maria-Gamla Stan and Social services), its occupational health service (AB St:Eriksfälsan) and the Social Insurance Office in Stockholm County. The two departments had a total of some 6000 people employees.

The project was initiated by an occupational health service physician, in 1997 and ended in 1999. A formal agreement was set up between the different parties. One of its aims was to help long-term sick-listed people employed by the Municipality of Stockholm back to work and another was to develop more effective co-operation routines for vocational rehabilitation between employer, occupational health service and social insurance office. (Jakobsson et al, 2000)

A process-evaluation of the SMVR co-operation was conducted by the national network Centre for Rehabilitation Research (CRF) during the project period. It started with interviews and questionnaires targeting the steering committee and staff, including employees’ immediate superiors. Those interviewed, were asked to describe the situation before the intervention started. Participatory observations were then conducted of the SMVR team meetings. The employees, who participated in the intervention, were also interviewed in order to capture their personal views of their rehabilitation situation and quality of life. Finally, evaluations of register data from the National Social Insurance Agency were conducted to evaluate the effect on sick leave days for the participating employees, with a before-and-after design. (Jakobsson et al, 2000)

A steering committee, comprising two representatives from the occupational health service, two from the social insurance office and two from the employer, was appointed to the project. All of the representatives held positions demanding management respon-
sibilities in their organizations. The committee’s task was to support the SMVR co-operation team and facilitate co-operation, organize a 1-day training course for the employees’ immediate superiors and it was also responsible for providing all necessary information. The committee met regularly once a month during the project period. (ibid)

The following inclusion criteria for participating in the SMVR co-operation were set up in agreement between the three parties: 1. Employees with temporary disability pension or sick listing for a duration of at least three months 2. Employees with short periods of sick listing, not exceeding three months and employees who despite established disabilities were still working 3. Employees at risk of becoming sick listed. (Jakobsson et al, 2000)

When the occupational health service unit carried out an inventory of employees who might fit the inclusion criteria for the SMVR co-operation, some of them had been sick listed for so long that the employer was surprised to find them still employed (ibid). Even though most participants were referred from the occupational health service, the employees themselves, the social insurance representatives, the immediate superiors or representatives from the employer’s human resources department were able to initiate participants to the intervention.

The SMVR co-operation intervention consisted of: an educative activity for the employees’ immediate superiors; a thorough medical examination of the employee and an assessment of the employee’s attitudes toward sick listing and disability pension, which was carried out at the occupational health care unit; and meetings with the SMVR team where rehabilitation activities were planned and followed-up. (ibid)

The educative activity was a special 1-day training course targeting all immediate superiors employed at the two municipal departments involved in the SMVR co-operation. This training focused on returning to work, how social insurance is organized, which legislation applies, the employer’s responsibility in rehabilitation, the work environment, rehabilitation methods, medical aspects and rehabilitation economy. (ibid)

A thorough medical examination of the employees by the occupational health service physicians preceded the SMVR team meetings. Previous investigations and treatment by other health care instances were analysed and patients were referred to other medical care providers when it was deemed necessary. Rehabilitation problems were discussed with other members of staff at the occupational health care unit (nurse, social scientist, ergonomist, work environment engineer). The employee’s attitude to sick listing and disability pension was assessed. Where appropriate, the employee was referred to the particular SMVR team. However referrals to the team could also be made by the representatives from the social insurance office, the employer, and also by the employee him/herself. (ibid)

The SMVR co-operation team consisted of two representatives from the employer (head of human resources and an officer from the department of human resources), two officers from the social insurance office, the occupational health service physician, representing the occupational health service and the employee. Sometimes a representative from the union or some other support person was also included at the request of the employee. The SMVR co-operation was unique in that the same officials represent-
The team met every two weeks on common premises to discuss individual cases in the presence of the individual in question. The participants (employees) in the SMVR co-operation met the team as often as he or she needed, which is why the number of team meetings varied from case to case, depending on the complexity of the problems they ranged from one to several meetings. Follow-up meetings were subsequently scheduled regularly. Detailed rehabilitation plans involving joint objectives and planning of rehabilitation measures were drawn up at these meetings. The rehabilitation measures effected were for example job training, training courses, pain management and vocational guidance etc. Only ordinary rehabilitation activities were optional since no extra funding was available in this case, but it is highly probable that a substantially larger amount of measures were put into effect compared with conventional vocational rehabilitation. (ibid)

**Conventional vocational rehabilitation and co-operation**

The comparison group had not participated in the SMVR co-operation, but was subjected to the welfare system’s conventional rehabilitation handling. The same rehabilitation measures that were applied to the employees in the SMVR co-operation were accessible for the comparison group. However, very few sick-listed people, irrespective of need, actually receive any vocational rehabilitation (RFV Redovisar 1995:20). Conventional vocational rehabilitation and co-operation is less structured and less consistent than in the SMVR co-operation. Contacts are often made from one official to another and from one case to another, without structure or consistency. Multi-professional meetings are arranged ad hoc, with different actors, different aims, in different settings and only when some actor feels it is necessary. Focus is often on problems alone and rarely on solutions, besides the fact that the different actors are intent on achieving different goals. Such ad hoc meetings are not formalised in advance as they were in the SMVR co-operation, furthermore they lack long-term strategies and regularity. Vocational rehabilitation activities were not documented in the comparison group, but it is quite probable that some of them did receive some certain conventional co-operation activities. However, there were no other ongoing co-operation interventions involving the Social Insurance Office in Sollentuna at this time.

The SMVR co-operation’s steering committee described the period prior to its implementation, i.e. they described conventional vocational rehabilitation. They divulged that there were many different contacts with different rehabilitation actors in each case; no one had a comprehensive view of sickness absence, rehabilitation measures or the employees’ needs. They expressed their feelings that there was always a risk for different judgements and different policies. The steering committee also described that meetings were difficult to arrange due to lack of time, employees were referred back and forth without their problems being resolved and they also revealed that there was a risk for the employee to go unnoticed or not know where to turn, which provided them with an opportunity to escape personal responsibility. (Jakobsson et al, 2000)
Subjects

Study I: Effects of multi-sectoral co-operation and Study III: A six-year follow-up of multi-sectoral co-operation

During the project period (1997-September 1999) a total of 107 employees in Stockholm Municipality participated in the SMVR co-operation. The 107 employees were subjected to the intervention on different grounds: 1) 15 employees were granted disability pension at any level 2) 14 employees had no history of sick leave, but were judged to be at risk of becoming ill in the future 3) 78 employees were either on long-term sick leave, had a history of long-term sick listing or had previously had several short periods of sick listing. One died during the intervention period, leaving 77 employees for inclusion.

The 77 employees’ situation in general, from group 3, required contributions from several rehabilitation actors prior to returning to work, which is why they were chosen to comprise the study group (SG). The subjects in the SG were individually matched with controls (CG) from the Sollentuna Social Insurance Office’s registers. The Social Insurance Office in Sollentuna was chosen on the basis of its having a similar socio-economic structure as that of Stockholm Municipality (Regionplanekontoret, 2000) and they were willing to assist in accessing the registers. Subjects in the CG underwent conventional co-operation in vocational rehabilitation.

Since previous studies showed that a prolonged history of sick leave prior to vocational rehabilitation has a negative effect on resuming work (RFV Redovisar 1996:14; Selander & Marnetoft, 1999; Selander et al, 2002), it was especially important to find matching pairs with respect to the number of days on sick leave before the starting point. The following matching criteria were used: 1) municipal employees, 2) similarity in the number of days on sick leave (±30%) during 12 months before starting point, 3) similarity in the date of rehabilitation meetings (±7 months), 4) no level of disability pension granted at starting point 5) extent of employment ±20%; 6) not included in the study group. Exclusions concerned such diagnoses that vocational rehabilitation would not usually apply to, e.g. metastasising cancer. Due to difficulties in finding controls that fully matched all criteria agreed upon, the criteria were evaluated and extended to a reasonable degree. The final count was 64 pairs. During the six-year-follow-up period, eight individuals in the SG and twelve in the CG had dropped out due to reaching the age for the old-age pension and two of the individuals in the SG had died. Forty-six pairs were left the sixth year of follow-up. According to background variables the 18 pairs, “drop-outs”, did not differ from the rest of the subjects.

Professions and occupations were categorized according to the Swedish Employment Office’s practice into four educational levels: 1) No formal education, including kitchen staff, nursing assistants, catering assistants, recreational assistants and teaching assistants 2) Upper Secondary School education (high school), including cooks, childcare worker, secretaries, social welfare assistants, assistant secretaries and mental health assistants 3) University education, including nursery-school teachers, teachers, nurses, recreational pedagogues, physical therapists, social welfare officials, remedial teachers 4) In a leading position, including principals, nursery-school directors, superintendents and managers of geriatric care. Data on professions and occupations were collected from the occupational health care unit’s register for the study group of participating employees (SG), and from the records at the social insurance office for the com-
parison group (CG). The educational level was slightly higher in the SG than in the CG, but was not statistically significant.

Table I. Description of Study group and Comparison group. (Reprinted with kind permission from Disability and Rehabilitation)

<table>
<thead>
<tr>
<th></th>
<th>Study group % (n=64)</th>
<th>Comparison group % (n=64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Female</td>
<td>84</td>
<td>84</td>
</tr>
<tr>
<td>Civil status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>42</td>
<td>53</td>
</tr>
<tr>
<td>Single</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>Divorced</td>
<td>26</td>
<td>30</td>
</tr>
<tr>
<td>Widow/widower</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Citizenship</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swedish</td>
<td>75</td>
<td>76</td>
</tr>
<tr>
<td>Naturalized</td>
<td>19</td>
<td>22</td>
</tr>
<tr>
<td>Foreign</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Educational level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No formal education</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>High School education</td>
<td>42</td>
<td>34</td>
</tr>
<tr>
<td>University education</td>
<td>42</td>
<td>44</td>
</tr>
<tr>
<td>In a leading position</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Diagnosis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Musculoskeletal conditions and injuries</td>
<td>38</td>
<td>39</td>
</tr>
<tr>
<td>Psychiatric diseases and disorders</td>
<td>31</td>
<td>27</td>
</tr>
<tr>
<td>Other medical conditions</td>
<td>31</td>
<td>34</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>46.8 years</td>
<td>48.8 years</td>
</tr>
<tr>
<td>Median</td>
<td>47.0 years</td>
<td>49.5 years</td>
</tr>
<tr>
<td>Yearly income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>€ 23 210</td>
<td>€ 22 018</td>
</tr>
<tr>
<td>Median</td>
<td>€ 21 697</td>
<td>€ 21 574</td>
</tr>
<tr>
<td>Days on sick leave per month, 12 months before intervention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>10.7 days</td>
<td>10.1 days</td>
</tr>
<tr>
<td>Median</td>
<td>8.5 days</td>
<td>8.4 days</td>
</tr>
</tbody>
</table>

Similarities and dissimilarities between groups. Statistics: McNemar test, Marginal Homogeneity test, and paired samples t-test. The differences were not significant.

Due to differing medical settings for the SG and the CG, the diagnoses were not quite comparable (Table I). Occupational health service physicians diagnosed the SG prior to the SMVR team meeting while diagnoses for the CG were obtained from medical certificates from various primary medical care centres and hospitals. Musculoskeletal conditions and injuries were the most commonly reported diagnosis in both groups (38% in SG and 39% in CG) and psychiatric diseases and disorders were the second most common (31% in SG and 27% in CG), which is similar to the distribution of diagnoses among long-term sick listed people in general (Alexandersson & Norlund, 2004c). There were, however, five more people who reported fibromyalgia syndrome or widespread chronic pain in the SG than in the CG. Seven people in the SG reported suffe-
ring from alcohol or drug abuse, while there were no such reports in the CG. There were also, 15 cases in the SG that reported burnout problems (fatigue) and that were subsequently categorized as ‘other medical condition’, while no such problems were reported in the CG. The SG reported four more low-back pain problems, and some of the psychiatric cases were diagnosed as mental insufficiency.

Six people in the SG had incomes exceeding the limit for reimbursement, compared with three in the CG. Consequently the economic incentive to return to work could have been somewhat higher for those six persons in the SG.

In addition to the matching criteria background variables were also collected from the registers and records. Table 1 describes the 64 pairs by gender, civil status, categorized citizenship, educational level in profession or occupation, categorized diagnoses, age, annual income and number of days on sick leave per month, during the 1-year-period prior to the intervention. The differences were not statistically significant.

**Study II: Views of immediate superiors on multi-sectorial co-operation**

All 117 immediate superiors with management and staff responsibilities employed in the two Stockholm municipal departments, which were involved in the SMVR co-operation were included in the study. Due to the fact that the municipality reorganized its administration during the project period, only the immediate superiors working in the departments both prior to and after the reorganization were included. The response rate was 81 percent (95 immediate superiors answered out of 117).

Of the included subjects, 72 percent were female and 28 percent male. Forty-four percent were aged 40-49 years, 42 percent 50-59 years, 10 percent 30-39 years and 4 percent 60 years or older. Eighty-seven percent of the subjects had 13 years or more of education, the remaining 13 percent, had 10-12 years. Professional qualifications varied: 40 percent had B.A.s in social work. The rest included B.A.s/B.Sc.s in social science, public administration or qualifications as nursery-school teachers, behavioural scientists, nurses, social specialist teachers, youth workers or recreational specialist teachers, psychologists or psychotherapists and teachers. The most common positions among the immediate superiors were head of unit or superintendent.

A few questions addressed the situation before the SMVR co-operation. Since 15 of the 95 immediate superiors were appointed during the project period, they were unable to answer those specific questions. However, analyses conducted for the remaining 80 immediate superiors showed no systematic differences in their answers, in comparison with the total group of 95 immediate superiors. There was also little difference in gender, age or educational level.

**Study IV: Co-operation models in Nordic vocational rehabilitation**

Informants were strategically chosen to represent the chief actors in each Nordic country: Sweden, Iceland, Finland, Denmark and Norway. They were selected on the basis of having sufficient knowledge of the welfare system at a national level and that they were working in a populated area with progressive vocational rehabilitation.

Twenty-three interviews were conducted with a total of 27 informants: 4 informants in Stockholm, Sweden; 5 in Reykjavik, Iceland; 9 in Åbo, Finland; 3 in Copenhagen,
Denmark and 5 in Verdal, Norway. Informants are presented by name and organization, since their answers refer to their official position. They all submitted written consent. For a description of the subjects in detail, see Study IV.

The informants came from organizations dealing with social insurance (SI), health care (HC), employment (EO), social services (SS), research (RC), rehabilitation services (RHC) and pension insurance (PI). Table II indicates the chief actors existing in each of the Nordic countries. Note that all the countries do not necessarily boast the same chief actors. There may be some differences depending on which areas are covered between the countries’ different organizations, see Study IV for further details.

Table II. The informants’ organizations and the areas they covered. (Printed with kind permission from the Journal of Rehabilitation Medicine)

<table>
<thead>
<tr>
<th></th>
<th>Sweden</th>
<th>Iceland</th>
<th>Finland</th>
<th>Denmark</th>
<th>Norway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social insurance office</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Health care</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Employment office</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Social service centre</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Research centre</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Rehabilitation centre</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pension Insurance Company</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Procedures

**Study I: Effects of multi-sectoral co-operation and Study III: A six-year follow-up of multi-sectoral co-operation**

At the beginning of 2000, personal data of the SG were obtained from records within the SMVR co-operation. Similar personal data such as diagnoses and professions were also collected at the same time for the CG. This information was taken from doctors’ certificates and patients’ sick reports, which were not computerized but filed in boxes under the individual’s date of birth and the year they were declared fit. One hundred and eight boxes with records covering the time period 1997-1999, which was equivalent to the SMVR co-operation period, were selected at random and used to find matched controls (CG). In 2000, social insurance officials proceeded to collect sick-listing records from the National Social Insurance Board registers, for the one-year-period prior to the SMVR co-operation and the one-year-period afterwards. Social insurance officials also collected supplementary sick-listing records for the subsequent five years at the end of 2004 and at the beginning of 2005.

In order to find equal starting and finishing points for the SG, the first SMVR team meeting was selected as starting point and last day of documentation in the project record as finishing point. To obtain an equal length of possible sick listing for the CG, estimations of starting and finishing points were based on the SG average time from the first day of sick leave until the starting point (233 days) and until the finishing point (396 days), respectively. The intervention took an average of 163 days for the SG. The purpose of this was to achieve comparable durations for both groups (Figure 2).
In order to calculate the outcome measure “days on sick leave per month”, days for which sickness allowance, rehabilitation allowance and temporary or permanent disability benefit had been paid out by the social insurance were counted for each individual. Partial benefits were re-calculated to represent whole days. In Study I the individual numbers of days on sick leave per month were counted for the 1-year-period prior to the SMVR co-operation and for the periods 0-6 and 6-12 months after. In Study III the individual numbers of days on sick leave per month were also counted annually during the six-year period of follow-up.

Another outcome measure was the types of benefit, whether or not sickness allowance, rehabilitation allowance and temporary or permanent disability benefit had been paid, and at what level it had been granted. The type of benefit was registered the exact day 6 months after the SMVR co-operation and the day 12 months afterwards in Study I. In Study III the types of benefit were registered in the same way, but on an annual base 1-6 years afterwards.

Subgroups were formed by dividing the SG into two equally large groups with 32 subjects in each, using the median number of sick-leave days per month during the year before the SMVR co-operation. The person from the comparison group accompanied his or her ‘twin’, making 32 pairs in each group. One subgroup, with less sick leave per month (L-group), had fewer than 8.5 days on sick leave per month, while the other subgroup, with more sick leave per month (M-group), had more than 8.5 days on sick leave per month.

**Study II: Views of immediate superiors on multi-sectoral co-operation**

Between May and September, 1999 the immediate superiors received information about the study in groups at their workplaces. They were explicitly asked to answer a quantitative questionnaire with a qualitative element, to disclose their personal views on different aspects of vocational rehabilitation work and the SMVR co-operation. After the information they gathered in 6 groups to answer the questions individually, taking from about 30 minutes to one hour. The subjects had the opportunity to put questions to those conducting the study during that time. Two people in these groups were given a short introduction to the study and the questionnaire to complete and return later. Questionnaires were mailed to two immediate superiors who could not attend any of the group sessions, and they were subsequently filled in and returned.
The questionnaire itself also included brief information about the study. Mailed questionnaires were coded to enable sending out reminders. The codes were erased once the reminders had been sent out. Data from the questionnaires were de-identified and computerized. Subjects who were unemployed before the project were instructed only to answer the questions on the situation during the SMVR co-operation.

The questionnaire was quantitative with a qualitative element and included 17 questions on possible effects of the SMVR co-operation and also on the actual co-operation process. The questionnaire started with closed questions with fixed answer alternatives on departmental affiliation, gender, age category, educational level and position. The questions relating to education and position were open. Closed questions on the possible effects of the SMVR co-operation and also those relating to the actual co-operation process, during the SMVR co-operation and the prior situation had six alternative answers: 1) extensive 2) fairly extensive 3) neither-nor 4) fairly small 5) small and 6) no opinion. The purpose of the sixth alternative (no opinion) was to avoid respondents feeling that they were obliged to choose an opinion even if they had none. One question had alternative answers from ‘effective’, ‘fairly effective’, ‘neither effective nor ineffective’, ‘fairly ineffective’, ‘and ineffective’ to ‘no opinion’. There was space for individual comments in connection with each question. Two questions were open.

Some of the questions assumed that the immediate superiors had participated in the SMVR team meetings, which is why some analyses do not include all 95 immediate superiors. Several of them had no junior colleagues on long-term sick leave and had not participated in a rehabilitation meeting; consequently they did not answer these specific questions or answered with “no opinion”.

**Study IV: Co-operation models in Nordic vocational rehabilitation**

Informants were contacted and informed in writing about the study and the interview guide, in both Swedish and in English, in advance. The majority of the interviews were conducted during January and early April, 2007, and the Norwegian interviews were conducted in June. Interviews commenced in Sweden and proceeded in the following order: Iceland, Finland, Denmark and Norway. The results are presented according to this specific order.

Data were collected from semi-structured interviews, conducted at the informants’ workplaces. The interviews were conducted in Swedish, but English was sometimes used for clarification. All the interviews were conducted by the same person, the first author (JK) of the present manuscript; subsequently the interview guide was adapted in accordance with emerging results.

At four interviews, two informants participated together. The interviews lasted from 39 – 128 minutes, but most of them took about 1,5 hours. They were audio-taped and digitally recorded with the informants’ consent, and thereafter transcribed verbatim.

The interviews covered four main topics: 1) Actors in vocational rehabilitation; who are they and how are they involved; whether there are formal responsibilities, rules or regulations for co-operation or not; how co-operation can be initiated; how cases in need of co-operation are selected and whether the actors have organized a special unit for co-operation in vocational rehabilitation or not. 2) The need for co-operation, which relates
to questions about whether there is an inherent problem in the welfare system where people are referred without having their cases resolved and whether there is a need for co-operation between actors involved or not. 3) Co-operation models, which concern questions about the extent of co-operation, currently existing forms of co-operation, collaboration and co-ordination and at what organizational level they occur. 4) Possibilities and/or obstacles in connection with co-operation in vocational rehabilitation.

When the informants mentioned sources of legislation, these are indicated in the text. Sources of legislation were, however, not always mentioned, so are not then indicated in the text.

**Economic methods**

When evaluating the economic consequences of a rehabilitation intervention, several benefits and costs must be considered. Benefits may emerge through several different channels, e.g. the patient acquiring improved physical, social, and emotional function, or the fact that family members need to spend less time in taking care of the patient etc. One of the most important benefits is the creation of healthy time (Drummond, O’Brien & Stoddart, 1997). When more time is spent working, society as a whole will benefit from production gains as well as from increased well-being of the patient.

We assume that no additional costs were associated with the intervention, since no extra funding was raised for the SMVR co-operation in any of the involved organizations. Evaluation of the economic effect will subsequently focus exclusively on the benefits, which will be measured here by its productivity gains only. Therefore we consider the benefits solely in terms of increased production stemming from increased working time, i.e., decreased in sick leave.

The reduction in production associated with sick leave is the employee’s contribution to overall production had he or she been working. An employee’s contribution to the overall production is usually based on the cost of employing him or her. These costs consist mainly of wage costs, but may involve other costs associated with employment as well, such as costs for hiring and supervision (Drummond, O’Brien & Stoddart, 1997). The basis for this assumption is that, should the cost of employment exceed what the person contributes in terms of production value; then the employer would not be willing to employ the person in the first place. If the employer pays wages that are below the employee’s contribution in terms of production value; then he/she is likely to seek an employer willing to pay wages that better reflect his or her productivity.

The cost of employment was measured here by multiplying the employee’s registered annual income qualifying for sickness benefit, by 1.40 to cover payroll taxes, which are approximately 40% of an employee’s earnings. The difference in sick-leave days per month and person between SG and CG is considered as being the average effect of the intervention. By multiplying this difference with the SG’s cost of employment (in constant 2005 prices, Study III), the average economic benefit of the SMVR co-operation was estimated.

The estimated daily wage in 1999 was converted into 2005 prices using the GDP deflator (which was 1.087 according to Statistics Sweden). The wage costs in SEK
were then converted into euro by multiplying with the average €/SEK exchange rate in 2005 (which was 0.1077 according to the Swedish Riksbank).

Statistics

**Study I: Effects of multi-sectoral co-operation**

Non-parametric tests with related samples were used, due to skewed distributions and matched pairs. The significance level for all analyses chosen was $p \leq 0.05$.

McNemar’s test for binary data was used to investigate gender similarities and dissimilarities between SG and CG. Marginal Homogeneity Test for categorical data with multinomial response was used to analyse civil status, citizenship, profession and diagnosis. The variables age and income were approximately normally distributed, which is why a paired-samples t-test was used.

Friedman’s test for a repeated measure analyses was conducted, for the SG and the CG separately, over the time periods: 12 months prior to the SMVR co-operation, and 0-6 months and 6-12 months afterwards. The difference between the SG and CG was also calculated for the same time periods and analysed by Friedman’s test.

When a statistical significant difference over time was found, differences between the SG and CG at each time period, mentioned above, were investigated by Wilcoxon Signed-ranks test. This test was also used for investigating the change in each group itself: one year prior to the intervention compared to the first half-year afterwards; one year prior to the intervention compared to the second half-year afterwards, and the first half-year afterwards compared to the second half-year.

The changes between time periods in SG itself and CG itself (one year prior to the intervention compared to the first half-year afterwards; one year prior to the intervention compared to the second half-year afterwards and the first half-year afterwards compared to the second half-year) were used for comparisons between the SG and CG. The changes studied over time were normally distributed; subsequently a paired-samples t-test was used.

Similarities and dissimilarities between the SG and CG in types of benefit were also analysed in a cross-sectional sample. Categories of partial and total benefits (sickness and rehabilitation allowances included) were combined, as were those of partial and full disability pension. McNemar’s test was used to analyse the type of benefit received on the day 12 months prior to the intervention. The Marginal Homogeneity test was used to analyse the type of benefit received on the last day of intervention, and exactly 6 months and 12 months thereafter.

Equivalent analyses were also conducted for the subgroups, L-group and M-group.

**Study II: Views of immediate superiors on multi-sectoral co-operation**

The questionnaire was analysed with non-parametric tests. The significance level chosen was $p \leq 0.05$. The same-subject design refers to using only one group of subjects, which is studied both prior to and during the intervention and where comparisons are made between its performances on both occasions (Hicks, 2000).
The scale grading was: 1 = extensive, 2 = rather extensive, 3 = either or, 4 = rather small and 5 = small (6 = no opinion). Differences between the time periods: prior to and during the SMVR intervention, were investigated using the Wilcoxon signed-ranks test.

**Study III: A six-year follow-up of multi-sectoral co-operation**

Background variables (gender, civil status, citizenship, educational level, diagnosis, age, yearly income and days on sick leave per month during the year prior to the intervention) between the SG and CG were investigated in Study I.

A mixed-model analysis using Procedure Mixed in SAS 9.1 was used for analysing repeated measures over a period of six years. A parametric test was used since a prerequisite of normal distribution had now been fulfilled for SG and CG. The between-groups factors were Group (SG and CG) and Subgroup (M-group and L-group), and the within-groups factor was Time (1st, 2nd, 3rd, 4th, 5th and 6th year periods after intervention). Baseline was set to the 1-year-period prior to the SMVR co-operation and the model was based on baseline differences. Consequently negative values indicate a decrease in days on sick leave and positive values indicate an increase.

Three pairs had less than one day on sick leave per month during the 1-year period prior to the intervention. Analysis was also conducted excluding those pairs (n=61 pairs), but this did not affect the results.

The co-variance structure was set to unstructured and autoregressive, which means that variance was left as it was, but time points close to each other was assumed to have greater correlation than time points further apart. This co-variance structure suited the analysis better by reaching a lower AICC (Akaikes Information Criteria Correction) score (4677), than being set to compound symmetry (4911).

Level of significance was set to $p \leq 0.05$. Since the Subgroup-x-Group-x-Time interaction was significant ($p=0.0437$), the time effect was analysed within each Subgroup-x-Group. The p-values were then corrected according to the Bonferroni procedure (Bland, 2000); since there were many estimated means, their confidence intervals were calculated with 99% confidence.

Differences in a cross-sectional sample of types of benefit between the SG and the CG on the exact day 1, 2, 3, 4, 5, and 6 years after closure of the intervention were analyzed with the Marginal Homogeneity Test. In the analyses, the categories ‘No benefits’ and ‘Old-age pension’, ‘Full benefits’ and ‘Partial benefits’ and ‘Full disability pension’ and ‘Partial disability pension’, respectively, were combined. The level of significance was set to $p \leq 0.05$.

**Qualitative analyses**

My previous proficiency, as an interviewer, is based on a Bachelor of Social Sciences degree. I have roughly one year’s experience from social work with social allowance and about two year’s experience from work at the Social Insurance Office in Sollentuna, where I co-ordinated vocational rehabilitation for long-term sick listed unemployed persons. I was also Project Manager of a local co-operation project in vocational rehabilitation at the Social Insurance Office, in Sollentuna.
Study II: Views of immediate superiors on multi-sectoral co-operation

The open questions were analyzed by a thematic content analysis. (Patton, 1990; Öhman, 2005; Löfgren, 2006). The answers were mainly described by the visible and obvious components of the content area, subsequently the analysis focused more on the manifest content than the latent (Graneheim & Lundman, 2004).

The answers were identified, coded and categorized to identify general patterns in the data. The procedure included the following steps: a) the answers to each open question were read and reread to get a sense of the whole b) the subjects’ descriptions were divided into units of meaning and then labelled and indexed, c) the contents of the data were condensed and classified and then transformed into categories with a focus on the aim of the study. The statements in each category were also counted. One subject’s statements could include several meaning units, which were included in different categories.

Reliability was enhanced by having the text re-analysed by four researchers from different fields: social sciences, social insurance, rehabilitation medicine and legal science.

Study IV: Co-operation models in Nordic vocational rehabilitation

The analysis was conducted in accordance with the ideas of content analysis (Patton, 1990; Öhman, 2005; Löfgren, 2006). The ‘Open Code’ freeware (version 2.1) was used for coding. The interviews were analysed with both manifest and latent content analyses. The information was condensed into descriptions for each country, and a first analysis focused on the manifest content, but for the analytical comments made in each section of the result focus was also on the latent information, which required more interpretations. (Graneheim & Lundman, 2004).

The interviews were listened to, several times before and after transcribing. The text material was condensed into two steps, due to the large quantity of information. After each condensation the material was reanalysed by the co-authors. Then meaning units were identified and coded, which then formed 14 categories and four themes focusing on the objective of the study. The four themes developed and were then analyzed by exploring similarities and differences between the Nordic countries.

To increase reliability triangulation was conducted with researchers from different fields: social sciences, social insurance, rehabilitation medicine and legal science, in order to prevent losing essential information. Member checking was used for additional triangulation. Interpretations of the material have been presented to the informants in all five countries, who have all commented the texts and suggested small adjustments. Those adjustments were taken under consideration.
RESULTS

The results from Studies I, II and III are based on the same systematic, multi-sectoral, client-centred and solution-oriented co-operation intervention in vocational rehabilitation (SMVR co-operation). Study I and III focus on effects of the SMVR co-operation on sick-leave days per month, production gains for society, and types of benefit as outcome measures. Study II focuses on the immediate superiors’ views on the SMVR co-operation in comparison to the situation prior to the intervention. Study IV focuses on problems and possibilities of different co-operation, collaboration and co-ordination models in vocational rehabilitation in the Nordic countries.

Has the SMVR co-operation any effect on sick-leave days?

The study group (SG) and the control group (CG) were matched on the number of days on sick leave during the 12-months-period prior to the intervention; both groups had about 8.5 median days on sick leave per month. The difference between the SG and CG during the second half-year afterwards was 15.3 sick-leave days per month (p=0.002) (Figure 3). The SG showed no effect on sick leave days until the second half year after intervention. The median number of sick-leave days per month sank from 6.1 to 0 between the first and second half-year after the intervention (p=0.001). In the CG, the median number of sick-leave days per month increased from 8.4 to 15.2 (p=0.001) during the first half year, and remained about the same for the second half-year (Figure 3).

To elucidate which patients benefited most from the SMVR co-operation, patients with more sick leave days prior to the intervention (M-group) were compared with patients with fewer sick leave days (L-group) prior to intervention. The SG M-group had 16.2 median sick-leave days per month and CG M-group had 16.3 (Figure 3), during the 12-months-period prior to the intervention. Study I shows that the effect in the SG M-group, with more than 8.5 days on sick leave per month prior to the intervention, did not occur until the second half-year after the intervention, which is also the case for the entire SG. However, the effect was much greater. When comparing the second half-year to the year prior to intervention the median sick-leave days per month sank from 16.2 to 2 (p=0.009) in the SG M-group. In the CG M-group, the increase in sick leave was obtained as early as during the first half-year after the intervention, as it was for the entire CG, but again it was much more significant. When comparing the second half-year to the previous year the median sick-leave days per month increased from 16.3 to 29.3 (p=0.021). The difference between SG M-group and CG M-group during the second half-year afterwards was 27.3 sick-leave days per month (p<0.001). (Figure 3)

In Study I comparisons were also made between the SG’s and CG’s changes from baseline (12-months-period prior to the intervention) to the second half-year period afterwards (p=0.001). The median SG sick-leave days per month decreased from 8.5 to 0 and the median CG sick-leave days per month increased from 8.4 to 15.3. This change was also shown for the M-group pairs (p=0.001). (Figure 3).
Figure 3. Median number of days on sick leave per month, from year before intervention to first and second half-years after its end or equivalent period. Course of changes in study group (SG) and comparison group (CG) of all pairs (n=64+64) and M-group pairs with more previous sick leave (Severe SG and Severe CG) (n=32+32). (Reprinted with kind permission from Disability and Rehabilitation)

Figure 4. Differences (diff.) in days on sick leave per month between second half-year after intervention and year before, between study group persons (SP, x-axis) and comparison group persons (CP, y-axis). Decrease in sick leave shown by negative values, increase by positive. All pairs (n=64+64), M-group pairs with more previous sick leave (n=32+32). (Reprinted with kind permission from Disability and Rehabilitation)

The change of the individual’s number of days on sick leave between time periods has been plotted against their “twin”; study persons on the x-axis and their comparisons on
the y-axis. This is shown in Figure 4 for the second half-year after the intervention and one year prior to start. Note that there is an accumulation of dots in the upper left quadrant of all pairs and M-group pairs, where the study group has decreased in days on sick leave per month (negative values, shorter sick leave) and the comparison group has increased (positive values, longer sick leave). There are only a few dots in the lower right quadrant where the study group has increased and the compared group decreased in days per month for all pairs (p=0.001) for M-group pairs (p<0.001).

In the 6-year follow-up (Study III) the mixed-model analysis showed an overall significant difference between SG and CG of 5.7 days on sick leave per month and person (95% confidence interval: 2.0 - 9.5), over the 6-year-period (p=0.0030). No statistically significant decrease in sick-leave days per month was shown in the SG. The SG remained at about the same level in relation to baseline over the years. In the CG the number of days on sick leave showed an overall increase of 5.5 days per month and person as early as during the first year of follow-up in comparison to baseline, and remained at that level up to six years. (Figure 5)

In Study III the results indicate an overall decrease for the SG M-group by 5.2 days on sick leave per month and person (95% confidence interval: -9.8 - -0.5) and an overall increase for the CG L-group by 8.4 days on sick leave per month and person (95% confidence interval: 3.4 – 13.3) (Figure 5).

![Figure 5. Estimated means for study group (SG) and comparison group (CG) at each time point. Difference from baseline (12-months-period prior to intervention) in days on sick leave/month/person; negative values indicate a decrease in days on sick leave and positive values indicate an increase. All subjects (n=64+64). M group: subgroup with more than 8.5 sick-leave days/month at baseline (n=32+32). L group: subgroup with fewer than 8.5 sick-leave days/month at baseline (n=32+32). (Printed with kind permission from Journal of Rehabilitation Medicine)](image-url)
Has the SMVR co-operation had any effects on production gains for society?

The economic benefit of the SMVR co-operation, in both Study I and Study III, was based on reduced production loss stemming from increased working time, i.e. showing a subsequent decrease in sick leave days. No extra funding was raised for the SMVR co-operation project.

In Study I the economic benefit for society in terms of increased production was estimated as being the difference between the SG’s and CG’s changes in daily wage cost from 12 months prior to the intervention to the second half-year afterwards. Consequently the economic benefit was estimated at €1278 per month and person based on the whole group, and to €2405 per month and person for the M-group.

In Study III the economic benefit in terms of the value of increased production was estimated as being the SG’s daily wage cost times the overall effect of 5.7 (95% confidence interval: 2.0 – 9.5) days on sick leave per month and person. This was then estimated for one year by multiplying the economic benefit per month by 12, and then the total benefit for the six-year-period was estimated by multiplying the economic benefit per year by 6 (using constant 2005 prices). The economic benefit was estimated at €508 (95% confidence interval: €182-844) per month and person, at €6098 (95% confidence interval: €2178-10124) per year and person and at €36588 (95% confidence interval: €13070-60741) per person over the 6-year-period. Consequently the economic benefit of the intervention, for the group of 64 individuals, over a six-year-period was estimated at €2.3 millions (21.7 million SEK).

Has the SMVR co-operation had any effect on the type of social insurance benefit received or is there no benefit?

It was more common in the SG, not to be a recipient of social insurance, whereas it was more usual to be a recipient of partial or total disability pension in the CG (Figure 6). No statistically significant difference between the SG and CG in types of benefit was found on the last day of the intervention, which also indicates that effects emerge at a later stage. Statistically significant differences were however demonstrated for the six-year follow-up.

The results of Study I showed effects on types of benefit from the day 6 months after the intervention. The distribution was quite similar to that of the day 1 year after the intervention but the difference was not as great (p=0.015).
What was the immediate superiors’ experience of the SMVR co-operation?

The immediate superiors experienced the SMVR co-operation positively. A majority of them rated co-operation with both the social insurance office and the occupational health service to be more extensive during the intervention compared with the situation prior to the intervention. During the intervention the immediate superiors reported that there had been a decrease in referrals from one organization to another without the problems being resolved, there were increased opportunities for returning to regular and other jobs and more substantial efforts were being made to find alternative strategies for vocational rehabilitation.

Figure 6. Cross-sectional sample of type of benefit for the time periods: last day of intervention and at exactly 1, 2, 3, 4, 5 and 6 years after intervention. Full and partial benefits include sickness allowance and rehabilitation allowance. Percent (n=64+64) (* =excluded in the graph: two deaths during 3rd and 5th years of follow up). Statistics: Marginal Homogeneity Test. (Printed with kind permission from Journal of Rehabilitation Medicine)
Difficulties in co-operation with both the social insurance office and the occupational health service were reported to the same extent during the SMVR co-operation as they had been prior to the intervention. Guided by the comments submitted in the questionnaire, the reason for this could well be due to structural difficulties such as different organizational objectives and perceptions.

The immediate superiors were also highly satisfied with the way in which the SMVR team meetings functioned. Seventy five percent of those who had participated in the meetings (n=47), responded that they functioned efficiently or fairly efficiently. According to the immediate superiors the team meetings were an important advantage of the intervention. These meetings were described as offering direct access to several different professions and perspectives, generating a comprehensive picture and more numerous, constructive and creative solutions or rehabilitation measures leading to faster decision-making. Vocational rehabilitation was reported to be facilitated by the actors involved agreeing on a common goal, meeting together and receiving the same information, which eliminated the risk of misunderstandings and manipulation. According to most of the immediate superiors, dialogue, agreement, structure, defined roles and distribution of responsibilities were prerequisites for the SMVR team meetings. Very few critical comments were made, but some of the immediate superiors felt that there was a risk that the employee might feel insignificant and vulnerable when meeting many professionals at the same time.

When the immediate superiors (n=95) were asked about possibilities and obstacles for further developing vocational rehabilitation, staff resources was stressed as a main possible obstacle, often due to reorganizations. Some of the possibilities mentioned for developing vocational rehabilitation were; a well-trained management; a positive working climate and positive attitudes among colleagues; a more structured organization with distinct roles and goals including access to occupational health services, and close co-operation with all those involved in order to achieve a comprehensive view and take a grip on vocational rehabilitation together. Reported obstacles were substantial demands in working life and slimmed-down organizations, making it difficult to find alternative or adjusted work tasks. Other obstacles reported were that the procedure of dealing with sick-listed employees took too long and that employees should take more responsibility for their vocational rehabilitation. More training was suggested for both immediate superiors and employees, since skills/competence and training or the lack thereof were reported both as possibilities and obstacles for further developing vocational rehabilitation.

**What problems or possibilities derive from different co-operation, collaboration and co-ordination solutions in the Nordic countries?**

Most informants agree that lack of co-operation results in delaying clients from returning to work. A more effective handling of the cases, as described by the Norwegian informants after the new employment and welfare administration reform (NAV), had, according to them more clients return to work earlier.

Two new reforms in Denmark and in Norway suggest a tendency towards municipal organization of welfare services. This also applies to organizing models of co-opera-
tion, collaboration and co-ordination in vocational rehabilitation in the Nordic countries. Contradictory goals in vocational rehabilitation are described by the informants as being an obstacle in co-operation. The Norwegian informants, however, described that this is no longer an issue after the NAV reform.

In Norway and Sweden the informants reported that employers are more active and have more responsibilities in the vocational rehabilitation of employees than is reported by informants in the other Nordic countries. However the informants in Iceland, Finland and Denmark described the employers as being an important asset in the rehabilitation process and expressed a wish for them to become more involved.

Special units for co-operation have been established in the rehabilitation actors’ organizations in Sweden but not in the other Nordic countries, where responsibilities for co-operation instead is placed upon single officers.

The informants in Sweden, Finland and Norway described a risk for sectorization where the organizations alienate against each other causing a “pillar-to-post” problem, where clients are referred back and forth without having their problems resolved. Finnish and Swedish informants also described the possibility of creating clients with a need for co-operation. The Danish and Norwegian systems with one financial administration co-ordinating the welfare services seems like an effective solution, as it is then indifferent in which other administration benefits or costs occur. Even though the Nordic countries have different prerequisites in terms of employment and welfare systems, it is interesting to discover that most informants still experienced a “pillar-to-post” problem. According to the informants this was a problem mainly induced by the client’s maintenance situation. The only exception is Norway, where the informants indicated that this ended with the introduction of the new fixed allowance (kvalificeringsstönad, in Norwegian).

Several different models of co-operation, collaboration and co-ordination have been described by the informants. Even though co-operation is more developed in some countries than in others, the models described share some common features, such as a mutual arena for communication, information, decision-making and activities, locally situated and most of them are arranged by formal agreements between a social insurance office, an employment office, a social service office and health care. These agreements usually include issues of representation, goals and measures. However, all informants agree that informal contacts between officials are also important.

The informants agree on more solutions being available for the clients in co-operation. Differentiating vocational rehabilitation measures from disbursements has lead to more resources for planning, follow-ups and co-operation according to the Danish and Norwegian informants.
DISCUSSION

Why such substantial effects of the SMVR co-operation?

How can we explain the effects shown on sick leave days, economic gains for society and types of benefit paid by the social insurance after the SMVR co-operation when other studies of co-operation in vocational rehabilitation show no clear evidence of effects (Jenkins, 1999; Schmitt, 2001; Socialstyrelsen, 2001; El Ansari, Phillips & Hammick, 2001; Hultberg, 2005)? Studies of a collaboration model with co-financing for rehabilitation of people with new episodes of musculoskeletal disorders, showed no evidence that the new interdisciplinary team structure had any effect on health outcomes, days on sick leave, health care utilization or costs for patients than conventional care had (Hultberg, Lönnroth & Allebeck, 2005). There is a wide variety of types of co-operation interventions and results may vary depending on outcome measures, target groups and time of evaluation studied (El Ansari, Phillips & Hammick, 2001). It is reasonable to believe that more intricate co-operative efforts such as those effected in the SMVR co-operation will lead to broader and more comprehensive results, than interventions requiring only a minimum of co-operative efforts (Mandell & Steelman, 2003). One part of the SMVR co-operation intervention is the systematic inter-professional team meetings with the individual in focus, which has previously been reported as being efficient in achieving work resumption (Jakobsson et al, 2005). Another part of the SMVR co-operation is the thorough medical exam carried out by the occupational health service physician, who is more familiar with the particular employer in question and subsequently may be able to find better alternative solutions than the primary health care centers in general. The long-term effect of the SMVR co-operation over the 6-year period studied is in accordance with the findings of Bergendorff et al (1997), where it is shown that those who had participated in vocational rehabilitation and returned to work are less at risk of becoming sick listed again than those who had not participated in vocational rehabilitation.

Common for co-operation models with positive outcomes are more extensive rehabilitation programmes including continuous, structured meetings between the same representatives of officials, at which long-term rehabilitation plans with common goals are drawn up (Jakobsson et al, 2002; Kährholm et al, 2006; Storrö, Moen & Svebak, 2004; Meijer, Sluiter & Fings-Dresen, 2005). Multidisciplinary interventions comprising only brief rehabilitation programmes have not shown any effects (Bonde et al, 2005; Magnussen et al, 2007).

There are various possible reasons why the SMVR co-operation may have been more successful than previously evaluated co-operation projects. For one thing, the team in the SMVR co-operation developed a mutual culture and common platform to work from. In previous studies different work cultures, traditions and definitions of concepts have reportedly induced difficulties in co-operation (Hvinden, 1994; SOU 1996:85; Lindqvist & Grape, 1999; Danermark & Kullberg, 1999; Lindqvist, 2003). Another reason could be that the roles of the actors were better appreciated and understood by the participants in the SMVR co-operation than is usual in the case of conventional rehabilitation. Well-defined roles are reportedly important in successful co-operation (Jakobsson et al, 1998; Kährholm et al, 2007a). Discussions in the SMVR team meetings took place under a fairly calm and unstressed form, where clients were able to express views and feelings, despite meeting many officials at the same time (Jakobsson
et al, 2002). As many as 80 percent of the clients (Jakobsson et al, 1998; Jakobsson et al, 2000) conveyed that few of these meetings could be seen as being intimidating, but rather as being supportive and secure. The SMVR co-operation enhanced focus on active rehabilitation plans instead of on the administration of demarcation of one’s separate obligations. The SMVR team also took joint responsibility in finding individual solutions. This is also highly probable to result in long-lasting results. Key ingredients for effective collaboration, which may also apply to the SMVR co-operation, have been described as good working relationships, having a common purpose, clear communications and co-location (Lorenz et al, 1999; Danermark & Kullberg, 1999). That all involved actors should have the same goal has also been stressed as being an important element in facilitating a return to work for people on social allowance (SOU 2007:2).

Another reason for the SMVR co-operation’s success could well be due to the selection of subjects. In the SMVR co-operation the majority of subjects were women in their late 40s, of Swedish nationality, employed by the municipality with a rather high educational level and a history of long-term sick listing. Previous research has shown that a higher educational level is associated with better chances of returning to work (RFV Redovisar 1996:14; RFV Redovisar 1997:6; Linder J et al, 1999; Selander et al, 2002; RFV Analyserar 2004:1). On the other hand results of other studies indicate that these personal variables should not be given too much of an explanatory value. A similar co-operation intervention to the SMVR co-operation the so called “Beta” project, was also shown to be equally successful according to sick leave and return to work, but its target group was unemployed persons with multi-problems (Jakobsson et al, 2005). Another study of an interdisciplinary 8-week rehabilitation programme showed that immigrants benefited from the programme to the same extent as native Swedes (Norrefalk, Ekholm & Borg, 2006). It is possible that the study subjects were more motivated (Gerner, 2005) due to the assessment at the occupational health service of attitudes towards sick-listing and disability pension, but also due the fact that they received more attention and had an employer who sincerely wanted them back at work (Selander et al, 2002; Williams & Westmorland, 2002; Gard & Larsson, 2003; Nordqvist, Holmqvist & Alexanderson, 2003).

There are studies that proclaim that vocational rehabilitation must commence at an early stage in a sick-listing episode to be successful (Marnetoft & Selander, 2002), but the SMVR co-operation was proven effective even though an average of 233 days had elapsed from the first day of sick leave until the start of the intervention.

Why the substantial effects on production gains for society?

The difference of 5.7 days on sick leave per month and person is quite substantial. It corresponds to approximately two months of full time sick leave a year per person. When that much more time is spent working instead of on sickness absence, it also generates large economic gains for society. Still the true economic benefit should be even more substantial if other elusive factors such as improved health were included. In 2000 a published macro-economic study showed that one invested Swedish crown in comprehensive rehabilitation gave nine Swedish crowns in return, (SOU 2000:78). Another study presented by Socialstyrelsen (2000) also showed substantial effects on economic gains for society with a calculated pay-off-time for co-operation activities of about nine months.
The effects calculated in Studies I and III can not be derived from the SMVR co-operation alone, but also from the decline in the comparison group. It is a well known fact that long-term sick leave increases the risk of being granted a disability pension and having less chance of resuming work, which is the case for the comparison group (RFV Redovisar 1997:6; Selander et al, 2002; Gjesdal & Bratberg, 2003). Those on temporary disability pension have also been shown to receive permanent disability pension rather than resuming work (Ahlgren et al, 2005). The study group had access to the same forms of rehabilitation as the comparison group had. However, it is possible that the SMVR co-operation generated rehabilitation activities more frequently, which were more appropriate for the study group than was the case for the comparison group.

**What experiences are there of co-operation in the Nordic countries?**

In Norway a new reform of employment and welfare services has resulted in new co-operative solutions. Social insurance, employment, social services and health care are organized as an entity under one authority on a local basis in the municipalities. Denmark has also recently reformed their welfare services, to incorporate the former national employment office with the municipal Activity and Integration Administration. In both countries one financial administration co-ordinates all the welfare services, allowing for costs to be induced in one administration and revenues collected in another. Both countries have also separated the management of planning and the follow-up of rehabilitation activities from the management of disbursements. This seems like an effective solution.

In Denmark welfare services are assembled in three administrations in the Municipality: Activity and Integration Administration, Social Welfare Service and Health and Care Administration. These administrations are run more or less as separate units; subsequently there are reports of “Pillar-to-post” problems occurring to some extent between the administrations. One advantage is having one Economic Administration in common for all the other administrations in the Municipality, which also has special funding for co-operation projects.

The former National Insurance Service, the National Employment Service and parts of the municipal social services in Norway are now included in a new authority, the Labour and Welfare Administration (NAV). The basic idea is that one and the same official body should handle everything these three former authorities did separately. The client has only one place (NAV) to turn to when in need of welfare services. According to the informants the “Pillar-to-post” problem is well on the way to being completely eliminated. When working together within the same organization the Norwegian informants experience a more effective handling of the cases helping more clients to return to work earlier. Co-operation in vocational rehabilitation has previously been shown to increase work resumption (Jakobsson et al, 2005; Vahlne Westerhäll, Bergroth & Ekholm, 2006).

The results indicate that Sweden has developed numerous co-operation activities in vocational rehabilitation. Sweden is also the only country where special units and departments for co-operation have developed among the rehabilitation actors. Many different forms and models of co-operation exist there. This could, however, imply that
rehabilitation actors are more differentiated and operate by conflicting objectives in Sweden, which is why there is a greater need for co-operative solutions (Lindqvist & Grape, 1999). In Sweden there are Co-operation Associations, where all four authorities invest the same amount of money and co-operate financially to coordinate assessments and actions to restore or enhance the client’s functional and working abilities. The National Social Insurance Office in Sweden is also about to be reorganized in terms of location and production of welfare services (Försäkringskassan, 2007).

Finland has organized co-operation activities in vocational rehabilitation at all levels. Many of these activities are also legislated. Still “Pillar-to-post” problems exist due to the fact that the legislation only states that there shall be co-operation between the different rehabilitation actors, not which one should take the initiative. The Finnish welfare system is also the most complex with numerous actors, subsequently the informants also proclaimed the need for one actor to be assigned explicit responsibility for co-operation. In Finland there are Labour force service centres (Arbetskraftsservice-center), which gather all welfare actors under one mutual roof, to facilitate co-operation and contacts for the clients. To some extent like a first step towards the Norwegian NAV reform. Finland is the only country where the occupational health units have sufficient proportion to act as a main actor in vocational rehabilitation.

Co-operation in Iceland is not formally regulated as it is in the other Nordic countries, but they co-operate often by voluntary agreements. It is quite unusual to receive external funding for co-operative activities, which is why the majority of such activities are funded by the regular budget. According to the Icelandic informants “Pillar-to-post” problems do exist, even though Iceland is a small country. Solutions however do not need to be so formal since there appears to be a tradition of taking initiatives anyway at grass-root level among case workers. There are a few co-operation activities in Iceland where the Social Insurance Office pays rehabilitation pension for people who participate in activities at the Social Service Office aimed at work resumption.

The models for co-operation described share some common features such as: services of social insurance, employment, social services and health care; a mutual arena for communication, information, decision-making and activities; formal agreements of representation, goals and measures and targeting citizens with special needs. These features have previously been discussed as being important for successful co-operation (Stenberg, 1999; Lorenz, Mauksch & Gawinski, 1999) and constitute the basic principles for referring to the existence of a Nordic co-operation model. This does not for instance exclude other countries in continental Europe of having developed similar co-operation models.

**Methodological aspects**

There are a number of methodological limitations associated with assessment of an intervention. Selection bias is one of the most serious limitations. To compare the study group and the comparison group for any important differences, we used a matched pairs design in Study I and III. Due to difficulties in finding sufficiently matched controls the matching criteria had to be expanded. This might have contributed to a selection bias. In addition to the matching criteria, demographic characteristics and other background information was collected, which showed no statistical significant differ-
rence between the two groups. Selection bias was however not a problem in Study II or IV, since the study designs did not include comparison groups.

In Study I and III it is still possible that inclusion of subjects in the study group differed somewhat compared with the comparison group. For ethical reasons it is difficult to design studies of interventions in vocational rehabilitation to be double blinded controlled trials where subjects are selected by chance, which is why individually matched controls were chosen as the second best alternative. The educational level however was slightly higher in the study group than in the comparison group, which is associated with much better chances of returning to work (RFV Redovisar 1996:14; RFV Redovisar 1997:6; Linder J et al, 1999; Selander et al, 2002; RFV Analyserar 2004:1). Motivation may also have been higher among the study group subjects, due to the assessment of attitudes towards sick listing and disability pension at the occupational health service, which was part of the intervention (Gerner, 2005). But the study group contained more fatigue (burnout) cases and more singles than the comparison group, which implies that the study group would be less likely to return to work than the comparison group (Selander et al, 2002; RFV Analyserar 2004:1). There were however no statistically significant differences in this respect.

Since the records studied in Study I and III did not contain complete information relating to what vocational activities the subjects had received, further analyses of those were not possible. The results of these studies must be evaluated with respect to the whole intervention.

The small sample size in Study I and III could well limit the evidence value; consequently the data must be interpreted with caution. One reason for the small sample size was a limited number of employees who participated in the SMVR co-operation intervention, and there were difficulties in finding sufficiently matched controls.

Registers may contain errors, but registers used in Studies I and III are of well-known high quality and since records of both groups were recorded the same way any compilation errors are probably equally divided between the study and comparison groups, which is why there are reasons to believe that major validity problems are limited. Only days with disbursements from the social insurance were measured, which means that differences between the groups in shorter periods of sick-listing paid by the employers were not accounted for. The person in the SG person and their control “twin” had the same sick-pay period. The measurement in time periods instead of cross sections was also believed to improve validity.

The closure of the SMVR co-operation was set to the last day that anything was noted in the project record, but it is quite probable that rehabilitation activities continued afterwards. This could partly explain why effects were not demonstrable until the second half-year following this.

The outcome in Study III of 5.7 more days on sick leave per month and person during the 6-year-follow-up period may be influenced by other factors than the studied intervention. Factors such as socio-economic changes have not been controlled for in the analyses, but the study and comparison subjects were matched on having their sick leave spells started at about the same time in order to reduce the risk of systematical
errors. The results are also in accordance with other studies (Jakobsson et al, 2005; Norrefalk et al, 2007)

Informants in Study II were asked questions retrospectively about the situation prior to the SMVR co-operation, which may have been difficult to remember correctly. Despite a rather extensive questionnaire, the response rate was 81 percent. Since no previous validated questionnaire on co-operation issues was found, the questionnaire used was a novel data collection tool. A weakness was also not having a comparison group.

In Study IV informants may have answered questions on national matters that they did not really have sufficient knowledge about, but the intention was to account for this to some extent by a strategic selection of knowledgeable informants from regions well ahead in the area of vocational rehabilitation and co-operation, from a national perspective. Even though the research process changed and adapted in accordance with emerging results (Öhman, 2005), there were still some unanswered questions when the results were analyzed. One specific question, which comes to mind, was how the different actors defined and viewed the individual in need of the welfare services. But this would be an interesting question for future research.

These methodological aspects have however been considered while drawing conclusions.
SUMMARY OF MAJOR FINDINGS AND CONCLUSIONS

Does the SMVR co-operation have effect on sick-leave?

- The SMVR co-operation has an overall positive effect of 5.7 less days on sick leave per month and person in comparison with conventional vocational rehabilitation and co-operation.
- Effects of the SMVR co-operation on sick leave are not demonstrated until the second half year period after the intervention.
- SMVR co-operation prevents an increase in sick leave at group level in long-term sick leavers.
- SMVR co-operation may reduce sick leave for those who reported more sick leave absence prior to the intervention.
- Without the SMVR co-operation, sick leave is likely to increase, especially for those with less sick leave absence prior to the intervention.
- The effects on sick leave days per month occurred during the first year after the intervention and lasted for at least six years.

Does the SMVR co-operation have effects on production gains for society?

- Economic gains for society occur one year after the intervention.
- The average economic benefit for society was roughly € 6 100 per person and year. According to the estimates, there is a 95 % probability that the economic benefit lies within an interval between € 2 178 and € 10 124 per person and year.
- The average economic benefit for society for the whole 6-year period of the SMVR co-operation is estimated at roughly € 36 600 per person. According to the estimates, there is a 95 % probability that the economic benefit lies within an interval between € 13 100 and € 60 700 per person for the whole 6-year period.

Does the SMVR co-operation have effect on type of benefits?

- Effects of the SMVR co-operation on type of benefits are not demonstrable on the last day of the intervention, but are on the day 6 months after the intervention.
- With SMVR co-operation it is more likely that people resume their ability to work and are not granted any allowances from the social insurance, compared with “treatment as usual”.
- Without the SMVR co-operation, partial or total disability pensions are more likely to be granted than with SMVR co-operation.
- The effects on the type of benefits lasted for the whole six-year-period studied.
How do the immediate superiors’ experience the SMVR co-operation?

- A fairly elaborate co-operation model such as the SMVR co-operation increases the chances of a successful vocational rehabilitation.
- SMVR co-operation diminishes the ‘pillar-to-post’ (vicious circle) problems, where the client is sent from one instance to another without having their problems solved.
- SMVR co-operation generated a joint responsibility for finding solutions for the employees on long-term sick leave.
- SMVR co-operation increased attempts to find alternative rehabilitation strategies and made it possible for employees on long-term sick leave to resume regular or other jobs.
- SMVR co-operation, while perhaps costing more in staff resources initially, is an efficient work method in vocational rehabilitation, due to having direct access to different professionals, perspectives and a comprehensive picture.

What problems or possibilities are there of co-operation, collaboration and co-ordination in the Nordic countries?

- The Nordic countries have the ”pillar-to-post” problem and also the need for co-operation in common, with the exception of Norway where informants describe a possible solution to the problem in the form of the new employment and welfare administration (NAV). NAV includes the former National Insurance Service, The National Employment Service and parts of the municipal social services.
- Informants in all the countries describe that the ”pillar-to-post” situation concerns the client’s maintenance and which actor should assume responsibility for this.
- Common for Norway and Denmark is that social insurance, employment office and social service are jointly organized to form one single authority. Both countries have chosen to organize disbursements in separate units in order to liberate resources for vocational activities.
- Denmark is described as having excellent possibilities for co-operation since the different municipal administrations report to the same economic administration, which has special funding for co-operation.
- In Sweden and Norway employers have a statutory responsibility for part of vocational rehabilitation but this is not the case in the other Nordic countries, even if employers always play an important part in general for the possibility for individuals to resume working life.
- Finland is the only country where the occupational health units are of sufficient proportion to act as a main actor in vocational rehabilitation.
- Sweden is the only country that has established units and positions in the various authorities with a specific responsibility for issues of co-operation. In the other countries, the responsibility for co-operation is mainly at the level of separate officials, without any specific overall directive or structure for co-operation.
No designated organization or authority in the Nordic countries has the chief responsibility for co-operation in vocational rehabilitation. Responsibility for co-ordination has only been given to the Social Insurance Office in Sweden, and in Iceland, according to a recent decision, to the Employment Office.

In all of the countries, with the exception of Iceland collaboration or co-operation between organizations has been legislated. Co-operation in Iceland takes place by voluntary agreements.

Co-operation results are affected by different factors. One such factor could be how work ability is assessed. In Sweden and Norway an employee’s work ability is assessed in relation to previous work and to the labour market in general if the previous employer has no more to offer. Unemployed persons’ work ability is assessed straight away in relation to the labour market in general. In Iceland work ability is always assessed in relation to the labour market in general. In Finland publicly employed persons’ work ability is judged in relation to their previous work and for other employees to the labour market in general. In Denmark work ability is assessed in relation to previous work for the first three months and after that to the labour market in general.

Another factor, which could possibly affect the results of co-operation is the opportunity of receiving a so called ”flex job”, which exists in Denmark. If work ability is reduced permanently between 1/3 and 2/3, the client is offered this flex job, which entitles flexible working hours, allowing him/her to work under favourable conditions, e.g. part-time or whole-time with fewer work tasks for market wages, with the employer receiving compensation from the Activity and Integration Administration.

Common to all informants in all of the countries is their information that the co-operation creates more opportunities for utilizing sick-listed people’s work ability by affording them access to more approaches to the problems and by combining resources.

Informants in Finland, Denmark, Norway and Iceland describe that focus is more likely to be on work ability and possibilities instead of on disabilities and obstacles, in the individual cases, due to co-operation.

The Norwegian informants described that decision-making in individual cases has become more effective, leading to more rapid decisions and more clients assuming work, due to the new employment and welfare administration (NAV) reform.

An obstacle to co-operation, as mentioned by the majority of informants in Sweden, Finland and Iceland, was the different goals among the rehabilitation actors, bringing different views of the client.

Only the Icelandic informants described The Official Secrets Act as being an obstacle to co-operation. In Sweden and Finland the informants described that the clients’ consent is a prerequisite for co-operation, but this rarely causes trouble.

Several different solutions of co-operation, collaboration and co-ordination have developed in the various Nordic countries, despite some fundamental similarities in the organization of the welfare services.
• In Sweden examples of successful co-operation without legislative enforcement have been developed, while solutions in Norway and Denmark have needed that.

• There is much to learn from our Nordic neighbours’ experiences of co-operation and vocational rehabilitation.
ACKNOWLEDGEMENTS

This PhD project has been conducted within the national network “Centre for Rehabilitation Research” and in collaboration between the Karolinska Institutet and Department of Health Science, Mid Sweden University. There are several persons who have been helpful throughout my studies, participants as well as staff at the Social Insurance Office in Stockholm, colleagues at the Department of Rehabilitation Medicine, Karolinska Institutet and friends to whom I am sincerely grateful and wish to express my appreciation.

Special thanks to:

Professor Kristina Schüldt Ekholm, Department of Health Sciences, Mid Sweden University, campus Östersund, earlier Division of Rehabilitation Medicine, Department of Public Health Sciences, Karolinska Institutet. Main supervisor since the year 2004 and co-author. Thank you for scientific guidance and support, bringing new insights and perspectives on research and life.

Professor emeritus Jan Ekholm, Division of Rehabilitation Medicine, Department of Public Health Sciences, Karolinska Institutet. Head supervisor until 2004, assistant supervisor after that and co-author throughout the whole work. Thank you for taking me in as a PhD student, for your skilful scientific guidance and for your encouragement always.

Professor emeritus Alf Bergroth, Department of Health Sciences, Mid Sweden University. Local supervisor and co-author. I was given a chance of a life time when given the 5-year scholarship, thanks to you! Thank you for siding with me in matters regarding social science, for your endless encouragement and support, starting years before my PhD-studies.

Björn Jakobsson, Department of Health Sciences, Mid Sweden University. Co-author in studies I and II and colleague. Thank you for all your encouraging support in research as well as in teaching.

Associate professor Karolina Ekholm, Department of Economics, Stockholm University. Co-author in studies I and III. Thank you for spending precious time working with the economic calculations, despite your extremely busy schedule.

Ulrika Schüldt Håård, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet. Co-author in study II and very good friend. Thank you for sharing the joys and sorrows of research and life.

Professor Kristian Borg, Head of the Division of Rehabilitation Medicine, Department of Public Health Sciences, Karolinska Institutet. Thank you for your encouragement and for providing research facilities.

Karin Rudling, Manager of the Department of Rehabilitation Medicine, Danderyd Hospital, Stockholm. Thank you for providing research facilities and for showing such great interest in my research.

Lisbet Broman, medical laboratory technician, Division of Rehabilitation Medicine, Department of Public Health Sciences, Karolinska Institutet. Thank you for tutoring me through the agonies of statistics and for your magical way with figures, posters and layouts. Thank you also for your support and friendship throughout the years.
Tim Crosfield, thank you for your expertise in revising the English texts of articles I-IV, for making the extra effort of tutoring and for being so friendly and optimistic despite long and demanding manuscripts.

Elisabeth Berg, statistician, Department of LIME, Medical Statistics, Karolinska Institutet. Thank you for professional statistical advice available at any time.

Britta Eklund, Division of Rehabilitation Medicine, Department of Public Health Sciences, Karolinska Institutet. Thank you for all administrative help and for your support and friendship throughout the years.

Maud Magnusson, Department of Health Sciences, Mid-Sweden University, campus Östersund. Thank you for valuable help with paperwork, other administrative tasks and for being a good friend all these years.

Dorothy Björklund, thank you for skilful revision of the English text in the frame story of my thesis.

Ove Jätfors, Barbro Rådberg, Bibbi Bodesjö, Ulf Andersson, Ulf Montenius, Pia Sparreskog, Katarina Greber, Irma Hansson Ann Wastesson och Camilla Stendahl. Thank you for valuable contribution to the Stockholm Co-operation Project, which has made present studies possible.

Friends and colleagues at CRF, Centre for Studies on Rehabilitation Research. Thank you for providing a merry and stimulating research environment and for encouragement and friendship over the years.

Friends and colleagues from the former research group at Karolinska Institutet. Thank you for all the stimulating discussions and for sharing the good and the bad times with me.

Friends and colleagues from present research group at Karolinska Institutet. Thank you for the time and effort you have spent in valuable input to my research. I am especially grateful to Margareta Hansson, Monika Löfgren, Jan-Rickard Norrefalk, Marie-Louise Schult and Gunilla Östlund for demanding scrutiny of this thesis, for generously sharing your expertise, for your constant encouragement and support when needed the most.

Margareta Hansson, roommate for several years and fellow PhD-student at the Division of Rehabilitation Medicine, Department of Public Health Sciences, Karolinska Institutet. I would like to thank you especially for being such a dear and thoughtful friend and for your valuable input in methodological discussions whenever needed.

Gunilla Östlund, new roommate at Danderyd Hospital and fellow PhD-student from Karolinska Institutet. Thank you for personifying the research environment at Danderyds Hospital, for sharing life as a PhD student and for your fun and encouraging chit-chats.

Jan-Rickard Norrefalk, friend and research colleague at Danderyd Hospital. Thank you for cheering me up at all times. Your supportive emails have been truly encouraging and inspiring to endure these last few hectic months.

Karin Améen, Eva Karlsryd, Annalisa Regner Hultgren, Annika Jeppsson, Staffan Söderberg, Annette Nordqvist and Erna Flodén, colleagues at the former Division of Research and Development at the Social Insurance Office in Stockholm. Thank you for your social support and encouragement throughout the years.
Ann Walestrand and Eeva-Liisa Nyblom, social insurance officers in Tumba. Thank you for your valuable help in collecting data, despite work overloads.

Christina Åkerstedt, specialist at the Social Insurance Agency. Thank you for lending me your expertise in both my research and my teaching.

Ingrid Halvardsson, previous employer and Director of the Social Insurance Office in Sollentuna. Thank you for encouraging me to begin my PhD studies, for your support and friendship over the years and for belief in me, which helped me to finish this thesis.

Annika Törnqvist, thank you for functioning as my personal fitness instructor in helping me with physical training sessions, making it easier to cope with stress and long working hours.

Roger Andersson, thank you for the artistic illustration of co-operation on the cover of my thesis.

My parents, Ulla and Sven. Thank you for your love and support always, for giving me a predisposition of stubbornness and for contributing to this thesis in more ways than I can account for, not the least in helping out with our children. I want you to know how much I love and appreciate everything you have done for me and my family, and that I could not have completed this work without you.

My parents-in-law, Airi and Thor. Thank you for making an essential contribution to facilitating the completion of this thesis and for all the support you have given me and my family always; helping out with everything from gardening to babysitting.

My sons, Viktor and Erik. Thank you for your unconditional love, bear-like hugs and smeary kisses, which have reminded me of the essence of life and encouraged me to finish this thesis more than anything else. I am proud to present a longitudinal study, which had not been possible to achieve without giving birth to you.

And most of all – thank you Patrick with all my heart, my dear husband and best friend, for your endless love, endurance and support through ups and downs of this almost endless journey. Thanks to you I have accomplished goals I never thought possible; not to mention literally reaching a milestone when you coached me to run the “Midnattsloppet” with you.

♣♣♣

A five-year scholarship is gratefully acknowledged from Mid Sweden University. I am grateful to Professor Kristina Schüldt Ekholm and Professor Emeritus Jan Ekholm for additional research grants. Financial support is also gratefully acknowledged from Karolinska Institutet, the Division of Rehabilitation Medicine and Letterstedtska förening. I would also like to express my gratitude to the Advanced Media Technology Laboratory at the Royal Institute of Technology (KTH) in Stockholm, for providing me with recording equipment.
REFERENCES


Frederiksen C H (2007, January, 19). Hvad skal vi med Jobcentre, når vi har verdens næst laveste ledighed? (in Danish) (Why do we need Job centers, when we have the second lowest unemployment in the world?). *Politiken*, p. 2, 7-8.


Hultberg E-L (2005). *Co-financed collaboration between welfare services.* (PhD thesis, Department of Social Medicine, Sahlgrenska Academy at Göteborgs University).


Open Code freeware (version 2.1). Developed by UMDAC and Epidemiology, Department of Public Health and Clinical Medicine at Umeå University, Sweden (www.umu.se/phmed/epidemi/forskning/open_code.html). [2007, July 1]


*Proposition 1996/97:63. Samverkan, socialförsäkringens ersättningsnivåer och administration, m.m.* (in Swedish) (Swedish Government Bill, Collaboration, social insurance benefit levels and administration etc.). Stockholm: Ministry of Health and Social Affairs.


