

Evaluations of the project "Rapid Return to Work"

A controlled cohort study and three-year follow up for persons with
musculoskeletal and minor mental disorders

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In memory of my inventive and industrious father

Preface

The road from clinic to research is complex, as daily clinical work must take into account circumstances that science does not legitimize. Bringing daily clinical work back to scientific activity and methods involves several difficulties. The activity in our outpatient clinic (OPC) at Sunnaas Rehabilitation Hospital was not meant to meet research demands, but rather to help employees on sick leave get back to work faster, where possible.

Because a clinical follow-up with the first patients at the OPC was promising, we decided to create a research project to evaluate if our method was favourable. If so, the method would be of practical and clinical importance.

The Privacy Protection Commission of the Southeast Regional Health Authority was contacted, and the Regional Ethical Committee (REK) approved the project as case no. 2009-2266 on 17 March 2010. The work on the patients was supervised by the medical chair physician at the clinic, while the research director at the hospital, Professor Johan Stanghelle, MD PhD, was a part of the hospital's reference group. The project has been anchored within the hospital's management and in the management of the Institute of Health and Society at the University of Oslo.

I applied for admission to the PhD programme at the University of Oslo, and my application was accepted by the Faculty of Medicine on 22 December 2010.

The initial intention was for this presentation to describe the clinical activity and results on how to help patients with the long-term illness return to work by publishing four different papers. However, a number of the journals' manuscript formats had limits and requirements for simplifications and abbreviations, which in my opinion was an unsatisfactory approach to illuminating and assessing a complicated and complex topic. Therefore, my advisors agreed to allow me to present the observations and scientific assessment in a monograph composed as a single unit.

This change was submitted to the medical faculty on 11 November 2014.

Acknowledgements

This project has been possible thanks to the research department at Sunnaas Rehabilitation Hospital, Chair Professor Johan Stanghelle, the main contributor on behalf of the Hospital Director. Medical Chair Tor Haugstad, Clinic for Neurology, Assessment and Pain Rehabilitation, at Sunnaas Rehabilitation Hospital, was responsible for the Out-Patient Clinic

(OPC) where the clinical work was carried out. He also took action to encourage the initial stages of the research project and has given good advice along the way.

I would like to thank my main supervisor, Professor Bjørgulf Claussen PhD MD, University of Oslo, Institute of Health and Society. He has encouraged me and provided guidelines on the difficult road from clinic to science.

Thanks as well to my assistant supervisors Research Director, Professor Johan Stanghelle, PhD MD; Medical Chair Tor Haugstad, PhD MD; and Chief consultant Søren Brage, PhD MD, NAV Dept. for Statistics and Assessment at the Norwegian Labour and Welfare Administration.

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Without enthusiastic participation from the multidisciplinary team, the project would not have been realized. Those who have contributed to the clinical work throughout the period are

- *Medical Chair, MD PhD Tor Haugstad, spec. Neurology,*
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- *Psychologist Solveig Grennes,*
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- *Account Representative Ellen Sandvik,*
- *Team Leaders Runar Stemme and Eli Rygg.*

I will also thank my four adult children who with amazement have acknowledged their father's academic sidestep at the end of his career and my loving wife, who with patience and prudence has also followed this search for more knowledge.

Thanks to Sunnaas Rehabilitation Hospital for giving me a part-time job, even though I am retired, to help finance this research work, and to the Research Department for giving me some practical support, as well as to the Norwegian Medical Association on Social Security and the Bolsøy Voluntary Health Association (an association under the Norwegian Association on Public Health), both of which have given some economic support.

Finally, thanks to the assessment committee appointed by the University of Oslo to assess this attempt to bring clinical experiences into an academic form.

Sunnaas Rehabilitation Hospital HF, 21. April 2017

Dag Brekke

Abbreviations and Definitions

AIR	AiR - National Centre for work oriented rehabilitation (NK ARR)
FRW	Faster Return to Work
GP	General Practitioner/Family Doctor
HSØ	Southeast Regional Health Authority
IA	Inclusive Employment System or Agreement
NAV	National Social and Welfare Administration
NMS	Department of Neurology and Musculoskeletal Disorders
OPC	Outpatient Clinic
RHA	Regional Health Authority
RRTW	Rapid Return to Work
RTW	Return to Work
TAU	“Treatment as usual”; or, “the commonly accepted medical treatment for the actual medical problems” (i.e. In our context, the collection of common methods and activities in general health care.)
SSB	Statistics Norway
VK	Assessment Department - OPC at Askim Hospital
Interdisciplinary work	Work from a group of health care professionals from diverse fields who work in a coordinated fashion toward a common goal for the patient
Intraprofessional team	A team of professionals who are all from the same profession, such as three physical therapists collaborating on the same case.
Multidisciplinary work	Work from a team of professionals including representatives of different disciplines who coordinate the contributions of each profession, which are not considered to overlap, in order to improve patient care.
Brief Intervention	A technique similar to an intervention used to help reduce alcohol misuse. Throughout the last few decades, it has also been used for short-term interventions to other diseases and complaints, as in this thesis where we meant “the contact health personnel had with the patient throughout the day.”
Sick leave case (NAV)	"A continuous period a person has for medical certificates from working conditions. Within an absence case, several medical certificates may be noted (extensions). For example, a person who is on sick leave for two distinct periods in a block and has two employments, generating four cases of sickness absence in the current quarter."

Summary

Chapter 1 Introduction

The first chapter in this thesis deals with the governmental ideas of “Rapid Return to Work” (RTW) and how these were implemented in clinical practice at Sunnaas Rehabilitation Hospital. The legislative framework is presented. The theoretical background for this research project is discussed. The aim is described as “The main goal for this project was to do an intervention on patients on long-term sick leave due to musculoskeletal and minor mental disorders to see if they return more rapidly to the work force than a control group having ‘treatment as usual’”. Five hypotheses were submitted.

Chapter 2 Method

In the second chapter, the inclusion criteria, the study group (N=420) and the control group (N=1260) are described. Similarly, subgroups and methodological adaptations to meet the hypothesis are described as well as the groupings of occupations and diagnoses. The NAV registration units are regrouped into five functional groups. NAV group 1 was comprised of the employees working full time in the labour force, NAV group 2 was comprised of those working part time in the labour force, NAV group 3 was comprised of those outside the labour force but not permanently, NAV group 4 was comprised of those permanently outside the labour force with a disability pension, and NAV group 5 was comprised of those with unknown status. By this method, we could observe the transitions between groups over time.

Chapter 3 Results: The main intervention study

At the beginning of the study—assessment time (t_0)—420 persons had been out of work for a median time of six months. They were given an intervention during one day at an outpatient clinic (OPC). This included 31% men and 69% women at a mean age of 41.8 years. A total of 1.260 matched controls from the Norwegian Labour and Welfare Administration (NAV) register of Østfold County and had all been on sick leave for six months at t_0 . Analysing the study group on gender and occupation demonstrated that most women were in the occupational group care as service, office and unskilled workers, and men most often were in the groups of plant and machine operators. Additionally, 18.3 % were non-Norwegian, significantly more than in the control group. Psychiatric diagnoses were found among 11 % in the study and the control group, 82 % had musculoskeletal diseases in the control group and

78 % in the study group. Out of this study group, the more unspecific musculoskeletal diseases group, M79 in ICD 10, were 30 %.

In the labour force at t_{36} , 36 months after sick assessment, 30 % from the study group were back in the labour force, versus 49 % from the control group (Table 3.3). Those who were in the labour force part time were 16 % in both groups at t_{36} , while those not permanently outside the labour force were 36 % in the study and 22 % in the control group. Ten percent of the study group had been granted a disability pension, versus 6 % in the control group. A group in the NAV registration system called “unknown” was identified. Throughout the follow-up process these individuals transitioned into other groups in the NAV system and gained access to work and social benefits. An effect of the brief and multidisciplinary intervention was fewer employees in the workforce, more employees on part-time employment, more on a disability pension and fewer with the “unknown” status. All these differences were statistically significant.

Chapter 4 Results: Labour force group

To make the study more specific to the RTW focus, an investigation was performed of those in the NAV group labour force at t_0 . That was $n=262$ from the study group and $n=1011$ from the control group. The NAV groups showed no significant differences between the study and the control group during the period t_0 to t_6 , or the first half year, where an effect of our intervention could be expected. During the remaining period of the follow-up time, the study group developed fewer individuals in the labour force and more on social benefits and disability pensions. Transition of the “unknown” ended with lower figures for the study group than the control part of labour force group.

Chapter 5 Results: Extra intervention group

A part of the study group, selected on a clinical basis ($n=100$) after assessment, was given extra intervention. Three different multidisciplinary intervention programs lasting 4–8 weeks, given on three different locations, were focusing on training and coping 6–24 months after assessment. The intervention delay seemed to be due to a low capacity in the official rehabilitation system. The extra intervention part of the study group differed significantly from others in the study group; with more females, fewer living in towns, more in rural areas, more clerical support workers, and sales and service workers than in the other part of the study group.

The RTW was not improved due to this extra intervention. The utilization of social benefits increased. The part of the extra intervention group with the unknown situation was redistributed to other NAV groups and became smaller. At t_{36} , this group had decreased to 1.4 %, while the remaining part of the extra intervention group had increased to 6.2 % and the control group to 5.8 %.

These results may mean that the extra intervention prevented employees from leaving the official social network and brought those outside the social security system inside. This is a positive result. It was a higher number of persons on disability pension in the extra intervention group than in the remaining part of the study group.

Chapter 6 Results: Influence of diagnostic distribution

The reference of sick listed by the OPC was limited to musculoskeletal and minor mental disorders. In our study, the diagnostic differences were registered at assessment. We measured the changes in labour force participation and in the use of benefits compared for the 420 persons in the study group. The most common diagnoses in the study group were ICD-10 M79 (30.2 %), M-else (47.3 %), F (10.1 %), and Else-all other diagnosis -(12.3 %). There was a significant difference between the four diagnostic groups in the study group at t_0 ($p=0.033$). This distribution was similar in all NAV groups, and it showed no significant differences on RTW, use of benefits, granting of disability pension or transition to the “unknown” group. The diagnoses demonstrated no significant difference for the return to the workforce or into disability pension, NAV group 1 and 4.

There was a significant difference in diagnostic distribution between the extra intervention part and the other part of the study group and also versus the control group at t_0 , $p<0.005$. The extra intervention group had a more even distribution of the diagnostic groups while the others were dominated by the M-else diagnoses.

Comparisons of age, length of sick leave, ethnicity, place of residence, occupation and location of the extra intervention did not demonstrate a significant difference on the diagnostic distribution. Gender demonstrated diagnostic differences with more M79 and M-else diagnoses among women and more M-else among men.

Chapter 7 Results: Patient attitudes

The results of a questionnaire indicated a positive attitude to the intervention and follow-up at 12 and 24 months after the assessment.

Chapter 8 Discussion

Hypothesis 1 was rejected. Multidisciplinary assessment as a brief intervention had no effect on return to work. Hypothesis 2 was partially rejected. Extra intervention had an influence on one of the NAV groups. Hypothesis 3 was not confirmed, but the decision on disability pension was postponed. Hypothesis 4 was not confirmed. Diagnostic groups did not influence the tendency to return to work or to be granted a disability pension. Hypothesis 5 was confirmed. The intervention method was accepted as beneficial by the employees.

Chapter 9 Strengths and weaknesses of this study

Our investigation was limited by including consecutively all those referred to the OPC within a period of 18 months and included 420 individuals. The study group was this time-limited selected as a part of the total group of sick-listed individuals in Østfold County. A randomized design was not accepted as we had to do the clinical job as similarly as possible for all patients.

NAV constructed a control group (n=1260) as similar to the study group as possible. Both for the study group and the control group we used data already collected by NAV. However, the internal validity in our study was not strong.

Reliability was assessed by following the cohort through three and a half years and checking data at specific intervals. We assured that the registering method was consistent at all times. The regrouping of NAV categories were performed based on well-known parameters that could be easily reproduced.

Our study population was a selected cohort from a real sick-leave population, and the control population was out of the same sick-leave population. We used the Pearson Chi-square test to recognise the real differences and feasibility of generalisation. We assessed the external validity to make our results applicable on a sick leave population with musculoskeletal and mental disorders in Østfold County.

Generalizability was improved through the long-term follow-up and the longitudinal study design. When describing the reality for a large group of sick-listed employees, they can be representative of a more numerous group. The study illustrates that it is possible to study the effects of a clinical intervention with good reliability and a realistic approach to the sick leave population in a county.

Chapter 10 Summary and Conclusions

The overall conclusion was that the control group—“treatment as usual” —ended up with the best results on returning to work, with twice as many in the labour force as in the study group. The study group had more use of benefits and disability pension. The NAV group “unknown”, those outside the social system, was uncovered and throughout the observation time, transitioned to one of the other NAV groups and was given the possibility of job participation and social security granting. The return to work was least in the extra intervention part of the study group. The one-day multidisciplinary assessment was well accepted by the sick-listed but did not produce more return to work than “treatment as usual” in the long term, regardless of diagnoses. NAV did not play a very active role in this rehabilitation process as intended. One should consider a change of attitudes to more focus on workforce and contact with employers.

Chapter 11 Supplements

11.1–2 Two questionnaires used to the study participants are presented (In Norwegian).

11.3 Statements from patients on the intervention (In Norwegian).

Chapter 12 References

Table of Contents

Chapter 1 Introduction

- 1.1.1 Why this project?
- 1.1.2 Ministry conditions for Rapid-Return-to-Work (RRTW) projects
- 1.1.3 Organizing the outpatient clinic (OPC) in Askim Hospital, a department under Sunnaas Rehabilitation Hospital
- 1.1.4 No randomizing allowed
- 1.2.1 Qualifications for a sick certificate in Norway 1.2.2 NAV registration and the Norwegian workforce
- 1.3 Motivation for the project
- 1.4.1 The scientific foundation for the Sunnaas RTW project
- 1.4.2 Research and examples on multidisciplinary work methods before 2007 (project start)
- 1.4.3 Theoretical considerations on the multidisciplinary work
- 1.4.4 Cognitive therapy
- 1.5 Aims
- 1.5.1 Objectives
- 1.5.2 Five hypotheses

Chapter 2 Materials and methods

- 2.1.1 Inclusion - The study group aimed for brief intervention
- 2.1.2 An extra intervention group
- 2.1.3 The control group
- 2.2.1 How the intervention was done
- 2.2.2 Observation time was extended
- 2.2.3 Data and analysis
- 2.2.4 Diagnostic groups
- 2.2.5 Occupation
- 2.2.6 NAV groups - Labour force categories
- 2.3.1 The main study
- 2.3.2 The labour force group alone - NAV group 1
- 2.3.3 Three groups given extra intervention
- 2.3.4 What is “treatment as usual” (TAU)?
- 2.3.5 The clinical work, the brief intervention and multidisciplinary team
- 2.3.6 On the term “work”

Chapter 3 Results of a brief intervention

- 3.1.1 General results at assessment, t_0
- 3.1.2 Diagnoses
- 3.1.3 Age and gender differences and distribution on NAV categories
- 3.2 The outcome for individuals -The results of our Brief intervention
 - 3.2.1 NAV Group 1—Those full time in the labour force
 - 3.2.2 NAV Group 2—Those part time in the labour force
 - 3.2.3 NAV Group 3—Those temporarily outside the labour force
 - 3.2.4 NAV Group 4—Those permanently outside the labour force – On disability pension
 - 3.2.5 NAV Group 5—Those not actually in the labour force, not in NAV register anymore—unknown employment status
- 3.3 Results of brief intervention in this study

Chapter 4 Results: A separate study of NAV group 1, the group in the labour force at assessment time, t_0 , and the follow-up

- 4.1 The issue
- 4.2 Results
 - 4.2.1 NAV Group 1—Those full time in the labour force.
 - 4.2.2 NAV Group 2—Those part time in the labour force
 - 4.2.3 NAV Group 3—Those temporarily outside the labour force
 - 4.2.4 NAV Group 4—Those permanently outside the labour force —disability pension
 - 4.2.5 NAV Group 5—Those not actually in the labour force, —unknown employment status
- 4.3 Summary for this labour force group—effect of brief intervention possible

Chapter 5 Results: The extra intervention group

- 5.1 The extra intervention group
- 5.2 Results for the extra intervention group
- 5.3 The NAV group distribution of the extra intervention group from the labour force part
 - 5.3.1 NAV Group 1—Those full time in the labour force
 - 5.3.2 NAV Group 2—Those part time in the labour force
 - 5.3.3 NAV Group 3—Those temporarily outside the labour force
 - 5.3.4 NAV Group 4—Those permanently outside the labour force —disability pension
 - 5.3.5 NAV Group 5—Those not actual for labour force—unknown employment status
- 5.4 Summary of results for the extra intervention group

Chapter 6 Results: Influence of the diagnostic distribution

- 6.1 Introduction

- 6.2 Results concerning diagnosis for the study and the control group
- 6.3 The study group—diagnoses and NAV categories at t_0
- 6.4 The study group—diagnoses and length of sick leave
- 6.5 The study group—diagnosis and age
- 6.6 The study group—diagnosis and gender
- 6.7 The study group—diagnosis and ethnicity
- 6.8 The study group—diagnosis and occupation
- 6.9 The study group—diagnosis and residency
- 6.10 The extra intervention group and diagnosis
- 6.11 The extra intervention group and diagnosis, location and gender
- 6.12 The study group—return to workforce and granting of disability pension
- 6.13 Summary of diagnoses

Chapter 7 Results: Patient attitudes to the intervention

- 7.1 Some patients' experiences
- 7.2 Patients reports over time
- 7.3 On the work situation—self-reported data
- 7.4 On the sick leave situation—self-reported data
- 7.5 What did the extra intervention group say?
- 7.6 Summary of patients' attitudes to the intervention

Chapter 8—Main Discussion

8.1 Hypothesis 1

- 8.1.1 The hypothesis was rejected in this study
- 8.1.2 Comparison with other investigations
- 8.1.3 Strengths and weaknesses of this investigation. The labour force group isolated
- 8.1.4 Possible explanations for our results?
- 8.1.5 Utility of brief intervention and multidisciplinary assessment
- 8.1.6 Validity and reliability

8.2 Hypothesis 2

- 8.2.1 Hypothesis was rejected in this study and a positive effect was discovered
- 8.2.2 Comparison with results from other researchers
- 8.2.3 Strengths and weaknesses of the present investigation.
- 8.2.4 Possible explanations for the results
- 8.2.5 Utility of multidisciplinary assessment in the extra intervention setting
- 8.2.6 Validity of this part of the study

8.3 Hypothesis 3

- 8.3.1 The hypothesis was rejected in this study?
- 8.3.2 Comparison with other results on granting disability pension
- 8.3.3 Strengths and weaknesses of this investigation on disability pension
- 8.3.4 Possible explanations for the results on assessing disability pension
- 8.3.5 Utility of brief intervention and multidisciplinary assessment to reduce disability granting
- 8.3.6 Validity and reliability of this part of the study

8.4 Hypothesis 4

- 8.4.1 How the hypothesis was assessed in this investigation
- 8.4.2 Comparison with other results of the influence of diagnoses
- 8.4.3 Strengths and weaknesses of this study of diagnoses
- 8.4.4 Possible explanations for the results of diagnoses
- 8.4.5 Utility of the diagnoses
- 8.4.6 Could one common cause be assessed instead of 101 diagnoses?
- 8.4.7 Validity and reliability of the study of diagnoses

8.5 Hypothesis 5

- 8.5.1 Patients' assessment of results
- 8.5.2 Comparing patients' experiences with results from other researchers
- 8.5.3 Strengths and weaknesses of our survey
- 8.5.4 Possible explanations of the results
- 8.5.5 Utility of brief intervention and multidisciplinary assessment and patients' experiences

9 Strengths and weaknesses of our survey

- 9.1 Validity
- 9.2 Reliability
- 9.3 Generalisability

10 Summary and Conclusions

Lessons learned

11 Supplements

- 11.1 Supplement 1—a questionnaire at t_6 —Oppfølgingsundersøkelse
- 11.2 Supplement 2—a questionnaire at t_{12} and t_{24} —Oppfølgingsundersøkelse
- 11.3 Patients' statements regarding the intervention

12 References

Chapter 1

Introduction

1.1.1 Why this project?

For several years, the sick leave rate in Norway had been approximately 7% of the total work force. Compared with other European countries, the sick leave rate in Norway appears to be high. Berge (1) in Statistics Norway (SSB) claimed in 2010 that the sickness absence in Norway had remained unchanged since 2001. From 2000–2016, a small reduction in sickness absence is seen on a national basis. Østfold county has had one of the highest sick-leave percentages in Norway (2). Differences in the labour market and inequalities in attitudes among employees, employers and doctors can explain differences at the county level (3).

The Sick Leave Committee in Norway submitted a report on 6 November 2006 in which the social partners (organizations of workers, employers and government) agreed to set aside a significant amount of targeted measures to reduce absenteeism (4, 5). At that time, the unemployment rate was approximately 3%, but the accumulated disability pension rate was increasing. It is also worth noting that these three parts, the representatives for employers, employees and the state authority, all negotiate on important themes such as salaries, working conditions and social rights, all of which are special for the Nordic countries. The model was developed many years ago to avoid lockouts and strikes and to take a leading role in the general development of salaries in Norway without too much influence from particular working fields or professional groups.

The government made a proposal in 2006 on the sick leave matter that intervened with this three-part cooperation; however, they had to withdraw the proposal after negotiations with the two other parties. Instead, the “Rapid Return to Work” (RRTW) agreement came as an extension of the agreement from 2001 on “An including working life”—the “IA agreement”. In this agreement, the three representative parties aimed to reduce sick leave by 20% through the optimisation of working conditions and intensifying efforts to keep employees on the job, even if they had some health complaints. In the 2006 agreement, these intensions were prolonged, and the RRTW activities were part of the IA agreement (6).

A central premise of the 2006 extension was that the RRTW activity should be increased in addition to the activity within the conditions of working life and that the activities should be possible to trace. In 2007, the health and social services were challenged to offer RRTW programmes.

1.1.2 Ministry conditions for Rapid Return to Work projects (RRTW)

By an extension of the 2006 IA agreement, it was agreed that the social partners should be responsible for a comprehensive needs assessment, based on input from those involved and from working centres around the country, and coordinate and report on the use of funds from the tasks of the regional health authorities. The Ministry of Health and Social Affairs should maintain a formal dialogue with the regional health authorities and relevant stakeholders, include municipal health and general practitioners' (GPs) participation in the scheme, and give information to the target group together with the Labour and Welfare Administration. The Ministry of Health and Social Affairs considered the RRTW scheme to not be in conflict with the Patients' Rights Act.

The mission was delegated by the Ministry of Health to the regional health authorities (RHA) (7). The National Social and Welfare Administration (NAV) was an important co-operator on the local level as well.

Among others, specific tasks mentioned in the Commission document included: *"Health-oriented rehabilitation in rehabilitation institutions, learning and activity centres and rehabilitation in hospitals (physical medicine, neurological and rheumatologic departments), rehabilitation teams/mobile teams in outpatient clinics." . . . "Patients with complex need meeting interdisciplinary expertise in the specialist health service."*

The arrangement should involve a closer monitoring of sick leave in practice, either by being referred more quickly to a doctor or by getting a new offer from NAV. The aim was to prevent unnecessary long-term sick leave and get more of those long-term sick listed back to work.

The Regional Health Authority of South-East Norway, also called "Health South-East" (HSØ), prepared a project plan approved on 3 April 2007 (8).

1.1.3 Organizing the RRTW outpatient clinic (OPC) in Askim Hospital, a department under Sunnaas Rehabilitation Hospital

Sunnaas Rehabilitation Hospital, under HSØ, found this RRTW project interesting and applied for permission to establish two clinics (OPC). The scientific justification for this approach is explained in chapter 1.3.2.

The practical approaches were structured as follows:

1. A former outpatient program in Askim Hospital (under Sunnaas Rehabilitation Hospital) was extended, which included a partnership with NAV in the county of Østfold. This was realised on 15 May 2007. An emphasis was shown on the close cooperation that was possible

between the RRTW outpatient clinic and the day care ward at the department of neurology—musculoskeletal disorders (NMS), both at the Askim Hospital.

2. A new outpatient clinic in Oslo, ready on 15 September 2007, is not included in this study.

The outpatient clinic in Askim had a multidisciplinary team consisting of a physician (specialist in neurology, physical medicine or occupational medicine), psychologist, physiotherapist, occupational therapist, social worker, nurse and others if necessary.

The intention was that NAV should have a representative present at the clinic that could be an advisor and coordinator of the measures concerning NAV. At that time (2007), NAV was undergoing a significant reorganisation and was unable to get stable staffing of this feature.

Medical doctors in Østfold County were briefed on the upcoming offer in May 2007, and in the middle of August an information and recruitment campaign to the GPs was started in the county in cooperation with NAV. A recruitment brochure of the offer was distributed, and meetings in several parts of the county were held in cooperation with the NAV county office and the Østfold Medical Association.

GPs were asked to refer individuals in danger of going on sick leave, patients with skeletal muscle and minor mental disorders, preferably at eight weeks of sick leave or at least sick leave within 52 weeks. People who were on arrangements/follow-up when the sick leave period ended and who had an assumed ability to work were also invited to the OPC. As a result, two approaches were outlined (9):

- a) Interdisciplinary outpatient review over the course of one day.
- b) Day patient care with multidisciplinary consultative and treatment programmes focused on training, learning and mastering.

The scientific basis for these objectives is summarized in chapter 1.3.2. More is written about “interdisciplinary”, “multidisciplinary” and “brief intervention” in chapter 2.1.2 and 2.2.5 below.

The aim was to contribute quickly to the efficiency of the medical reports, clarify the case for treatment, and give advice to NAV regarding the degree of capacity for work and implementation of this study. To the extent necessary the OPC should be in contact with the family doctor and company health service and communicate with NAV and the employer. The OPC could take action, referring directly to other monitoring bodies in the Sunnaas Rehabilitation Hospital system or other rehabilitation centres.

Responsibilities and roles between the RRTW OPC, the Sunnaas Rehabilitation Hospital NMS department, and NAV were planned. The OPC informed GPs in the county,

the company health service and NAV and took care of patient data and coordination by dissemination of individual information. From the GPs the individuals were referred to a current diagnostic and treatment agency or to the OPC if there were an agreement between GP's and the OPC on that. The OPC investigated, and if necessary, the patients were referred to another specialist or treatment centre.

The OPC gave feedback to GPs, invited region contacts to meetings on individual clients when necessary, and gave feedback to NAV through a Feature Report. The allocated project funding provided was used for activities under these guidelines.

The government's task fitted well with the research strategy for the South-Eastern Norwegian Regional Health Authority, and Sunnaas Rehabilitation Hospital aimed to provide new knowledge on preventing long-term sickness absence. The project also fitted well with national research strategies, in which musculoskeletal and minor mental diseases were proposed to be given more attention. The present project was also a part of the research strategy at Sunnaas Rehabilitation Hospital. Apart from an initial fundamental benevolence for a research project, the Government mentioned nothing about the desirability of a research-based evaluation of the project, and there were no funds allocated for such measures. As a result, such an opportunity was specifically requested in a letter to RHA and the Ministry of Health and Social Affairs on an attempt to raise funds for a scientific evaluation of their part of the RTW-project. However, no funding was provided, see also chapter 2.1.2.

A corresponding OPC service, such as this one was not common in the health service in Norway when the OPC opened in 2007. A service such as this was demanded by medical doctors, NAV (the National Social and Welfare Administration) and employers. The National Centre, AiR—the national centre for work-oriented rehabilitation in Rauland had the benefit of a multidisciplinary approach (10) from an inpatient setting. Our project was based on an outpatient, short intervention setting with a return to work as the endpoint.

In 2013, the Ministry of Labour Affairs arranged an expert conference on the "Effect of measures under the IA Agreement". The Faster Return to Work scheme was to prevent long-term sickness leave due to waiting periods for clinical services provided by secondary health care. The conference grumbled that the attempt in 2007 to organize the FRW scheme as a trial with a control group was not performed. Evaluations of the effects were difficult, and in our study we had to base the evaluation on registry data of sick-listed patients being treated for similar conditions within or without the FRW scheme (11).

1.1.4 No randomization allowed

Budgets for the RTW projects were planned by the government for each year. The RTW project was initially not planned to meet research demands, and a scientific evaluation was not a part of the OPC mission. Our applications for financing of a scientific follow-up were denied, and we had to carry out the OPC work as an ordinary continuous clinical job without special arrangements or scientific design.

A correct randomizing of the groups would be in conflict with the national RTW programme, and also possibly outside the limits of what is acceptable from ethical considerations, departing from political and administrative presuppositions. Due to this history as a clinical project, a randomized trial would not be within limits of what was accepted for the assignment.

1.2.1 Qualifications for a sick certificate in Norway

Sick leave is the medical-administrative action physicians (and a few other professions) make in pursuance of the National Insurance Act § 8-7 to document whether the working capacity—functional capacity—is impaired or lost due to illness or injury. An important principle of the official approach is that the employer has the main responsibility for the facilitation and follow-up with sick people in the workplace. The doctors and health service are in cooperation with the Labour and Welfare Administration. Key supporters will assist the employer and employee in their follow-up work when needed. (12). A sickness certificate is a prerequisite for sickness benefits, and only those who have a paying job can be granted a sick leave.

NAV defines "sick leave cases" like this (6):

"A continuous period a person has for medical certificates from working conditions. Within an absence case, several medical certificates may be noted (extensions). For example, a person who is on sick leave for two distinct periods in a block and has two means of employment, generating four cases of sickness absence in the current quarter."

It was recommended to have a meeting between the sick-listed and the employer before eight weeks of sick leave and with NAV at three months and six months.

To limit the sick certification, guidelines were given. These guidelines had less influence (13).

In general, the duration of sick leave was described by Tellnes around 1990 (14) and Brage et al. in 2013 (15). Of a 100% population on sick leave, approximately 7 % will still be in that situation after six months.

A clean bill of health is registered at NAV; however, the type of employment is not always included. The assumption that the person remains at the former employer will usually be correct. However, as seen below, there are many opportunities in the NAV system to come across other benefit forms where the actual work is partially or completely excluded.

1.2.2 NAV registrations and the Norwegian workforce

Herstad Horgen and Rønning asserted in 2010 that (16) the:

"Labour force participation rate was slightly lower in 2009 than in the record year 2008. However, unemployment rose in the same period, particularly among men. The unemployed spent a longer time finding a job in 2009 than the year before. More women were working full-time and the proportion of temporary staff was a record low."

Among all sexes, Norway is among the highest in Europe in terms of labour force participation. The international financial crisis also affected Norway in those years.

The proportion of days' work with a medical certificate, in the percentage of scheduled man days in the period from 2001–2006 in Norway fluctuated at around 7%. Whether that is more or less than in other nations is a comprehensive discussion, but in reality it has been a consistent level in recent decades (17). The sick leave trend has been declining since the 1990s, and Østfold County has tended to be among the counties in the country with the highest rate of sick-listing.

NAV operates with up to 99 benefit categories for sick-listed employees. Official statistics collected routinely by SSB and NAV are generally cross-sectional data taken out of a national database. In varying degrees, the number of sick leave, unemployed or declared fit for job are notified per quarter for all counties. These data are measured against the size of the workforce. With a stable high-employment rate, which Norway has had for many years, the figures are comparable from quarter to quarter, though seasonal variations and fluctuating unemployment affects figures (18).

1.3 Motivation for the project

My interest for these problems—more than the clinical challenges—started when I was a consultant at Muritunet Rehabilitation Centre in Møre and Romsdal County. We were consistently able to reduce sick leave with a multidisciplinary intervention programme and a follow-up with patients who had been on vocational rehabilitation at the rehabilitation centre (19).

The re-grouping of NAV categories from 99 to five categories is not used in other contexts, and I have not found any studies to which to compare the present. If our intervention influenced the course, one would expect some changes in NAV groups the first half year after assessment at t_0 .

The pilot project at our OPC in 2007 was an encouraging experience as we found that our intervention influenced the sick leave course of patients with musculoskeletal and minor psychiatric complaints. Six months after the intervention, 76% out of 97 persons had returned to work, and they performed 48 days of work. Some details of the pilot project and the main project have been published at three EUMASS Conferences; in 2010 (Berlin), 2012 (Padova) and 2014 (Stockholm) (20-22).

A further desire to study these mechanisms became the reason for the present study. According to our experience, publications were lacking studies on the unspecified diagnostic group with musculoskeletal and minor psychiatric complaints with return to work as the endpoint.

Against this background, we planned a scientific project on follow-up from the clinical project. We decided to have a wide framework for unspecified diagnoses such as low-back pain or neck-and-shoulder pain, contrary to most other studies.

1.4.1 The scientific foundation for the Sunnaas RTW project

In 2007, when Sunnaas Rehabilitation Hospital was engaged in an effort to get long-term sick employees back to work faster, the group had limited experience with multidisciplinary work. The fear of recruiting young people without a job to disability pension was also focused on (23).

A foundation for this approach were the experiences Sunnaas Rehabilitation Hospital had obtain with rehabilitation clients of different ages and complexity over several years, which is described in their textbook from 2004 (24). The following summarises the knowledge that was the basis for the project application to the health authorities.

Indahls' experiences from 1995 (25) demonstrate that low back pain treated as a benign, self-limiting condition approached with a recommendation of light mobilization gave better results than treatment within a conventional medical system and a reduction of sickness leave. Many of the articles in the following years concentrated on low back pain (26, 27), which was a minor problem in our context. Molde-Hagen (28) studied low back pain and an early intervention with a light mobilization program, and this intervention gave beneficial results. Other complains were assessed. Drotning and Staff did a follow-up study on persons

suffering from whiplash injuries (29, 30) and found a favourable development during the first year with an easy treatment and follow-up; however, those who were anxious, fatigued or had experienced concentration problems the first day or weeks became worse, and more specific treatment was necessary. Comparable symptoms were often a part of fibromyalgia, and behind that the complication of stress could be found, as Eriksen and Ursin (31) described in 1999. Haugstad studied pelvic pain and dysfunction (32) and used what she called a short-term mensendieck somatocognitive therapy with good results (33). On the other hand, Wilhelmssen & al.(34) concluded that there is no beneficial effect of short-term cognitive psychotherapy on the 1-year recurrence rate of duodenal ulcers.

Sunnaas Rehabilitation Hospital set up a theory of the intervention done as a brief intervention throughout one day of multidisciplinary assessment performed with elements of the cognitive therapy method. We supposed that the patient would benefit if all in the interdisciplinary team were aware of the coping measures and the patient's attention was focused on the future and the solutions for actual problems. Then the work ability, health and function would improve. The employee had to be assured that the traditional medical assessment method had been safeguarded. This procedure also afforded the understanding that an escalating investigation proceeding could be stopped (9). This was how the project was presented to the RHF-authority.

The concept "brief intervention" was not used in the initial application from Sunnaas Rehabilitation Hospital to the health authority. However, the idea of "rapid return to work" and the multidisciplinary intervention over one day could have been summarised in the phrase "brief intervention". This was the rationale for our project application.

1.4.2 Research and examples of other multidisciplinary work before the project's start in 2007

In a 1997 evaluation of the programme on social security and rehabilitation from the Ministry of Health and Social Affairs, 27 projects were discussed (27). An overall conclusion was that effects on quality of life, sick leave and ability to work were questionable or unclear, although it used structured treatment and well-conducted training programs. From this evaluation report, two programs will be mentioned.

Evaluation no 1 in the report: Buskerud Social Security Medicinal Outpatient Clinic (p. 67-70), aimed to investigate the effect of Social Security offices' referral of employees on sick leave with muscular and skeletal disorders to this outpatient clinic. Because of a decided lack of practical considerations, they did not succeed in establishing a control group. The

effects from the intervention and the assessment were very sparse regarding quality of life and working situation. The intervention was an early multidisciplinary assessment by a medical specialist, a physiotherapist and an executive officer from the Social Security Office. An additional negative problem in this project was the close relation between the Social Security offices and the persons running the OPC.

Evaluation no 20: The second program to be mentioned is the Bergen Project's "Back to work" initiative. This project (pp. 127–131) aimed to get sick employees with musculoskeletal diseases (MSD) back to work more quickly than usual. The intervention consisted of contact with a specialist in neurology, a general practitioner, a psychologist, a physiotherapist and nurses. Patients received seven hours of a daily structured programme in a month, including a significant group approach with cognitive intervention, physical rehabilitation and body-conscious exercises. A follow-up by telephone was conducted after two weeks and at four and eight months, and the treatment groups met for follow-up two, six and ten months after the first month of treatment. The GP also received a copy of the treatment plan for further action. Of the initial group of 1776 individuals, 325 people ended up in the intervention and 108 in the control group. Of the sample, 50 % had spinal syndrome, 33 % had neck/shoulder syndrome, 10 % had diffuse muscle pain and 8 % had other types of musculoskeletal disorders (MSDs). There was no significant difference between the intervention and control group regarding a clean bill of health one year after the intervention. The intervention group had a better sleep quality with some additional features, but there was no difference in coping ability for daily activities between the two groups. All patients in the intervention group reported that they received a good reception in the clinic and a good benefit from the treatment. A total of 43% reported that the treatment had largely increased their ability to continue to work, and 44% reported the same to some extent. Missing components and selection issues were a problem in this project.

These examples from Buskerud and Bergen illustrate the principles for multidisciplinary work. The following examples should also be taken into account: Chronic conditions of pain in the musculoskeletal system are often combined with mental illnesses, as stated in 2002 by Harter, Baumeister et al (35), demonstrating an elevated score on the HADS inventory subscales for depression and anxiety (36). Dominating was fibromyalgia, a chronically widespread muscular pain condition, which is often combined with anxiety and/or depression. From a family doctor perspective, patients with this diagnosis are persons with different somatic and psychiatric diagnoses, but generalized pain seems to be a common factor. Linder and Ekholm (37) demonstrated likewise considerable somatic and psychiatric

comorbidity. This study was based on the results of multidisciplinary clinical work conducted using a brief intervention method. A multidisciplinary short intervention has been fruitful in treating alcohol and drug addicts. Skinner illustrated this in 1983 for general practitioners (38). WHO systematized this in 2001 in guidelines for use in primary health care for handling harmful alcohol use (39), all based on the knowledge from several randomized trials summarized in the WHO guidelines, more at p.28.

From Sweden, Jensen reported in 2005 on a behavioural medical rehabilitation programme. The outcome of its two main components were compared to a 'treatment-as-usual' control group. The results consistently showed the full-time behavioural medical programme being superior to three other programmes. The strongest effect was found among females. Sick leave was reduced by about two-thirds of a working year. (40). A full-time behavioural medical programme was a cost-effective method for improving health and increasing return to work in women working in blue-collar or service/care occupations and suffering from back/neck pain. Rehabilitating men seemed to be effortless, with no significant effect on either health or costs.

A Norwegian project published in 2007 by Werner, Lærum et al. (41) demonstrated that a combination of peer support and modified workload seemed to have additional effects in a general media campaign aimed at improving beliefs about low back pain in the general public. It resulted in a decline of sickness leave by 27 % and low-back pain related sickness leave by 49%. A small decline in use of health care professionals and improvements in beliefs about back pain was achieved.

A Swedish study from 2004 by Hansson and Jensen, reported that self-reported pain and functional impairments were associated with a high risk for long-term sick leave, longer employment periods reduced the risk for short-term sick leave, perceived demands at work did not influence short-term sick leave, longer employment periods reduced the risk for short-term sick leave, and perceived demands at work did not influence short-term sick leave (42).

As mentioned in chapter 1.3.2, an effect of a short intervention on low back pain was demonstrated in 1995 by Indahl (25) and 2003 by Molde Hagen (28). Williams DA had ideas on improving physical functional status in patients with fibromyalgia, using a brief cognitive behavioural intervention (43), while Williams AC focused on chronic pain in general (44) and proposed cognitive therapy as a way of working with his brief intervention. Good results have been obtained with this cognitive treatment strategy (45-47). Ang et al concluded that telephone-delivered motivational interviewing to promote exercise was associated with an improvement in patient's level of pain and physical impairment (48).

SINTEF has analysed rapid-return-to-work projects in Oslo for the period of 2006–2009 (49), summarizing the situation like this: In order to establish the project “Rapid-return-reduced absenteeism in Oslo”, a Service Office was created to help municipal employees who are sick or are at risk of going on sick leave. SINTEF considered that the project provides financial savings for the Service Office by helping to reduce wait times for health care, thereby also reducing absenteeism in the municipality. However, these savings were less than the operating costs for the Service Office. The positive effects mentioned were improved follow-up and services and reduced wait times, as leaders got help and guidance related to absence. Patients experienced the service as helpful and appropriate, but sick leave was virtually unchanged.

On the basis of the literature published before 2007 mentioned above, it could be suggested that multidisciplinary work could be favourable for our target group. Some of these sources mention cognitive therapy and working after a brief intervention method. However, Haldorsen et al. from Bergen 1998 did not report a better return to work after four weeks of multimodal cognitive behavioural treatment and a one year follow-up in a randomised controlled study (50).

1.4.3 Theoretical considerations on the multidisciplinary work

A more theoretical platform was designed for the rehabilitation project in our RTW practice. Given above are some examples on the results of multidisciplinary (and somatocognitive) interventions of short duration. The content of multidisciplinary intervention varies. Two actual textbooks on rehabilitation medicine (ed. 2004 and 2006) do not mention effects of intervention of short duration, but focus on the necessity of a longer perspective (24, 51). RTW was discussed to a limited extent. The multidisciplinary approach was assessed (51, 52).

Waddell G and Burton AK discussed concepts of rehabilitation for the management of common health problems (2004) and more specifically for low back pain (2005) and emphasised that rehabilitation should not be a separate, secondary stage after ‘treatment’ is complete: rehabilitation principles should be integral to clinical and occupational management (53, 54).

Waddell & al. (2008) also discussed “Vocational rehabilitation—what works, for whom, and when?” (55). They defined vocational rehabilitation as whatever helps someone with health problem to stay at, return to and remain in work. It could be an intervention or a service. Their report assesses data from 450 scientific reviews and reports, mainly published between 2000 and December 2007. They found that common health problems should receive

high priority because they account for about two thirds of long-term sickness absence and incapacity benefits and much of this should be preventable. Return-to-work should be one of the key outcome measures. Treatment by itself has little impact on work outcome. Employers play an important role. The evidence in this review shows that effective vocational rehabilitation depends on work-focused healthcare. This review also emphasises that early intervention is central to vocational rehabilitation and that effective vocational rehabilitation depends on communication and coordination between the key players—particularly the individual, the health care and the workplace. For people who are out of work and without benefits for more than 6 months, they mention “Pathways to work” as effective in increasing the return to work by 7–9 % (56). This is an interactive educational program with a close work focus.

In our study, we used the term “multidisciplinary team” as “a team of professionals including representatives of different disciplines who coordinate the contributions of each profession, which are not considered to overlap, in order to improve patient care”(57).

In our context, brief intervention was defined as “the contact health personnel had with the patient throughout one day”, as described in chapter 2.2.1 and 2.2.4.

In our study, we used the term interdisciplinary team as “a group of health care professionals from diverse fields who work in a coordinated fashion toward a common goal for the patient” (58). Our view was that a multidisciplinary approach as a brief intervention through individual and group-directed measures could open possibilities for several sets of human assets.

The Professional Practice Committee of the Union of European Medical Specialists has prepared a report on the importance and the progress of a multidisciplinary approach in rehabilitation work (59). A multidisciplinary approach is a learning process which contributes to an increased self-understanding and opens up possibilities for a future-oriented target setting. The patient highlights his/her own resources and possibilities (60) and strengthens the mental mechanisms (61). Different approaches have different effects (28, 40). The empirical status of cognitive-behavioural therapy was reviewed in some meta-analyses in 2006 (62) where favourable effects were described for many psychiatric disorders. This aspect was taken into consideration because of the psychiatric comorbidity in our patient group (37).

In a randomized controlled study by Haldorsen et al 1998 (50), a multimodal cognitive behavioural treatment (MMCBT), including physical treatment, cognitive behavioural modification, education, and examination of the work situation for each patient, was given to patients sick-listed for musculoskeletal pain (n = 469). At the one year follow-up, the

MMCBT group had not returned to work at a higher rate than the control group receiving ordinary treatment available through their general practitioners. However, the MMCBT group had improved their ergonomic behaviour, work potential, life quality, physical, and psychological health

Scaschighini in 2008 promoted the general good effect of multidisciplinary intervention in “Multidisciplinary treatment for chronic pain: a systematic review of interventions and outcomes” (63). He said that “a standard of multidisciplinary programmes should be internationally established to guarantee generally good outcomes in the treatment of chronic pain. Our results highlight the lack of quality of design, execution or reporting of many of the RCTs included in this article”. During the planning of our study, we recognised the lack of standards for this kind of treatment and advice, as is also mentioned in Borgs’ textbook (51).

An educational review was given in 2009 by Chamberlain, M.A. et al. (including representatives from colleges in Sweden, Austria and the UK) on vocational rehabilitation that was also given the designation of multi-professional rehabilitation (64). In this review, the epidemiology of incapacity for work, the influence of environmental and individual factors, different models of vocational rehabilitation and the effectiveness of the rehabilitation programs on work resumption were discussed. They argue that it is natural to consider which kind of rehabilitation programme gives the best long-term effects on work resumption or reduced absence due to illness. The evidence is incomplete, but the consensus is that the core team should be multidisciplinary and should include all the professionals most commonly needed for assessment and intervention. The rehabilitation team should also include those who can educate the patient and represent other authorities that need to be involved to facilitate a return to work.

The WHO systematised well-documented experiences with a “brief intervention” method in 2001 in guidelines for use in primary health care settings handling harmful alcohol use. Because of the heavy demands on busy health workers in primary care, interventions needed to be brief. The WHO guidelines (39) are giving the following definition of brief intervention:

“Brief interventions are those practices that aim to identify a real or potential alcohol problem and motivate an individual to do something about it” (p.6).

WHO said that this manual was written to help primary care workers—physicians, nurses, community health workers, and others—to deal with persons whose alcohol consumption had become hazardous or harmful to their health. Its aim is to link scientific

research to clinical practice by describing how to conduct brief interventions for patients with alcohol-use disorders and those at risk of developing them (p.2). It works in two ways:

- by getting people to think differently about their alcohol use so that they begin to think about or make changes in their alcohol consumption, and
- by providing those who choose to drink with skills that allow them to consume alcoholic beverages in a safer way.

Examples of brief interventions mentioned include a phone call (48, 65) and a few words in an informal meeting or consultation. Five to 15 minutes are mentioned in this WHO-booklet above (p.8). An example of a brief intervention is the story from The Bible (Mark 2, 10-12): “—He said to the paralytic—I tell you, get up, take your mat and go home. He got up, took his mat and walked out in full view—”.

The examples from literature mentioned illustrate that the content of “brief intervention” varies and makes it difficult to compare results from our study and those of others.

1.4.4 Cognitive therapy

A cognitive model of approach has proven to be fruitful. Cognitive therapy was developed in 1975 by Beck A.T (45). The theory can be formulated thusly:

“An important part of cognitive therapy is to change patients' cognitions in order to create change on the emotional, behavioural or physical plane as well. Cognitive therapists often begin work on the automatic-thought level because this superficial level of cognition is more susceptible to change endeavours, than the underlying assumptions and core beliefs. Modifications of underlying beliefs are to be implemented as quickly as possible once the patient is experiencing a fundamental down change in their distorted view of themselves, their world, and others. They tend to think less distorted thoughts, feel better emotionally and behave more functionally. However, it often leads nowhere in trying to help patients with challenging problems to consider their beliefs on initiation of treatment.” Beck J.S (46) (p. 258).

This way of working was later described by Neumann and Gutenbrunner 2010 among others (59). In cognitive behavioural therapy, the therapist takes as the starting point the idea that thoughts and ideas are closely connected to pain and the meaning the patient ascribes to pain. This affects the way the patient copes with his/her pain, as the treatment model aims to raise the consciousness around this. The main aim is not to remove pain, but to enable the patient to cope with pain through practical strategies (66, 67). Coping becomes a central idea

in the cognitive approach, as presented by Beck & Beck above. This characterizes the underlying thinking in modern work with rehabilitation as it appears in the WHO's International Classification of Functions (68) and in the current government white paper (69). Group treatment should be included, with the goal that the members should learn from each other and help each other to discover negative automatic thoughts connected to pain.

These ideas were a part of our planned therapeutic method and were described as favourable. Stiles and Wright wrote an article on cognitive-behavioural treatment of chronic pain conditions in 2008 (70). This article intended to improve understanding of chronic pain conditions and the mechanisms thought to influence both the transition from acute to chronic pain and the maintenance of the condition. McCracken et al. discussed outcome predictors and a treatment process of cognitive-behavioural treatment (67) in 2002. That means that after a thorough clinical review and a review of the patient's medical history, further considerations were based on the patient's problems in a situation. The situation, negative thoughts and the feelings that arose and the behavioural consequences were considered, and then conversations were conducted about what the patient should choose to do or avoid in the situation in future. Lunde and Nordhus have described positive experiences using cognitive-behavioural treatment in a pain clinic in Norway (71). Their form of short interventions was 8–12 sessions targeted at the patient's actual function and behaviour.

In summary, the intention in our study was to realize elements of cognitive therapy as a brief intervention method. The objectives for the multidisciplinary team were accomplished through the short contact period of one day to make the patient change his/her mind from negative thoughts and feelings that arise and to modify the behavioural consequences. The conversation should concentrate on what the patient chooses to do or avoid in the situation in future.

The entire staff was aware of this and motivated and customized to the working routines that were tailored to achieve that goal.

1.5 AIMS

1.5.1 Objectives

The main goal for this project was to study if an intervention for patients on long-term sick leave due to musculoskeletal and minor mental disorders had effects related to their return to work, compared with the return to work in a control group undergoing “treatment as usual”.

1.5.2 Five hypotheses

- 1). A brief intervention as a collective multidisciplinary clinical investigation and assessment over one day, increases the chance to get back to the workforce 6, 12, 24 or 36 months after assessment, as compared with a matched control group receiving "treatment as usual".
- 2). A multidisciplinary intervention for a clinically selected part of the intervention group, based on cognitive and coping-based principles over several weeks, will increase the chances of getting back to the workforce.
- 3). The study group intervention reduces the chance of transition into disability pension status as compared to the control group.
- 4). Some diagnostic groups had more propensities to return to the workforce or into disability pension than others.
- 5). The patients experienced the intervention methods as beneficial.

Chapter 2

Materials and methods

2.1.1 Inclusion in the study group aimed for a brief intervention.

After starting up the RRTW at OPC, we realized the possibility of creating a follow-up project to study the outcome as to working ability. To intensify the observation on effects of a multidisciplinary intervention, a group of 100 individuals were selected on clinical terms to a prolonged and more specific intervention. The initial intention from the authority was to establish an offer to include employee's sick listed 6–12 weeks and referred to the OPC from the family doctors in Østfold County.

As described in chapter 1.1.3 the family doctors were asked to refer employees at risk for being sick-listed due to musculoskeletal diseases and psychiatric complaints or who had been on sick leave for up to 52 weeks. That could be persons who were in the social security system and receiving benefits or support when the sick listing ended, and for all those who were supposed to have some working ability left, all in the two diagnostic categories.

The patients were referred later in the sick leave-course than initially planned in the project. NAV and the family doctors referred those to OPC, who from their point of view were most in need of help and most suffering despite following the general practitioner's instructions. The family doctors used their knowledge and clinical feeling in their referral practice. The content of such clinical feelings is difficult to describe, like many of the decisions in general practice. In theory those referred were supposed to be more ill with less functional capacity and less working ability than others in the sick leave population. We did not investigate whether it was like that, nor if the referred patients were supposed to have a better potential to return to work than the other ones. We had to rely on the GPs' judgement.

The referral to OPC was an agreement between NAV, the patient and the family doctor. Those referred to OPC had all been through the NAV programme for persons on long-term sick leave, i.e. an assessment at 12 weeks and, depending on the sick leave length, also 3–4 months and 6 months after sick leave.

The intervention group was all 420 consecutively referred patients from January 2008 to July 2009. This clinical activity continued after July 2009 and is still going on.

2.1.2 An extra intervention group

We decided to follow a part of the patient population more accurately. Of 420 patients, 100 were selected on a clinical basis for additional intervention and distributed on three different

intervention programmes lasting four, six or 10 weeks. This group is called the extra intervention group. The intervention was performed throughout the following two years. The remaining individuals of the intervention group (320 individuals) were not given any extra intervention but continued with “treatment as usual” like the control group.

2.1.3 The control group

We obtained an agreement with NAV about creating a control group. The control group with 1260 individuals representing “treatment as usual” was constructed in retrospect from the National Social Security Register (NAV) in Østfold County to make a controlled cohort study. The Section for Statistics in the Norwegian Labour and Welfare Administration created a sample that matched with the study group. The possible group from Østfold County available for the matching period was in total 6350 sick leave cases with the selected diagnosis. Due to the size limit of the sick leave population, the selection possibilities were limited.

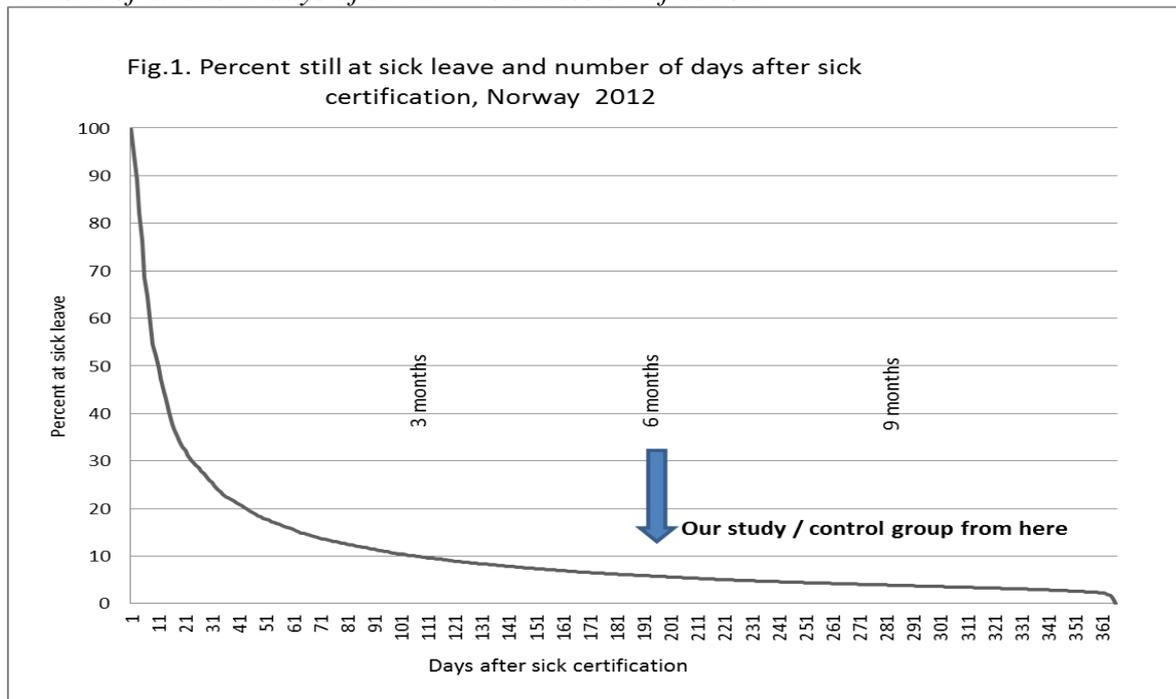
Ideally, a control group should match the intervention group on known confounding variables. Sex, age, ethnicity, income, education level, occupation, diagnosis, region, and type of residence are all background characteristics that are known to affect return to work rates in sick-listed persons. These variables were all considered, but, due to the limited numbers, not all of these variables could be included in the matching procedure. We managed to match satisfactorily on sex, age, region, type of residence, and to some extent on diagnostic groups (Table 3.1). There was, however, no matching on ethnicity, occupational groups, and income. Education could not be included due to a lack of data in the NAV registers. The length of sick leave was set to six months for the control group at inclusion, which was the median sick leave time for the study group at assessment, t_0 .

The control group and the study group went through the same programme at NAV.

From the Labour and Welfare Administration, we also obtained data on all persons sick-listed in 2012. Only 6.1% of all sick-listed persons in Norway in 2012 ($N=1,421,384$) were sick-listed for 6 months or longer (Figure 2.1). This we recognized as the course of “treatment as usual”.

Our study was dealing with changes among this 6.1 % for both the intervention and the control group.

Figure 2.1: All Norwegians sick-listed in 2012. N= 1.421.384. Percent still on sick leave by number of calendar days after initial sickness certification.



2.2.1 How the intervention was done

The day for the one-day assessment was considered as the observation start, t_0 . Our aim was that the patient should be more conscious about his/her situation and how to manage the coming months.

Our method was as described from the health authority as a wide, multidisciplinary assessment of the bio-psycho-social impairment and application of professional documented processing measures (9).

We used the multidisciplinary team as a brief intervention and a simplified form of cognitive-behavioural treatment and adequate personal advice, in addition to advice on practical work procedures, physical activity, how to cope with pain at work and in everyday life. The referral information was taken into account. It was all done during one day and ended with a multidisciplinary meeting where the different professionals worked in a coordinated fashion to find the common goal for the patient.

The clinical examination was performed by three to five persons from the multidisciplinary team, which included a physiotherapist, an occupational therapist, a social worker, a clinical psychologist and a specialist doctor (in occupational medicine, neurology or physical medicine).

Each specialist used their common methods for clinical examination and assessment and talked with the patients regarding their health situation as well as future work and living. Every professional worked with the patient one-on-one. For example, if the psychologist or the social worker were not included from the start, he/she was included later the same day or a day later. There was an agreement in the group to focus on the future and its possibilities, despite disease and limitations, and meet the patient with an approach from the cognitive therapy tradition. We assured the patient that what could be done from medical and diagnostic investigations and treatment would be done. For our purposes, one main diagnosis was decided upon, and some were given a second and third diagnosis.

First, the multidisciplinary professional team intended to have the same attitude about the rehabilitation options and to discuss the targets with the patients. They focused on certain items, especially coping, a central idea in the cognitive approach (45, 46, 67, 71). This characterises the underlying thinking in rehabilitation as it appears in the WHO's International Classification of Functions (68) and in the current government white paper (69).

Second, as group treatment was probably efficient, we assessed if a follow-up could contain such an element and encouraged it where possible. Hereby the patients could learn from each other and help each other to discover any negative automatic thoughts they experience as connected to pain (71). This element was communicated back to the referring doctor and practised in the extra intervention groups which were created out from the study cohort, section 1.1.4 and 2.1.2.

Third, the team recommended increased physical activity as a part of the programme, even though the effect for this patient group is disputed (72, 73). This was also a suggestion for the family doctor's follow up.

Fourth, we hypothesized that this learning process contributed to an increased self-understanding and opened up possibilities for future-oriented target setting, in which the patient highlighted his/her own resources and possibilities (46, 60) and strengthened his/her mental mechanisms (61). Effects like these have been studied for low-back pain, showing good results (28, 40).

2.2.2 Observation time was extended

All were assessed after six months of sick leave and were followed-up due to the status in NAVs labour force categories, at 6, 12, 24 and 36 months after assessment. The NAV categories are explained in section 2.2.9.

Initially, we planned a two-year follow-up after the assessment. The figures at that time were promising, considering the disability pension rate. However, the number of employees having time-limited benefits from NAV was high, while the processing time for the disability pension was expected to be longer. We decided to include one more year of follow-up, so the last registrations would be completed 42 months after sick leave. The NAV registration system made this possible.

2.2.3 Data and analysis

The endpoint was the participants returning to the labour force or having NAV support 6, 12, 24 and 36 months after assessment, which is 12, 18, 30 and 42 months after sick leave. This data were collected from NAV's register for both the study and control group to avoid the bias of self-reporting (74, 75). We also used a questionnaire 6, 12 and 24 months after the assessment.

The statistical strength was calculated from the data, which can provide the possibilities for this type of calculation (28, 61, 76, 77). We supposed that 40% of the 320 remaining in the main group would return to work. With a standard deviation of 10% and $p=0.05$ for a class I error and a demand at 0.80 for a class II error, the minor working participation with 50 attendants in a coping study would be 5.5% higher than in the main study when the standard student's test is used. With 20 attendants in another coping study, the significant work participation would be 8.7% higher. These differences are both statistically significant.

Data were analysed in SPSS version 19 and 21. Counting occurrence, cross-section tables, chi-squares for table analysis, t-tests for mean and a regression analysis was used and Pearson's significant test was used to describe differences.

2.2.4 Diagnostic groups

This study investigated the diagnosis for a cohort of employees returning to the workforce after long-term sick leave. The OPC decided to admit patients with musculoskeletal diseases and minor mental complaints. To be able to analyse the distribution of ICD 10 diagnoses, the diagnoses were grouped into four categories. The ICD 10 edition (78) was used:

- *Chapter F* in ICD 10 contains all psychiatric diagnoses. In our study group, serious depression, schizophrenia, serious character failure and serious drug and alcohol abuse were practically lacking. The most prominent features were anxiety, easy or moderate

depression, insomnia, pain and uncharacteristic psychiatric disorders, i.e. the broad spectrum of everyday psychiatry.

- *Chapter M* contains diagnoses for all musculoskeletal diseases, with most of the patients suffering from general tiredness, pain and reduced function as a part of the symptom picture. The sufferings are linked to a physical part of the body such as the arm, shoulder, neck, back, hip, knee, etc.
- *The M79 part* of Chapter M are all uncharacteristic, unclear, diffuse conditions, in which pain is generalized and tiredness is more like exhaustion, and where anxiety and depression are often part of the picture. We kept M79 as a specific diagnostic group.
- “*Else*” are diagnoses in all other chapters of ICD 10.

The patient was referred to OPC from a family doctor with L and P diagnoses from the ICPC international diagnostic system for primary health care (79). That corresponds with F and M diagnoses for practical use in the ICD-10 system. In every case, the multidisciplinary team decided the actual diagnoses at the end of the assessment day. At the end of the day, the patients were also invited to take part in the group assessment of his/her specific situation. After the assessment, the team could end up with another diagnosis, here in the group “else”.

The discharge diagnoses were determined by the multidisciplinary team, and a common report of the coordinated assessment was sent to the patient and the family doctor, as well as to the National Social and Welfare Administration (NAV), with an assessment of the patients’ working capacity. In half the cases, sub-diagnoses were also set.

2.2.5 Occupation

Occupational status was described according to the main classification in nine groups used by Norwegian National Statistics. This classification is compatible with the International Standard Classification of Occupations-08 (ISCO-08):

1. Managers
2. Professionals
3. Technicians and associate professionals
4. Clerical support workers
5. Service and sales workers
6. Skilled agricultural, forestry and fishery workers
7. Craft and related trades workers
8. Plant and machine operators and assemblers
9. Elementary occupations

2.2.6 NAV groups—labour force categories

The NAV system for the grouping of sick-listed persons contains in principle 99 different categories. Only seventeen of the categories were in practical use in our context. To be able to handle this we changed them into five new categories as table 2.2 below demonstrates. This grouping of NAV categories has not been used before.

From NAV's register for individuals who were given sick leave and are receiving economic support from NAV, we made the following groups to simplify the analytic possibilities:

Table 2.1—Recoding of NAV labour force categories. Sum of actual frequencies from the study and control group to illustrate the distribution of categories. N=1.675=100%

NAV Category	Initial NAV labour force categories	Frequency, percentage N=1.675=100%	New category text	
10	Employee only	74.6	1	Full time in the labour force
20	Only job applicant	1.3		
12	Employee/job seeker	.5		
13	Employee/impaired work capability benefit	7.3	2	Part-time in the labour force and part-time on long-term benefits
14	Employee/transitional benefit	.5		
15	Employee/disability pension	2.4		
16	Employee/AFP	.1		
17	Employee/age pension	.1		
24	Unemployed/ transitional benefit		3	Outside of the labour force, not permanent
30	Only reduced capacity for work	4.7		
34	Reduced employability/transitional benefit	.1		
35	Impaired working ability/disability pension	.1		
40	Only transitional benefit	.1	4	Outside of the labour force, permanent disability pension
50	Disability pension	.5		
60	Only early retirement	.1	5	Not included
70	Only age pension	.1		
99	Not registered with NAV	7.4		
SUM		99.9		Unknown

The endpoint in our analyses was the NAV status which was obtained 6, 12, 24, and 36 months after assessment (12, 18, 30, and 42 months after sick leave registration). Employment status was collected from NAV registers for both the study and control group to avoid the bias of self-reporting. Based on the given categories, we constructed five groups reflecting the person's relationship to the labour force and benefit dependency (Table 2.1).

What is registered by NAV is whether the employees are a part of the labour force or are given social benefits. To be in the labour force does not necessarily mean that the employee is working at the time. In other words, if there are any jobs available, the employee in principle is ready to go into that job, even though she can be without a job agreement. Alternatively, the sick listed will have other social benefits from NAV.

Over time every sick-listed person changed their NAV group. Within the study and control group the number distributed on NAV group 1–5 will be different at follow-up times 6, 12, 24 and 36 months after assessment. That is a consequence of NAVs individual assessments of working possibilities and the rules for providing benefits.

2.3.1 The main study

Patient data were collected and processed in 2008 and in the first half of 2009 as described in section 2.1. The total was 420 individuals.

- a) Prior to or at arrival at the OPC, the patients completed some forms that were used as a supplement to the clinical assessment. In addition to the “Scoring system used for health complaints” (SCH) (80), the psychologists used the Hopkins Symptom Check List (HSCL-25) (81), Symptom Check List Revised (SCL-90-R) (82), and the Hospital Anxiety and Depression Scale (HAD) (36, 83). The occupational therapist used Worker Role Interview and Work Environment Impact Scale (84). These were helpful in our clinical assessment. The results were not included as a database for this study.
- b) In the clinical investigation, each specialist used investigation forms or checklists as was common in their profession. The entire assessment was done in one or a few days. At this stage, outside the clinical assessment, the multidisciplinary team selected a group for an extra intervention, see next page.
- c) After the clinical examination, the patient was invited to participate in shaping the conclusion. A common professional report was sent to the patient and the family doctor. In addition, a short report was sent to NAV with an assessment of the patients’ working capacity.
- d) The material was analysed through a longitudinal description of the study and control group on their working situation. The study group was heterogenic, i.e. the employees had been on sick leave for different lengths and had a different connection to the NAV system. In order to overcome this, we had to recode the NAV registration system, section 2.2.9. After this, both the study and the control group were divided into the five recoded NAV categories. Thus, it was possible to follow-up the degree of belonging to the labour force

and using of social benefits over the observation time. At t_0 also the age, gender, ethnicity, occupation, diagnosis, residence and time on sick leave were described.

- e) A questionnaire was used for assessing the results of this intervention (supplement 1). By this follow-up, we asked whether the patient was still on sick leave, rehabilitation benefits or disability pension or was back to work—and if so—to what extent did they have a full-time position. We had information from those we had initially examined six months after sick leave, t_0 and a questionnaire on job status after 12 and 24 months was collected. The results are compared with the study group (minus those with extra intervention) and the control group below, which is mentioned in Chapter 7.

2.3.2 A separate study of the labour force group—NAV group 1

As illustrated in figure 3.1 the length of sick leave varied in the study group, while all in the control group had six months of sick leave at t_0 . Our aim was to study RTW after assessment, at t_0 , with starting conditions as alike as possible for the study and the control group.

Therefore, a separate follow-up study was performed on those in the study group and in the control group belonging to the labour force—NAV group 1—at t_0 . We followed the transition of the sick-listed to groups with some work, their use of social benefits and unknown activity and connections. We did the same analyses on these separate groups as in the main study.

This labour force group consisted of 262 (62 %) individuals from the study group and 1011 (80 %) of the control group. Excluded were all those in other NAV groups at assessment time, i.e. those with least work ability.

2.3.3 The three groups given extra intervention

As a result of the clinical assessment, a part of the intervention group (N=100) was selected and given four weeks extra intervention based on coping activity and cognitive principles.

The selections to these groups were based on the referral information, the supplementary information from assessment in the multidisciplinary group, supplementary information from the occupational therapist in the multidisciplinary group, and agreement from the patient. The multidisciplinary group supposed an extra intervention would be favourable for improving health and return to work. This effect was also disputed (50).

Due to the wait time and limited capacity in the official health care system, the extra intervention was performed 6–24 months after assessment. Physical activity, group conversations and challenging coping exercises were the main content of the intervention.

The extra interventions subgroups were all given prolonged multidisciplinary intervention. The three groups were:

- 1 *A cognitive treatment group* (N=41) referred to a rehabilitation centre attending a four-week inpatient programme with physical activity, teaching about coping with stress and pain and how to deal with everyday life. Principles from group treatment and cognitive behavioural therapy were also applied.
- 2 *A coping group* (N=33) carrying out a part-time programme three hours a week for eight weeks on coping with stress, relaxation and physical activity. This programme was based on principles from cognitive behavioural therapy and performed by one person, a clinical psychologist.
- 3 *A pain-coping programme group* (N=26) having been through the pain-coping programme at the Neuro Rehabilitation Department at Sunnaas Rehabilitation Hospital, a group-based inpatient programme over six weeks with a multidisciplinary programme based on cognitive behavioural therapy.

We assessed the effect on work and social benefits on these groups with extra intervention like the total study group. The influence of diagnosis on participation in labour force and the patient's appraisal and contentment were also described.

Through a questionnaire, we had information from all 420 individuals at assessment time and six months after they were at our clinic. In an additional questionnaire, the status of the individuals in the extra intervention group after 12 and 24 months was collected. They answered on whether they were on sick leave, on rehabilitation benefits, on a disability pension, or back to work, and if so, to what extent of a full-time position. A last postal reminder was also sent, and the results were compared with the study group (minus those with an extra intervention) and the control group.

2.3.4 What is “treatment as usual” (TAU)?

The immediate understanding of the expression “treatment as usual” is what it says, ‘the commonly accepted medical treatment for the actual medical problems’. In Figure 2.1, we recognized the national course of “treatment as usual”. Our study group was from the last 6 % at six months' sick-leave of an initial 100% sick leave population.

The following examples are on how TAU has been used as a control group in different investigations. Articles have been written about assessing a group on long-term sick leave given a multidisciplinary rehabilitation programme compared with a comparable group from

the national sick leave register (85) for treatment of schizophrenia (86), long-lasting neck pain (87), a cognitive-behavioural treatment programme for workers with chronic spinal pain (76), back and neck pain (40) cognitive-behaviour intervention aimed at preventing chronicity with two different forms of information (88), patients suffering from long-term back pain and reduced function, who also were deemed fearful according to standardized measures (89) and a cognitive-behavioural return-to-work focused programme, which was evaluated in a randomized controlled design (90). The utility of a cognitive-behavioural group intervention that focuses on coping strategies as prevention was assessed in three randomized-controlled studies from TAU in studies on depression, cognitive therapy and psychotherapy, which is an element in a forthcoming large-scale Norwegian study (91).

2.3.5 The clinical work, the brief intervention and multidisciplinary team

We followed the principles of multidisciplinary from rehabilitation medicine, as summarised by Neumann et al. (59) from the Professional Practice Committee of Physical and Rehabilitation Medicine (PRM) in the Union of European Medical Specialists (UEMS). They state that the theoretical basis for good teamwork includes agreement upon aims, agreement and understanding on how best to achieve these aims, a multi-professional team with an appropriate range of knowledge and skills, mutual trust and respect, and a willingness to share knowledge and expertise and to speak openly from the need for a feeling of social safety.

Our group usually handled three patients a day. The clinical examination was performed by three to five members of the multidisciplinary group.

The recommendation of increased physical activity was a part of it, even though the effect of this for the patient group in question has been disputed (72, 73).

2.3.6 On the term “work”

The initial intention was to use self-reported data on work. Through questionnaires such data were gathered. The term “work” is ambiguous. Our consultation discussions with patients revealed divergent views on what work is, such as:

- To perform a task—whether practical or theoretical
- To be in activity
- To get paid to do/accomplish something
- To do something for oneself, one’s neighbour or a voluntary organization
- To perform what one is educated to do

- To participate in a physically stressful activity

Work and working capacity do not have clear definitions in the public mind, as illustrated by a study by Thorlacius (61) and Steenstra (92) that concluded that a comparison of studies using different RTW definitions appears valid as long as RTW status is not considered as a measure of functional status. We compared self-reported data with NAV data. NAV used the term “workforce” or “labour force”.

In our study, we used “workforce” as used in the NAV register. Thus, we avoided the uncertainty of self-reporting. “The workforce is the sum of the employed and the unemployed individuals. Employed people are individuals with gainful employment. Unemployed people are individuals without gainful employment, but who are looking for work that can start immediately, that is people who offer their manpower in the labour market. The people who do this are in employment, they represent ‘occupational activity’ in the country” (93).

The Norwegian policy has aimed to follow a “work-line”, which briefly means to put the welfare system in place to ensure that all people of working age who are capable of it are participating in income-earning employment (94).

Chapter 3

Results of our brief intervention

3.1.1 General results at assessment, t_0

At admission for the assessment (t_0) the sick leave time in the study group was 0–36 months, with a median of 6 months, a mean of 7.69 months and an SD of 7.2 months (Figure 3.1). The duration of sick leave in the control group at t_0 was 6 months.

Figure 3.1 Length of sick leave in the study group at assessment. $N=420$

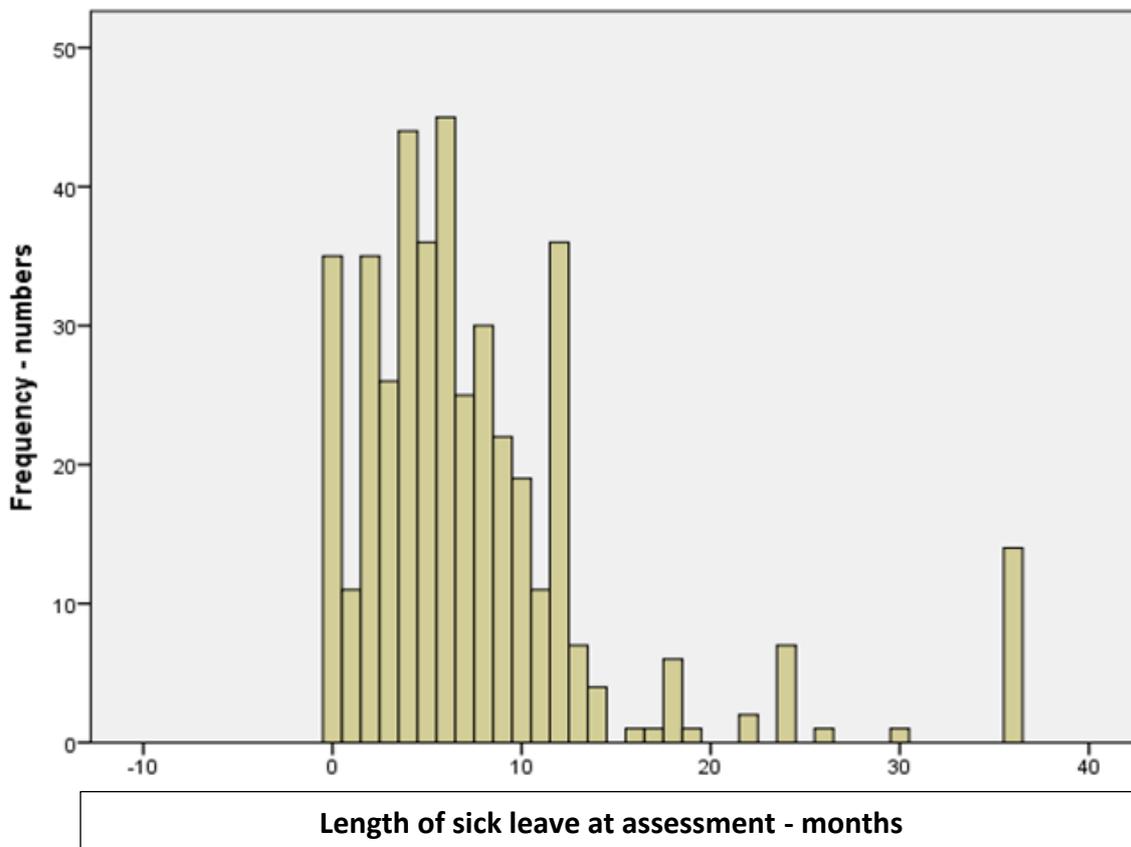


Table 3.1 demonstrates that in both the study group and the control group, there was no significant difference according to gender, age and residency. The distribution was 69 % females and 31 % men, including a mean age of 42 years (SD 10.4 years), with 78 % living in a town (5,000–90,000 inhabitants), 10 % in less populated areas and 12 % in rural areas. The number of sick-listed in Østfold County was not so high that a significant difference could be avoided by the matching for the factors such as ethnicity and occupation (Table 3.1) or diagnoses (Table 3.2).

A total of 82 % were Norwegians and 18 % non-Norwegians (Table 3.1). In the control group, there were fewer non-Norwegians, 12.5 % versus 18.3 % in the study group, $p=0.003$. Of the non-Norwegians, 25 individuals needed an interpreter for the consultation and examination (not in Table). The non-Norwegians were significantly less educated ($p=0.003$, not in Table). They had a job less often than Norwegians ($p<0.001$) at

Table 3.1 Description of general data from the study group and control group at assessment, t_0 . The data are from NAVs register from Østfold County.

Theme Sub-theme	Study group from NAV	Control group from NAV	Pearson Chi-Square, p-values		
	N=420=100 %	N=1.260=100 %			
Gender					
Male	31.4 %	31.4 %	1.0		
Female	68.6 %	68.6 %			
Age					
Mean Years	41.8 SD 10,4	41.8 SD 10,4	CI (95 %) 41.2--42.4		
18-29	13.8 %	13.8 %	1.0		
30-39	30.7 %	30.7 %			
40-49	32.6 %	32.6 %			
50-59	19.3 %	19.3 %			
60-69	3.6 %	3.6 %			
The Residential Municipality					
Town 5,000–90,000 inhabitants	78.3%	80.2%	0.214 n.s.		
1,000–5,000 inhabitants	9.8%	10.8%			
Rural area <1,000 inhabitants	11.9 %	9.0%			
Ethnic group					
Norwegian	81.7%	87.5%	0.003		
Non-Norwegian	18.3%	12.5%			
Occupation: The scale from Norwegian Statistics ¹ Those sick listed from study and control group				Occupation: The scale from Norwegian Statistics ² Total population	
	Study-group N=420=100 %	Control-group from NAV N=1.260=100 %	Pearson Chi-Square, p-value	Østfold County 2011 %³)	Norway 2011 %⁴)
1. Managers	1.0 %	5.4 %	<0.001	7.3	6.5
2. Professionals	1.9 %	2.9 %		22.8	25
3. Technicians and associate professionals	9.0 %	14.6 %		14.0	16
4. Clerical support workers	10.7 %	9.0 %		7.3	6.7
5. Service and sales workers	29.0 %	32.2 %		22.8	22
6. Skilled agricultural, forestry and fishery workers	1.9 %	0.6 %		1.5	2.1
7. Craft and related trades workers	18.3 %	9.8 %		10.3	9.5
8. Plant and machine operators and assemblers	11.9 %	12.9 %		9.6	6.6
9. Elementary occupations	16.2 %	9.1 %		4.4	5.0
10. Not known		3,4 %			

¹ <https://www.ssb.no/arbeid-og-lonn/statistikker/yrkeaku/aar>

² <https://www.ssb.no/arbeid-og-lonn/statistikker/yrkeaku/aar>

³ <http://www.ssb.no/a/kortnavn/yrkeaku/tab-2012-04-26-07.html>

⁴ <http://www.ssb.no/a/kortnavn/yrkeaku/tab-2012-04-26-07.html>

assessment (not in table). There was a tendency for more of them to live in towns ($p>0.05$, not in table). The occupations in the study group were more dominated by less educated or unskilled workers than in the control group or than in Østfold County and Norway in general, Table 3.1.

The selection of the study and control group was out of the “normal” labour cohort of Østfold. The study and control group became significantly different from each other, and they were different from Østfold County and Norway in total (see Tables 3.2 and 3.3). Sales, service and care were 29–32 % of both groups, while in the normal population in Norway and Østfold County, it was 22 %. Managers, professionals and technicians were in the majority in the control group and even more in the majority in Østfold County and Norway. This was also the case for the non-Norwegian group (not in the table). When analysing the study group on gender, women are in the occupational groups 2–5 and 9 and men in the groups 6–8 (not in Table 3.1).

The lack of complete matching is demonstrated in Table 3.1. The study group included more Non-Norwegians than the control group did (18.3 % vs. 12.5 %, $p<0.003$). The study group included more craft workers than the control group did (18.3 % vs. 9.8 %) and more persons with elementary occupations (16.2 % vs. 9.1 %). The control group included more managers, professionals and technicians (in total 22.9 %) than the study group did (11.9 %). The higher number of non- or semi-skilled workers in the study group indicates that there were persons with lower educational levels and lower income in the study group as compared to the control group.

3.1.2 Diagnoses

We found 101 different diagnoses (ICD 10) in the study group. Among the employees 77 % had diagnoses from the M group (musculoskeletal), 10 % from the F group (psychiatric) and 13 % from the others (Table 3.2). In the control group, 89 % suffered from musculoskeletal diseases and 11 % from psychiatric complaints. The control group included

Table 3.2 Distribution of diagnosis for study group and control group at assessment

Diagnosis ICD 10 (N=102 diagnosis)	Study group N=420=100 %	Control group from NAV N=1,260=100 %	Pearson Chi- Square, p-value
F—Psychiatric	10.2 %	11.1 %	<0,001
M79 General musculoskeletal	30.0 %	6.6 %	
M-else Musculoskeletal	47.4 %	82.3 %	
Other	12.6 %	0	

only the M and F group of ICD 10 because of the matching. The 13 % of patients in the study group with non-M or non-F diagnoses were referred by the family doctor to the OPC under an M or F diagnoses, but the assessment concluded that other conditions were more important for further treatment. The M group was divided into M79 and M-else (section 2.2.4).

3.1.3 Age and gender differences and distribution among NAV categories

Age distribution was equal in the study and the control group as a consequence of matching (Table 3.1). The age is making a difference in course of the working situation and at t_{36} the differences of those in the labour force (NAV group 1) from the study group and the control group were significant, $p < 0,001$.

Table 3.3 NAV categories distribution within study and control group over time. Situation at assessment six months after sick leave, t_0 , and at follow-up 12 (t_6), 18 (t_{12}), 30 (t_{24}) and 42 (t_{36}) months after start of sick leave.

NAVs national classification, groups adjusted to five	Working situation after sick leave	Study group	Control group	
	Assessment at six months sick leave and follow-up	N=420=100 %	N=1.260=100 %	Pearson Chi-Square, p-value
1. NAV Group: 10, 12 and 20 Full-time in the labour force	t0 at assessment	63.4	80.4	<0.001
	t6	43.1	59.3	<0.001
	t12	26.0	51.0	<0.001
	t24	26.5	51.9	<0.001
	t36	30.4	48.8	<0.001
	Working situation			
2. NAV Group: 13–17 and 24 Part-time in labour force, part-time long-term benefits	t0 at assessment	13.3	9.9	<0.001
	t6	24.3	24.7	<0.001
	t12	28.0	23.8	<0.001
	t24	21.7	17.5	<0.001
	t36	16.7	16.4	<0.001
	Working situation			
3. NAV Group: 30–40 Outside of the labour force—not permanent	t0 at assessment	9.6	3.5	<0.001
	t6	23.4	9.5	<0.001
	t12	35.2	18.7	<0.001
	t24	39.5	21.0	<0.001
	t36	35.5	21.6	<0.001
	Working situation			
4. NAV Group: 50 Outside the labour force—permanent—disability pension	t0 at assessment	0.0	0.6	<0.001
	t6	0.5	0.7	<0.001
	t12	3.1	2.1	<0.001
	t24	5.5	4.4	<0.001
	t36	10.4	6.4	<0.001
	Working situation			
5. NAV Group: 99. Unknown Those not actually having a job, not in official registers anymore	t0 at assessment	13.7	5.6	<0.001
	t6	8.7	5.9	<0.001
	t12	7.7	4.3	<0.001
	t24	6.7	5.3	<0.001
	t36	7.0	6.9	<0.001

At t_{36} 86 % were under 50 years old, and 80 % of those with a part-time job (NAV group 2) were under 50. Of those temporarily outside the labour force 83 % were under 50 (NAV group 3), and 70 % of those granted disability pension were over 50 years old (NAV group 4). Also, 86 % of those outside the NAV system (NAV group 5) were under 50 years old. These differences between age groups and NAV-groups were statistically significant, $p < 0,001$, (not in table).

When comparing gender and distribution on NAV-categories, differences were not significant.

3.2 The outcome for the individuals, results of our brief intervention

The outcomes for the individuals with long-term sick leave is demonstrated 6, 12, 24 and 36 months after assessment. The NAV groups were simplified into five groups, as described in Table 2.1. Table 3.3 was the basis for the curves in this section. The differences were significant, $p < 0.001$. In this section, the results for the main group—the study and control group—are presented. Figures 3.1–5 demonstrate the differences.

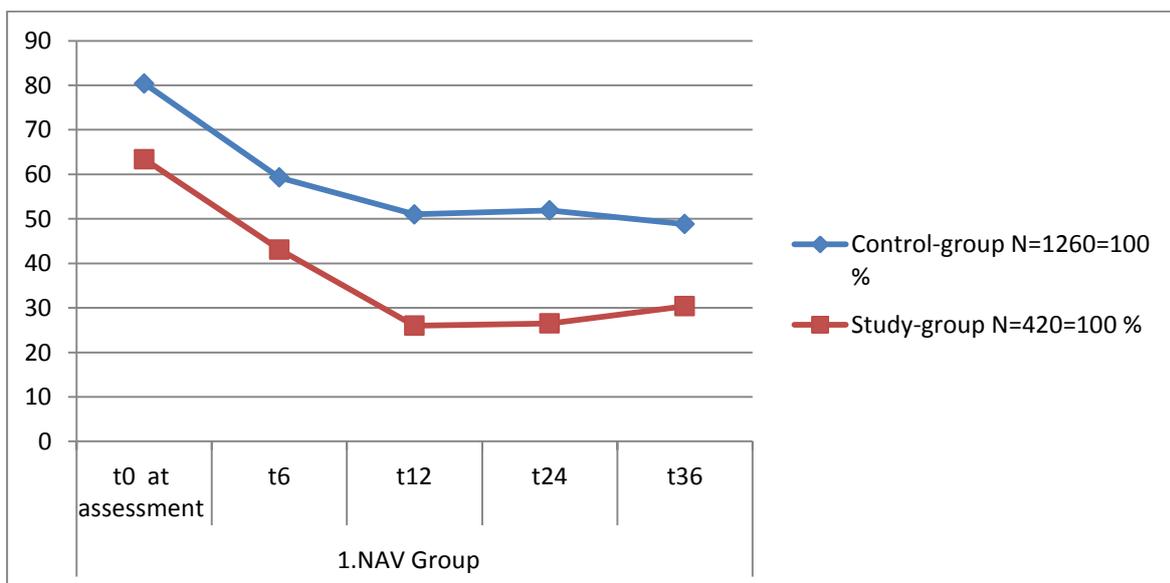
The NAV figures changed over the follow-up time, and the assessment of the estimated development after t_{24} was uncertain, especially for NAV group 4, disability pension. A development in favour of the study group was possible. Because of this we decided to extend the observation period over one year, which proved to be important for the final results.

3.2.1. NAV Group 1, those in the labour force full time, Table 3.3.1 and Figure 3.1

This analysis demonstrates that in the total material, the number of participants in the labour force decreased in the first 12 months after assessment, and then reached a steady state.

At the assessment six months after the start of sick leave (t_0), a total of 63.4 % were in some kind of paid employment, decreasing to 30.4 % 36 months later (t_{36}), a difference of 33 percentage points. In the control group, the figures were $t_0=80.4$ % and $t_{36}=48.8$ %, which is better than in the study group, a difference of 31.6 percentage points, $p<0,001$. We decided to do a separate analysis of the development among all those in the labour force, NAV Group 1, at t_0 , to come closer to these results. This is elaborated further in Chapter 4.

Figure 3.1 NAV Group 1, full-time in labour force, percentage at each follow-up period. Percent

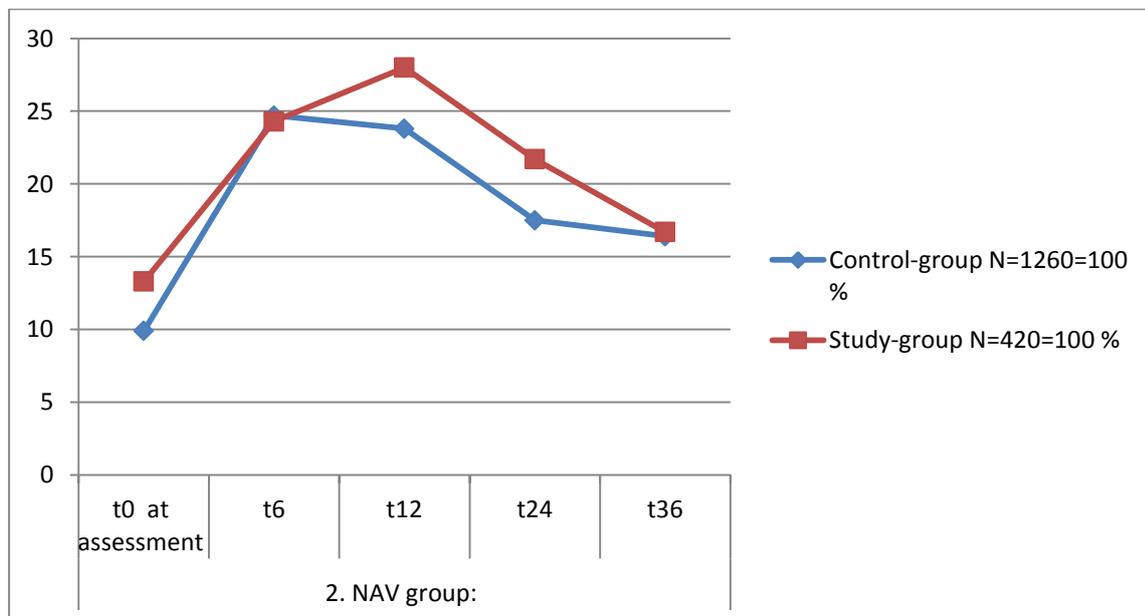


3.2.2. NAV Group 2, those part-time in labour force, part-time on long-term benefits, Table 3.3 point 2 and Figure 3.2

This analysis demonstrates that in the total material the number working part time in the labour force increases remarkably after the first six months and until 12 months after assessment and then decreases, mostly in the study group. Those in the study group were at $t_0=13.3\%$ and at $t_{36}=16.7\%$. In the control group, the figures were $t_0=9.9\%$, and $t_{36}=16.4\%$, $p<0.001$. In both groups, the figures more than doubled in the period t_0-t_{12} .

The decrease in the numbers of persons in paid employment, NAV Group 1, (Figure 3.1) are compensated by increasing the number of those in part-time or no employment, which is seen by comparing Figures 3.2 and 3.3.

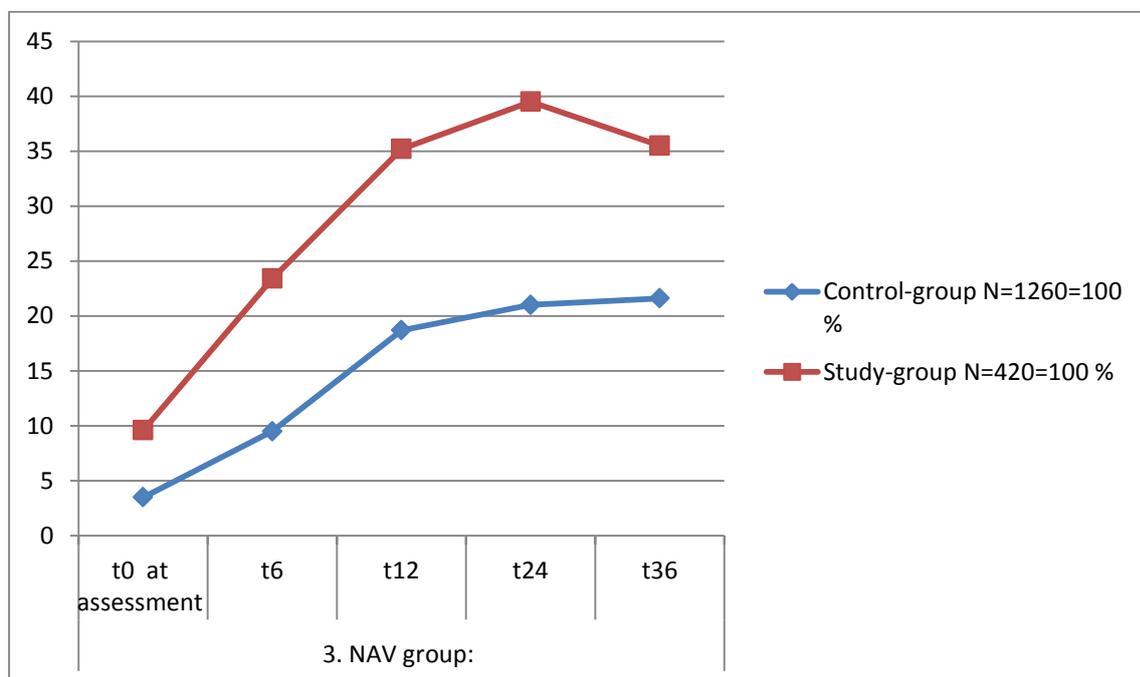
Figure 3.2 NAV Group 2, part-time in labour force, part-time long-term benefits. Percent



3.2.3. NAV Group 3, those temporarily outside the labour force, Table 3.3 point 3 and Figure 3.3

This analysis demonstrates that in the total material, the number outside the labour force increased remarkably twenty-four months after assessment, mostly in the study group. In the study group, given an intervention of a one-day multidisciplinary assessment, $t_0 = 9.6\%$ and $t_{36} = 35.5\%$. In the control group—“treatment as usual”—the figures were $t_0 = 3.5\%$ and $t_{36} = 21.6\%$. The differences were significant for the study versus control group, $p < 0.001$. The control group had fewer individuals in this group than the study group.

Figure 3.3 NAV Group 3, outside the labour force—not permanent. Percent

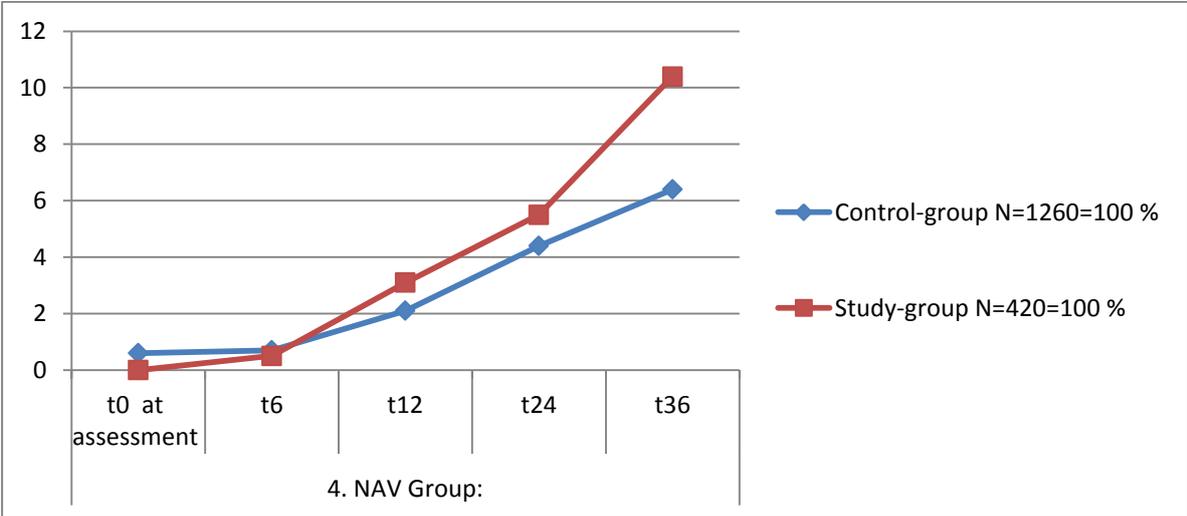


3.2.4. NAV Group 4, those outside the labour force permanently—on disability pension.

Table 3.3.4 and Figure 3.4

This analysis demonstrates that in the total material, the number being granted disability pension increased over the whole period and most in the study group, $p < 0,001$. In the study group, given an intervention of a one-day multidisciplinary assessment, the figures were disability pensioners at $t_0 = 0\%$ —as expected—but $t_{36} = 10.4\%$, $p < 0.001$. In the control group, the figures were $t_0 = 0.6\%$ and at $t_{36} = 6.4\%$.

Figure 3.4 NAV Group 4, outside the labour force permanently—on disability pension. Percent.



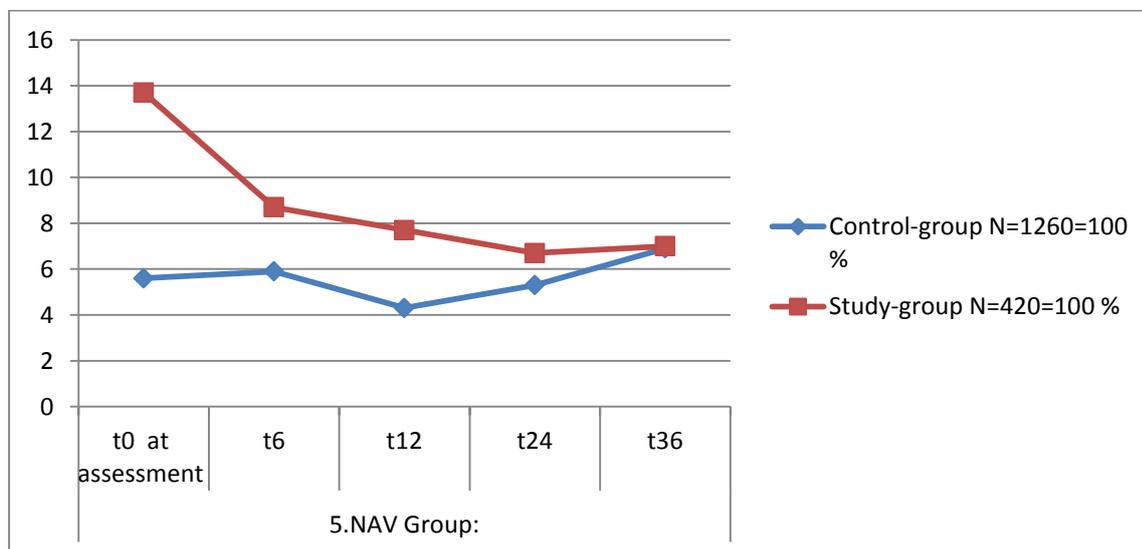
3.2.5 NAV Group 5, those not in NAV registers anymore, unknown working situation

Table 3.3.5, Figure 3.5.

This analysis demonstrates that in the total material, the number outside the NAV registers decreased in the study group and had a slight increase in the control group. The change in the study group was most obvious in the first six months after assessment.

In the study group, given an intervention of a one-day multidisciplinary assessment, $t_0=13.7\%$ and $t_{36}=7.0\%$. In the control group, the figures were $t_0=5.6\%$, and $t_{36}=6.9\%$. The differences between the study and control group were significant, $p < 0.001$.

Figure 3.5 NAV Group 5, Unknown— not in NAV registers more. Percent.



The study group became more like the control group after the brief intervention. The possible brief intervention effect, t_0-t_6 , was a decrease from 13.7% and to 8.7%. In the control group given TAU, t_0-t_6 , it was almost stable and changed from 5.6% and to 5.9%. It seemed like the study group were brought from a passive, unknown sick-leave group into the supporting NAV system at the end of observation, t_{36} .

3.3 Results of brief intervention in this study

In the labour force about 42 months after sick leave certification (t_{36}) there were 30.4% from the study group back in the labour force and 48.8% from the control group (Table 3.3). Those working part time in the labour force were 16% in both groups at t_{36} , while those not permanently outside the labour force were 35.5% in the study and 21.6% in the control group. Additionally, 10.4% of the study group had been granted a disability pension, and

Table 3.4 Final results of main study at the end of follow-up period, at t_{36}

Labour force category	Working situation after sick leave.	Study group	Control group	
NAV's national classification, groups adjusted to five	Assessment at six months sick leave and follow-up	N=420= 100 %	N=1.260 = 100 %	Pearson Chi-Square, p-value
1. NAV Group Full-time in the labour force	t0 at assessment	63.4	80.4	<0.001
	t36	30.4	48.8	<0.001
2. NAV Group: Part-time in labour force, part-time long-term benefits	t0 at assessment	13.3	9.9	<0.001
	t36	16.7	16.4	<0.001
3. NAV Group: Outside of the labour force—not permanent	t0 at assessment	9.6	3.5	<0.001
	t36	35.5	21.6	<0.001
4. NAV Group: Outside the labour force permanently—disability pension	t0 at assessment	0.0	0.6	<0.001
	t36	10.4	6.4	<0.001
5. NAV Group: Those not actually having a job/ not in official registers anymore	t0 at assessment	13.7	5.6	<0.001
	t36	7.0	6.9	<0.001
Sum	t0	100	100	
	t36	100	99.9	

6.4 % in control group had been granted one as well. The group outside the NAV system was 7 % in both groups at t_{36} . However, the study group had decreased from 13.7 % and the control group increased from 5.6 % through the period.

An effect in the study group, given the brief intervention as compared with the control group given TAU, was fewer employees in the workforce, more employees on part time, many more not permanently outside the labour force, more on disability pension and fewer with the “unknown” status (Table 3.4). All differences were statistically significant.

To see if this difference could be due to inequalities in work ability in the study and control groups, we did a separate study of those being in the labour force at t_0 at assessment, as presented in next chapter.

Chapter 4

A separate study of the NAV Group 1, the group in the labour force at assessment time t_0 and follow-up

4.1 The issue

With the intention to limit the study group to those in the labour force, all outside NAV Group 1 at assessment time t_0 were eliminated from both the study and the control group. Left in labour force at assessment time were 262 individuals (62 %) from the study group and 1,011 (80 %) from the control group. Thus, the study and the control group were more equal in the crucial feature of work ability from the assessment time. The distribution of NAV categories from this special selected group, the NAV group 1 was studied at t_0 and at follow-up at t_6 , t_{12} , t_{24} and t_{36} . The endpoint for the study was whether the employees returned to the workforce or not after long-term sick leave. The study population and the length of sick leave were compounded when they came to assessment and varied between 0 and 36 months, as mentioned previously.

4.2 Results

In the initial study and among the control group (Chapter 3), there were no significant differences between the two groups in characteristics such as gender, age or residency. However, in this separate study, the labour force part of study group had less psychiatry and more musculoskeletal diagnoses than the total study group, and the differences were significant. The occupational differences were significant for the total material as well. Ethnicity was significantly different in the total material, but compared within NAV Group 1 (labour force), they had no significant difference, $p=0,204$ (Table 4.1). That is a change from the total material (Table 3.1).

From Table 4.2 below, we can see the development of changes in the labour force, NAV Group 1 at t_0 and at follow-up in subsequent years. It is the same cohort at all times, but distribution among the NAV groups changes over time. The significant differences between the study and control group came from t_{12} .

Table 4.1 Demography of the labour force, NAV group 1, at assessment time, t_0 . Percent.

Theme/Sub-theme	Study group In labour force N=262=100 %	Control group from NAV in labour force N=1,011=100 %	Pearson Chi-Square, p-value
Gender			
Male	28.6	32.0	0.3 n.s.
Female	71.4	68.0	
Age—Years			
18–29	14.1	12.7	0.97 n.s.
30–39	29.0	30.6	
40–49	34.0	33.9	
50–59	20.2	20.3	
60–69	2.7	2.6	
The Residential Municipality			
Town 5,000–90,000 inhabitants	77.5	80.6	0.078 n.s.
1,000–5,000 inhabitants	9.2	10.6	
Rural area <1,000 inhabitants	13.4	8.8	
Ethnic group			
Norwegian	84.4	87.5	0.204 n.s.
Non-Norwegian	15.6	12.7	
Occupation: The scale from Norwegian Statistics			
1. Managers	1.1	5.7	<0.001
2. Professionals	1.9	3.2	
3. Technicians and associate professionals	9.9	15.6	
4. Clerical support workers	10.3	8.5	
5. Service and sales workers	33.6	31.8	
6. Skilled agricultural, forestry and fishery workers	0.8	0.7	
7. Craft and related trades workers	14.1	10.0	
8. Plant and machine operators, and assemblers	12.2	12.4	
9. Elementary occupations	16.0	9.0	
10. Not know	0	3.2	
Diagnosis ICD 10 (N=102 diagnosis)			
F Psychiatric	8.4	11.1	<0.001
M79 Musculoskeletal	34.7	6.0	
M-else Musculoskeletal	45.8	82.9	
Else—all other	11.1	0.0	

Table 4.2 Labour force, NAV Group 1 at assessment time, t_0 , six months after sick leave. Follow-up 12 (t_6), 18 (t_{12}), 30(t_{24}) and 42 (t_{36}) months after start of sick leave. Percent.

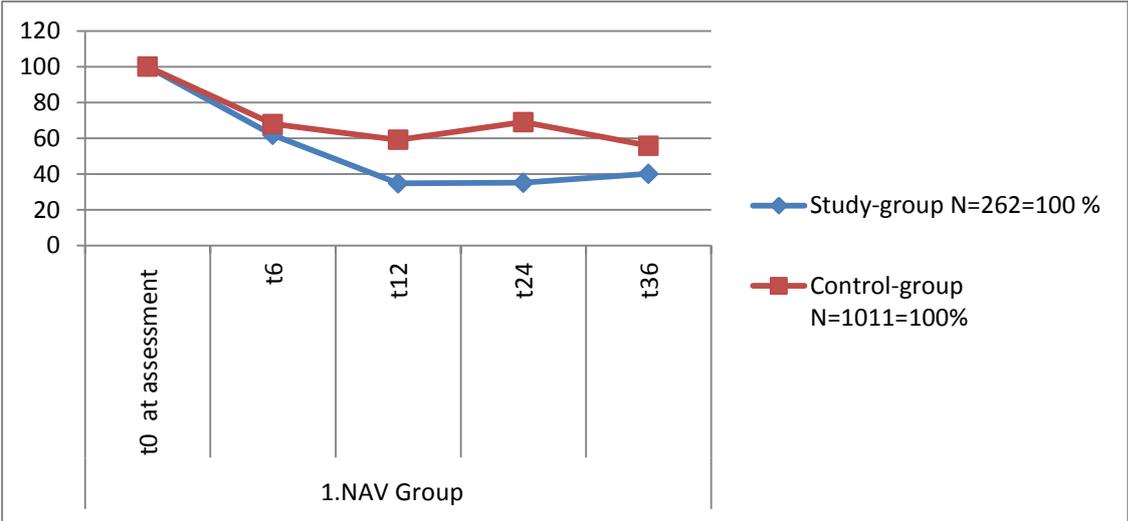
Theme	Working situation after sick leave.			
Labour force category	Assessment at six months sick leave and follow-up	Study group Part N=262=100 %	Control group Part N=1.011=100 %	Pearson Chi-Square, p-value
1. NAV group: 10. 12.20 Full-time in the labour force	t0 at assessment	100	100	
	t6	61.8	67.9	0.170
	t12	34.7	59.1	< 0.001
	t24	35.1	69.0	< 0.001
	t36	40.1	55.8	< 0.001
	Working situation			
2. NAV group 13–17. 24 part-time in the labour force, part-time long-term benefits	t0 at assessment	0	0	
	t6	24.8	21.6	0.170
	t12	32.4	21.1	< 0.001
	t24	24.8	14.9	< 0.001
	t36	18.3	14.5	< 0.001
	Working situation			
3. NAV group: 30–40 outside of the labour force— not permanent	t0 at assessment	0	0	
	t6	10.3	6.3	0.170
	t12	26.0	15.0	< 0.001
	t24	32.1	17.7	< 0.001
	t36	29.8	18.9	< 0.001
	Working situation			
4. NAV group: 50 outside the labour force— permanent—disability pension	t0 at assessment	0	0	
	t6	0.4	0.4	0.170
	t12	1.5	1.5	< 0.001
	t24	3.4	3.3	< 0.001
	t36	6.9	5.1	< 0.001
	Working situation			
5. NAV group: 99 unknown, those not having any job, or not in official registers anymore	t0 at assessment	0	0	
	t6	3.4	3.9	0.170
	t12	5.3	3.4	< 0.001
	t24	4.6	4.2	< 0.001
	t36	5.0	5.8	< 0.001

4.2.1. NAV Group 1, those in the labour force fulltime (Table 4.2.1, Figure 4.1)

The initial equality in NAV Group 1 at t_0 for the study and control group ceases over time but is maintained the first six months after assessment, $p=0,170$. That is the time where the brief intervention is supposed to have an influence. From 12 months after assessment, there were significant differences between the study group and the control group the rest of the follow-up time. The difference developing was in favour of the control group, which was most liable to return to the workforce. The study and control group had similar results in the period from t_0 to t_6 (Figure 4.1 and Table 4.2). Afterwards the return to labour force was decreasing significantly in the study group. The control group had a better return to workforce

than the study group. The numbers for the study group ranged from 100 % at t_0 , to 34.7 % at t_{12} and to 40.1 % at t_{36} . For the control group, the numbers were 100 % at t_0 , 59.1 % at t_{12} and 55.8% at t_{36} , $p < 0.001$. Members in the study as well as in the control group moved into other NAV groups over time as illustrated in the following.

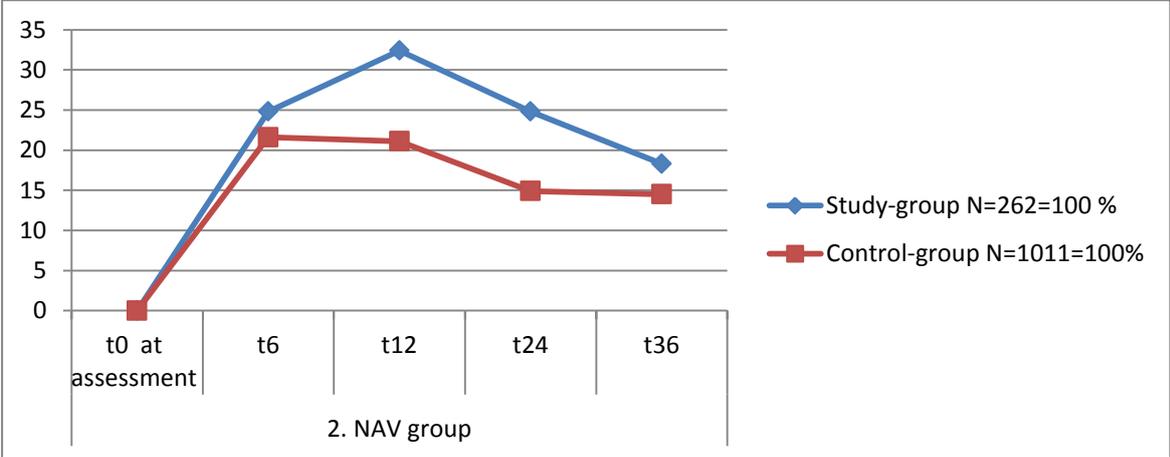
Figure 4.1 NAV Group 1, those full-time in the labour force at t_0 through the follow-up. Percent.



4.2.2. NAV Group 2, those full-time in the labour force at t_0 but converted to those part-time in labour force and part-time on long-term benefits, Table 4.2.2, Figure 4.2.

Six months after assessment at t_{12} , the number of employees part-time in the labour force was significantly higher in the study group than in the control group and that continued for the rest of the observation period.

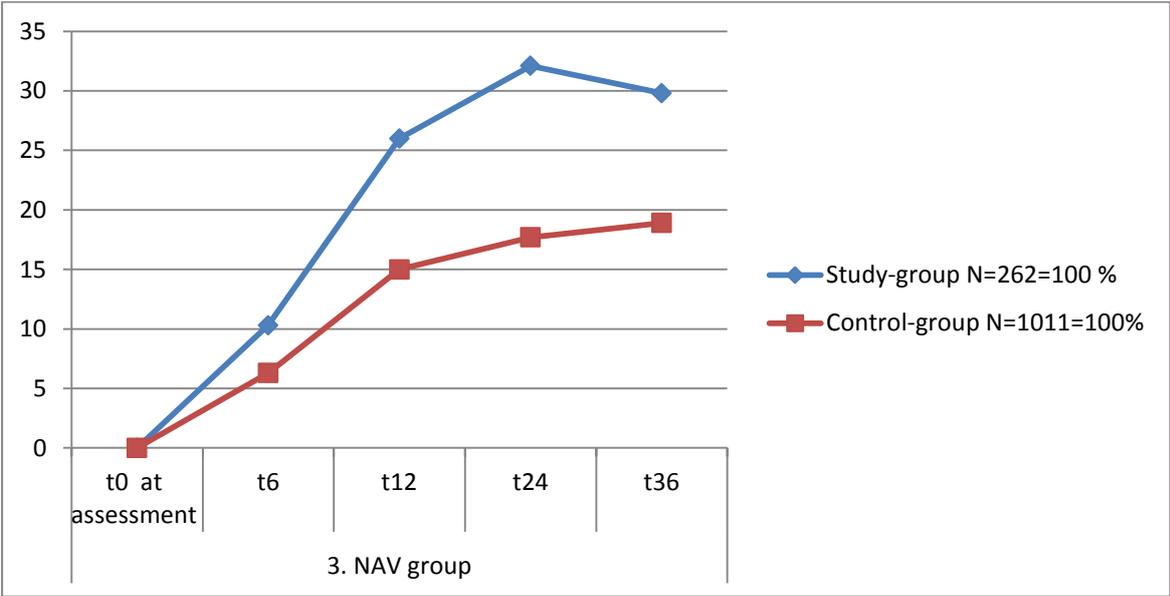
Figure 4.2 Part of the NAV Group 1 moving over to NAV group 2, part time in the labour force. Percent.



4.2.3. NAV Group 3, those full-time in the labour force at t_0 but converted to those outside of the labour force—not permanent, Table 4.2.3, Figure 4.3.

The liability to move from the NAV group 1 to outside the labour force is significantly stronger in the study group than in the control group from t_{12} and for the rest of the observation time.

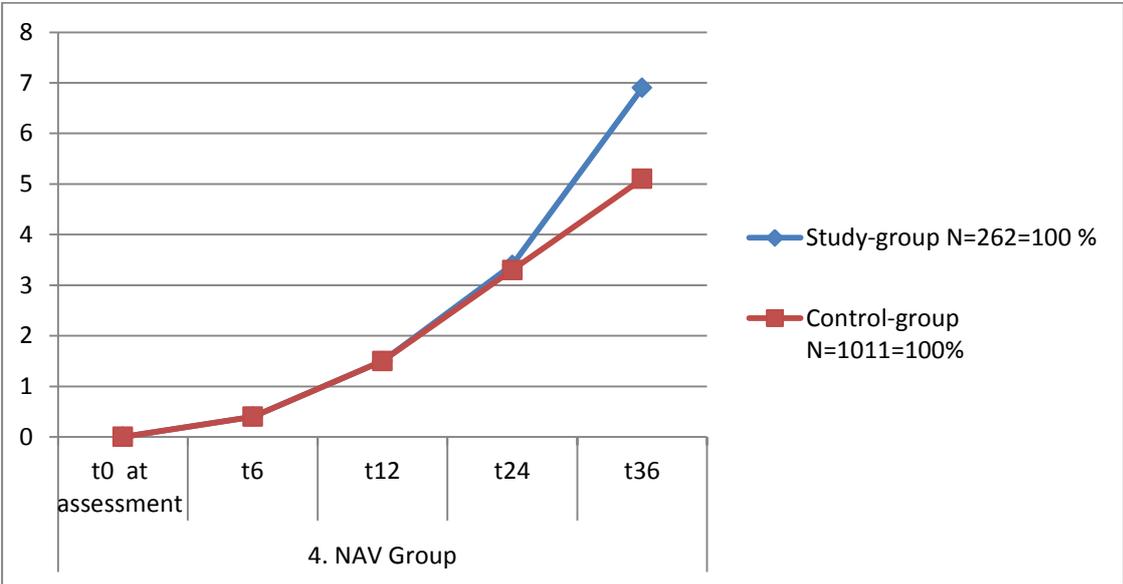
Figure 4.3 Part of the NAV Group 1 moving over to NAV Group 3, outside the labour force—not permanent. Percent.



4.2.4 NAV Group 4, those full-time in the labour force at t₀ but converted to those permanently outside the labour force with disability pension. Table 4.2.4, Figure 4.4.

The development into a disability pensioner is similar in the study group and the control group. By extending the observation period with one year from t₂₄ to t₃₆, the similarity changed into a major difference at the end of the observation period. The change from t₂₄ to t₃₆ clarified that the disability increased more in the study group than in the control group.

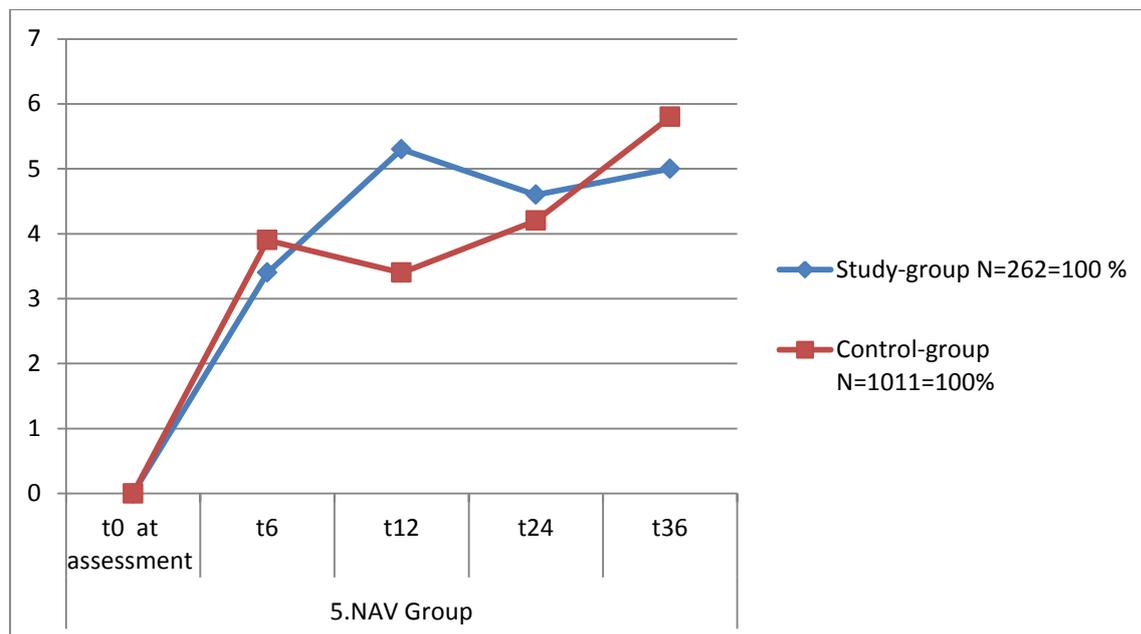
Figure 4.4 Part of the NAV Group 1 moving over to NAV Group 4, outside the labour force with permanently disability pension. Percent.



4.2.5 NAV Group 5, those full-time in the labour force at t₀ but converted to those outside labour force with an unknown working status, Table 4.2.5, Figure 4.5.

The figures for the study and control groups started equal at t₀ and ended with significant difference from t₁₂–t₃₆. The numbers in the study group were relatively increased in the study group from t₆ to t₂₄ compared with the control group. From t₂₄ this relation was inverted.

Figure 4.5: Part of the NAV Group 1 moving over to NAV Group 5—unknown/not in official registers. Percent.



4.3 Summary for this labour force group—effect of brief intervention possible

Observing the labour force part of the study and the control group made the picture from analysing the total material more clear. The brief intervention did not improve the RTW as compared with the control group. The transition from labour force and more use of social benefits were strikingly stronger in the study than in the control group, but became visible half a year after the brief intervention.

The granting of disability pension was higher in the study group, but not as strong as in the total study group (chapter 3). The “unknown” NAV group were significantly different, but not with the great differences seen in the total material.

The separate study of those in the labour force group at t_0 (NAV group 1) demonstrated a parallel development of study and control group from t_0 to t_6 , the period where the brief intervention was expected to have an influence. From t_6 less of the study group was in the labour force and more were in part-time job and eligible for grants as well as disability pension.

The transferring to “unknown” (NAV group 5) ended with significantly lower figures in study than in control group, that is a better result.

Chapter 5

The extra intervention

5.1. The extra intervention group

As a result of the clinical assessment of need and possibilities, a group of 100 patients was selected for an extra intervention to see if that gave more return to workforce. The intervention method was described in section 2.2.3. The length of sick leave did not have an impact on how to select for extra intervention. Since the endpoint was a return to workforce, we analysed those from the extra intervention group that were in the labour force at t_0 , NAV Group 1, and their follow-up until t_{36} (compare chapter 4). Seventy individuals of the 100 were in NAV group 1 at t_0 .

5.2. Results for the extra intervention group

Table 5.1 describes the general results for the study group in total (N=420), for the extra intervention group (N=100) and the remaining of the study group (N=320). The differences between the extra intervention group and the remaining of the study group are as follows.

There are more females in the extra intervention group, $p=0,010$; fewer people in towns and more in rural areas, $p=0,040$; more working as clerical support and in service and sales and workers (occupational groups 4 and 5); and fewer in craft and related trades, in plant and machine operators and elementary occupations (occupational groups 7, 8 and 9), $p=0,006$. Age, ethnicity and length of sick leave (not in this table) seemed to be of little influence, but diagnosis (table 6.5) differed significantly ($p=0.005$). We used cross tables to test age versus gender, ethnicity and occupation, and there were no significant differences. The influence of length of sick leave between the extra intervention group and the remaining group were not significant.

Testing gender versus Norwegian and Non-Norwegian ($p=0,008$) demonstrated more women among Norwegians. Also testing gender to occupation demonstrated more women in the extra intervention group, ($p<0,001$). There were significantly more people working in an office, public service and care in the extra intervention group, and more craftsmen, process dealers, drivers and unskilled workers in the remaining group, $p=0,006$.

The extra intervention group had more psychiatric (F) and unclear musculoskeletal diseases (M79) than the remaining part of the study group. Also, 79 % were women (Chapter

6). At which of the three locations the intervention was given resulted in no significant difference (Table 6.6), nor did the age of those at the three locations,

Table 5.1 Extra interventions—the study group in total, the extra intervention group and the rest of the study group. Data are from NAV's register from Østfold County.

Theme/Sub-theme	Study group in total N=420=100 %	Study group with extra intervention		Comments Pearson Chi-Square, p-value
		Yes N=100	No N=320	
Gender				
Male	31.4%	21.0 %	34.7 %	0.010
Female	68.6%	79.0 %	65.3 %	
Age (years)				
Mean	41.8			SD 10.4 CI (95%) 41.2-42.4
18–29	13.8 %	9.0 %	15.3 %	0.207 n.s.
30–39	30.7 %	32.0 %	30.3 %	
40–49	32.6 %	38.0 %	30.9 %	
50–59	19.3 %	20.0 %	19.1 %	
60–69	3.6 %	1.0 %	4.4 %	
The residential municipality				
Town 5,000–90,000 inhabitants	78.3 %	71.0 %	80.6 %	0.040
1,000–5,000 inhabitants	9.8 %	10.0 %	9.7 %	
Rural area <1,000 inhabitants	11.9 %	19.0 %	9.7 %	
Ethnic group				
Norwegian	81.7 %	86.0 %	80.3 %	0.199 n.s.
Non-Norwegian	18.3 %	14.0 %	19.7 %	
Occupation (The scale from Statistics Norway⁵)				
1. Managers	1.0 %	1.0 %	0.9 %	0.006
2. Professionals	1.9 %	2.0 %	1.9 %	
3. Technicians and associate professionals	9.0 %	10.0 %	8.8 %	
4. Clerical support workers	10.7 %	17.0 %	8.8 %	
5. Service and sales workers	29.0 %	40.0 %	25.6 %	
6. Skilled agricultural, forestry and fishery workers	1.9 %	0	2.5 %	
7. Craft, workers and related trades	18.3 %	10.0 %	20.9 %	
8. Plant and machine operators, and assemblers	11.9 %	7.0 %	13.4 %	
9. Elementary occupations	16.2 %	13.0 %	17.2 %	

⁵ <https://www.ssb.no/arbeid-og-lonn/statistikker/yrkeaku/aar> -

5.3 The NAV group distribution of the extra intervention group from the labour force part

In extra intervention group 79 % were under 50 years old (Table 5.1). Most of those granted disability pension, 78 %, were more than 50 years old (Table 5.2). In the separate study (Chapter 4), all in the labour force were in NAV Group 1 at t_0 , $N=262$ for the study group and $N=1011$ for the control group.

Table 5.2 The age distribution within the NAV groups 1–5 at t_{24} in the total study group

Age group	NAV groups 1–5, per cent, at t_{24}					Total	Pearson Chi-Square, p-value
	1	2	3	4	5		
18–29	14.5	12.2	14.6	0	14.3	13.3	<0.001
30–39	40.0	16.7	38.4	8.7	32.1	32.0	
40–49	35.5	42.2	28.7	13.0	35.7	33.0	
50–59	10.0	24.2	17.1	56.5	10.7	18.6	
60–67	0	4.4	1.2	21.7	7.1	3.1	
Numbers	110	90	164	23	28	415	
Missing						5	

From t_0 to t_6 , there were significant differences (Table 5.3), $p=0.007$, developing in the NAV labour force extra intervention group, unlike using the total labour force study group material (Table 4.2), with $p=0,170$ for the same period.

At t_{24} when the extra intervention was finished, the age distribution within the NAV groups 1–5 differed significantly in the total study group (Table 5.2). It was 90 % in NAV group 1 ($N=110$) who were under 50 years old. For those outside the labour force long term (NAV group 3), 81.7 % ($N=164$), were under 50 years old, and those unknown (NAV group 5) had 82.1 % ($N=28$) under 50 years old and 46.4 % under 40 years old.

From t_6 to t_{36} , the differences developing between the two parts of the study group, the extra intervention and the remaining part, and the control group were significant (see Table 5.3). The results for NAV Groups 1–5, those in the labour force and under extra intervention, are illustrated in Figures 5.1–5. The extra intervention group was significantly different from the remaining part of the study group and the control group.

Table 5.3 Labour force group—NAV Group 1—study and control group.

Extra intervention group belonging to the labour force (N=70), the remaining part of the study group (N=192), and the labour force part of the control group. Development from situation at assessment, t₀, six months after sick leave, and at follow-up 6 (t₆), 12 (t₁₂), 24 (t₂₄) and 36 (t₃₆) months after assessment.

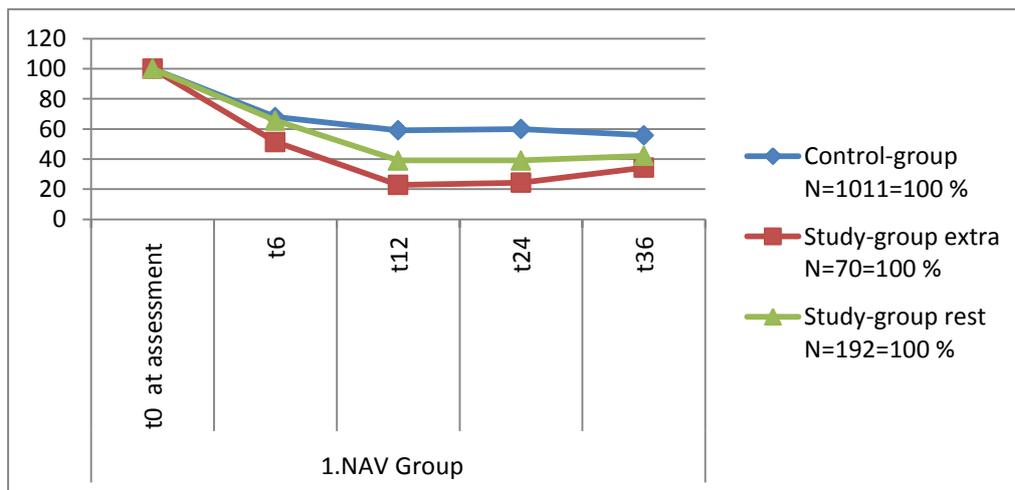
NAV labour force group		Control group Labour force	Study group—labour force N=262		
			Extra intervention	Remaining part	
NAV's national classification, groups adjusted to five	Working situation after sick leave. Assessment at six months sick leave	NAV group N=1.011 =100 %	Yes N=70=10 0%	No N=192=100 %	Pearson Chi-Square, p-value
1. NAV group: 10. 12.20 full-time in the labour force	t0 at assessment	100	100	100	0.878
	t6	67.9	51.4	65.6	0.007
	t12	59.1	22.9	39.1	<0.001
	t24	60.0	24.3	39.1	<0.001
	t36	55.8	34.3	42.2	<0.001
	Working situation	Control-group	Extra intervention	Rest	
2. NAV group: 13–17. 24 part-time in labour force, part-time long-term benefits	t0 at assessment	0	0	0	0.878
	t6	21.6	24.3	24.0	0.007
	t12	21.1	40.0	29.7	<0.001
	t24	14.9	25.7	24.5	<0.001
	t36	14.5	21.4	17.2	<0.001
	Working situation	Control-group	Extra intervention	Rest	
3. NAV group: 30–40 outside of the labour force—not permanently	t0 at assessment	0	0	0	0.878
	t6	6.3	20.0	6.8	0.007
	t12	15.0	32.9	23.4	<0.001
	t24	17.7	44.3	27.6	<0.001
	t36	18.9	34.3	28.1	<0.001
	Working situation	Control group	Extra intervention	Rest	
4. NAV group: 50 outside the labour force permanently/ disability pension	t0 at assessment	0	0	0	0.878
	t6	0.4	0	0.5	0.007
	t12	1.5	0	2.1	<0.001
	t24	3.3	4.3	3.1	<0.001
	t36	5.1	8.6	6.2	<0.001
	Working situation	Control group	Extra intervention	Rest	
5. NAV group: 99 unknown—those not having a job or not in official registers anymore	t0 at assessment	0	0	0	0.878
	t6	3.9	4.3	3.1	0.007
	t12	3.4	4.3	5.7	<0.001
	t24	4.2	1.4	5.7	<0.001
	t36	5.8	1.4	6.2	<0.001

5.3.1 NAV Group 1, extra intervention part of those full-time in the labour force,

Table 5.3.1, Figure 5.1.

The initial equality in NAV Group 1 at t_0 for the study and control group ceases over time, and as early as the first six months after assessment, the control and the remaining group are significantly diverted. That was the time where the brief intervention was supposed to have influence. The extra intervention group immediately demonstrated a divergent process with the least RTW, which remained until t_{36} . At t_{36} , 34.3 % of the extra intervention group, 42.2 % of the rest of study group and 55.8 % of the control group, was still in the labour force. The extra intervention given between t_6 and t_{24} demonstrated no benefit as to RTW. In the extra intervention period, both parts of the study group had less RTW, although the extra intervention part of the study group presented the worst result.

Figure 5.1 Extra intervention group compared with the rest of study group and control group, NAV group 1, for those belonging to labour force, full-time in labour force. Percent.

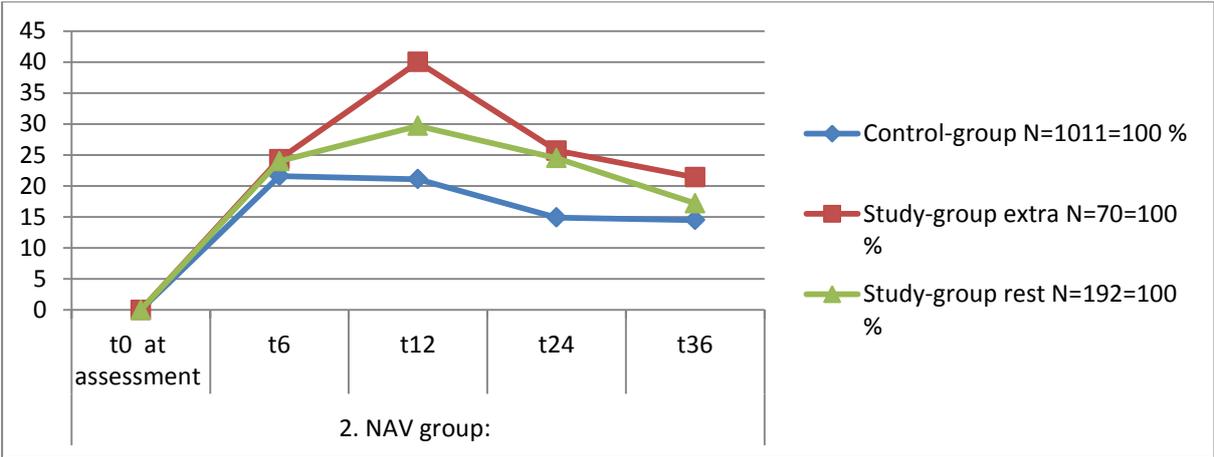


5.3.2 NAV Group 2, extra intervention part of those in the labour force part-time who also had part-time long-term benefits, Table 5.3.2, Figure 5.2.

Six months after assessment, the number of part-time employees in the labour force had increased in all three groups (Figure 5.2). At t₁₂, the extra intervention group was twice as high as the control group. By t₃₆, the extra intervention group was the highest, followed by the remaining group and then the control group.

The t₃₆ value was 21.4 % for those in extra intervention group working part time, 17.2 % for the remaining group and 14.5 % for the control group. It had been a change from full-time (NAV category 1) to part-time activity. The extra intervention activity was a known difference between the groups.

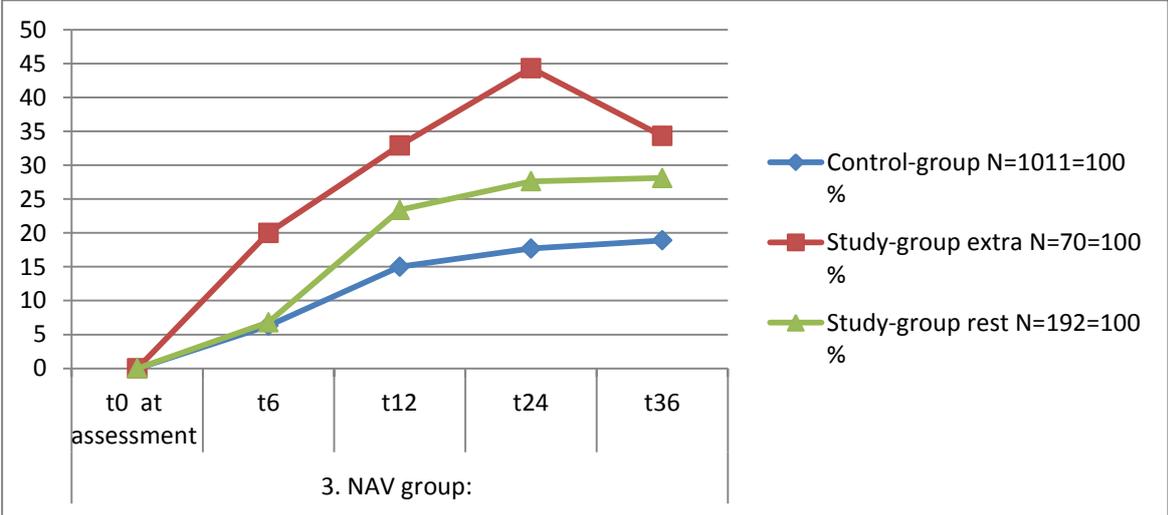
Figure 5.2 Extra intervention group compared with the remaining part of the study group and control group, NAV Group 2—part of the NAV Group 1 moving over to NAV group 2, part time in the labour force. Percent.



5.3.3 NAV Group 3 extra intervention part of those outside the labour force—not permanent, Table 5.3.3, Figure 5.3.

The liability to move out of the labour force was significantly stronger in the study group than in the control group for the entire observation time and most distinct in the extra intervention group (Figure 5.3). Here, there was a marked increase in the extra intervention group. After the intervention period, the numbers decreased. At t_{36} , the figures were 34.3 % for the extra intervention group, 28.1 % for the remaining group and 18.9 % for the control group.

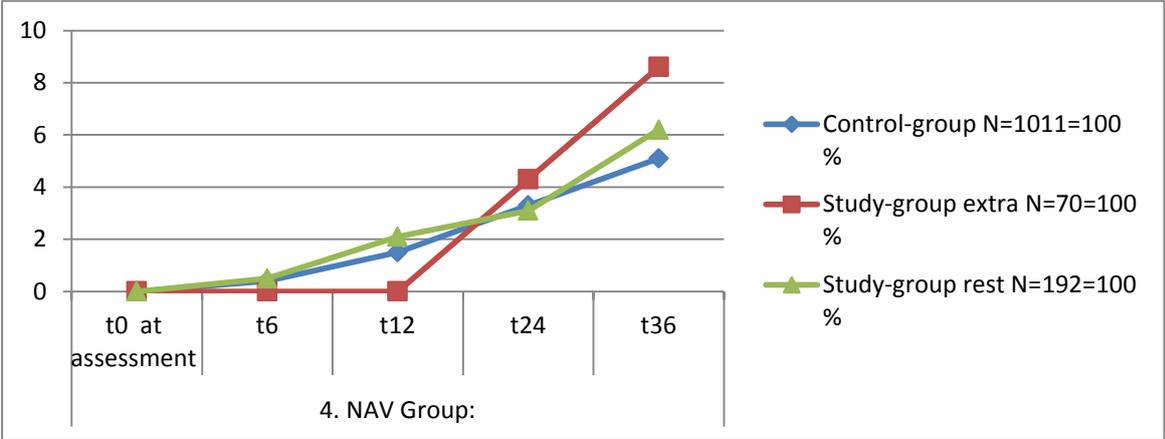
Figure 5.3 Extra intervention group compared with the remaining part of the study group and control group, NAV group 3—part of the NAV Group 1 moving over to NAV group 3—those initially belonging to the labour force, not permanently, but outside the labour force. Percent.



5.3.4 NAV Group 4 extra intervention part of those outside the labour force— permanent disability pension, Table 5.3.4, Figure 5.4.

The development towards a disability pension was more visible among those in the study group than in the control group at the end of the observation period, and most obvious in the extra intervention group.

Figure 5.4 extra intervention group compared with the remaining part of the study group and control group, NAV Group 4—part of the NAV Group 1 moving over to NAV group 4—those initially belonging to labour force, but now permanently outside the labour force/disability pension. Percent.



The figures at t₃₆ were 8.6 % for the extra intervention group, 6.2 % for the remaining group and 5.1 % for the control group. The numbers in this category are cumulative. Disability pension came first in the control group with a slow increase to the end of the observation period. The extra intervention group had even lower figures at t₁₂. At t₂₄, it was almost the same proportion of disability pension in all categories.

One year later, there was more disability pension in the extra intervention group than the other groups. This was realized only because we extended the observation period by one year. The decision on disability pension for this group seemed to be delayed compared with the others. Extra intervention did not prevent granting of a disability pension.

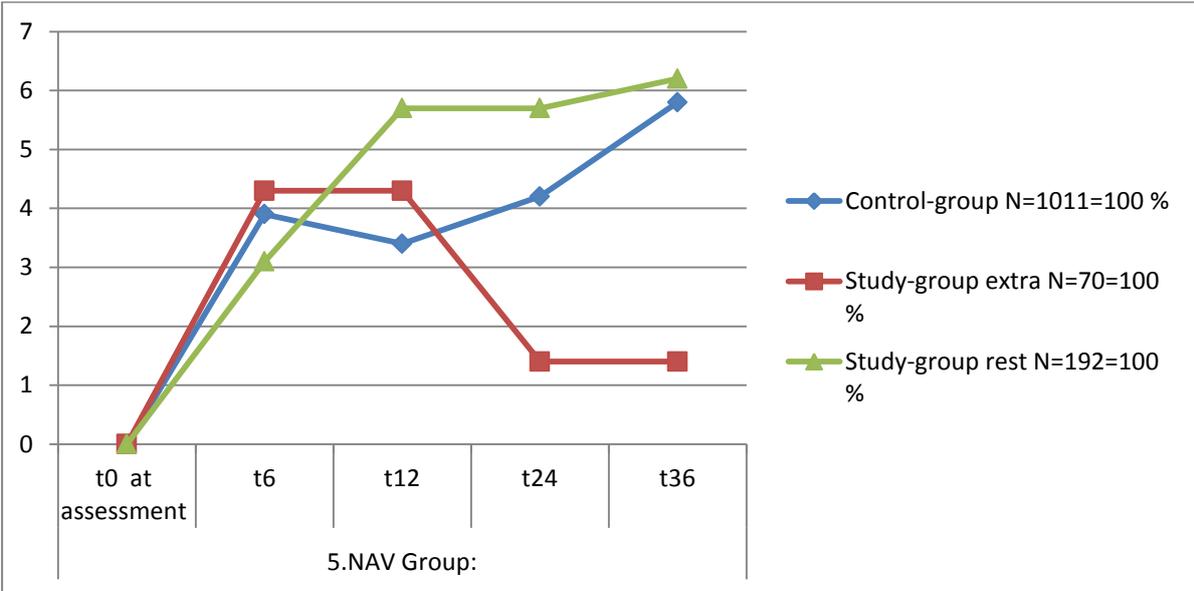
5.3.5 NAV Group 5 extra intervention part of those with an unknown status, Table 5.3.5, Figure 5.5

These were those not having a job, not in the official register anymore, or receiving possible economic support from family, private funds or work and were unknown to the labour market authority.

The figures for this group increase from the start at t_0 until t_{36} for the control group and the remaining part of the study group. However, the extra intervention group diminishes significantly from t_{12} . This group was supposed to have closer contact to health and auxiliary personnel (Figure 5.5) and demonstrated an opposite effect than in the other groups.

There was no significant difference between the NAV groups at t_0 (Table 5.3). The period when the brief intervention was supposed to have an effect was from t_0 – t_6 . The period between t_6 – t_{24} , which was the period for performing the extra intervention, developed significant differences. The extra intervention period demonstrated a marked influence on NAV group 5 which diminished, while the control group and the remaining part of the study group increased. That was a satisfying result.

Figure 5.5 The extra intervention group compared with the remaining part of the study group and control group, NAV Group 5—part of NAV Group 1 moving over to NAV group 5—unknown and permanently outside the labour force. Percent.



In the extra intervention group, it was NAV groups 2–3, applying for some work and having extra NAV support that dominated with 56 % in this category (Table 5.3). The changes were most visible after the beginning of the extra intervention.

The figures for NAV group 5 increased from t_6 until t_{36} except for the extra intervention group, which decreased significantly and demonstrated a result opposing the other groups. The figures at t_{36} for the extra intervention group, NAV group 5, were 1.4 %. It was 6.2 % for the remaining group and 5.8 % for the control group.

The extra intervention group was supposed to have had closer contact to the health and auxiliary personnel, bringing them into the social network. That was among the NAV objectives. The control group and the remaining part of the study group increased in this category. They were not given similar attention from NAV and health care systems as the extra intervention group. However, the extra intervention group shrank by a larger margin.

5.4 Summary of the result for the extra intervention group

These results may mean that the extra intervention prevented employees from leaving the official social system and brought those outside it into the social security system. This is a positive result.

Seeing all groups together in the total material (Table 5.4) and the groups from labour force at t_0 (table 5.3) demonstrates that the extra intervention groups had fewer individuals in the labour force and more among those outside the labour force than the remaining group and the control group. There were also more of those on disability pension in the extra intervention group than in the remaining part of the study group (Table 5.3.4).

The significant difference between the study group and the control group in the total material was present from start (Table 3.3). In the labour force group and the extra intervention part of the study group (Table 5.3), the significant difference appears at t_6 . For the whole extra intervention group and the remaining group (Table 5.4), the significant difference appears from t_{12} when the extra intervention is being conducted.

5.4 Summary of the main data and the extra intervention group

Table 5.4: Situation for the groups at assessment, t₀, 6 months after sick leave and at follow-up 12 (t₆), 18 (t₁₂), 30 (t₂₄) and 42 (t₃₆) months after start of sick leave

NAV labour force group		Main study			Study group (N=420)		
NAV's national classification, groups adjusted to five	Working situation after sick leave. Assessment at 6 months sick leave	Study group N=420=100 %	Control group N=1260=100 %	Pearson Chi-Square p=	Extra intervention Yes N=100=100%	Remaining part No N=320=100%	Pearson Chi-Square, p-value
1. NAV group 10. 12.20 full-time in the labour force	t0 at assessment	63.4	80.4	<0.001	70.0	61.3	0.036
	t6	43.1	59.3	<0.001	38.0	44.8	0.272
	t12	26.0	51.0	<0.001	16.0	29.2	0.002
	t24	26.5	51.9	<0.001	18.0	29.2	0.003
	t36	30.4	48.8	<0.001	26.0	33.8	0.022
	Working situation						
2. NAV group: 13–17. 24 part-time in labour force, part-time long-term benefits	t0 at assessment	13.3	9.9	<0.001	14.0	13.0	0.036
	t6	24.3	24.7	<0.001	24.0	24.4	0.272
	t12	28.0	23.8	<0.001	38.0	24.8	0.002
	t24	21.7	17.5	<0.001	27.0	20.0	0.003
	t36	16.7	16.4	<0.001	21.0	15.3	0.022
	Working situation						
3. NAV group: 30–40 outside of the labour force—not permanently	t0 at assessment	9.6	3.5	<0.001	11.0	9.2	0.036
	t6	23.4	9.5	<0.001	31.0	21.0	0.272
	t12	35.2	18.7	<0.001	42.0	33.0	0.002
	t24	39.5	21.0	<0.001	50.0	36.2	0.003
	t36	35.5	21.6	<0.001	43.0	33.1	0.022
	Working situation						
4. NAV Group: 50 outside the labour force permanently—disability pension	t0 at assessment	0.0	0.6	<0.001	0	0	0.036
	t6	0.5	0.7	<0.001	0	0.6	0.272
	t12	3.1	2.1	<0.001	1.0	3.8	0.002
	t24	5.5	4.4	<0.001	4.0	6.0	0.003
	t36	10.4	6.4	<0.001	9.0	10.8	0.022
	Working situation						
5. NAV group: 99 unknown—those not having a job or not in official registers anymore	t0 at assessment	13.7	5.6	<0.001	5.0	16.5	0.036
	t6	8.7	5.9	<0.001	7.0	9.2	0.272
	t12	7.7	4.3	<0.001	3.0	9.2	0.002
	t24	6.7	5.3	<0.001	1.0	8.6	0.003
	t36	7.0	6.9	<0.001	1.0	8.9	0.022

Chapter 6

Influence of diagnostic distribution - about 101 diagnoses

6.1 Introduction

The distributions of diagnoses among the sick-listed were influenced by the information that was given by the referring family doctors. Our basis at OPC was “all” ICD-10 diagnoses but mainly sick-listed patients with all diagnoses within the F and M chapter in ICD 10. In the study group, we registered 101 different main diagnoses and 80 side diagnoses. The diagnosis was set as described in section 2.1.7. The diagnoses were a frame, but the degree of loss of capacity for work and degree of sick leave were the reason for referral to OPC. The 101 registered diagnoses were collected into four groups. The focus of this chapter will be whether any of the diagnostic groups have increased probability for RTW or for ending in disability pension?

6.2 Results concerning diagnoses for the study and the control group

As demonstrated in section 2.1.3, we realized that after six months, only 6.1 % were left on sick leave from an initial 100 % group of Norwegian employees on sick leave (in 2012). The main diagnoses at t_0 , were distributed among the sick-listed, as illustrated in Table 6.1.

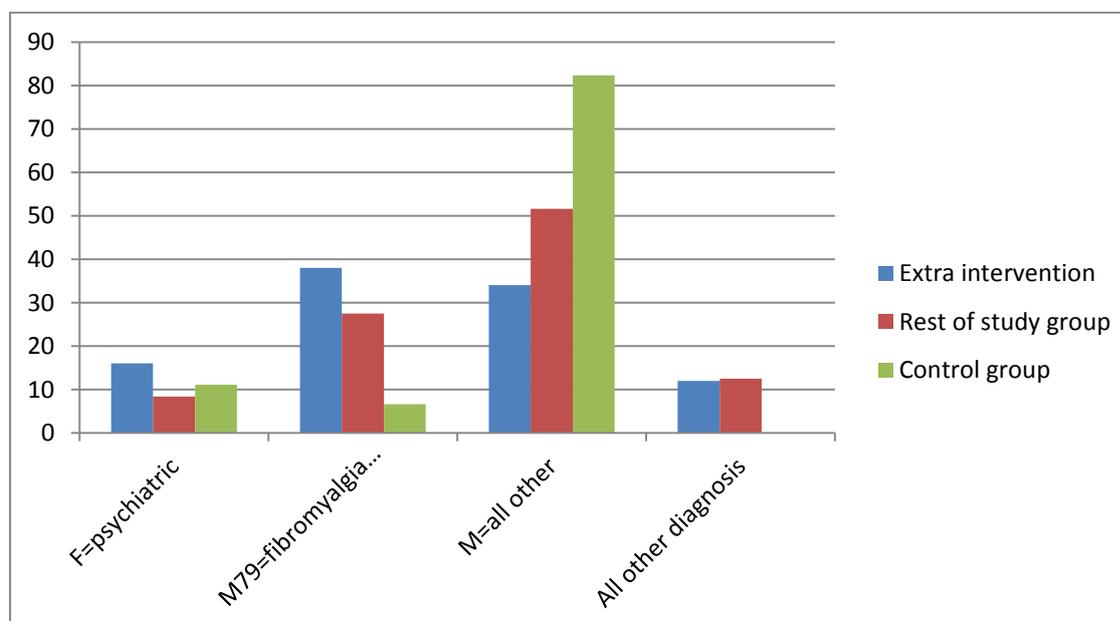
The diagnoses in the study group were significantly different from the control group, as demonstrated in Table 6.1, $p=0.007$, and in Figure 6.1. The study group had significantly more diagnoses of M79 and fewer of M-else than the control group. The control group was dominated by the M-else diagnosis. F-diagnoses were not very frequent, but there were more of F-diagnoses in the extra intervention group. The zero of “other diagnosis” in the control group is a consequence of the matching (section 2.1.3).

The differences between the extra intervention group and the remaining part of the study group were significant, $p=0.007$, and the extra intervention group had more psychiatric complaints (F), more musculoskeletal complaints (M79) and fewer other musculoskeletal complaints than the remaining part of the study group. The control group (Figure 6.1) was dominated by M-else diagnoses.

Table 6.1: Diagnoses at t_0 for the study and control group, ICD-10

Distribution of 101 ICD 10 diagnoses at t_0 in the extra intervention group, the remaining part of the study group and the control group,						
	F psychiatric complaints	M79 fibromyalgia musculoskeletal complaints	M-else All other musculo-skeletal complaints	All other diagnoses	Total= N=100 %	Pearson Chi-Square, p-value
Number study group	N=43	N=126	N=199	N=52	N=420	0.007
Percent study group %	10.2	30.2	47.4	12.2	420=100 %	
Extra intervention group %	16.0	38.0	34.0	12.0	100=100 %	
Remaining of study group %	8.4	27.5	51.6	12.5	320=100 %	
Number control group	N=140	N=83	N=1.037	N=0	1.260=100 %	<0.001
Percent control group %	11.1	6.6	82.3	0		
Percentage sum study and control group %	10.9	12.4	73.6	3.1	1.680=100 %	0.003
Total number	N=183	N=209	N=1.236	N=52	1.680	

Figure 6.1 Diagnoses at t_0 for the study and control group by percent, from Table 6.1



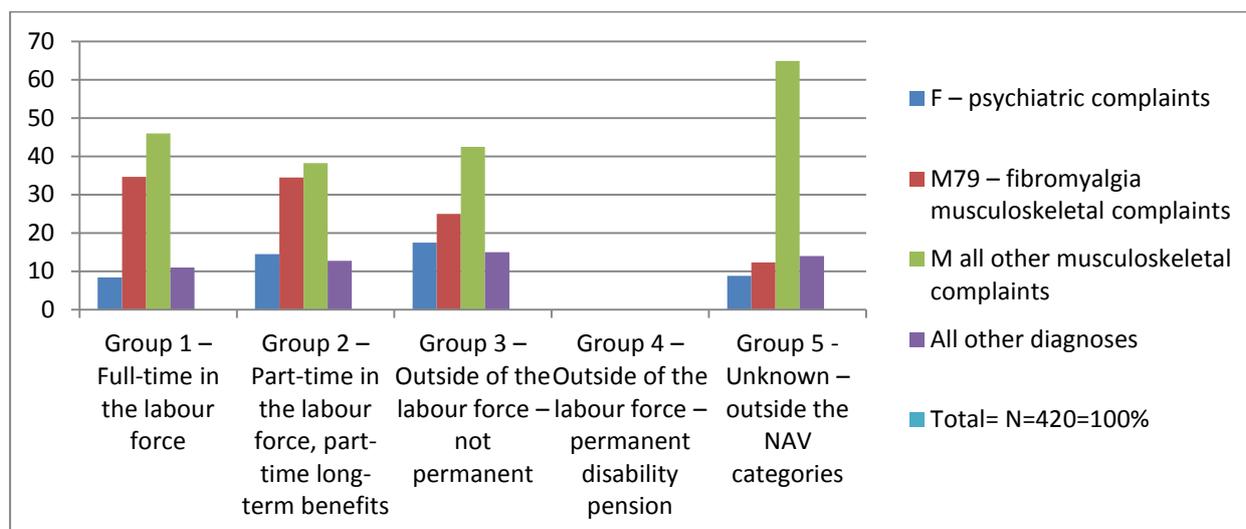
6.3. The study group, diagnosis and NAV categories at t₀

Table 6.2 and Figure 6.2 demonstrate the diagnostic distribution in the study group at t₀ for the five NAV groups. Diagnosis M-else (all other) were most frequent for all NAV categories, especially in NAV Group 5. M79 was most frequent in NAV group 1–2. In NAV group 3, the diagnosis from M-else were more dominant and M79 less dominant (Figure 6.2). The F diagnoses were most frequent in NAV groups 2 and 3, and so was “all other diagnoses”. The differences were statistically significant (p=0.033). At t₀ there was none of the study group in NAV Group 4, disability pension.

Table 6.2 Study group across NAV groups at t₀. Distribution of ICD 10 diagnoses in five NAV groups. Percent.

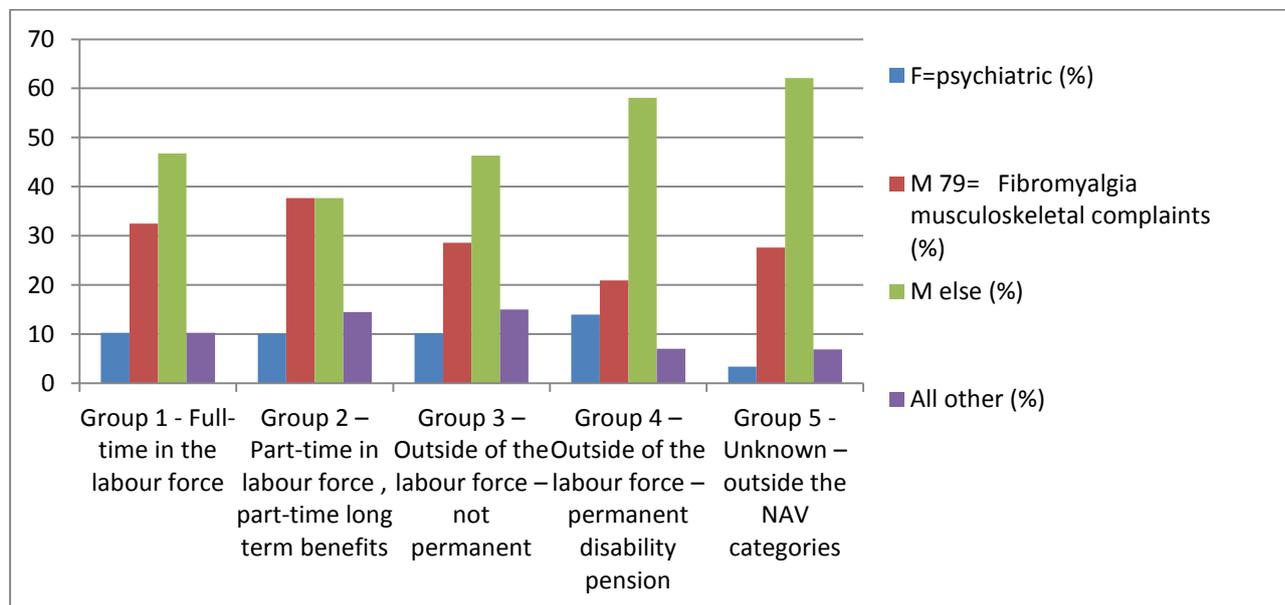
NAV category at T ₀ , at assessment, six months sick leave	Distribution of ICD 10 diagnoses in five NAV-groups					Pearson Chi-Square, p-value
	F— psychiatric complaints (%)	M79— fibromyalgia musculoskeletal complaints (%)	M-else— All other musculoskeletal complaints (%)	All other diagnoses (%)	Total= 100 % (5 missing from 420)	
Group 1—Full-time in the labour force	8.4	34.6	46.0	11.0	263=100	0.033
Group 2—Part-time in the labour force/part-time long-term benefits	14.5	34.5	38.2	12.7	55=100	
Group 3—Outside of the labour force— not permanent	17.5	25.0	42.5	15.0	40=100	
Group 4— Outside of the labour force—permanent disability pension	0	0	0	0	0	
Group 5— Unknown—outside the NAV categories	8.8	12.3	64.9	14.0	57=100	
Total number	43	126	199	52	415	
Total percent	10.2	30.2	47.4	12.2	100	

Figure 6.2 Study group and NAV groups at t_0 . Distribution of ICD 10 diagnoses (%) in five NAV groups



There were no significant differences between the five NAV categories and the four diagnostic groups at t_6 , t_{12} , t_{24} , and t_{36} . Figure 6.3 illustrates that for t_{36} , $p=0,459$, as described in Table 6.7.

Figure 6.3 Study group at t_{36} , distribution of ICD 10 diagnoses (%) in five NAV groups



The main diagnoses for disability pension, NAV Group 4, were the more organ-specific musculoskeletal diseases and M-else, not M79 or F. That is illustrated for t_{36} (Figure 6.3).

There were no significant differences of diagnostic distribution among individuals granted disability pension at stages t_{12} – t_{36} (not in table).

6.4. Study group, diagnoses and the length of sick leave

At assessment time (t_0), the diagnoses were distributed as demonstrated in Table 6.3. The length of sick leave gave no significant difference for distribution of diagnoses, $p=0.432$ (not in a table).

6.5 Study group, diagnosis and age

In the study group demonstrated no significant differences in diagnostic distribution between age groups at t_0 (not in a table).

6.6 Study group, diagnosis and gender

The gender distribution was one-third men and two-thirds women in both the study and the control group. Diagnoses were significantly different for men and women ($p<0.001$), with more M79 diagnoses among women and more M-else and “all other” diagnoses among men (Table 6.3). The control group had more concentration of M-else for both genders.

Table 6.3 Study group and control group distribution of 101 ICD 10 diagnoses across gender at assessment, t_0 .

Gender Study group	Distribution of ICD 10 diagnoses					Pearson Chi-Square, p-value
	F—psychiatric complaints (%)	M79— fibromyalgia musculoskeletal complaints (%)	M-else All other musculoskeletal complaints (%)	All other diagnoses (%)	Total= N=100 %	
Male	9.8	17.4	55.3	17.4	132=100	<0.001
Female	10.4	36.1	43.8	9.7	288=100	
Total percentage	10.2	30.2	47.4	12.2	420=100	
Total number	43	126	199	52	420	
Gender control group						
Male	11.1	1.8	87.1	0	396=100	<0,001
Female	11.1	8.1	80.1	0	864=100	
Total percentage	11.0	6.6	82.4	0	1260=100	
Total number	139	83	1038	0	1260	

6.7 Study group, diagnosis and ethnicity

In the study group, ethnicity demonstrated no significant differences in diagnostic distribution, $p=0.555$ (not in a table).

6.8 Study group, diagnosis and occupation

The study and control group are described in total in section 3.1. In the control group and the data for Østfold County and for Norway in total managers, professionals and technicians more prominent. In the study group, blue-collar workers and persons with less education dominated. Sales, service and care were about one-third of both groups (Table 6.4).

Table 6.4 Distribution of ICD 10 diagnoses in the study group, compared to occupation at assessment, t₀.

Occupation: The scale from Statistics Norway ⁶	Distribution of ICD 10 diagnoses						Pearson Chi- Square, p-value
	F— psychiatric complaints (%)	M79— fibromyalgia- musculoskeletal complaints (%)	M-else All other musculoskeletal complaints (%)	All other diagnoses (%)	Total=		
					N=100 %	%	
1. Manager /chairman	25.0	25.0	50.0	0	4=100	1	0.150
2. Academics >3 years	37.5	37.5	12.5	12.5	8=100	1.9	
3. University College <3 years	13.2	26.3	44.7	15.8	38=100	9.0	
4. Office-public service	11.1	28.9	51.1	8.9	45=100	10.7	
5. Sales-service- care	12.3	39.3	36.9	11.9	122=100	29.0	
6. Farm-Forest- Fishing	0	12.5	87.5	0	8=100	1.9	
7. Craftsmen	7.8	22.1	53.2	16.9	77=100	18.3	
8. Process dealers/drivers	10.0	30.0	48.0	12.0	50=100	11.9	
9. Occupation without educational demands	4.4	27.9	57.4	10.3	68=100	16.2	
Total percentage	10.2	30.2	47.4	12.1	420=100	100	
Total number	43	126	199	52	420		

In the study group, there were differences with more diagnosis from the F and M79 chapter in ICD-10 among managers and academics (low total numbers), more M-else among university/college and office and public service. M-else were also most common among occupations with more physical and less educational demands. The difference in occupation between the diagnostic groups were not statistically significant (p=0.150).

⁶ <https://www.ssb.no/arbeid-og-lonn/statistikker/yrkeaku/aar>

6.9 Study group, diagnosis and residency

The distribution of diagnoses among those from the study group that were living in small, medium or big municipalities were not significant different ($p=0.324$) as could be in the case of social segregation (not in a table).

6.10 The extra intervention group and diagnosis

As Table 6.5, Part A demonstrates, those in the extra intervention group had significantly different diagnoses as compared to the remaining part of the study group, $p=0.005$.

Table 6.5, Part B also demonstrates the registering of side diagnoses among 216 (51.4 %) individuals. Side diagnoses were more on the psychiatric side (ICD-10 F), dominated by F and less so by M79 and M-else, but the differences were not significant, $p=0.085$. Cross tabulation between main and side diagnoses demonstrate no correlation, and comparing were significantly different, $p=0,001$ (not in a table).

Table 6.5 Diagnosis and the extra intervention part of study group at t_0 —Distribution of ICD 10 diagnoses, compared to additional four weeks of extra intervention

	A) Distribution of ICD 10 diagnoses					
A) Extra intervention	F (%)	M79 (%)	M-else (%)	ELSE (%)	Total= N=100 %	Pearson Chi-Square, p-value
Yes	16.0	38.0	34.0	12.0	100=100	
No intervention	8.4	27.5	51.6	12.5	320=100	
Total percentage	10.2	30.2	47.4	12.1	420=100	
Total number	43	126	199	52	420	
B) Extra intervention	B) Side diagnoses					
Yes	39.6	15.1	28.3	17.0	53=100%	0.085
No intervention	23.3	12.3	39.3	25.2	163=100%	
Sum number side diagnoses	59	28	79	50	216=100 %	

6.11. The extra intervention group and diagnoses, location and gender.

The three locations for extra intervention (section 2.2.3) had some differences in their professional approach and program. The locations for extra intervention received approximately one-third each of the 100 patients, whose diagnoses are shown in Table 6.6. There were no significant differences

Table 6.6 Diagnoses, location and gender for extra intervention at t_0

Location for extra intervention	Distribution of ICD 10 diagnoses				Total= N=100%	Pearson Chi-Square	Male %	Female %	Pearson Chi-Square, p-value
	F psychiatric complaints (%)	M79 fibromyalgia musculoskeletal complaints (%)	M-else all other musculoskeletal complaints (%)	All other diagnoses (%)					
1	9.8	34.1	41.5	14.6	41=100	0.459	76,2	31,6	<0,001
2	21.2	45.5	27.3	6.1	33=100		0	41,8	
3	19.2	38.5	30.8	11.5	26=100		23,8	26,6	
Total percentage	16.0	39.0	34.0	11.0	100%		100	100	
Total number	16	39	34	11	100		21	79	

in distribution of diagnosis between the patients placed in the three different locations, $p=0.459$. The gender distribution of the patients referred to in the different rehabilitation institutions were significantly different ($p<0.001$). Only women were wanted at location 2, while a majority of men were wanted at location 1. There was no significant difference in the age distribution (not in table), but great differences in gender distribution, as shown when comparing Table 6.6 with Table 6.3 on gender and diagnoses.

6.12 The study group, return to workforce and granting of disability pension

At the end of the observation time, t_{36} , comparing of NAV groups and diagnoses illustrates that diagnoses in group M-else are most prominent in all NAV groups (Table 6.7), but the categories were not significantly different, $p=0.373$ (not in Table).

The diagnoses are distributed in a similar way in all NAV groups. In NAV Group 1—labour force—M-else and M79 was dominating. Most of those returning to labour force had these diagnoses. In NAV Groups 2–3, M79 and M-else also dominated. In NAV Group 4, disability pension, M-else dominated and was most likely to cause a disability pension. M-else diagnoses also dominated in NAV Group 5.

Diagnoses for study the group ($N=420$) and control group at t_0 were presented in Table 3.2 and are not much different from what we can see at t_{36} in NAV Group 1 ($N=133$). At t_{36} diagnoses were distributed in the same way (Table 6.7). The brief intervention activity did not change the diagnostic distribution. M-else and M79 were the most frequent diagnoses, and F diagnoses were less important in this study. During the observation time, parts of the study

group were redistributed to the other NAV groups. They had a non-significant change in diagnostic distribution. Disability pension (NAV Group 4) was in 58.1 % of cases granted to individuals with M-else diagnoses.

Table 6.7 Status for NAV groups at t₃₆, and distribution of diagnoses on four diagnostic groups

NAV 36 mndStud		Diagnoses, four groups				Total	
		F	M79	M-else	Else		
NAV groups	1	Count	13	45	62	13	133
		% within NAV36mndStud	9.8%	33.8%	46.6%	9.8%	100.0%
		% within Diag four groups	31.0%	36.0%	31.6%	25.5%	32.1%
		% of Total	3.1%	10.9%	15.0%	3.1%	32.1%
	2	Count	7	22	23	10	62
		% within NAV36mndStud	11.3%	35.5%	37.1%	16.1%	100.0%
		% within Diag four groups	16.7%	17.6%	11.7%	19.6%	15.0%
		% of Total	1.7%	5.3%	5.6%	2.4%	15.0%
	3	Count	15	41	68	23	147
		% within NAV36mndStud	10.2%	27.9%	46.3%	15.6%	100.0%
		% within Diag four groups	35.7%	32.8%	34.7%	45.1%	35.5%
		% of Total	3.6%	9.9%	16.4%	5.6%	35.5%
	4	Count	6	9	25	3	43
		% within NAV36mndStud	14.0%	20.9%	58.1%	7.0%	100.0%
		% within Diag four groups	14.3%	7.2%	12.8%	5.9%	10.4%
		% of Total	1.4%	2.2%	6.0%	0.7%	10.4%
5	Count	1	8	18	2	29	
	% within NAV36mndStud	3.4%	27.6%	62.1%	6.9%	100.0%	
	% within Diag four groups	2.4%	6.4%	9.2%	3.9%	7.0%	
	% of Total	0.2%	1.9%	4.3%	0.5%	7.0%	
Total	Count	42	125	196	51	414	
	% within NAV36mndStud	10.1%	30.2%	47.3%	12.3%	100.0%	
	% within Diag four groups	100.0%	100.0%	100.0%	100.0%	100.0%	
	% of Total	10.1%	30.2%	47.3%	12.3%	100.0%	

6.13 Summary on diagnoses

In our study, the diagnostic differences were mostly introduced through the selection process as patients were referred to OPC and did not change thorough the rehabilitation process. The most common diagnoses in the study group at t₃₆ were ICD-10 M-else (47.3 %), M79 (30.2 %), F (10.1 %) and all else (12.3 %). This distribution was similar in all NAV groups, and there were no significant differences on RTW, use of benefits, granting of disability pension and transference to the “unknown” NAV Group 5. Length of sick leave did not depend on diagnoses, nor age, ethnicity, occupation, or place of living (centrality). Gender demonstrated

diagnostic differences with more M79 and M-else diagnoses among women and most M-else among men.

Instead of the single diagnoses, the underlying pain as part of the F and M diagnoses could indicate a more underlying reason and some “non-disease”. A few authors have discussed this type of problem (95, 96) in the context of a wide range of diagnoses and functional dysfunctions. The presented results can be assessed as a practical foundation for this kind of discussions. We could not investigate this more in our clinical follow-up and did not register those complaints. However a discussion is done in section 8.4.6.

The extra intervention group had a more even distribution of the diagnostic groups while the rest group was dominated by M-else diagnoses. Location for the extra intervention and the inequalities in the content of the rehabilitation program at the different locations did not demonstrate significant differences in diagnostic distribution among the participants, but neither did gender. RTW was not more prominent in any of the diagnostic groups. Disability pension was most common among those with M-else diagnoses, but the difference was not statistically significant.

Chapter 7

Patients' attitudes to the intervention

7.1 Some patient experiences

The patients were given the opportunity to take part in the team negotiations at the end of the day when diagnoses and treatment plans were written. Only a small number took advantage of this opportunity. They got all a copy of the final written statement, as did the GP and the NAV if permitted by the patient. To look more closely into the patients' attitudes to the RTW program, the patients were given an opportunity to comment on what they experienced at the intervention, t_0 , which was approximately six months after sick leave. A questionnaire on their work and sick leave situation was sent to all 420 participants at 6, 12 and 24 months after t_0 . A reminder was sent twice each time. The questionnaires follow as Supplement no. 1 and 2. A total of 210 (50 %) patients answered the questionnaire each time in addition to at the assessment, t_0 .

7.2 Patients' assessment over time

The response varied from 326 patients (77.6 %) at six months, t_6 , due the different questions. At t_6 291 (69.3 %) gave an answer on the VAS scale, and at 24 months, the response rate was 60.2 %, with 253 answers (Table 7.1). This table also demonstrates the general positive experience with the intervention from the VAS scale response with a mean of 6.34 at t_6 and 5.68 at t_{24} of 10 possible points. The general positive assessment was still valid two years later, at t_{24} .

Table 7.1 Expressed benefit from the interdisciplinary intervention of the study group, patient assessment on a VAS scale (1 very bad–10 very good). Answers from a questionnaire at 6 and 24 months, N=420

	Benefit 6 months after t_0	Benefit 24 months after t_0	Pearson Chi-Square, p-value
N-valid	291 (69.3%)	253 (60.2%)	
Mean	6.34	5.68	
Confidence interval	6.00–6.68	5.28–6.07	0.046
Median	7	6	

Table 7.1 demonstrates that the majority of patients had a positive perception of the program, and that this positive response still remained two years later, but not to the same degree. The difference in expressed benefit, the mean of the VAS scale, was significant, $p=0.046$; the median at t_6 was 7, and at t_{24} it was 6.

The comments at t_6 demonstrated an overall positive description of the intervention programme. Of the responders (see Table 7.6 below), 50 – 60 % had a positive value (“useful–very useful”), while 15–40 % were indifferent and 6–18 % negative (“useless–very useless”).

The statements from 291 patients at t_6 were grouped in two categories:

1. Whether the t_0 assessment arrangement was positive, negative or neutral from the patients’ point of view, i.e. outside their expectations.
2. Whether some of the activities at t_0 could be better—positive (yes), negative (no) or neutral (neither/nor)—from the patients’ point of view.

This is illustrated in Table 7.2 below.

Table 7.2 Patients’ assessment of the rehabilitation program at t_6 .

	Program good N=	%	Program could be better N=	%
Positive—yes	207	49.3	55	13.1
Negative—no	16	3.8	77	18.3
Neutral	40	9.5	64	15.2
Missing/no answer	157	37.4	224	53.4
N=	420	100	420	100

As seen from the Table 7.2.a 49.3 % of the patients judged the assessment program positive, and 31 % meant that something could be done to change or improve it. However, 37.4–53.4 % of the responders did not answer these questions.

A few comments or statements are reproduced in Table 7.7. Almost everyone who has commented on the measures by OPC has given a variation of statements like those of the initial person on this table, a woman of 40 years.

7.3 On the working situation—self-reported data

The responses to the questionnaire (Supplement 1 and 2) is described in Table 7.3. Among those answering in the study group, the numbers differ at different times with the sick leave percentage decreasing from 80 % to 54 % from assessment to 24 months after assessment. The workload percentage was decreasing in the same way from 88% at assessment to 45 % 24 months after assessment.

In the same period, until t_{24} , 33 individuals—of those answering the questionnaire—obtained a disability pension (i.e. 13 % of 246 individuals). The information from NAV for this group (Table 3.3.4) says that 5.5 % had a disability pension at t_{24} (Table 3.3.4).

Table 7.3 Self-reported social security status from the questionnaires at 0, 6, 12 and 24 months after assessment; total population N=420. Percent of sick leave or workload—mean and median for the number of responders.

Subject—Self-reported data	Number of persons, N	Mean %	Median	STD Deviation
Sick leave percent at assessment	420	79.65	100	32.1
Sick leave percent 6 months after assessment	297	66.04	100	41.9
Sick leave percent 12 “ “	192	68.34	100	39.1
Sick leave percent 24 “ “	237	53.81	50	43.8
Workload percent at assessment	420	88.24	100	22.8
Workload percent 6 months after assessment	299	54.28	50	41.2
Workload percent 12 “ “	203	38.91	35	40.5
Workload percent 24 “ “	246	44.73	50	40.9
Disability pension—percent at assessment	0			
Disability pension—percent 6 months after assessment	0			
Disability pension—percent 12 “ “	15	81.33	100	23.9
Disability pension—percent 24 “ “	33	81.36	100	27.3

A more direct question, Table 7.4, demonstrates that 66.6 % of 326 responders were back to work 6 months after assessment, and 57.8 % (of 268 responders) of the individuals, reported being in some job 24 months after assessment. At that time 27.6 % had changed from their initial job to another job, compared to 6.1 % at 6 months after assessment.

On the questionnaire 24 months after assessment (Supplement 2), there were no significant difference in gender and occupation between the responders and the non-responders (155 out of 268). However, in age group 50–69 years, it was significant that more non-responders were out of work, $p < 0,001$ (not in table).

When comparing self-reported data (Table 7.4) with data from NAV Groups 1 and 2 (in Table 3.3) 24 months after assessment, there are 155 (58 % of $N=268$) self-reported individuals back to their job and 202 individuals back to the work force (48.2 % of $N=420$ of NAV groups 1 and 2. Table 3.3.1-2 at t_{24}). There are 107 corresponding persons, and the

difference between the results for the two registration methods are statistically significant, $p < 0.001$. Pearson's Correlation, $R = 0.392$, and Spearman's Correlation, 0.526 , between self-reported and NAV data shows 264 (62.9 %) valid cases of 420 (not in table). The patients seem to be of a different understanding of what "work" is than what is registered by NAV.

From the self-reported data, we can see that 25 % of 268 responders are back to their initial job, 10 % had changed job position and 28 % had changed employer. That means that more than 60 % had returned to a work situation. Such differences or nuances are not known from the NAV data. What it means to be at work or available for a job is assessed differently and will be discussed in section 8.5.4.

Table 7.4: On the working situation

Questionnaire 6 and 24 months after assessment at t_0 on: "How were your working situations 6 and 24 months after assessment?" (From Supplement 1 and 2)

How were your working situations 6 and 24 months after assessment at t_0 ? "- was at work"	6 months N=326 "at work"		24 months N=268 "at work"	
	Number of responders	%	Number of responders	%
Was back to my initial job as before	81	24.9	66	24.6
Was back to my initial job, but in a new position	32	9.8	28	10.4
Have changed to new tasks or employer	20	6.1	74	27.6
Total of persons with any work	217	66.6	155	57.8

7.4 On the sick leave situation—self reported data

From Table 7.5 (compare Table 7.3), we can see that the number of sick-listed was about 60 % at 6 and 24 months after assessment. At t_{24} , the participants were asked, "Was the initial disease the reason for continued sick listing?", and for 62 % of the responders, 15 % had a new disease, 16 % were focused on occupational problems and 8 % were occupied with their private situation. NAV data from Table 3.3 (sum NAV Groups 1 and 2) had 67.4 % in labour force at 6 and 48.2 % at 24 months after intervention.

In table 7.5, there are also data focusing on the rehabilitation activities and initiatives from the health service and the employee. Of increasing importance were new medical examinations and the start of rehabilitation activity and exercises, in addition to help from NAV, from the employee and the health service. Help from the health service was most

frequent (50 % had started), followed by the employer (45.1 %) and NAV (42.6 %). In total 63.5 % realized the assessment as a positive experience 6 months after assessment, t_0 .

Table 7.5 On the sick leave situation

Questionnaire 6 and 24 months after assessment at t_0 on: "If you are not back to your job, what is your situation?" (Supplements 1 and 2)

How was your sick-listing situation 6 and 24 months after assessment?	6 months			24 months		
	N= 100 %	Back to job, number of responders	%	N= 100 %	Back to job, number of responders	%
Sick-listed?	326	201	61.7	267	160	59.9
That is because of the initial disease	261	149	57.1	265	165	62.3
Do you have a new or other disease preventing your work?	261	28	10.7	265	39	14.7
Are conditions at your workplace or labour market preventing your work?	261	30	11.5	265	42	15.8
Is it conditions at home or your personal character preventing you from working?	261	16	6.1	265	22	8.3
At rehabilitation	326	111	34.0			
Total of rehab or sick-listed	420	221	52.6			
New medical examinations	326	89	27.3			
Exercises/rehab started	326	125	38.3			
Help from NAV	326	139	42.6			
Help from employer	326	147	45.1			
Help from health service	326	163	50.0			
Was it a positive experience?	326	207	63.5			
It could have been done better	326	50	16.9			
Referred to provided information	420	16	3.8			

Almost two-thirds of the responders looked upon all activities as positive (compare this with Table 7.1 where mean of the VAS scale was 6,34 out of 10 possible at t_6). In table 7.5, 16.9 % thought something could have been done better. Only 3.8 % referred to the educational materials we provided. However, some educational are to be included in a changing of job, which was the case for 38 % of the responders at t_{24} , as illustrated in Table 7.4.

7.5 What did the extra intervention group say?

A questionnaire was filled in by 64 out of 100 individuals (Table 7.6).

Of the 64 patients, 75 % confirm that the extra intervention had been neutral, useful or very useful. Of these individuals 60–70 % had used many of the coping techniques they were instructed in. Additionally, 50–70 % had changed attitudes and behaviour to a more reasonable lifestyle, while 25–40 % was neutral. Table 7.6 demonstrates that 54 out of 64 responders had been utilizing additional rehabilitation activities. Namely, 40 % had been at another rehabilitation institution, 27 % had other NAV activities, 6 % had been at a District Psychiatric Centre, and 10 % had a supplementary follow-up from the OPC. In summary, the experiences for the extra intervention group were positive, despite the fact that many of the activities were initiated late in the course of the disease and one third did not respond to the questionnaire. The intervention activities were supposed to be able to change attitudes and patients confirmed that (Table 7.2).

The total of self-reported results from patients was that the referral to OPC and the brief intervention and the multidisciplinary assessment were a positive experience even two years after. Some of them gave approving descriptions of the interventional arrangements.

Of the responders to the questionnaire 57.8 % were back to some job at t_{24} (Table 7.4). The corresponding data from NAV (Table 5.3.1–2) say that 50 % were back to the labour force at that time. Only half of the individuals were corresponding persons in the two groups, the correlation was low.

The main reason for still being sick-listed at t_{24} (Table 7.5) was the initial disease, 62.3 %; a new disease, 14.7 %; workplace conditions, 15.8 %; and home conditions, 8.3 %.

This simple quantitative assessment of the RRTW program gives an over-all positive viewpoint and describes the program as useful.

7.6 Some qualitative assessments

The OPC program could not possibly do a follow-up on qualitative matters. After the OPC assessment, the patients were referred back to the family doctor and NAV or if necessary to the specialized health service.

Our questionnaires gave some impressions (Table 7.2, 7.4, 7.5, and 7.6). The patient experiences over time were reported in Table 7.7 with comments given at 6, 12 and 24 months after assessment. Moreover, 129 out of 291 of the sick-listed gave no comment. Of the 291, 31 provided comments at all three times. Eight of these had been referred to extra intervention, and 10 followed treatment as usual (not in table). The statements from 18 of

those answering all three times during 24 months after assessment are listed in Supplement 3 in Norwegian.

Table 7.6 The group given extra intervention—self-reported participation and activity at t₂₄ from 64 responders. Valid percentage.

Subject	N= 100%	Very use-less %	Use-less %	Not useless/ not useful %	Useful %	Very useful %	No answer %
<i>Effects of additional intervention</i>							
Changed negative pattern of thinking	64		6.3	15.6	40.6	32.8	4.7
Clearer on setting limits	64	1.6	7.8	15.6	42.2	28.1	4.7
Reduce demands	64	1.6	4.7	14.1	43.8	29.7	6.3
Economizing personal use of energy and balance between activity and rest	64	4.7	4.7	15.6	37.5	28.1	9.4
Exercises on rest and tension lowering	64	1.6	9.4	12.5	34.4	34.4	7.8
Physical exercises	64	3.1	4.7	21.9	28.1	34.4	7.8
<i>Which did you use the most?</i>							
Change negative thinking	64	4.7	4.7	25.0	45.3	14.1	6.3
Clearer on setting limits	64	1.6	6.3	42.2	29.7	14.1	6.3
Reduce demands	64	1.6	6.3	40.6	34.4	12.5	4.7
Economizing personal use of energy and balance between activity and rest	64	1.6	4.7	31.3	43.8	12.5	6.3
Exercises on rest and tension lowering	64	9.4	9.4	29.7	32.8	12.5	6.3
Physical exercises	64	1.6	7.8	39.1	28.1	18.8	4.7
		N= 100 %		“Yes” Number of responders		%	
Have been at rehab. institution		64		26		40.0	
Have been at DPS		64		4		6.3	
Have had individual OPC follow-up		64		7		10.3	
Have been at NAV activities		64		17		26.6	
Sum				54		83.2	

Table 7.7: Some patient reports across three years. More examples are given in Norwegian in Supplement 3.

M=Male F=Female Age (years)	Comments after assessment		
	6 months	12 months	24 months
F 40 above	I was conscious of my own psyche, which has helped me in retrospect. Many pieces fell into place. I started a process that ended with educational programs. Thank you! It was exhausting to meet with 5 Authorities in one day. Stay at rehabilitation institution was to no avail. It hurt the body more afterwards.	Started on education, all exams with good results. Before I had not managed to finish anything.	When education was finished, I got an internship, and then I got a permanent job!! I'm proud of myself. You put into words what ailed me: it was tough to hear. You sent me to a rehabilitation centre. It was the start of the rest of my life! I thank you for the way you have treated me, how seriously you took me and the way you took me on. Forever grateful!!
F 36	All aspects of life were affected by the professionals, so one could see MAN in its entirety. That this was also important in the hospital, which I liked. I was increasingly anxious after the accident and sometimes not full working days. Unsafe in terms of retaining the workplace.	It is good at times, and I'm approaching 100% on the job. Hope it gets longer and longer between sick messages	There are still a part of what I could do before that did not come back, but I have a great job and great colleagues who make sure that every day goes smoothly. I periodically go to treatment—exercising regularly, avoiding painkillers. Learned to "listen to my body" and rest when needed with the damage that the body has received.
F 41	I was thoroughly investigated and taken seriously. I felt much lighter after the visit; I felt had received explanations I recognized and confirmation that it actually was something with my body. NAV disregarded the declaration; the employer relocated me to a much	It was with you I first received the understanding of my condition/illness, and this made me stronger in my own self-image. Disappointed by NAV that sent me to you rejected the application for 50% disability pension despite their recommended for it. Also, physicians and my company doctor had recommended	Originally disease got complications, and I got other diseases as well. However, it was with you I did the original diagnosis and assessment as NAV had disregarded the problems. Had good help from the course you sent me to.

	more stressful workplace. GP follows up with me well.	that I tried half a job and half disability pension	
M 60	I was very well received, and it was good to see that I was being taken seriously.	A bit difficult to answer questions because I'm not going back to work. 100% disability. Struggling with major back pain every day.	I will not return to work. I have a backrest, which is not good. In the end, thanking you all for the fine treatment I received.
M 29	Got diagnosis and belief that things can be resolved.	Very satisfied. Found causes, problem solved. Came back to work in September, resigned in December. Unemployed from February to April. Got my dream job in April. You opened the doors and got me on the right track. Thank you!!	I would have never gotten back to work if I had not come to you!!

Table 7.7 illustrates that this group of patients are seriously concerned with their disability and frustrated over the official care system, but they also see the benefits and seem to be longing for a meaningful labour situation. The statements are predominantly positive, enthusiastic statements from grateful patients and cannot be perceived as generalizable assessments. These patients are supposed to be among the most difficult sick leave cases in which a disability pension—whether full or part-time—is a proper way to solve their problem. However, many of them are maintaining the desire to work.

7.7 Summary of patients' attitudes to the intervention

In the study group patients' responses to the intervention were positive both at 6 and 24 months after the initial assessment, even though the RTW was on a low scale. That was expressed through the questionnaires and through personal statements. There was no correlation between self-reporting and the information from NAV on RTW. Additionally, 58 % was back to work at t_{24} , and of those 38 % had changed job situation or employer. Half of the employees had received the expected help from NAV, a health service or an employer, and they had started using the coping techniques learned through the extra intervention activity. The extra intervention group had even less good results on RTW, despite the fact that they had started using the coping techniques they were trained in through the prolonged extra intervention.

Chapter 8

Main discussion

The main aim for this project was to do an intervention with patients on long-term sick leave due to musculoskeletal complaints and minor mental disorders to see if they return more rapidly to the workforce than a control group undergoing “treatment as usual”.

The natural development of sick leave in a national cohort is illustrated in Figure 2.1. These overall national figures illustrate the course for all on sick leave given medical help and following the natural course of the disease. When assessing the results for our investigation we thus ought to keep in mind that at six months only 6.1% of the initial 100 % in the sick leave cohort were still on sick leave and at 12 months only 1.2%. Our cohort of the study and control groups was from this last 6 % of the sick leave population, which at that stage contained approximately 60 % of our diagnostic groups, as Øyeflaten has shown (97). The referring doctors were supposed to refer to OPC at 8 weeks of sick leave. The patients were referred to OPC later in the course than initially planned in the guidelines for our RTW project. The results are presented in chapters 3–7.

The five hypotheses (from section 1.5.2) are discussed in the following and the assessment must be done across the themes for the different chapters.

8.1 Hypothesis 1

Brief intervention as a collective multidisciplinary clinical investigation and assessment over one day increases the chance to get back to the workforce 6, 12, 24 or 36 months after the assessment, as compared with a matched control group receiving "treatment as usual".

8.1.1 The hypothesis was rejected in this study

The study group given a brief intervention did not increase its chances to get back to the workforce 6, 12, 24 or 36 months after assessment as compared to the control group (chapter 3). Hypothesis 1 had to be rejected.

To make it possible to assess the effects, we decided to regroup the NAV data on work and social benefits into five functional groups as described in chapter 2, section 2.1.9.

The content of “brief intervention” varies from a single day consultation to a multidisciplinary approach lasting several days or weeks as mentioned in Chapter 1, section 1.4.3. In our study, the intervention was a one-day multidisciplinary investigation and an interview with three to five professionals, as described in Chapter 2, section 2.2.4.

Table 3.3 demonstrates significant differences between the study and control groups concerning return to workforce for the whole observation time t_0 – t_{36}

If the brief intervention and multidisciplinary treatment had any effect, it was expected to take place in the first six months after assessment. The individuals returned to the labour force but only to a limited extent. It was an increased return to work in the group on part-time benefits. In the group that was temporarily outside the work force, NAV Groups 2–3 and Figures 3.2 and 3.3, they used social benefits more and more in the study group than in the control group. From the assessment and through the follow-up, there was a tendency to change from full-time sick leave into part-time participation in the workforce both for the study and control groups. This was possibly stimulated by the brief intervention activity. This was a type of change desired by politicians (98). However, the intervention gave no significant improvement on RTW in the study group as compared with the control group.

A special study with follow-up of all those that at t_0 were in labour force, NAV Group 1, was described in chapter 4, table 4.2 and gave the same over-all results on RTW. However, the study group and the control group from this category did follow each other more than six months. More individuals in the study group moved to part time work or to status as temporary outside labour force than in control group (see Figures 4.2–3) and fewer were in the work force. This allocation started more than 6 months after the intervention for the part of the study group and the control group that belonged to the labour force at t_0 .

In NAV group 5 our analysis uncovered a group of clients with “unknown” status in the labour force and the social security system. This NAV group was not recognized earlier, and we had no systematic knowledge about these individuals. At assessment, they were no longer candidates for any job, but they were in NAV registers as formerly sick-listed. At t_0 14 % of the study group belonged to this category, which diminished to 7 % at t_{36} , as in the control group. That means that those “unknown” in study group, NAV Group 5, were redistributed to other NAV-groups and were being more comparable with the control group. In the group with unknown NAV status (NAV Group 5) the control group increased slightly over time while the study group decreased in the first six months and then kept a more steady low rate for the rest of the observation time, Figure 3.5. This should be recognised as a positive effect of the intervention activity and is assessed more in section 8.2.

8.1.2 Comparing with other investigations

Brendbekken, Eriksen et al. studied return to work in patients with chronic musculoskeletal pain. In a randomized clinical trial, they used multidisciplinary intervention

versus brief intervention (99). In two groups, 284 patients had a follow-up at 24 months. The conclusion was that there were no differences between the groups on full-time return to work programmes during the 24 months. However, the results indicate that a multidisciplinary intervention hastens the return to work process in long-term sick leave through the increased use of partial sick leave. In our study, we also achieved an increase in part-time sick leave, but not in return to work

A complicating factor in this period was the global financial crisis also affecting the labour market in Norway. This hit those with limited resources with extra force. To reduce this, the control individuals were included in the group at the same month as those in the study group and thus both groups met the influence from changes in labour market through the actual period.

One hypothesis related to research shows that mortality and several health-related risk factors are positively correlated to the economic cycle. According to Nossen (100), there is no longer a positive correlation between unemployment and sick leave, especially after 1999. He has reviewed data from Norway and Sweden. However, since this relationship does not appear to hold for the age group 30–60 years, it seems unlikely that the hypothesis can explain a significant part of the cyclical variation in sick leave. In “Development in sickness absence: The importance of the labour market, grading and regulatory changes” Nossen has also described the situation in Norway in 2008–09 (18). He mentions that a sharp increase in the number of unemployed from August to December 2008 fell markedly with a clear increase in the duration of sick leave that began in the same months. This was linked to the fact that sickness benefits provide higher income compensation than unemployment benefits. He also found that the proportion of graded sick leave did not lead to a shorter duration of sick leave. Overall, the average duration of sick leave had not decreased since the IA agreement was introduced in 2001.

Our initial aims to follow-up working conditions and cooperate with employers had to be cancelled due to lack of resources. However, to a small extent we observed the employers adjusting the work and the possibilities for changing work and the work organization. The possibilities for re-training circumstances were investigated by van Duijn (77). His observation was that the duration of the sick leave and absence from work were more dependent on the chronicity of the pain than on access to adapted work. He also found that accommodated work in the start-up period after sick leave compared to starting up full-time in one's original job reduces the tendency to revert to a new sick leave (101). Other important factors in preventing reversion to sick leave, particularly due to neck and shoulder pains, was

that the company offered challenging employment and that it reduced the extent of repetitive tasks (102). Our intervention was not followed close enough to be compared with this.

As a condition for success, Chamberline MA, Moser VF, et al (64) highlight the consensus that the core team should be multidisciplinary and the rehabilitation team should include those who can deliver education and represent other authorities that need to be involved to facilitate return to work. Rehabilitation of individuals having been sick listed for several months must be performed for several months. As rehabilitation programs are expensive, they should be well coordinated. The patients in our study had been sick listed for several months—much more than planned for our OPC—and resources for a long-term rehabilitation were not available. Our intervention was short.

In a study with 6-years follow-up after vocational rehabilitation, Kärholm J, Ekholm K et al (103) say that those who receive well-coordinated vocational rehabilitation had fewer sick leave days than those who received TAU.

Selander, Malnetoft et al. published a review of articles for the period of 1980–2000 in the journal *Disability and Rehabilitation* in 2002 on the “Return to work following vocational rehabilitation for neck, back and shoulder problems: Risk factors reviewed” (104). Their aim was to present an overview of factors associated with returning to work following vocational rehabilitation for problems in the neck, back, and shoulders. Studies published between 1980 and 2000 were included. Their results were that a great number of demographic, psychological, social, medical, rehabilitation-related, workplace-related and benefit-system-related factors were associated with return to work. People with greater chances of job return after vocational rehabilitation were younger, native, highly educated, steadily employed and well paid; they were married and had stable social networks, were self-confident, happy with life, not depressed, had low level of disease severity and no pain, high work seniority, long working history and an employer that cares for them and wishes for their return to the work place. However, as they conclude: “Unfortunately, people with the above profile are seldom found among the long-term sick”, and that was also the case for the patients in our OPC.

In our study, we did not have the opportunity to register all such factors at comparable accuracy. Of a total of 420 persons in our study group, 31 % were men and 69 % women, at a mean age of 41.8 years. At t_0 they had been out of work for six months (median). The age and gender distribution was comparable with results of Øyeflaten et al. who studied 584 individuals on long term sick leave with a similar duration (97). In that investigation, the distribution of psychiatric diagnoses were 47 % (10 % in our study group), musculoskeletal 46 % (77 %) and “other” were at the same level. Øyeflaten found that there was an increased

probability for working during the follow-up, a decreased probability for being on sick leave, and an increased probability for being on disability pension. This was dependent on the type of work, previous history of sick leave, gender and diagnoses. The probabilities for working and for receiving sickness benefits and a disability pension were dependent on gender, diagnoses, type of work and previous history of sick leave, as expected. Our survey was aimed at the numbers returning to work and did not analyse factors that could improve our understanding of how the processes to and from work and to and from sickness benefits differed between groups. In our clinical work with the single-referred patient, factors like these were assessed, but not systematically registered.

Elvsåshagen et al. performed another Norwegian investigation, demonstrating no better long-term outcome on the duration of long term sick leave for a group being assessed at an OPC on the rehabilitation potential from specialists in physical medicine and rehabilitation as compared to a random group given treatment as usual (105). After two years of observation, no differences were found between the two groups in their use of rehabilitation benefits and vocational rehabilitation. Our investigation and results can be compared to this.

Øyeflaten et al. studied the probability of RTW, and the probabilities of transitions between different benefits during a 4-year follow-up, after participating in a work-related rehabilitation program (106). Unlike our study, they found an increased probability for working, a decreased probability for being on sick leave, and an increased probability for being on disability pension. The work and benefit status at departure from the rehabilitation clinic did not influence the probability of RTW, but the study highlights the importance of long lasting rehabilitation activity. Our method did not support that.

Jensen and Bergstrøm (Sweden 2005) performed a three-year follow-up of a multidisciplinary intervention, evaluating the long-term outcome of a behavioural medicine rehabilitation programme and the outcome of its two main components compared to a “treatment-as-usual” control group (40). They found that a full-time behavioural medicine programme was a cost-effective method for improving health and increasing a return to work in women working in blue-collar or service/care occupations and suffering from back/neck pain. There were no effects on men.

Skouen, Grasdahl et al. studied (2006) return to work by comparing outpatient multidisciplinary treatment programs with treatment in general practice for patients with chronic widespread pain(107). The Norwegian patients (n=208) had been on sick leave for 3 months on average. They were randomized to an extensive program including group sessions, a light and more individual program, and to treatment-as-usual. They concluded that an

extensive outpatient multidisciplinary treatment program was effective in returning women to work as Jensen and Bergstrøm found above. We could not confirm that.

Stapelfeldt and Christiansen presented a Danish study in 2011 where a total of 351 employees sick-listed for 3–16 weeks due to low back pain were recruited from their general practitioners (108). The employees received a brief or a multidisciplinary intervention, both interventions with clinical examination and advice by a rehabilitation doctor and a physiotherapist. The multidisciplinary intervention also included an assignment of a manager who made a rehabilitation plan in collaboration with the patient and a multidisciplinary team. The multidisciplinary intervention group ensured a quicker RTW than the brief intervention group in a subgroup with low job satisfaction. The opposite effect was seen in the subgroup with high job satisfaction. When claimants were excluded, the effect was also in favour of the multidisciplinary intervention in subgroups characterised by no influence on work planning and groups at risk of losing their job. Inversely, the effect was in favour of the brief intervention in the subgroups who were able to influence the planning of their work and who had no risk of losing their job due to current sick leave. The Danish patients had been on sick leave for a short time as compared with the patients in our study.

Our method was not as detailed as the Danish study, and we did not separate into subgroups on job satisfaction. By uncovering the “unknown” in NAV Group 5, we could help those with other social problems find a place in society's social care system. Our results can provide a better basis for targeted measures to improve RTW in this group. This was a strength.

In 2012, an overview of reviews was published by Momsen et al. (109). They investigated current scientific evidence about the effectiveness of multidisciplinary team rehabilitation for different health problems. A total of 14 reviews from 12 different study populations were assessed. Evidence was found to support improved functioning following multidisciplinary rehabilitation team care for 10 of 12 different study populations: elderly people, elderly people with a hip fracture, homeless people with mental illness, and adults with multiple sclerosis, stroke, acquired brain injury, chronic arthropathy, chronic pain, low back pain and fibromyalgia. Evidence was not found for adults with amyotrophic lateral sclerosis and neck and shoulder pain. These studies included heterogeneous patient groups. The overall conclusion was that multidisciplinary rehabilitation team care effectively improved rehabilitation intervention. That could also happen for some of the diagnostic groups in our study. The review did not assess return to workforce as a consequence of the improved functioning.

In summary, there are few studies demonstrating a more rapid return to work after a brief intervention in a RTW setting. More studies dealt with multidisciplinary intervention measures with a longer intervention period similar to our extra intervention group (section 8.2). These results should be compared with Melsoms et al.'s results from 1984. The sick listed were summoned by the consulting physician in social security, and the effect was that sick listed spontaneously became clean bill of health and the sickness benefits reduced by 17 % for the actual period (110). An effect that is disputed was reported by Kann et al. 2014 (111) from Hedmark County. Sick-listed persons received a letter from NAV 8 weeks after sick leave, and the activity requirement was enforced. These measures resulted in a reduction in sick leave of 8 %. The effects were supposed to be a result of NAV's clear requirements and clarifications of the participants' roles. In these cases, the intervention could be viewed as challenging social rights according to the National Insurance Act.

A new report summarizing recent results from this Hedmark model where the method says that NAV informs all partners: workers, employers, all giving a sick certificate and other doctors about their responsibilities under the law. The investment has given significant results in terms of shorter duration of sick leave (2).

To involve economics is complicated. In a study from 2013 on "Promoting occupational health interventions in early return to work by implementing financial subsidies: A Swedish case study", Stahl and Toomingas (112), found that promoting interventions through incentives highlighted that their implementations required that they were perceived by stakeholders as being involved as purposeful, manageable and cost-effective. It was a political challenge to influence stakeholders who acted in a free market, in that the impact of policies might be limited, unless they were enforced by law. The subsidized services were generally perceived as positive but were modestly used.

Our OPC had no access to financial subsidies for the sick listed. However, the patients were well aware that they had to follow the instructions from NAV to keep their sick pay and social benefits.

8.1.3 Strengths and weaknesses of our investigations. The isolated labour force group.

Our investigation was based on a consecutively collected patient group with no other selection than what was performed by the family doctors in their clinical practice and the guidelines from RTW and OPC. The control group was constructed to match this group. To be close to clinical practice can be recognized as strength. This relation was emphasised in the informational material distributed to the family doctors and NAV (section 1.1.3).

The matching individuals in the study group and the control group became sick listed in the same month. Thus, the influence from the financial crisis was minimalized. That was a strength.

The lack of matching in both ethnicity and in occupational category would tend to give lower return to work rates in the study group than in the control group. As mentioned before (chapter 2.2.3), the inequality between the study and the control group was a challenge. This is further discussed in chapter 8.1.4 below.

Improving the method was done by reducing the study group and the control group to include only those who are in the work force full time—NAV Group 1 at t_0 . Both groups were still numerous as presented in chapter 4. They covered 62 % of the total study group and 80 % of total control group. Thanks to this, the study and control groups were expected to be as equal as possible from observation starting at t_0 , especially concerning work ability. In our study, diagnoses demonstrated no significant difference when focusing on RTW (Chapter 6). This was recognized as an improvement of the method and a strength of the study.

When the differences between the study and control group for NAV Group 1 was significant from t_0 (chapter 3), the difference in the labour force group (chapter 4) was not significantly different on return to labour force before at t_{12} . From t_{12} to t_{36} the difference in return to workforce were best for the control group, $p < 0,001$. The possible explanation of these differences is discussed below. If the study and the control group from the labour force were similar at t_0 , the one-day intervention would be expected to initiate a difference during the first months. That effect was not observed. Instead we observed no development of a difference between the groups from labour force from t_0 to t_6 (Table 4.2). That could be an effect of the improvement of the method as the study group and control group had an equal development until t_{12} .

The labour force, NAV Group 1 (Table 4.2), was redistributed and decreased significantly in the study group from 100 % at t_0 to 34.7 % at t_{12} and 40.1 % at t_{36} . For the control group, the numbers were 100 % at t_0 , 59.1 % at t_{12} , and 55.8 % at t_{36} , $p < 0,001$. The one-day intervention seemed insufficient to make any difference the first half year, but a difference became visible from t_{12} . That is an indication of little or no effect on RTW from the multidisciplinary brief intervention of one day. The difference developing between the study group and the control group from t_{12} must be due to factors other than the intervention.

Groups like NAV Group 1–5 have not been tested on a multidisciplinary intervention as a brief intervention before. The grouping of NAV categories is not used in other contexts outside NAV, but the grouping seems to be operational and demonstrates the changes in

labour market and benefit status within the cohort during the follow-up period. This grouping specified the possibility to assess RTW and illustrate the transitions among NAV categories. This method was recognized as useful and a strength when we were using data from an official register.

Øyeflaten et al. (106) used other categories and did not find that the probability of RTW was related to work or benefit status at departure from the rehabilitation clinic. Among the results were increased probability for working, a decreased probability for being on sick leave, and an increased probability for being on disability pension. The intervention was a work-related rehabilitation program and four years follow-up. She used official national register data. Our brief intervention was too short.

The transition from full-time to part-time sick leave was an announced official policy that the family doctors tried to implement, and it succeeded. In an assessment from 2013, Mykletun (11) argues that the number on full-time sick leave became lower and part-time sick leave increased, which reduced the total number of sick-listed for a time. Employees sick-listed part time would be a workforce resource that could be used more if employers and society were able to access them. Nossen (18) concluded in 2014 that an increase in part-time sick leave also was followed by prolonged sick leaves. The overall effect on RTW was minimalized.

Our results confirmed a transition to part-time sick leave but did not confirm that our brief intervention with a multidisciplinary group improved the return to the labour force in the study group as compared with the control group. However, it may be argued that the brief intervention on the labour force group prevented and delayed the start of the negative development for the study group after t_6 . That was a strength. Individuals were then redistributed to the other NAV groups as will be focused on in section 8.3.

In our study, we found that from t_6 to t_{36} , there were significant differences between the study and control groups in all NAV categories. The control group had a higher participation in the work force, a lower use of social benefits and a low degree of disability pension. That was not expected.

Our brief intervention program was based on earlier experiences from programs for patients with drug and alcohol problems, minor psychiatric complaints, fibromyalgia or other diffuse chronic pain conditions and low back pain (28, 44, 85, 113). The brief intervention has been found to be useful for both drug addicts (38) and for patients with anxiety/depression and fibromyalgia. Methods of approach were different, but closer personal contact, a cognitive-oriented approach, physical exercises and examinations from the professionals in a

reassuring atmosphere seemed to be favourable, as also mentioned by Braathen (85). This wide range of disorders from the musculoskeletal system and from minor mental disorders has not been investigated together in a multidisciplinary brief intervention before in the context of NAV groups.

8.1.4 Possible explanations for our results

The result was that the control group given TAU had better results on RTW than the study group given a brief multidisciplinary intervention. At least three circumstances must be considered for assessing the actual results

First: The results can be true.

The actual brief intervention through one day with multidisciplinary activities does not improve return to work. Neither the element of brief intervention, the element of cognitive therapy nor the element of multidisciplinary teamwork seems to have influenced the study group's development and the RTW. That is also demonstrated in some other studies already mentioned in part 8.1.2

On the work assessment, we used quality assured data from NAV's official register for the study group as well as for the control group. The study group was followed closely by the family doctor and NAV, perhaps more closely than the TAU control group.

A question is whether this follow-up influenced the study group in some way. Could the close contact bring the focus away from RTW and future possibilities to how to manage one's own health situation, how to keep the benefits and please the doctor and the executive officers? In addition to the way NAV was working, we supposed that the study group had more supporting activity from official sources than the control group. That should give better RTW. However, we did not have any possibility to register or measure this kind of activity from NAV. That aspect has not been investigated. However, some of the statements from the sick-listed (Table 7.7 and supplement 3) may be interpreted that way. That health care can make patients sick is a public discussion topic.

Degree of RTW varies in different contexts according to the referred literature. Our result should not be recognized as surprising, though it is unexpected due to the common expectations of RTW activities.

Second: The study group was more ill than the control group.

The results may come due to selection matters. The study group were selected for intervention on clinical assessments. The result illustrates that the GPs succeeded in finding the target group for the project. The aim for our RRTW project was to stimulate the GPs to refer sick

listed patients whom they supposed would have a favourable effect from the RRTW program and those in need of help beyond what the GPs and the municipal health service could give. Thus, the study group probably was more ill than the rest of the sick listed population and would be more difficult to help back to work.

It can be assumed that persons with a good natural prognosis for return to work would not be selected for intervention by the family doctor. It should be expected that the study group would contain a larger-than-average proportion of persons with poor or uncertain prognosis and with more uncertain return-to-work expectations. This “confounding by indication” cannot be controlled for by matching with the type of design we had at hand. Our matching by diagnostic groups controls for these health-related variables only to some extent. However, as we did not recognise that any diagnostic group gave more tendencies to RTW, the uncertain return-to-work expectations should not be given to high importance.

In a cluster randomised controlled trial, Østerås demonstrated that implementing structured functional assessments in general practice for persons on long-term sick leave could be improved. She concluded that introducing and implementing structured functional assessments in general practice made the GPs capable of assessing the functional ability of their patients in a structured manner. Intervention effects of increased GP knowledge and GP self-efficacy were observed at the second follow-up (114). It should also be considered that this can be said to illustrate that the GPs were able to find those most ill, most suffering and most in need of some specialized intervention matter. GPs should play an important role in selecting patients for rehabilitation.

The GPs foresaw the possibilities of how they select patients to the program. Experienced GPs, as they are working in Norway, are close to the individuals, the families and the society. Their way of using formal and informal knowledge about the patient should be used more and possibly it could shorten and simplify some treatment and rehabilitation tracks.

Selections are basis for a clinical examination. We need to investigate the characteristics and development of different patient groups. It is not always possible to do that by randomized studies. Nevertheless, the results of this study must be taken into account.

The referring physicians may have acknowledged differences and individual factors not measured in registers. The referred patients could have had complaints that could not be factors in the matching. Social, familial, local and cultural factors and comorbidity and psychosocial factors contribute to the complexity. Actual literature referred to in section 8.1.2 and 8.1.3 illustrate that interventions give different results on RTW.

Third: The lack of complete matching influences the result (Table 4.1).

From table 3.1, we can see that our study group included more craft workers than the control group (18.3 % vs. 9.8 %) and more persons with elementary occupations (16.2 % vs. 9.1 %). The control group included more managers, professionals and technicians (in total 22.9 %) than the study group (11.9 %). The higher number of non- or semi-skilled workers in the study group indicates that there were persons with lower educational level and lower income in the study group when compared to the control group. Traditionally these groups will tend to a lower RTW frequency.

The fact that the study group had individuals with different duration of sick leave (0–36 months, section 3.1.1, Figure 3.1) could also contribute to the difference. Age, gender, ethnicity, residency left non-significant differences, but occupation and diagnoses differed (Table 3.1 and 4.1).

The study group included more Non-Norwegians than the control group (18.3 % vs. 12.5 %, $p < 0.003$). Norway contained 13 % immigrants in the year 2015 and 15 % in Østfold County, according to Statistics Norway⁷. Cultural differences may influence the results. Non-Norwegians were less often employed (see section 3.1.1). A NAV report (115) from 2010 stated that even if we controlled the immigrants for gender, age and education, the probability of their being ill long term was higher for persons born in Norway ($p.30$) and the figures for different ethnicities varied. A Norwegian study by Grambo and Bråthen (2010) illustrated that more of the group outside NAV were in ordinary jobs or education, but the figures were difficult to compare with data from our study (116).

To overcome some of these inequalities we concentrated on those in the labour force at t_0 , (NAV Group 1, Chapter 4). Comparing those in the study group and the control group who were in the labour force at t_0 should also make the groups more equal in working ability and thus reduce the selection bias. Those with less working ability (NAV Groups 2–5) were excluded, and the study group and the control group could start on more equal terms.

When the study group and the control group did follow each other beyond t_6 , one can say that equality was obtained as much as possible. This equality for the first six months can either mean that the multidisciplinary intervention influenced the study group to stay in line with the control group—otherwise it might have immediately developed a difference. On the other hand, it is possible that the intervention did not work, but the study group and the

⁷ <https://www.ssb.no/innvandring> og innvandrere/nokkeltall

control group gained great similarity. Over time a difference developed with less favourable results on RTW for the study group.

A report from NAV states that three out of four (75 %) well-educated, long-term sick listed employees are back to work after 6 months (115). Of those with vocational training 74 % are in permanent jobs, while only 49 % of those with more than four years of education on a high level. Of those with reduced working ability, there were no statistically significant connections between the level of education and the ability to have a permanent job (p. 32) The brief intervention and multidisciplinary assessment of one day seemed to be valuable for maintaining the ability to work in the first place, but the increase disappeared after about half a year (confer chapter 4). Our NAV categories explain the changes more clearly.

In summary, our results must be interpreted with caution. At the project's start we assumed that the study group, despite the limited matching possibilities, would tend to have a poorer prognosis for return to work than the control group, but we had the hope that the intervention would improve the situation. We also assumed, and this is more important, that the study group being selected for intervention based on clinical assessments would tend to result in patients with a poorer prognosis in the study group. The intervention did not change that, but it illustrates that the GPs succeeded in finding the target group for the project. As the control group had the best results, whether or not TAU is a good policy should be assessed. Further studies should be done on this topic. Sociodemographic data are not conclusive on the influence of ethnicity, education or health on work ability.

The matching and selections—use of labour force—brought the study and control groups to such a similarity that the results can be assessed as a result of the intervention process.

Self-reporting is less reliable than using the official registers (section 2.3.6). In section, 7.4 self-reported data and NAV data are compared. That demonstrates a low frequency of overlapping cases, and the Spearman Correlation coefficient was 0.526. The differences between the two registering methods were statistically significant, $p < 0.001$.

Mehlum et al. discussed self-reporting of work related health problems in connection with the Oslo Health Study 2001 (117, 118) and concluded that self-reporting did not seem to particularly exaggerate work-relatedness as compared with expert assessment. There was considerable disagreement, especially on cases assessed as non-work-related. Agreement on workload will depend on the case definitions and the criteria for work-relatedness used both by the participants and the experts. This will also be true for forms of work that are outside

the public's registrations, such as neighbouring assistance, undeclared work, housework and work for volunteer organizations.

In 2007, Øyeflaten et al. investigated the degree of correlation between self-report and NAV's register data on sick leave and work (119). They concluded that compliance was good for some factors and less good for others. Age, gender, education, type of work and other factors contributed to lower correlation.

The self-reported data in our project registered more labour participation than the NAV data. The previously mentioned pilot project that initiated this study also gave encouraging RTW registrations. Uncertainty among employees about what it means “to be at work” can possibly explain the self-reported overestimation in this study. At NAV “work” means visibly paid work or registered unemployment. That is the “workforce”.

Was the study group sicker than the control group? We cannot answer that question. The referred patients could have had complaints that could not be factors in the matching. Social, familial, local and cultural factors and comorbidity and psychosocial factors contribute to the complexity.

To come to a closer understanding of such factors, Øyeflaten performed a prospective cohort study with a one-year follow-up (10). A total of 135 individuals on long-term sick leave (87 women, mean age 45 years) participated in a four-week inpatient multidisciplinary vocational rehabilitation programme. The participants had been out of work for an average of 10.5 months. The main objective of the study was to examine whether fear-avoidance beliefs, illness perceptions, subjective health complaints and coping were prognostic factors for a return to work after four weeks of multidisciplinary vocational rehabilitation and to assess the relative importance and inter-relationship of these factors. Fear-avoidance beliefs about the work were the most important risk factor for not returning to work. These findings indicated that interventions for these patients should target a fear of returning to work and illness perceptions about subjective health complaints. In Øyeflaten's study, the focus was on how to avoid fear of participation in work, not the work itself. Our observed reduction of individuals in NAV Group 5 in the extra intervention group could be a parallel effect to the multidisciplinary rehabilitation in Øyeflaten's study.

When studying those in the labour force at t_0 (Table 4.2), there were no significant differences between the study group and the control group at t_6 for all NAV groups. Our control group and the study group were following each other. It is also possible that the intervention delay was a negative development visible in all NAV groups, or it may not have

any influence. From t_{12} , a possible brief intervention influence weakens, as shown by Molde Hagen (28) who found no effect more than one year after intervention.

Landstad et.al focused in 2009 on “Factors explaining return to work for long-term sick workers in Norway”. They realize that different bodies—the medical, the authoritative bodies and the production domain—might represent different logics that can pull a sick worker in different directions during the rehabilitation process. However, these different approaches do not fully explain which outcome a rehabilitation process can take (120).

In our context, one can reflect on the influence of NAV, the health representatives, and the individual’s own priorities as factors that can pull in different directions. It was assessed if the financial crisis could influence the result. Nossen has written about that in a review on sickness absence and the economic cycle (100), reviewed in chapter 8.1.2. NAV reports about increased doctor-certified absence due to the financial crisis and more long-term sickness absence for men (115). However, the numbers are ambiguous (p.63).

The lack of effect of brief intervention as a multidisciplinary assessment in our study group was possibly because the intervention was not extensive enough, or the individuals were sicker than we realized, did not have any effects in our sample due to the matching, or had their consciousness more on NAV’s demands than the possibility of returning to a job.

8.1.5 Utility of brief intervention and multidisciplinary assessment

This study is an example on practical rehabilitation in cases regarding return to work. Brief intervention is not a standardised treatment procedure. An effect depends on the relationship between patient and whoever treats him/her and the cooperation, involvement, intensity, culture, and motivation on both sides. To have effect, a close follow-up seems necessary (40, 72, 113, 121). The NAV connection is discussed in section 8.3.6. Our experiences could be of value for others dealing with the same problems.

8.1.6 Validity and reliability

The validity of our investigation’s results is assessed more closely in chapter 9.

8.2 Hypothesis 2

A multidisciplinary intervention for a clinically selected part of the intervention group, based on cognitive and coping-based principles over several weeks, will increase the chances of getting back to workforce.

8.2.1 Hypothesis was rejected in this study and a positive effect was discovered

The extra intervention group was the clinically selected part of the intervention group, which was given more than four weeks of extra multidisciplinary intervention. This group did not have better results on return to the labour force than the control group. The hypothesis had to be rejected.

To be more accurate in assessing the study and control groups, we compared the extra intervention group, the remaining part of the study group, and the control group, which at t_0 belonged to the labour force, NAV Group 1 (Table 5.3, Figure 5.1–5 (chapter 5)). The extra intervention was given in three different rehabilitation places for more than four weeks. The locations and different programmes did not provide different results (not in table) concerning RTW as questions were raised about in section 2.3.3.

During follow-up, t_0 – t_{36} , the individuals changed NAV category from full time in labour force to part-time work and passive categories. The extra intervention group did not improve in return to work as compared with the other groups. The extra intervention group got the lowest figures for participation in the labour force and the highest for using social benefits on a temporary or long-term basis and disability pension (figure 5.1–4, in the period t_6 – t_{36} $p < 0,001$).

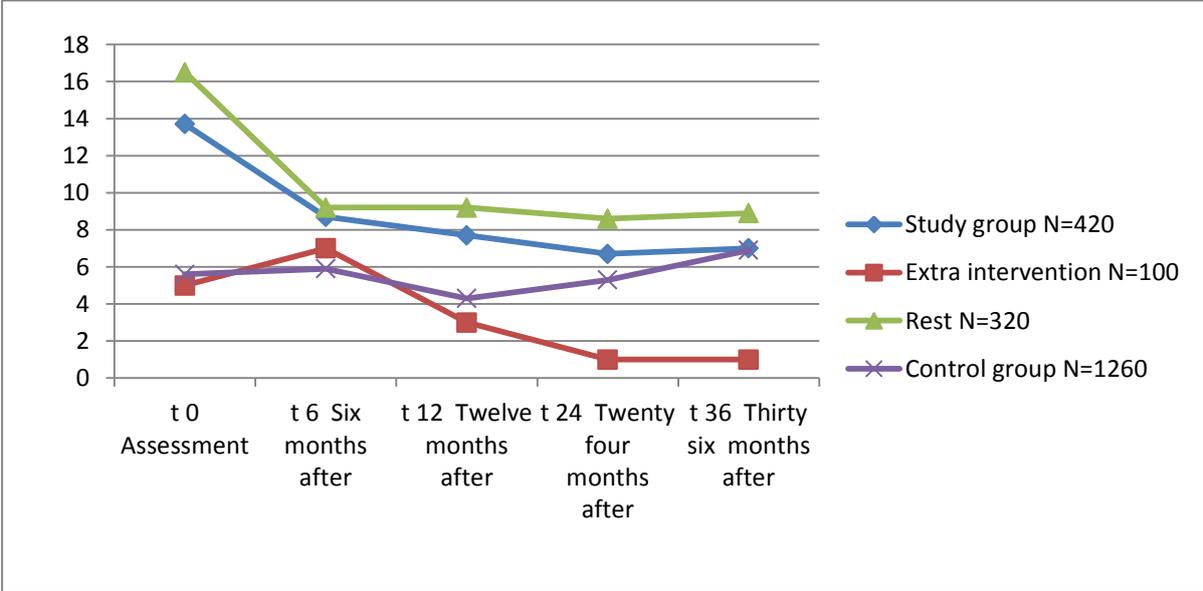
These persons outside the NAV registers formed 13.7 % of the study group and 5.6 % of the control group at t_0 (Table 3.3 point 5). This large group outside the registers would be of large influence on the proportions returning to the workforce. It should be possible to bring this group into work or into the social benefit system by some effort like that Grambo and Bråthen illustrate (116). They realized that persons born outside Norway were less likely to have received a job that was relevant to their educational background. Our study did not focus on ethnicity as a possible explanation. NAV Group 5 of the extra intervention group (Table 5.3 point 5) changed much over the three follow-up years. Very little is known about this group from the NAV registers, but Figure 5.5 illustrates marked changes.

During follow-up, the extra intervention part of the study group diminished while the remaining part of the group was almost stable. In Table 5.3 and Figure 5.5, NAV Group 5 in

the extra intervention group decreased after t_{12} , and the remaining part of the study group and the control group increased. Individuals from this NAV Group 5 had been redistributed to NAV Groups 2 and 3 in which they were part-time at job and received ordinary benefits from the society, but they were not in the full-time labour force (Figure 5.1). That was an unexpected effect of the extra intervention. In this group, 46.4 % were under 40 years old.

To bring these persons into full participation in society —i.e. into the other NAV groups— should be recognised as a positive side effect of the intervention. It is a challenge for both the health and social services, as well as for the political community and employers, to keep this group within the social security system. After assessment, there are marked difference between the extra intervention and the remainder of the study group (Figure 8.3). It looks like the individuals in the two parts of the study group had adapted to a better attitude during the first six months, and this was supposed to be a positive effect of the brief intervention and multidisciplinary attention and the attention from family doctor and NAV. This group increased in NAV Group 5. They were not given the same degree of attention, care and support from the family doctors and NAV as the extra intervention group, and that

Figure 8.3 NAV Group 5—unknown working situation, those who do not have a job or a pension and are not in official registers any more. From the summary of Table 5.4.5. Percent.



could be of importance for the absence of an effect as compared with the extra intervention group.

The conclusion is that extra intervention did not increase RTW but the “unknown” NAV group came into the social benefit system. This is a strength for the investigation and a gain for further rehabilitation.

In a planned scientific project, one would place individuals who were thought to have better possibilities of regaining their working ability in the extra intervention group. This was not in question. The clinical needs were given precedence. In our clinical OPC work, this choice was made consciously.

8.2.2 Comparing with results from other researchers.

Section 8.1.2 referred to other studies that used assessment in a multidisciplinary team like our brief intervention. The content of brief intervention is not clear, but some may be similar in scope to our extra intervention. Return to work has been self-reported in many studies and is difficult to compare with our NAV registry data and our focus on the workforce.

In 1997 Bruusgaard and Eriksen investigated the effects of an intervention. The study included 397 patients with low back pain and a control group and concluded that there was no significant difference between the intervention and control groups in health status and sick leave one year after the intervention (27). The intervention consisted of interdisciplinary counselling with a specialist in neurology, a specialist in general medicine, a psychologist, a physiotherapist and occupational therapists. Patients received 7 hours of a daily, structured program for one month. There was no significant difference between the study and the control group vis a vis sick leave one year after the intervention. The study group had some improved quality of sleep and some practical skills, but there were no differences in coping with everyday tasks between the two groups.

Molde-Hagen et al. (28) presented a study in 2003 wherein 457 patients sick listed for 8 to 12 weeks for low back pain were randomized into two groups: an intervention group (n = 237) and a control group (n = 220). The intervention group was examined at a spinal clinic and given information and advice to stay active. This intervention could be compared with the brief intervention in our setting. The control group was not examined at the clinic but was treated within primary health care. After three years of observation, the intervention group had significantly fewer days of sickness compensation than the control group. This difference was mainly caused by a more rapid return to work during the first year. There was no significant difference for the second or third year.

In a randomized study in 2015, Brendbekken et al. studied 284 adults with musculoskeletal pain who were referred to a specialist clinic for physical rehabilitation (122).

A multidisciplinary intervention, including the use of the novel Interdisciplinary Structured Interview with a Visual Educational Tool (ISIVET), was compared with a brief intervention, including the assessment to somatisation ($p < 0.01$) and functioning ability ($p < 0.01$) after 12 months. The multidisciplinary intervention group reported a better self-evaluated capability for coping with complaints ($p < 0.001$) and took better care of their own health ($p < 0.001$) as compared to the brief intervention group. The degree of return to work is unclear, but the multidisciplinary intervention may represent an important supplement in the treatment of musculoskeletal pain.

Thorlacius and Guetmundsson in Iceland (61) investigated 109 individuals with musculoskeletal and psychiatric disorders, referred by physicians to a multidisciplinary team for assessment of rehabilitation potentials and advice on the appropriate type of rehabilitation. As a result, 46 individuals received additional treatment and education over time in three different settings. In a telephone survey, 72 % said their fitness for work had improved, but only 47 % had returned to work.

The following refers to other studies where multidisciplinary or brief intervention was performed. In 2001 Bratberg (123) reviewed randomized trials on return to work for individuals on long term sick leave with musculoskeletal and psychiatric complaints and concluded that no effects were found for a four-week multidisciplinary intervention. The sick leave period was shortened for a small group believed to have less possibility of return to work. This was an extensive intervention as in our extra intervention group(Chapter 5, especially Table 5.3) and NAV Groups 5.3.1–5.

Haldorsen and Grasdahl (124) in Norway, 2002, published a randomised study of prognostic groups on the outcome of long-lasting multidisciplinary treatment. They concluded that patients with poor prognosis receiving extensive multidisciplinary treatment returned to work at a higher rate than patients with poor prognosis receiving ordinary treatment, 55 vs. 37 % ($p < 0.05$) at 14 months. Date of return to work was from official registers. They assessed that multidisciplinary treatment was effective concerning return to work when given to patients who, after their selection, were most likely to benefit from that treatment. That was different from our clinically selected groups, but underscores the importance of extensive and prolonged treatment.

Carlsson et al. (125) found that in Sweden an early multidisciplinary assessment was associated with longer periods of sick leave and more individuals on part-time sick leave. In Carlsson's study, the observation time was from the first to the fourth month of sick leave. Degree of sick-listing was the measure for "work". Unlike our study, the actual follow-up

period in that journal article was where the sick leave curve had the steepest decline (compare Figure 2.1).

If the brief intervention influenced the course, we would expect some changes the first year after assessment. Molde Hagen et al. (in Norway) performed a randomized clinical trial with a three-year follow-up. They examined individuals with low back pain, giving information, reassurance, and encouragement to engage in physical activity, and demonstrated an effect for the first year on return to work. There was little or no effect on sick leave or fear-avoidance beliefs when a physical exercise programme for low-back-pain patients was given in addition to a multidisciplinary brief intervention at a spinal clinic, but the intervention—examining for low back pain—was assumed to have a brief intervention effect according to the author (28, 126).

The eight examples above illustrate some possible effects of extra intervention in addition to the brief intervention, but RTW was only registered to a limited extent.

Ahlgren, Bergroth et al. (127) in 2007 studied 815 clients who had taken part in vocational rehabilitation. Of these clients, 52.4 % had attained full working capacity, but the proportion had decreased to 37.4 % two years later. Those who returned to work had shorter sick leave, had jobs to return to and had received job training as a vocational rehabilitation measure. Being 16–29 years of age and employed in industry improved the chance of being at work.

In 2014 in Norway, Reme et al (128) performed a randomised controlled multicentre trial with work-focused cognitive-behavioural therapy and individual job support to increase work participation. The patients suffered from common mental disorders. They found that a work-focused cognitive-behavioural therapy and individual job support was more effective than usual care in increasing or maintaining work participation for people with common mental disorders. The effects were profound for people on long-term benefits, and the effects remained significant after 18 months. In our study, extensive intervention was performed late in the course. Motivation and support could have been reduced at that time.

Braathen et al. (85) applied a multidisciplinary rehabilitation programme to an intervention group of 183 patients on long-term sick leave, and the effects of the treatment were compared with a control group (n = 96) recruited from the national sickness insurance record of patients on a sick leave of 6–12 months duration (mean 11.5 months). They found that the work or tendency to work in the intervention group improved significantly after four months as compared to the control group ($p < 0.01$). In the intervention group, 80 % had returned to work as compared with 66 % ($p = 0.06$) of the control group. To be working at a

baseline predicted return to work. Patients with high motivation and good support from a rehabilitation team demonstrated good results. They concluded that a multidisciplinary rehabilitation programme with focus on work significantly improved perceived work ability as compared with treatment as usual. In our study, the intervention was short and the focus on work insufficient.

A recent study performed by Brendbekken et al on “Multidisciplinary Intervention in Patients with Musculoskeletal Pain: A Randomized Clinical Trial” (129) should be considered. The purpose of this study was to compare a multidisciplinary intervention—including the use of the novel Interdisciplinary Structured Interview with a Visual Educational Tool (ISIVET), with a brief intervention—on the effects on mental and physical symptoms, functioning ability, use of health services and coping in patients sick-listed due to musculoskeletal pain. After 12 months, the results were: the multidisciplinary group reported better self-evaluated capability of coping with complaints ($p < 0.001$) and better self care ($p < 0.001$) as compared to the brief intervention group. The results indicated that the multidisciplinary intervention can represent an important supplement in the treatment of musculoskeletal pain. Our patients’ attitudes to the intervention given in chapter 7 contain opinions and attitudes from the responders similar to these (Table 7.7). The connection to work was not mentioned by Brendbekken.

The multidisciplinary intervention to our extra intervention group could be compared with what was done at “Senter for Jobbmestring” (Coping with job centres) in six different counties in Norway (130). To begin, 1193 individuals were randomized into two groups: one group was sent to the job centre and a few weeks’ advice on health and work, and the other group was given treatment as usual from NAV and the family doctor. The follow-up was at 12–18 months. The intervention group had a slightly better return to work. A cost-benefit analysis concluded that using the job-centres were economically useful for society, especially for returning to work among those who are more than 30 years old who have been sick-listed for several months. This “coping with a job” has a future job in focus and a social identity to the “Senter” that seemed to be beneficial as compared with our focus more on health and individuals.

8.2.3 Strengths and weaknesses of the present investigation of the extra intervention.

A strength should be that we assessed the labour force group isolated (chapter 4) and the effect on this part of the extra intervention group. In our investigation, we could follow the

change in NAV distribution within the cohort after performing the extra multidisciplinary program. This follow-up for a sufficient time was a strength.

It can be argued that the changes in NAV distribution were not due to the programme. The waiting time from decision on extra intervention until the extra intervention was performed, 6–18 months, weakens the representativity of the result. The patients were supposed to get some idea of what was coming. Some processes might start in the group. The effect was difficult to distinguish from a possible Hawthorne effect, team influence (131), and the natural course of sick leave, and these effects were not assessed. The patients could change their attitudes on work and social contribution and thus were allocated to other NAV groups. The different result for the “unknown”—NAV Group 5—is supposed to be due to the extra intervention and extra NAV attention. However, we had no good information on what NAV did to this group except granting their sick-leave rights and thus contributing to transforming the individuals to other NAV groups. That was a weakness.

The subsistence of NAV Group 5 could be explained by unregistered familial support, unregistered work, studies, and economic support from sources other than NAV, transition into poverty or working on the black market. The extra intervention gave attention and a targeted livelihood, and might have created a tendency to ask for a labour force connection. That could be the start on the way to the labour force for this unused workforce. That was a strength of the study.

Teamwork over many weeks was a part of the extra intervention in our study. The results in NAV Group 5 in our extra intervention study group emphasised that it was useful to invest rehabilitation resources in this topic. This can be seen as a strength in the study. A stronger consideration of multiprofessional teamwork should be indicated in the work-related medical rehabilitation guidelines as stated by Chamberline (64).

The Icelandic researcher Thorlacius (61) is cited above. Only 47 % had returned to work of 72 % of a group that had improved in fitness for work. That may be an indication that the term “work” is ambiguous. Our discussions with patients during consultations revealed divergent views on what work was, such as to perform a task, whether practical or theoretical; to be in activity; to get paid to perform something; to do something for oneself, one’s neighbour or a voluntary organization; to perform what one is educated to do; and to complete a physically stressful activity among other meanings.

It is not specified in the cited studies what “return to work” means, but it seems to cover “to be back in job”, to be in the official job register, in the labour force or to be self-reported back to job or self-employed. Self-reported information about work is a usual

method as the examples in this discussion illustrate. We used an official register for both the study and the control group, which was supposed to be more accurate and more reliable. That was a strength of the study. To be at work or have a working capacity does not have a clear definition in the minds of the public.

In our evaluation of activities at the outpatient clinic in Askim, we used a questionnaire. The purpose of this preliminary survey was fulfilling the assumption in the Specialized Health Services Act to evaluate their own business (132). This is assessed in chapter 7, table 7.3 and 7.4. One of our questions was whether the patient was now at work, in whole or in part, or had another social insurance benefit. The answers reflected the different conceptions of “work” seen from the patients’ view, which is different from the NAV term “workforce”. Persons outside the labour force are persons who are neither employed nor unemployed for the reference period. In our work, we have chosen to use the NAV term “workforce” or labour force and record keeping related to that. In that way, we avoided this linguistic ambiguity.

A better RTW after extra intervention could be experienced if the time before the extra intervention could be shortened. Our long waiting time was recognized as a weakness. Using the NAV groups was a strength.

8.2.4 Possible explanations for the results

Our multidisciplinary brief intervention gave worse results than the control group on RTW. The extra intervention group was created out from clinical assessment and anticipated benefit from additional intervention as described in section 2.2.3 and 5.1 and discussed in section 8.1.4. The gender difference was obvious on the three locations for extra intervention (Table 6.6), and the diagnostic differences between those given extra intervention and the rest of the study group were also remarkable (Table 6.5). Differences between NAV groups developed after one year, from t_{12} , and the rest of the follow-up time. The political and social expectations were more part-time sick leave. The Hawthorne effect (131) could contribute to the changes in the waiting time on the extra intervention. More part-time sick leave was achieved as a good rehabilitation experience (chapter 7). The brief intervention could have influence on the development during the first six months after assessment (chapter 4), but the extra intervention thereafter did not seem to have influence on RTW.

Schwarz et al. (133) investigated multiprofessional teamwork in work-related medical rehabilitation for patients with chronic musculoskeletal disorders and concluded that the significance of multiprofessional teamwork for successful multimodal rehabilitation should be

highlighted. The indicators of ideal multiprofessional teamwork and contextual facilitators were specified as useful in medical rehabilitation. The assumption of multiprofessional teamwork as a continuum of collaborative practice were supported. The effect of multiprofessional teamwork in work-related medical rehabilitation should be strengthened.

The age and gender assessment in the extra intervention study (Tables 5.1 and 5.2) demonstrated that NAV Group 5 were mainly people below fifty years of age (82 %). In our study group, 46.3 % of individuals were below 40 years of age. NAV is discussing whether young people without a job or in education can be in a category like NAV Group 5 (134).

Investigations focusing on the dynamics of cooperation between the sick-listed and NAV are limited for the patients. We tried to keep in contact with the employers and NAV, but that was not possible at that time because NAV was in a period of heavy reorganizing.

In our study, the job focus was intentionally strong, but we did not have power over the multidisciplinary team, like NAV, to push the participants in that direction.

Our OPC received no financial support to have contacts with employers. It was clearly expressed that research on this project was not expected or planned. It would have been a great advantage if this had been allowed as stated by Mykletun and Brinchmann et.al (11) in their summary on an expert conference (2013) on behalf of the Ministry of Labour Affairs on the “Effect of measures under the IA Agreement”.

8.2.5 Utility of the multidisciplinary assessment in the extra intervention setting

The development in a sick-leave population was illustrated in Figure 2.1 and only 6 % of a TAU cohort still was on sick-leave after 6 months. It cannot be easy to improve this development. The brief intervention and multidisciplinary assessment did not give a better RTW process than TAU. The exception was the NAV Group 5, “unknown”, which benefit from the method. More resources should be allocated to that group. In 2002, Haldorsen et al. assessed 654 patients sick listed from musculoskeletal pain for more than 8 weeks (124). Three treatment groups were used, and the patients with poor prognosis who were receiving extensive multidisciplinary treatment returned to work at a higher rate than patients with poor prognosis receiving ordinary treatment, 55 vs. 37% ($P < 0.05$) at 14 months. Multidisciplinary treatment was effective concerning return to work, when given to patients who were most likely to benefit from that treatment. The challenge is to identify this group. The use of the five NAV categories can be a useful tool to achieve that.

8.2.6 Validity of this part of the study

The NAV register was used for all follow-up periods of the cohort to assess the return to the workforce and the use of benefits. This improved the internal validity and the external validity and is discussed more in chapter 9.

8.3 Hypothesis 3

The study group intervention reduces the chance of transition into disability pension status as compared with the control group.

8.3.1 The hypothesis was rejected in this study with conditions

The hypothesis had to be rejected, but the intervention was not without influence in the first years.

The numbers on disability pension were cumulative, NAV Group 4 (Table 5.3.4). During the first 24 months, the extra intervention group had fewer tendencies to change into disability pension. However, during the last 12 months, until t_{36} , disability pensions were granted for this group significantly more than for the control group. In the study group 10.4 % got a disability pension, compared to 6.4 % of the control group (Table 3.3). The extra intervention part of the study group had 8.6 %, and of the remaining part of the study group, 6.2 % was granted disability pension (Table 5.3).

During the first half year after assessment, it appeared not to be possible to receive a disability pension in this patient group. The processing of disability applications does usually not start before one year on sick leave has occurred. The total material illustrated in Table 5.3 demonstrates that the outcome for disability pension was significantly in favour of the control group. The extra intervention group had the lowest disability pension rate until t_{12} and thereafter increased (Figure 5.4). The remaining part of the study group had a higher disability rate for the whole period than the control group. The difference in intervention between the extra intervention subgroup and the remaining part of the study group was the extended multidisciplinary intervention. From the total study (Table 3.3, Figure 3.4, NAV Group 4), it can be seen that the disability pension rate was the lowest in the control group in the period t_0 – t_{36} , $p < 0,001$.

The separate study on study and control group belonging to labour force at t_0 , chapter 4, Table 4.2.4 (Figure 4.2.4) demonstrated that the disability rate at t_{36} was higher in study group, 6.9 %, than in control group, 5.1 %. At t_{36} the extra intervention group increased to 8.6 %, and the remaining part of the study group (Table 5.3.4) increased to 6.2 % at t_{36} (the control group increased to 5.1 %). The differences were statistically significant, $p < 0,001$.

Between the two parts of the study group, there were significant differences (Table 5.3). The process around the extra intervention group seemed to have postponed the disability

decision for this group and was lowest of all groups, but from t_{24} increased and ended higher than the control group with 8.6 % at t_{36} , $p=0,001$, (Table 5.3 point 4 and Figure 5.4).

It could be said that this group benefited from the extra intervention, but the effect was not on returning to labour force, but on being included in the social benefit systems as in NAV Groups 2–4.

The initial intention was to end the observations 24 months after assessment. However, confronted with the results illustrated in Figure 3.4 where intervention seemed to give a lower disability rate in the study group, we decided to add another year. The study group intervention did not reduce the changes into disability pension as compared to the control group, nor in the extra intervention group. The decision on extending the observation period was important for discovering this extra increase in disability pension as demonstrated in Figures 3.4, 4.4 and 5.4.

8.3.2 A comparison with other results of granting disability pensions

In Iceland a group of 109 individuals were referred to rehabilitation (61). Evaluation was by a multidisciplinary team one to two years after the start. Results showed that 40.4 % in the study group received a disability pension and an equal number received no social insurance benefits, while 81.5 % of the control group received a disability pension and 17.7 % received no social insurance benefits. The conclusion was that vocational rehabilitation was effective and prevented disability. The follow-up time in Iceland was two years. After two years our study also demonstrated favourable figures as to disability pension.

In our study, most decisions on disability pension were made 3–4 years after sick listing. The extra intervention group ended with a significantly higher disability rate (8.6 %) than the remaining part of the study group, 6.2 % (Table 5.3.4). Also, when looking at the utilisation of social benefits, which in table 4.2.3 was 29.8 % in the study group and 18.9 % in control group, our results differ from the Icelandic results. The differences might be due to different legislation and guidelines.

Large amounts of resources are used on rehabilitation in Norway. To consider whether rehabilitation resources were being used optimally, all persons receiving any kind of rehabilitation and attending one of six local national insurance offices in a county in Sweden in 1998 and 1999 were studied by Ahlgren et.al (135). A 2-year follow-up was carried out to assess changes in status among those who had received temporary disability pensions. Many long-term sick-listed individuals moved from vocational rehabilitation to pension, rather than reaching the goal of returning to work regardless of diagnoses. The general objective of the

study was to evaluate the proportion of individuals granted vocational rehabilitation who later obtained temporary or permanent disability pensions. In the end, 46.2 % of all individuals receiving rehabilitation ended up with a disability pension. Additionally, a large portion of the temporary disability pensions was transformed to permanent disability pensions within two years. The rate of resuming work was very small for clients with a temporary disability pension. Job training showed the best outcome when compared with rehabilitation measures.

In our study (Table 3.3) 10.4 % of the study group ended with disability pension at t_{36} and 35.5 % were temporarily outside the labour force. The assessment form Sweden seemed useful for further planning.

Gjesdal, Bratteberg and Meland identified predictors for disability and pointed to gender, duration of sickness absence and musculoskeletal impairment as important (136-138). In our study gender, residency and occupation were significantly different in the two parts of the study group (Table 5.1), and the extra intervention group had significantly more disability pensions than the remaining part of study group (Table 5.3). Gjesdal et al used a random sample of the Norwegian population of working age below 60 years as a study population. Increased risk for disability pension was described for upper limb problems, back problems, osteoarthritis, myalgia/fibromyalgia, and rheumatoid arthritis, as compared to "fractures and injuries." Our results did not support these results (Chapter 6).

In studying how to return disability pensioners to work, a randomized study was performed by Magnusson (139). The return to work and reduction in disability pension demonstrated negligible results in their three study groups regardless of having participated in a cognitive behavioural intervention or not, similar to our study.

A study was published in the year 2000 by Haugli L, Steen E et al, "Learning to have less pain—is it possible? A one-year follow-up study of the effects of a personal construct group learning program on patients with chronic musculoskeletal pain" (140). One of the results was that absenteeism was not significantly reduced compared to the control group, but there were fewer persons receiving disability pension in the intervention group one year after intervention (38 versus 59%, $p < 0.05$). The group learning program was demanding and lasted six months. The length of sick leave was longer before intervention than for our extra intervention group. Our extra intervention was not that comprehensive, but the figures for disability pension was very low the first period. Extending the follow-up time was important to get more reliable results.

8.3.3 Strengths and weaknesses of the investigation on disability pension

Our aim was to realize the thinking about rehabilitation as described in the ICF system (68) and later described through textbooks like “Handbook of vocational rehabilitation and disability evaluation: Application and implementation of the ICF” in 2015 (141). Our methods in chapter 2.1.2 were based on this thinking.

The control group was constructed from the national insurance register as similarly to the study group as possible. The matching left some inequalities between the study and control groups as described in section 2.1.3, especially on ethnicity and occupation. The month for giving a sick leave certificate was the same in both groups. The median length of sick leave was the same in the study and control groups. However, the median length in the study group covered a range of 0–36 months. To strengthen the reliability of the results, we used the work force part of the groups (Table 5.3) and reduced the numbers with very short (1–3 months) and very long (18–36 months) sick listing. Using the part of the study and control groups that was in the workforce at t_0 is seen as strength, by not using the results from the individuals being most ill or for having some other reason for being outside the work force.

Factors such as motivation, heredity, tolerability, experience with suffering, anxiety, working ability and general health condition and similar factors were not possible to adjust but were seen as important for explaining the group differences. In our study, the family doctor used his/her knowledge and clinical feeling in his/her referral practices and may have had a sense of these factors. The matching process did not capture these issues. As mentioned before, it is probable that despite matching, the study group was sicker than the control group. This is discussed in chapter 2.1.2. These problems could possibly have been neutralized by a randomized design (Section 2.1.2). However, we had to assess and treat the individuals consecutively. By using those in the labour force at t_0 , the workability was as similar as possible between the study and the control group. That is recognised as a strength.

Øyeflaten illustrates that the assessments were more complicated when she focused on fear of returning to work and illness perceptions about subjective health complaints (10) and also focused on understanding of how the processes to and from work and to and from sickness benefits can differ between groups (97). Our simplification of the NAV registering system illustrated how the transitions between the categories had been like over the years.

The overall results were that the control group differed from the study group over time and had better results on disability pension than the study group. The brief intervention issue did not show given improvements on the target group, employees with musculoskeletal and

common mental disorders. The multidisciplinary intervention to the extra intervention group might have had some effect during the first years and postponed the decision to pursue a disability pension. That was recognized as a strength.

In Norway, the granting of disability pensions is done at separate NAV offices in the each municipality and county. Our understanding of public guidelines for disability pension varies. However, these circumstances are supposed to have the same influence on the study and the control group as they were matched on residency. That was a strength.

8.3.4 Possible explanations for the results on assessing disability pension

The intervention programme put demands on the patients to follow the advice from NAV. It delayed the final decision to grant a disability pension. The disability rate for the extra intervention group was significantly lowest for the first 24 months, but at t_{36} , more from the study group were granted a disability pension. NAV traditionally had greater focus on rights and benefits than on establishing a labour relationship and on how to manage a job. That might influence the granting assessment and the patients' attitudes. The granting of disability pensions increased more in the study group and most in the extra intervention part of the study group. The influence of proximity to NAV is discussed in section 9.1.

8.3.5 Utility of brief intervention and multidisciplinary assessment to reduce disability pension granting

By using the NAV groups, the study groups were differentiated in various functional groups (Table 5.3). That was important for planning targeted measures for the study group. Thus, the unknown NAV group could be identified and could be transferred to the other NAV groups and away from social isolation and disability. However, this also could contribute to an assessment of disability and need of benefits.

8.3.6 Validity and reliability of this part of the study

The development for all involved groups was registered in the NAV system for social benefits and disability pensions. Then the internal validity was reliable as discussed in section 8.1.6. Postponement of the granting of disability pensions was supposed to be a result of the NAV activity, which could be repeated in another similar investigation. This is processed further in chapter 9.

8.4 Hypothesis 4

Some diagnostic groups had more propensities to return to labour force or into disability pension than others.

8.4.1 How the hypothesis was assessed in this investigation

Return to work changed significantly among the diagnostic groups from t_0 – t_{36} (Table 5.3). At t_0 there were significant differences in diagnostic distribution between the two parts of the study group (the extra intervention part and the study group as a whole) and the control group (Table 6.1 and Figure 6.3). The diagnostic distribution at t_0 was not significantly different in length of sick leave, age groups, ethnicity, occupation and residency. Redistribution of the individuals over the follow-up time at t_{36} had removed the significance of diagnostic differences.

The diagnoses were presented in chapter 3, table 3.2 and assessed in chapter 6, Table 6.1. Table 6.2 demonstrates that NAV Groups 1 and 2 most frequently suffered from fibromyalgia (M79) and other musculoskeletal disorders (M-else) as diagnoses. On the other hand, NAV Group 5 was dominated by other musculoskeletal disorders. Mental disorders and fibromyalgia were not frequent in this group. The diagnoses M79 and M-else seemed to be most prone to be among those in the labour force groups (Section 6.7) NAV group 1–2. These differences were statistically significant at t_0 . At t_{36} these differences could no longer be seen as significant differences (Table 6.7).

The group given extra intervention differed significantly from the rest of the study group in diagnostic distribution at t_0 , $p=0.005$ (Table 6.5). Mental disorders and fibromyalgia were more frequent among those in the extra intervention group, $N=100$. Other musculoskeletal disorders were most frequent among the rest group, $N=320$. These were most prone to return to work and utilize social benefits. Musculoskeletal disorders (M-else) were most common among those being granted a disability pension. At t_{36} the differences were not significant any more. Other musculoskeletal disorders were dominating in all NAV-groups and especially in NAV Groups 4 and 5. However, RTW was not better in any of the groups at t_{36} (table 6.7), and granting of disability pension was the highest among those with diagnoses from the M-else group.

When studying the diagnostic distribution on the different NAV groups (Table 6.7), there were no significant differences at t_{36} , $p=0,373$. Granting of disability pension increased

over the observation time from 0 % at t_0 to 10.4 % at t_{36} for the total study group. For the control group (Table 3.3), it was 6.4 % at t_{36} . From figure 6.1 we can see that mental disorders and “all other” diagnoses were the relatively least frequent reason for disability pension, and other musculoskeletal disorders (M-else) the most frequent. The chance of being granted a disability pension seemed to be most probable with other musculoskeletal disorders (M-else diagnoses) and least with diagnoses outside the M and F chapter in ICD-10, but the differences were not statistically significant.

Neither for RTW nor for granting disability pension were there significant differences at t_{36} as compared with the NAV groups or diagnostic groups.

The hypothesis was not confirmed.

8.4.2 Comparing with other results of the influence of diagnoses

Diagnoses in F and M79 chapter of ICD 10 are often associated with chronic pain. We did not register pain separately. Similar studies on NAV groups have not been performed. Findings from brief intervention on drug addict treatment and from single diagnoses such as fibromyalgia, neck pain and low back pain are mentioned earlier in this paper, but they have sparsely focused on RTW.

Musculoskeletal diseases are common. In Norway, 51 % of the population in a county reported such complaints lasting more than three months a year (142). It is also demonstrated that the number of painful areas are more important for a disability assessment than specific diagnoses (143-146) and that a linear increase in the numbers of painful areas is parallel to the increase in risk for disability pension. A corresponding observation is on low back pain and comorbidity from a spinal clinic. The authors conclude: “Our findings indicate that patients with low back pain suffer from what may be referred to as a ‘syndrome’ that consists of muscle pain located in the entire spine, as well as the legs and head, with accompanying sleep problems, anxiety and sadness/depression.” The spinal clinic intervention seems to have a major effect on work absenteeism via interacting with the concerns of being unable to work (142, 147). Our result was that different diagnoses did not influence RTW or disability pension significantly.

Brage et. al investigated the Norwegian registers of those on sick pay and disability benefits and concluded that the labour and welfare administration should continue to focus on musculoskeletal disorders to prevent long-term sick leave and permanent absence from work as a frequent reason for long-term sick leave (148). In our study, separate diagnoses seemed

to have a minor importance on the possibilities of RTW, but we did not have the opportunity to the contact the employers.

A 2009 study from Stockholm (149) on long-term sick-listed referred to multidisciplinary investigation and assessment displayed a high co-morbidity of psychiatric and somatic diagnoses and were a heterogeneous group with diverse sociodemographic and medical characteristics. We registered 51.4 % side diagnoses (Table 6.5), and 27.3 % of them were mental complaints. It should be recognised as an underlying cause of sick listing.

In a Danish 2010 study, Nielsen et al. presented “Predictors of return to work in employees sick-listed with mental health problems (MHP): Findings from a longitudinal study” (150). They realized that employees sick-listed with self-reported stress/burnout (N=644) returned to work faster than those with self-reported depression (Hazard Ratio, HR = 0.76) and other MHPs (HR = 0.56). A positive RTW expectancy of the sick-listed person (HR = 1.27) and no prior absence with MHPs (HR = 1.29) were associated with a shorter time to RTW. In our study, mental health problems were not as frequent, and we did not observe a corresponding tendency.

In Sweden, Ahlgren et al. published a 2005 study entitled “Disability pension despite vocational rehabilitation? A study from six social insurance offices of a county” (135) (compare section 8.3.2). Among rehabilitation measures, their investigation showed the lowest figures of work resumption, while job training showed the best outcome in this respect. The message from our study was about the same.

One could argue that the financial and personnel resources allocated by the national insurance offices to rehabilitation resulted in disability pensions instead of RTW.

8.4.3 Strengths and weaknesses of this study regarding diagnoses

The diagnoses for all patients in the study group were assessed by the multidisciplinary team and registered at t_0 . All registered diagnoses were taken into account in the NAV groups. That was a strength.

Another strength was that the connection to the labour force was through the official registration system for the same cohort and not self-reported. In our study, the work and disability in the study and control group were registered in the same way by NAV. That is supposed to be more accurate than self-reporting by the employees. The reliability of self-reporting is disputed and discussed in section 8.1.4. The study includes patients with all diagnoses within chapter M and F in the ICD- 10, none were dismissed,

The creation of different diagnostic groups (section 2.1.7) was based on the real distribution among study group members and illustrates that the referred patients were according to target group for the RTW project. That is recognized as a strength.

We found no indications that the four diagnostic groups were too extensive or oversimplified so that differences of possible importance could be lost. The diagnostic framework with reference to OPC makes comparison with other studies difficult, and that is seen as weakness.

8.4.4 Possible explanations for the results of diagnoses

Figure 6.2 and Table 6.2 significantly demonstrate the differences in diagnostic distribution between the five NAV groups at t_0 , $p=0.033$. From t_6 to t_{36} these differences were not significant any more.

The diagnoses are unspecific indications on reduced working capability or on disability. Behavioural, social and cultural factors were not registered in our study but were supposed to be of importance. Dekkers-Sanchez et.al (151) wrote a systematic review on factors associated with long-term sick leave among sick-listed employees in 2008. They concluded that there was weak evidence that older age and history of sickness absenteeism are factors associated with long-term sick leave in sick-listed employees. There is insufficient evidence for an effect of other individuals or work-related factors on long-term sick leave. That could be compared with our general results in table 3.1, 4.1 and 5.1 and section 6.4–6.9, with the exception of gender.

To help doctors with assessing a sick leave situation, the Ministry of Health and NAV, in cooperation with the Norwegian Medical Association, have published guidelines and trained doctors to use them (152, 153). The guidelines did not have an obvious effect (13). A sick-listed employee has to follow the advice from NAV and perform all the prescribed activities. If not, economic sanctions can be used. That influences the disability assessment and the RTW (111). We do not know to what degree NAV used that argument in our study.

How the perception of the concept of disease is considered is important for which diagnosis is used. An important decision was made by the National Insurance Court which in 1994 decided that “‘Disease’ must be regarded as a relational concept that determines the relationship between the medical science, problems and resources of the individual and society's demands and expectations” (154). Disease should be looked upon as relational nor correspond to the employees’ relational notion of capacity for work. After this judgment musculoskeletal diagnoses were more acceptable.

Many factors determine the length of a sick leave (9, 10). In 2004, Fleten et al. asked: “Why not ask the sick-listed?” (155). A clean bill of health may involve switching to other forms of benefit, or the person could fall out of the current workforce for various reasons. These are reviewed in a report with an international perspective (156). The report states that the results of the analyses of how absenteeism was related to various aspects of working life corresponds well for all countries as a whole along with the bulk of previous research results. Women had a higher absence than men, and this difference was greatest in the youngest age groups. Sick leave rose with the employee's age. Also, permanent employees had a higher rate of absenteeism than temporary employees, while sick leave increased with the duration of employment, and the small companies had the lowest absenteeism. Diagnoses were of little influence if any in our study.

8.4.5 Utility of the diagnoses

The diagnoses were important to understanding some of the patient's problems and what could have some influence on the development of work ability and disability. Diagnoses were important and helpful to target stimulating and preventive activity (Chapter 6) as well. However, diagnoses are of minor importance for the RTW measures and are more for medical treatment.

8.4.6 Could one common cause be assessed instead of 101 diagnoses?

Modern medical treatment is focused on diagnoses to be able to give the best available treatment. Traditionally diagnoses are used in assessing treatment, loss of work ability or disability. A sick listed patient can have any diagnoses in the ICD-10 system. Sick listing and disability are dominated by mental and musculoskeletal disorders in Norway, and common symptoms are anxiety, pain, fatigue and depression.

In 1997 Claw (96) presented a hypothesis on unexplained pain and fatigue. Genetic and environmental factors could interact to cause the development of these syndromes. He postulated that these syndromes were caused by central nervous system dysfunction and that various components of the central nervous system appeared to be involved, including the hypothalamic pituitary axes, pain-processing pathways and autonomic nervous system. He also postulated that these central nervous system changes could lead to corresponding changes in immune function.

Svedberg (157) described that “many patients on long-term sick-leave with unclear diagnoses may suffer from unrecognized, and therefore probably untreated, medical disorders and co-morbidity.”

“Subgroups must be observed,” said Stapelfeldt (108). In our study comorbidity was common. Table 6.5 shows the distribution of side diagnoses from 216 (51.4 %) individuals registered through our clinical contact. The long-term sick leave patient group had multiple diseases in addition to the musculoskeletal and psychiatric disorders.

In several European countries, the number of patients with difficulty resuming work after long-term sick leave has increased. In a Swedish investigation, Linder et al. (2009) studied 635 long-term sick leavers from the National Insurance Office by questionnaires and examined by three board-certified specialist physicians in psychiatry, orthopaedic surgery and rehabilitation medicine (37). Of the patients 55 % had a psychiatric-somatic comorbidity. The three most frequent combinations of diagnoses in the comorbidity group were fibromyalgia/myalgia and depressive episodes, fibromyalgia or myalgia and recurrent depression, and spinal pain and depressive episode; whereas the three most frequent in those with psychiatric diagnosis only were depressive episode, recurrent depression and phobias or anxiety. Differences in pain and difficulties with activities were found among the three groups. By multidisciplinary assessment, 80 % needed rehabilitation. Patients with psychiatric diagnoses, or both psychiatric and somatic diagnoses, need medical/vocational rehabilitation to a greater extent than patients with somatic diagnoses only. This implies that medical rehabilitation programs ought to increasingly adapt to the needs of patients with psychiatric-somatic comorbidity.

In our study, the psychiatric diagnoses were not frequent as main diagnoses (Table 6.1 and section 8.4.1). However, as side diagnoses, psychiatric diagnoses were most frequent (39.6 %) in the extra intervention group and must be taken into account.

Different diagnoses with varying comorbidity and the same functional loss, loss of working ability, could all be a result of some central coordinating mechanism. What is recognized as “pain” is a common factor that tends to be automated and, to some extent, out of our control. For the rehabilitation matter it is more important to control the pain responses and bring the attitudes into problem solving more than protective behaviour (46, 96).

Against this background, whether the experience of generalized pain is a “one-cause syndrome” (158) is discussed so that a reclassification of this part of the diagnostic system could have been developed further (95). RTW activity is an example of such thinking. All those on long-term sick-leave are treated in the same way regardless of diagnosis.

The picture of symptoms is almost alike for all those suffering from musculoskeletal and minor mental disorders, but the anatomical localization differs. Bruusgaard (159, 160) discussed the possibility of a more common reason for the disorders, Natvig investigated the spread of painful areas on the body and functional level, and found a linear covariation (161), while Bruusgaard (162) studied the symptom load. As the number of painful sites increases, the ability to work decreases.

Morley et al. conducted a survey of randomized controlled trials and cognitive behavioural therapy for chronic pain in adults excluding headaches (66). They concluded that active psychological treatments based on the principle of cognitive behavioural therapy were effective, though there are no comments on working ability. Hsu et al. demonstrated a good effect of psychodynamic intervention on persons with no response on conventional rehabilitation actions (163, 164).

The effect of a brief intervention is not obvious, and in our investigation is difficult to acknowledge. Whether the brief intervention effect is a Hawthorne effect or not can be discussed (section 8.2.3). The Hawthorne effect can be represented by the question: Are behaviours altered when people know they are being studied? McCambridge et al. conclude in a review article about the Hawthorne effect that most studies “reported some evidence of an effect, although significant biases are judged likely because of the complexity of the evaluation object [. . .] consequences of research participation for behaviours being investigated do exist” (131). The promising results of our pilot project could be due to this effect. Hence, it was difficult to distinguish the effect of the intervention from the normal process of recovering from sick leave.

Haugstad et al. (33) investigated women with pelvic pain and performed somatocognitive therapy. Those who received somatocognitive therapy had improved scores for all motor functions and pain, as well as anxiety-insomnia-distress and GHQ-30 scores for coping (a self-rating questionnaire assessing psychological distress and general well-being). This is an example indicating that a treatment focusing on the central understanding of pain is more effective than focusing on the anatomical and physiological location of pain.

However, Schlamann, Naglatzki and Nickel have in three different articles describes brain changes from autogenic training and bioenergetics exercises (165-167). Explanations on reduced work ability related to disturbances in one or a few functional areas in the central brain seems closer today than when presented by Clauw twenty years ago.

Results from our study and among others as is referred above should encourage more research in this field.

8.4.7 Validity and reliability of the study of diagnoses

The diagnoses for all 420 included individuals came from the clinical registration and the disability information from NAV. The creating of the study group will be difficult to repeat especially concerning the distribution of diagnoses. The reliability on diagnostic matters is not good. This will be considered later in chapter 9.

8.5 Hypothesis five

The patients experienced the intervention methods as beneficial

8.5.1 Patient assessment of results

The patients' information on their situation was collected at the assessment time, t_0 , and corresponding information was gathered by a questionnaire 6, 12 and 24 months after assessment. This is presented in chapter 7.

The majority of patients were amenable to the arrangement, and they looked upon intervention methods as beneficial.

We did not investigate cognitive factors like those Øyeflaten et al. mentioned (10). We asked how those on sick leave assessed the intervention and OPC activity. We did not find a better return to the workforce among those who viewed the intervention positively than those who saw it as negative.

Our focus was on the labour connection. As demonstrated in chapter 6, the diagnostic differences that could contribute to the understanding of our results were small. Studying the five NAV groups illustrated the dynamics in the course of a sick leave period.

The patients' overall assessment of the intervention was more enthusiastic at 6 months than by 24 months after assessment (Table 7.1). At t_6 , 63.5 % indicated that the intervention had been "a positive experience". Of the extra intervention group 64 % reported positive experiences at t_{24} and changes in attitudes after intervention (Table 7.6). Most statements from the patients included in Table 7.2 reinforce this.

The official initiatives stimulated moving to other NAV groups and increased the utilization of public benefits and demands. It delayed the decision on disability pension. It was most increased in NAV Group 4 at t_{36} (Table 3.3) and in the extra intervention group (Table 5.2). Most remarkable were the changes in NAV Group 5 of the extra intervention group which diminished remarkably. Our investigation did not confirm more RTW for this group. This "unknown" group was mainly redistributed to the NAV Groups 2 and 3 and thus included in the social system. We recognized that as a positive result.

The hypothesis was confirmed.

8.5.2 Comparing patients' experiences with other results from researchers

Patients' experiences in our study are presented in chapter 7, mainly as positive. The importance of positive support from the health and social service to those with a long-term sick leave is emphasized in a study from 2015, by Olsson et al. (168). In Sweden, 10,042

people in Sweden who had been on sick leave for 6–8 months were sent a questionnaire (58% responded) on how positive encounters with healthcare and social insurance staff promotes ability to return to work of long-term sickness absentees. They conclude that “Healthcare and social security staff being supportive, encouraging and believing in the sickness absentee’s work capacity may be very important for increasing the probability for the long-term sickness absentees’ ability to return to work”.

Another experience in 2013 by Lynoe et al. (169) was: “Long-term sick-listed patients find that their self-reported ability to return to work is affected by positive and negative encounters with the social insurance office staff. This effect is further enhanced by feeling respected or wronged, respectively”.

In the Netherlands 2010, Joosen et al. investigated the “Process and outcome evaluation of vocational rehabilitation interventions (VRI) in patients with prolonged fatigue complaints” (170) and assessed three types of interventions with content not unlike our extra intervention. They concluded that “Three VRIs showed significant and clinically relevant outcomes over time regarding decreased fatigue and improved functioning and work participation in fatigued patients. The VRIs administered patient-tailored bio-psycho-social interventions as planned and patients were satisfied with the interventions”.

Hoefsmidt et al. did a systematic literature review on the “Intervention characteristics that facilitate return to work after sickness absence” (171). The study included 23 articles (1994–2010) assessed for methodological quality. Results are that “Early interventions, initiated in the first 6 weeks of the RTW process were scarce. These were effective to support RTW though multidisciplinary interventions appeared effective to support RTW in multiple target groups (e.g. back pain and adjustment disorders). Time contingent interventions in which activities followed a pre-defined schedule were effective in all physical complaints studied in this review. Activating interventions such as gradual RTW were effective in physical complaints. They have not been studied for people with psychological complaints.”

Our study was later in the process and less systematic as we had to accommodate the clinical requirements. Our follow-up was limited to the extra intervention group the month the patients were given the extra intervention. Often this was a year after assessment.

In 2000 in the Netherlands were given guidelines on the management of common mental health problems and their effect on return to work as part of the process evaluation of a trial comparing adherence to the guidelines to care as usual. Rebergen et al. made a process controlled randomized trial as an evaluation of the guidelines. However, no contrast in guideline adherence was found between guideline-based care versus usual care (172). The

authors advice was that guidelines for management of common mental health problems and return to work should focus on regular contact with the worker and the work organisation as also stated by Chamberline (64). That is similar to the initial intention in our study, but we did not have the resources to follow-up as we would like to.

8.5.3 Strengths and weaknesses of our survey

Numbers of valid self-reported cases were 264 of 420 (63 %). What was done in the contact between the patient, the family doctor and the NAV contacts through the years is not recorded in our study. We know what usually is done. Low or varying response from individuals in the NAV registration and to the questionnaire can be an explanation of the results. The contact between the patients and their doctors is also challenging as discussed by Werner and Malterud (2003) in a study on the encounters between women with chronic pain and their doctors (173). It was a weakness of our survey that we could not do more of such follow-up.

This response from our patients illustrated that the intervention method was acceptable and was able to change patients' attitudes (chapter 7). The economic support from NAV during the first year of sick leave is the same as salaries in a full-time job. In the second to fourth year, the sick benefit is restricted up to a maximum of 66 % of the full-time salary, as is the disability pension. To be sick-listed more than one year has no economic advantages. Our follow-up period includes the period of experiences when economic benefits changed.

In an interview with 53 patients from different RTW institutions in Norway in 2008—outside our county—the presented results and attitudes from the participants are similar to some of what is presented in this chapter (174). The report concludes that the sick leave period could perhaps have been shorter for other groups of informants if NAV had previously been in the field of information and the provision of vocational rehabilitation. Our impression is that NAV is too slow in handling patients and follow-up problems. That is a weakness.

The majority of participants in our RTW project had positive experiences. The majority believed they had developed better coping skills and a willingness to cope with everyday life. Most patients were satisfied with their contact to health services, with positive expressions such as "fair", "good" and "awesome". That is a strength.

The clinical experience was that this statement was meaningful. This is reflected in Table 7.2, which gives some examples of patient responses, and the following two responses cited here for three different observation times:

A woman (40) says six months after t_0 : *I was conscious of my own psyche, which has helped me in retrospect. Many pieces fell into place. I started a process that ended with educational*

programs. Thank you! It was exhausting meeting with 5 authorities in one day. Stays of --- rehabilitation institution was to no avail. More pain afterwards.

At t_{12} she says: I started on education, passing all my exams with good results. Before I had not managed to finish anything. When my education was finished, I got an internship and then I got a permanent job!! I'm proud of myself.

And at t_{24} : You put into words what ailed me; it was tough to hear. You sent me to --- rehabilitation centre. It was the start of the rest of my life! I thank you for the way you have treated me, how seriously you took me and the way you took me on. Forever grateful!!

A less positive story was from a woman (60) at t_0 : *I was very well received, and it was good to see that I was being taken seriously.*

At t_{12} she said: A bit difficult to answer questions because I'm not going back to work. 100% disability. Struggling with major back pain every day.

And at t_{24} she said: Will not return to work. Have backrest which is not good. At the end thanking you all for the fine treatment I received.

We used self-reporting which is a disputed method (section 8.1.4), but in 2004 Fleten et al (155) stated: "Sick-listed individuals predict their length of sick leave more accurately than professionals". Johansen, Skjerve et al in 2016 (175) recognized that motivation for a test improved the tendency to complete the test. Improvements in memory and attention were evident in rehabilitation participants indicating that rehabilitation could have an effect on cognitive functions and return to work.

Sampere, Gimeno et al. in 2012 made an assessment of "Return to work expectations of workers on long-term non-work-related sick leave" (176). They say that worker perception might be the best predictor of RTW. They mentioned self-required time and RTW expectations as important prognostic factors for sick listed workers when sick listing was certified as non-work-related. Workers expected that medical visits and health care professionals could help to identify individuals at risk of long-term sickness absence.

Self-reporting contributed to activate the patients in the development of their own case. The experiences in our investigation (as presented in chapter 7) can be assessed on contact with NAV, the family doctor and employer (as in section 8.2.4). Our brief intervention did not give the opportunity for such self-reflection and stimulation, but the extra intervention contained such elements.

8.5.4 Possible explanations of the results

In section 7.4, some results pointing to the experience that “work” is assessed differently by patient, employer and NAV. In the following will this be assessed more closely.

In section 2.2.6 some divergent views on “work” were given. Views on what work is have changed a lot in European culture from antiquity to the present. Originally, it was the nuisance duties that slaves performed, but the last 200 years have worked more into a philosophical, ethical-religious understanding, in which duty is superseded by joy and challenge, an opportunity for self-realization, one that is not affected by physical loads.

Current views on “work” are given by Kildal, Kullerud and NAV below and point to the citizens’ obligation to contribute to society.

Kildal argues that: "From the late 1700s, work and production, the civilization powerhouse, they became key concepts in the analysis of social structure and development dynamics. Philosophers and social theorists formulated policies for social integration and conflict, for society's accumulation and development, which was inextricably linked to the work as the basic category. At that time work was formulated as helpful, productive activities, as both an economic and moral achievement principle" (177).

In 1814, Hans Nielsen Hauge, one of Norway's major industrial creators, wrote: "Both sexes should work to everyone's mutual benefit; it enjoys themselves, their children and servants. Everyone should work for the resources and forces one has" (178). Through his Christian friend society, Hauge established about 30 vigorous enterprises and businesses throughout Norway, mostly over the years from 1800–1804, which ensured qualified leadership and governance.

NAV and Health and Social Affairs submit the same in 2007 (179):
“With employability means the individual's ability to meet the requirements in the execution of work or participation in daily life. Simply, it describes work as the user's current distance to the goal of employment or participation. In other words, the emphasis here is assumed that the working capacity is a result of the relationship between the individual's resources and limitations on the one side and the ambient requirements and expectations on the other. In assessing the ability to work, both what the user can and cannot do, what resources he/she has (such as competence, health and labour capacity), the conditions and barriers in the environment that can help create an inclusive employment labour market should be taken into account. Such barriers can be anything from tasks that do not match the person's level of knowledge, pace requirements for performing tasks or buildings that are not available. At the

same time, the adaptations and instruments that can contribute to changing demands of the environment must be considered.”

The ICD-10 guidelines (78) do not contribute to clarifying the terms on work and working ability connected to unclear musculoskeletal disorders such as F48, R53, T73.3, Z73 and Z56.

NAV's term “workforce” in the official register includes such viewpoints as cited above. For the study group, self-reporting is not as accurate and the understanding of the term “work” varied. Our use of NAV's term did not affect the patients.

8.5.5 Utility of brief intervention and multidisciplinary assessment affecting patients' experiences

As mentioned in the section above, it is important to listen to patients' perception. They can provide just as good forecasts as professionals in some cases. By teaming up with patients, it could be possible to utilize the unused part of the working force better and up to their limitations. The brief intervention and multidisciplinary assessment did not demonstrate this effect. The prolonged observation and the extra intervention was important to be aware of the group that which got little attention in the NAV system, NAV Group 5 in Table 5.3. This group changed much in the extra intervention group. Over the three follow-up years, the groups were redistributed to NAV categories where they could receive ordinary benefits from society or were back in the labour force. Feedback from patients (Table 7.7) exemplifies that this was a good experience. Our results should be considered to be a positive effect of the assessment. It is a challenge for both the health and social services, as well as for the political community and employers, to keep this group within the social security system.

The intervention from Iceland mentioned before, Thorlacius, 2002, (61), demonstrated that vocational rehabilitation with good human resources was accepted and could prevent disability. In our study, there were limited possibilities to penetrate this factor, as the contact with employers was minimized.

Chapter 9

Strengths and weaknesses of our survey.

9.1 Validity

The validity of an investigation like this should be assessed, including the external validity, the conceptual validity and the internal validity. Our basis was comprised of the referrals that populated the study group and the control group. We have been dealing with the challenge of returning individuals on long-term sick leave to work, hoping that our intervention method would lead to a more rapid return to work.

Internal validity is dealing with methodological quality and assessing the risk of bias. The ideal is the randomized design, which was not possible in our situation. The other is to be accurate on the conditions of randomization, blinding of personnel and participants, outcome assessment and outcome data. As we used NAV data, this was out of our control. Our multidisciplinary intervention was adjusted to the single patients. Despite our best intentions, we could not test and treat the individuals likewise.

Family doctors referred individuals on long-term sick leave to our OPC. The OPC work was performed before and after the study group period and the selection of participants was done on clinical, social, administrative and formal grounds, as explained in chapter 2. It was limited to patients with musculoskeletal diseases and common mental disorders. Our investigation was limited by including consecutively all those referred to the OPC within a certain 18-month period and contained 420 individuals. The study group was thus a time-limited part of the total group of sick-listed individuals in Østfold County. We did not have access to the NAV details for data from those still sick listed after 6 months to compare with the study group (Figure 2.1).

So far, the results must be seen as valid for the study group. The source matching with the control group is discussed in chapter 8.1.4 and is an example of the best possible approach to the situation when a randomized controlled trial was not possible. The internal validity in our study was weak, but, as discussed in section 8.1.4, several measures were taken to avoid the weaknesses. With some reservations (chapter 8.1.4), the results should be assessed in a wider connection.

The concept validity was good insofar as we used official data which registered as belonging to labour force. NAV only registers those having an appointment with an employer. Self-reporting was considered too unreliable. Among those self-reporting, we had to realize that there was no common understanding on what “work” or “workforce” was and therefor

this method was unreliable, as illustrated in section 7.4. “Work” is a key term. That is discussed in sections 2.2.3, 8.2.3 and 8.5.4. We decided to use “workforce” or “labour force” as was common in NAV registers. Thus, the concept validity was taken care of. When using the NAV labour force group 1 from t_0 , the start was equal for all, which also improved the validity. To reduce the influence from confounders and make it possible to compare the effects of our intervention with a group that was not provided with an intervention, NAV constructed a control group (N=1260), see section 2.1.3 and 2.1.6. The control group was made as similar to the study group as possible by using the sick-leave population (N=6350) from the same county, matching with data from the actual sick leave cohort as described in chapter 2. For this study, we used data already collected by NAV, both for the study group and the control group. We got the data after the NAV data had been through their routines on quality assurance. To improve the observations of the return to labour force, the specific labour force group, NAV group 1 at t_0 , was assessed to strengthen the internal validity (chapter 4). That manoeuvre gave both groups a more equal observation start but displayed uneven development over the observation time. The results from the study and the control group were assessed to be comparable (see chapter 3 and compare section 8.1.4).

External validity is the extent to which the results of a study can be generalized to other situations and other populations. Our study population is not a result of planned selection from a population but of medical assessment and is a selected cohort from a real sick-leave population. The control population is out of the same sick leave population. Given that the factors in the study and control groups were comparable, we used Pearson Chi-square test to recognise the real differences and feasibility of generalisation.

The question on external validity was more difficult as we did not have accurate information on how the study group was selected from the sick-leave cohort in Østfold County. There were significant differences in occupational distribution between the study group and control group in Østfold county and Norway as a whole (Table 3.1). Our results can be viewed as a result of the properties of the actual multidisciplinary team and the practical circumstances.

We assess the external validity to make our results applicable for this sick-leave population with musculoskeletal and mental disorders in Østfold who have a reduced chance to return to work. The internal validity was recognized as weak, and the concept validity to be good.

As a part of the system, the extra intervention group had close contact with NAV, the multidisciplinary team and the three locations for extra intervention. One may ask whether the

intervention and the requirement to implement the prescribed program from NAV or the rehabilitation centres took attention from work to such an extent that return to work was a less likely target. The extra intervention did not lead to more RTW. The relation between patient and therapist on vulnerability and dependency is studied in psychiatric and health care settings (180) and is expected to have its parallel in the social security dependency system.

One interview study by Kjerstad et al. focused on the interaction between the sick listed and the professional advisor and demonstrated a positive effect on attitudes (174). The authors attached importance to a finding that reinforces the main result of this project: “Our main impression is that the majority of participants at faster back-project or measures have made positive experiences. The majority believe they have developed better coping skills and willingness to cope with everyday life.” A few days shorter sick listing was obtained in their study groups than in the control groups. Some had returned to work. That corresponds with the self-reported experiences from our patients mentioned in chapter 7, but not with our main results.

The NAV contact is supposed to be of importance for the progress in the groups. A sick-listed employee must be in close contact with NAV since NAV decides on rehabilitation and other measures and what type of benefits are available. If the employee does not follow NAV’s suggestions, the employee might lose his/her benefits. In the attempts to satisfy NAV, the employee does what he/she is told to. Thus, the extra intervention group could lose the work focus and strengthen the NAV focus with less return to workforce as a result. NAV works with a sparse amount of contact with employers and family doctors, which means that the employee is “trapped” in administrative routines and less oriented towards the labour market. The difference between the Figures 3.1–3, 4.1–3 and 5.1–3 can be seen as result of increasing involvement from NAV with the increasing demands of NAV benefits. The above-mentioned mechanisms may have contributed to the marked increase in individuals with social benefits (NAV Groups 2–3) and a decrease in the “unknown” part of extra intervention group, NAV group 5.

The relationship between the dependent clients and the executive officers at NAV and health service should be studied more closely.

9.2 Reliability

The reliability depends on whether a repetition of the survey would have given the same results. If the methods, the NAV system, the guidelines, the staff and the other circumstances were the same, we would expect the same results. When following a cohort

through three and a half years and checking data at specific intervals, it was important to be sure that the registering method was equal at all times. We had to rely on the NAV quality assurance system for the data. The regrouping of NAV categories were done on well-known parameters that could be easily reproduced. In this respect our method can be favourably compared with what is done in articles where self-reporting or more local registering systems are used.

If another staff was used, it could affect the results. That would depend on the attitudes, the education and training of the new multidisciplinary team. Also, in another county, many factors may be different and the repeatability would be uncertain. Repeating the study in the same county under the same circumstances would give the same results if NAVs guidelines are not changed. However, changing guidelines and the practical implementation changes the result as demonstrated in Hedmark county by Kann (111). Changing guidelines for the OPC activity and the cooperation with NAV and employers will also weaken reliability.

We have results from a real cohort from a real population, as we met them in daily clinical work, and the intervention was done on real individuals in the same way for all. Using the NAV group distribution we could assess the labour force group specifications and the group outside the social security system. The reliability was assessed as good.

9.3 Generalizability

A longitudinal controlled cohort study like this one is describing the reality for a big group of sick-listed employees. The validity is good as regards external and conceptual validity, but it's less so with internal validity. The study illustrates that it is possible to study effects of a clinical intervention with good reliability and a realistic approach to the sick leave population in an actual county.

The results of this OPC study should be shared with other institutions planning comparable activities. The brief intervention seems not to be an effective method for RTW and the attempt to reduce disability pensions. The NAV grouping system that we used made it possible to intervene with groups with a high use of social benefits and groups unknown or that may depart from the social system, which can be used in other studies.

Chapter 10

Summary and conclusion

This study is a controlled cohort of 420 employees on long term sick-leave due to musculoskeletal diseases and minor psychiatric complaints. They were all given a brief intervention throughout one day of a multidisciplinary investigation and assessment. They had, on average, been on sick-leave for six months. Based on clinical assessment, 100 patients from this cohort were selected and given four weeks extra intervention with training on coping and physical activity. From the same sick-leave population in the county, we constructed a matched control group that was given treatment as usual (N=1260). The statistical matching met common factors such as sex, age, ethnicity, living location and occupation, but was not able to compensate for the clinical differences observed by the family doctors.

The aim was a return to the workforce as measured by NAV's register data, since they are supposed to be more reliable than self-reporting. This study is of the 6 % of remaining individuals with long-term sick leave after six months of a total sick-leave population. The family doctor was expected to refer the most vulnerable persons in the labour market to our assessment system, i.e. those with the highest risk of being sick listed or transferred to disability pension.

To make NAV data available for analysis, the data on job status was regrouped into five NAV categories. During the three-and-a-half-year follow-up, some individuals in the cohort were moved to another category because of changes in health, work ability and demand on social benefits.

The study group that had been given a brief intervention as a one-day multidisciplinary assessment did not improve in returning to the workforce 6, 12, 24 and 36 months after assessment. The control group had the best outcome in all five of the NAV categories.

There is no agreement on what long-term sick leave is. Eight weeks, three months or half a year are mentioned. In our study, it was planned to be eight weeks, but the judgement from the family doctors ended with six months as a median.

The number of persons who were in the workforce part time and on social benefits part time increased more in the study group than in the control group. That was the intended goal of government and NAV, and our brief intervention may have stimulated that transition. However, this did not improve RTW in the end.

The group that was given temporary social security benefits increased considerably and most of all in the study group.

There was also an increase in persons permanently outside the workforce, that is on disability pension. The increase was the least in the study group for the first years, but the study group ended with a higher disability rate than the control group. The decision on granting a disability pension seemed to have been postponed in the study group. This might be a result of the brief intervention and the extra intervention.

A clinically selected part of the intervention group, given four weeks of extra intervention based on coping and cognitive principles, did not have better outcome. The persons in this group used the social security and benefit system to a greater extent. The extra intervention seemed to inhibit the connection to the labour market and instead brought them into NAV activities. The group with extra intervention changed course over six months after the brief intervention was carried out and became more like the control group. This group did not drop out of the social system as much as the rest of the study group.

The intervention reduced the change into disability pension for the extra intervention group up until 24 months after assessment, but after three years, the proportion on disability pension had exceeded the control group. The importance of extending the observation time to 36 months is emphasised. It gave a long-term result on granting disability pensions in another direction than the shorter observation time of 24 months.

The brief intervention was possible to use on a cohort on long term sick leave. We could not recognize an effect on return to workforce but did perceive a transition to groups using social benefits more than the control group. On a VAS scale, more than 50 % of the employees deemed the intervention as being very useful despite the result six months after assessment. A majority of the study group reported that the intervention method was beneficial and satisfying. However, 24 months after assessment, there was no significant difference to the extra intervention group.

Musculoskeletal diagnoses were most prone to end with a disability pension outside the workforce. Regrouping of the NAV data became a useful tool to identify groups and can give NAV better possibilities to target work with risk groups.

The overall conclusion was that a one-day multidisciplinary assessment was well accepted by the sick-listed but it did not lead to a higher return to work than “treatment as usual” in the long term, regardless of diagnoses. The return to work was least in the extra intervention part of the study group. The control group—“treatment as usual”—ended with the best results on returning to work with twice as many in a job than in the study group and a

lower disability pension frequency than the study group. An unknown group outside the social system was uncovered and brought into the possibility of job participation and social security benefits.

Lessons learned

Despite the methodological problems, this study has to some degree demonstrated that a brief intervention and multidisciplinary assessment in a health institution do not have a better impact on return to work than treatment as usual in the common Norwegian health care system. The development in the labour force group and the extra intervention group can support that assessment, even though patient selection was not fully compensated in the control group. The routine work from family doctors and the health care system seems well fitted for the mainstreaming of sick-listed employees.

By regrouping the NAV registering system, we got the opportunity to see which categories are in the most difficult situation and in need of special rehabilitation measures. Our regrouping activity uncovered a group with unknown status in the NAV registering system and our extra intervention measures demonstrated that it was possible to move these people to other groups where social benefits and work possibility were focused on.

On the other hand, there was a clear tendency for those sick-listed to move from full-time employment to a part-time situation where the social benefits were more in focus.

The NAV focus on rights and responsibilities and the requirements for monitoring and implementation of measures to achieve or maintain social rights should be reconsidered. Today's focus seems to take attention away from work activity and the return to the workplace. A closer relationship between the employer and NAV and more supportive and motivating attitudes to the employee must be considered.

Chapter 11

11.1 Supplement 1

OPPFØLGINGSUNDERSØKELSE

Nr..... Intervjumåned:

For pasienter som har vært til konsultasjon ved poliklinikken ”Raskere tilbake” ved Sunnaas Sykehus avd. NVS, Askim 2008

Navn:..... f.nr:

1. Alder:..... år 2. Kjønn: M K
3. Du var her imåned 2008
4. Yrke/arbeid før du ble syk (Kategori (I-VIII))
5. Hvor lenge hadde du vært sykemeldt før du kom til oss?Mnd
/.år
6. Sykemeldingsprosent før du kom til oss? %
7. Hvor stor stillingsprosent hadde du før du ble sykemeldt? %

Din nåværende situasjon:

Svar på ett av følgende tre alternativ;

8. Er tilbake i mitt tidligere arbeid som før: Ja / Nei
9. Er tilbake i mitt tidl. arbeid, men med nye arbeidsoppgaver Ja / Nei
10. Har skiftet til nytt arbeid/ ny arbeidsgiver Ja / Nei

11. Jobbstørrelse/stillingsprosent nå:%
12. Er sykemeldt Ja / Nei
13. Sykemeldingsprosent nå:%
14. Er på attføringstiltak Ja / Nei
15. Hvis det var anbefalt nye medisinske undersøkelser:
 Er det utført? Ja Nei Vet ikke
16. Hvis det var anbefalt opptreningstiltak:
 Er det kommet i gang/gjennomført? Ja Nei Vet ikke
17. Har du fått den hjelp du trenger fra NAV – trygd og arbeid? Ja Nei Vet ikke
Hvis Nei, hva ville du hatt annerledes?

18. Har du fått den hjelp du trenger fra arbeidsgiver? Ja Nei Vet ikke
Hvis Nei, hva ville du hatt annerledes?

19. Har du fått den hjelp du trenger fra helsevesenet? Ja Nei Vet ikke

Hvis Nei, hva ville du hatt annerledes?

.....
.....
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BESKRIV KORT MED EGNE ORD:

20. Hva var bra ved undersøkelsen ved Sunnaas sykehus?

21. Hva kunne vært bedre – hva savnet du?

22. Hadde du noen nytte av undersøkelsene her?

På en skala fra 1-10, (der 1 er svært lite nytte og 10 svært stor nytte) – hvor vil du plassere deg og din situasjon?

Lite nytte 1 -2- 3 -4 -5 -6 -7 -8 -9 -10 Svært stor nytte

11.2 Supplement 2

Spørreskjema ved oppfølging av pasienter ved RATI – Askim 2008-2009

Oppfølgingsundersøkelse						Nr:
For pasienter som har vært til vurdering ved "Raskere tilbake" poliklinikken ved Sunnaas sykehus HF i Askim						Interjumnd:
Vi takker for svar du ga ca et halvår etter at du var hos oss.						
Svar: Jeg har mottatt prosjektorienteringen						
Underskrevet samtykkeskjema returneres sammen med dette svar.						
101. Alder	år		102. Kjønn:	M	K	
Navn:			F.nr:			
103.	Du var her i		måned	2008		2009
104.	Hvordan var din arbeidssituasjon					Måned 2009 ?
Svar på et av følgende tre alternativer:						
108.	Var tilbake i mitt arbeid som før					Ja / Nei
109.	Var tilbake i mitt tidligere arbeid, men med nye arbeidsoppgaver					Ja / Nei
110.	Har skiftet til nytt arbeid/ny arbeidsgiver					Ja / Nei
Min situasjon						
111.	Jobbstørrelse/stillingsprosent da :					%
112.	Var sykemeldt/ på rehabiliteringspenger/attføringstiltak/ arbeidsavklaringspenger eller midlertidig uførepensjon					Ja/Nei
113.	Sykemeldings/rehab/--- osv (se 112), prosent:					%
Hvis du fortsatt ikke er helt eller delvis i arbeid:						
114	Det skyldes den opprinnelige sykdom					Ja/Nei
115	Har du fått ny/annen sykdom som hindrer deg i arbeid?					Ja/Nei
116	Er det forhold på arbeidsplass/arbeidsmarked som hindrer deg i arbeid?					Ja/Nei
117	Er det forhold i personlig/hjemmesituasjon som hindrer deg i arbeid?					Ja/Nei
118	Hvordan var din arbeidssituasjon					Måned 2009 / 2010 ?
Svar på et av følgende tre alternativer:						
119	Var tilbake i mitt arbeid som før					Ja / Nei
120	Var tilbake i mitt tidligere arbeid, men med nye arbeidsoppgaver					Ja / Nei
121	Har skiftet til nytt arbeid/ny arbeidsgiver					Ja / Nei
Min situasjon						
122	Jobbstørrelse/stillingsprosent da:					%
123	Var sykemeldt/ på rehabiliteringspenger/attføringstiltak/ arbeidsavklaringspenger eller midlertidig uførepensjon					Ja/Nei
124	Sykemeldings/rehab/---- osv (se 123), prosent:					%

Hvis du fortsatt ikke er helt eller delvis i arbeid:									
125	Det skyldes den opprinnelige sykdom							Ja/Nei	
126	Har du fått ny/annen sykdom som hindrer deg i arbeid?							Ja/Nei	
127	Er det forhold på arbeidsplass/arbeidsmarked som hindrer deg i arbeid?							Ja/Nei	
128	Er det forhold i personlig/hjemmesituasjon som hindrer deg i arbeid?							Ja/Nei	
129	Slik du ser det nå: Hadde du noen nytte av undersøkelse/behandling her? <i>På en skala fra 1-10, (der 1 er svært lite nytte og 10 svært stor nytte)</i> hvor vil du plassere deg og din situasjon?								
	Lite nytte 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 Svært stor nytte								
Eventuell kommentarer til spørsmålene eller din situasjon:									
Takk for at du har tatt deg tid til å være med på undersøkelsen!									
Det vil komme et oppfølgende spørreskjema også om ca 6 måneder og vi håper du også da vil ta deg tid til å svare.									
Ha en god sommer!									
Hilsen prosjektleder.									
Skjema bes returnert snarest sammen med samtykkeerklæringen til (bruk vedlagte frankerte svarkonvolutt)									
Prosjekt Raskere Tilbake									
Att: Overlege Dag Brekke									
Klinikk NR - Askim, Sunnaas Sykehus HF									
1450 Nesoddtangen									

11.3 Supplement 3 – Patients` reports over time, in Norwegian, To chapter 7

M=Male F=Female Age (years)	Kommentarer ved vurderingstidpunktene. (Comments after assessment)		
	6 months	12 months	24 months
F 40	Ble bevisstgjort om min egen psyke, noe som har hjulpet meg i ettertid. Mange brikker falt på plass. Startet en prosess som endte med --- utdanningsopplegg. Tusen takk! Slitsomt med 5 instanser på en dag. Opphold på --- rehabiliteringsinstitusjon var til ingen nytte. Mer vondt i kroppen etterpå.	Startet på utdanning, tatt eksamener med gode resultater. Før har jeg ikke greid å fullføre noe.	Når utdannelsen var ferdig fikk jeg praksisplass og så fikk jeg fast ansettelse!! Jeg er stolt av meg selv. Dere satte ord på hva som feilte meg, det var tøft å høre. Dere sendte meg til --- rehabiliteringssenter. Det ble starten på resten av mitt liv! Jeg takker for måten dere har behandlet meg på, hvor seriøst dere tok meg og veien dere satte meg på. Evig takknemlig!!
F 41	Greie samtaler som startet prosessen med å begynne på nytt. Ønsket å redegjøre for sin situasjon i plenum og så kortere samtaler med fagpersonene for mer utdyping.	På attføring og skole gjennom NAV	Jobbsøker og oppfølging gjennom NAV – arbeidsavklaring.
F 36	All sidene av livet ble berørt av fagpersonene, så man kunne se MENNESKET i sin helhet. At dette også var viktig innenfor sykehuset likte jeg. Stadig angst etter ulykken og greier av og til ikke fulle arbeidsdager. Utrygg i forhold til å beholde arbeidsplassen.	Det går fint i perioder og jeg nærmere med 100% jobb. Håper det blir lengre og lengre mellom sykemeldingene.	Fortsatt er det en del av det jeg kunne gjøre før som ikke går, men jeg har en fantastisk arbeidsplass og flott kolleger som gjør at hverdagene går greit. Går periodevis til behandling ---, trener jevnlig, unngår smertestillende. Lært å "høre på kroppen" og hvile når det trengs, med de skadene kroppen har fått.
F 45	--- var en helt utrolig person som så meg og hørte på meg. Det gjaldt også alle de	Endelig tatt på alvor, fikk diagnose og forstår hva jeg må forholde meg til. Har sagt	Er 100% student. Smertene er fortsatt til stede og må ha --- og ---

	<p>andre. Gråt av gledelig lettelse når jeg var ferdig. Endelig ble jeg trodd på. Jeg er innvilget yrkesrettet attføring og har begynt på 3,5 års studium. Stressmestringskurset har hjulpet meg, og det hele har fått meg i gang igjen.</p>	<p>opp min stilling ved ---, får yrkesrettet tiltak gjennom NAV og er i gang med høgskoleutdanning. Fortsatt noen tunge og smertefulle dager. Behandling hjelper. Raskere tilbake har hjulpet meg i gang igjen.</p>	<p>behandling. Eksamener er en belastning. Får --- behandling og det går lettere. Selvtilliten øker.</p>
F 36	<p>Flinke fagfolk. Ville gjerne møtt alle samtidig så jeg slapp å fortelle om igjen.</p>	<p>Det er bare jeg selv som kan stå på og hjelpe meg. Har fått et barn til. Svangerskapsplagene går vel tilbake, Jobber med ting som kan gjøre at jeg får det bedre, men vanskelig. Trener i --- og har samtaler.</p>	<p>Etter fødselen måtte jeg finne meg en jobb da stønaden ble altfor liten. Klarte ikke å jobbe så mange ukene da de gamle plagene økte på igjen. Syns det mangler oppfølging, smertene er som før.</p>
F 40	<p>Savnet hjelp til videre undersøkelser. Fant selv ut etter noe tid hva som har gjort meg syk.</p>	<p>Vurderingen hadde god psykisk effekt. Viser seg at jeg hadde --- og savner mer hjelp den veien. Ble mobbet og truet ut av min jobb, som flere andre. Har i dag en spennende jobb og gleder meg til å gå på arbeide. Sov ikke siste tiden i mitt forrige arbeidsforhold. Valgte sluttpakke, ikke arbeidsrett.</p>	<p>Fant ut at jeg hadde ---. Stressmestringskurs lærte meg ---. Og kunne hatt noen oppfølginger eller påminnelser der.</p>
F 41	<p>Ble grundig undersøkt og tatt på alvor. Følte meg mye lettere etter besøket, følte jeg hadde fått forklaringer jeg skjønnte og bekreftelse på at det faktisk var noe med kroppen min. NAV så bort fra erklæringen, arbeidsgiver omplasserte meg til en mye mer belastende arbeidsplass. Fastlegen følger meg godt opp.</p>	<p>Det var hos dere jeg første gang fikk forståelsen av min tilstand/sykdom, og dette gjorde meg sterkere i mitt eget selvbilde. Skuffet over NAV som sendte meg til dere av slo søknad om 50% uførepensjon tross deres anbefalt om det. Også fastlege og bedriftslege hadde anbefalt at jeg forsøkte halv jobb og halv uførepensjon.</p>	<p>Opprinnelig sykdom fikk komplikasjoner og jeg fikk annen sykdom i tillegg. Men det var hos dere jeg fikk den opprinnelige diagnose og vurdering som NAV så bort fra. Hadde god hjelp av --- kurs som dere sendte meg til.</p>
F 60	<p>Fikk forklaring og svar på mange ting, og at jeg kom til --- rehabiliteringssenter.</p>	<p>Jeg lærte å bruke tiden litt annerledes med jobb og hjemmesituasjon. Aktiv</p>	<p>Fått full uføretrygd. Oppholdet hos dere lærte meg at jeg må jobbe litt</p>

		sykemelding og rehabilitering har vært forsøkt i over et år, men ikke fungert. Søkt varig trygd, venter på svar.	mer langsiktig. Til tider greier jeg det ganske bra i hjemmesituasjonen.
M 45	Fikk stilt diagnose, generell informasjon og ble sendt til --- rehabiliteringssenter.	--- og --- er blitt vesentlig bedre, mens --- og --- bare er blitt litt bedre. Har fått yrkesrettet attføring.	Får omskolering. Smertene i --- blir gradvis bedre. De dårlige dagene er ikke så ofte, men blir veldig sliten av å sitte og lese og skrive.
M 43	Fikk en diagnose, men husker ellers svært lite pga min tilstand. Ønsket tydeligere melding om "hvem gjør hva" og kopi av epikrise til alle.	Jeg vil ikke trække på noen med det jeg sier her, men jeg føler at leger og spesialister setter en diagnose for fort --- og dermed er "Den diagnosen ufravikelig". Jeg har vært sammenhengende syk i mer enn 10 år og har ikke blitt frisk. Jeg har det best når jeg er i ro og når det er sommer og kommer godvær. ---. Om høsten når det blir kaldere, kommer regn og lavtrykk, så blir jeg gradvis verre igjen. Terskelen for vurdering av spesialister må bli mindre, og komme raskere i gang ved at det settes sammen spesialteam som Sunnaas) som jobber målrettet med pasienten.--- Til sist vil jeg si at NAV kan være et problem,- --, har man uflaks med saksbehandleren sin i NAV, så havner man i feil runddans i byråkratiet – i stedet for å bli tatt hånd om med en handlingsplan for fremtiden: med penger og spesialister og ordninger som kan få en raskere tilbake til samfunnet. Jeg har hatt flaks md NAV---	Jeg er ca. 75 % bedre. Vurderer å jobbe snart. Rent medisinsk så er jeg "frisk", men jeg har fortsatt problemer med muskler og hode, med tretthet og hodepine. Sover bedre om natten når jeg bruker --- og doseringen er mellom --- og --- om natten! Prøver å slutte gradvis, men jeg tror det vil ta 6-12 mnd. Mosjonerer ofte. Det har liten innvirkning på meg.

F 37	Fikk rask hjelp/diagnose og ble henvist til rehabilitering, noe som var til god hjelp. Gode råd fra ---.	Er nå i 40% arbeid som --- for samme arbeidsgiver som før. Går voksenopplæring, helsesekretær ---- Ferdig neste sommer. Er sykemeldt i min 40 % mens jeg går på skolen. Ser ut som at 50% maks 60% er det jeg klarer å jobbe pga sykdommen.	Jeg har permisjon fra min 40% stilling i --- kommune om sekretær for å fullføre voksenopplæringen som helsesekretær på ---. Dette er jeg ferdig med til sommeren.
M 60	Ble veldig godt mottatt og det var godt å se at jeg ble tatt på alvor.	Litt vanskelig å svare på spørsmål for jeg kommer ikke tilbake i arbeid. 100% uføretrygd. Sliter med store ryggplager hver dag.	Kommer ikke tilbake i arbeid. Har rygg som ikke er bra. Takker til slutt for den fine behandlingen jeg fikk av dere.
F 55	Er veldig fornøyd med all info. Det var en stor a-ha opplevelse. All smerter kommer litt i et annet lys. Forstår mer av smertene og hvorfor.	Jeg er veldig fornøyd med opplegget, fikk svar på en masse ting jeg hadde gått og lurt på vedr mitt tilfelle. Dere hadde tid til å prate og forklare og høre på hva det var. Stor stjerne til dere alle.	Er godt fornøyd med all hjelp jeg har fått. 😊 Takk
F 58	Ble skikkelig undersøkt og tatt på alvor, noe som betydde mye. Følte de forsto hvordan jeg hadde det. Helt topp! Takk! Det går bra når jeg ikke jobber.	Helt topp. Møtte gode fagfolk med forståelse. I forhold til ryggpoliklinikken som var lik 0. Der var jeg "like klok" etter besøket. De brøy seg IKKE. Være her gjorde godt. Og jeg har kjøpt "gåmaskin" jeg kan liksom mye opp med, og lært å legge til rette. Fungerer. Fikk forklaring at spondylolyse gjør at det blir fortere slitasje i ryggen. Godt får ting forklart. Gjør mye. Tusen takk!	Har kronikk lidelse som jeg har hatt i MANGE år – og jobbet. Men nå gikk det ikke mer. Nå har jeg tatt hensyn til rygg. Føles godt. Hadde nok bare jobba 2 år til, til 62. Det var det jeg trodde jeg skulle klare, men fikk veldig god hjelp og lærte mye hos dere, og dere tok det på alvor. Veldig bra. Ble undersøkt skikkelig. Tusen takk!
M 29	Fikk diagnose og tro på at ting kan løses.	Veldig fornøyd. Fant årsak – løste problemet. Kom tilbake i jobb september, sa opp desember. Arbeidsledig fra febr-april. Fikk drømmejobben i april. Dere åpnet dørene og fikk meg på rett spor. Tusen takk!!	Hadde aldri vært tilbake i arbeid om jeg ikke kom inn til dere!!

F 33	Personalet hadde tid til å høre på det jeg ville si. Fikk svar på mine spørsmål og litt til.	Venter på nevropsykologisk test	NAV tar ikke hensyn til rapporten fra Sunnaas. Jeg føler at de overser mine helseproblemer.
F 60	Her var andre fagpersoner som så på meg med andre øyne og lyttet til meg.	Jeg har fått den hjelpen jeg trenger, tusen takk.	Jeg kommer til å gå av med AFP etter hvert. Jeg jobber 40% og er 60% ufør.
F 34	Fikk tilbakemelding fra profesjonelle folk i team som så hele meg. Har akkurat begynt med --- behandling.	Lærte mye om tankens kraft. Men hadde gått lange hos gestaltveileder og fysio en stund før jeg begynte her. Det har hjulpet meg masse. Men det var absolutt nyttig. Avslappingsmetodene var godt for meg. Jobber i samme jobb/yrke, men i et mindre hus, og det hjelper. Sliter ennå med psyken og kroppen, men bedre. Går fortsatt til forskjellige behandlinger. Positivt med tre oppfølginger!	Er i full jobb. Fysisk kommer og går, går til fysio innimellom med rygg, nakke, hodepine for å løse opp. Psykisk kommer og går, men klarer å komme meg selv opp etter en stund. F.eks da huset vårt brant, - eller noen får baby, noe vi ikke kan osv. Da detter jeg fort sammen, men jobber meg selv opp igjen.

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