

Vocational Rehabilitation of Unemployed Sick-listed People in a Swedish Rural area

An individual-level study based on social insurance data

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ABSTRACT

The long trend of low unemployment and increasing economical growth in Sweden was broken in the early 1990's. In a short time the rate of unemployment had risen from 1.3% in 1990 to 8.2% in 1993. A previous study made in Stockholm showed that among the long-term sick-listed 20% were unemployed. The sparsely populated areas in the furthestmost northern counties of Sweden have had a high rate of unemployment and incapacity rates (sick days per insured and year) during many years. The primary aim of this study was therefore to investigate the unemployed long-term sick-listed and their vocational rehabilitation in a rural area of the county of Jämtland, Sweden. The study is based on a sample of 4 394 long-term sick-leave cases reported sick at all seven rural social insurance offices in Jämtland.

Surprisingly, the study showed that the proportion of unemployed among the long-term sick-listed was lower in the rural area of Jämtland (15%) than in Stockholm (20%). However, as in Stockholm, the unemployed were over-represented among the long-term sick. This was especially true for men. Mental problems were more frequent among the unemployed (16%), than among the employed (6%), especially among the men. Unemployed people's potential need for rehabilitation was not investigated to the same extent (15%) as employed people's (37%). The unemployed had also to wait longer for a rehabilitation investigation to be drawn up by the social insurance office (168 days) compared with the employed (78 days). The study partly supports the hypothesis that the unemployed people are disregarded in vocational rehabilitation. A more important finding, however, was that vocational rehabilitation in general, regardless of employment status, seems beset with problems. Neither employers nor the social insurance offices seem to live up to the responsibilities that was given them according to the Rehabilitation Reform of 1992. For both employed and unemployed long-term sick-listed people with musculoskeletal problems, the time before start of vocational rehabilitation does not seem to be the determining factor that it so often is stated. However, when investigating all types of diagnoses the time before start of vocational rehabilitation does seem to be important. The results indicated that women had less chance than men in succeeding with their vocational rehabilitation. Women obtain more on-the-job training while men undergo vocational programmes containing education. Education has been shown to be an effective measure for successful vocational rehabilitation, so therefore it may be concluded that women are more or less unfairly treated with regards to vocational rehabilitation. The study also showed that an unemployed sick-listed person has much less chance of returning to the Labour Market after rehabilitation than an employed person. The short, limited and low-cost vocational rehabilitation that the unemployed are offered may not be adequate to sufficiently affect future sick-leave. They may need more individually adjusted measures. A multidisciplinary vocational rehabilitation programme, with work training and case management was shown, twelve months after the end of the programme, to be more effective regarding lowered benefit levels for unemployed sick-listed people, than a conventional rehabilitation programme.

Key words: return-to-work, sick-leave, vocational rehabilitation, unemployment, multidisciplinary, case management

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ORIGINAL PAPERS

This thesis is based on the following studies, which will be referred to in the text by their Roman numerals.

I

Marnetoft S-U., Selander J., Ekholm J. and Bergroth A.: Unemployed long-term sicklisted people in rural Jämtland compared with circumstances in the city of Stockholm, Sweden. *Work. A Journal of Prevention, Assessment & Rehabilitation* 10:3-8, 1998.

II

Marnetoft S-U., Selander J., Ekholm J. and Bergroth A.: The unemployed sick-listed and their vocational rehabilitation. Marnetoft S-U., Selander J., Ekholm J. and Bergroth A.: *International Journal of Rehabilitation Research* 20:245-253, 1997.

III

Marnetoft S-U., Selander J., Ekholm J. and Bergroth A.: Vocational rehabilitation - early versus delayed. The effect of early vocational rehabilitation compared to delayed vocational rehabilitation among employed and unemployed. Long-term sick-listed people. *International Journal of Rehabilitation Research* 22:161-170, 1999.

IV

Marnetoft S-U., Selander J., Ekholm J. and Bergroth A.: Factors associated with successful vocational rehabilitation in a Swedish rural area. (In print) *Scandinavian Journal of Rehabilitation Medicine*.

V

Marnetoft S-U., Selander J.: Multidisciplinary vocational rehabilitation focusing on work training and case management for unemployed sick-listed people. Accepted for publication in *International Journal of Rehabilitation Research*, 2000.

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DEFINITIONS

Rural area

Rural area is defined in this thesis according to the Swedish National Rural Development Agency (in Swedish: Glesbygdsverket) definition. ” ... where it takes more than 45 minutes travel by car to reach the nearest densely populated area with more than 3000 inhabitants. This sparsely populated area can include both rural and densely populated areas with up to 3000 inhabitants”.

Long-term sickness

Anyone on sick-leave, who has received full or partial sickness allowance for 90 days or more, is classified as long-term sick-listed.

Unemployed

In Sweden unemployment is defined mainly in two different ways. In one definition, used by the National Labour Market Board (in Swedish: Arbetsmarknadsstyrelsen, AMS), a person is unemployed if he is reported as a job-applicant at the employment office and is able to promptly start working, in need of guidance/investigation or is waiting for labour market training. According to the other definition, used by Statistics Sweden (In Swedish: Statistiska Centralbyrån, SCB) which is the international and official definition, a person is defined as unemployed if he during a certain week, (when the survey is performed) was not occupied and had applied for a job during the previous four weeks. Traditionally, the two methods give similar results.

In the present study another definition is used. We defined those unemployed, who had no employer at the onset of a period of illness. Those who had an employer were classified as employed. Self-employed persons are excluded.

Vocational rehabilitation

Vocational rehabilitation is defined as medical multidisciplinary, psychological, social and occupational activities aiming to re-establish, among sick or injured people with previous work history, their working capacity and prerequisites for returning to work , i.e. to a job or to be available for a job. This definition of vocational rehabilitation is in line with the definition made by the Technical Nomenclature Central in Sweden (TNC 1997), vocational rehabilitation is *”Rehabilitation that aims at restoring a person’s capacity and conditions for gainful employment”*. In chapter 22 § 2 Social Insurance Act (AFL) (SFS 1962:381) it is stated *”Rehabilitation, according to this chapter, aims at recuperating people who have been ill and helping them to regain working capacity and conditions to enable them to support themselves through gainful employment”*. In the Social Insurance Act chapter 22 § 7 it is also stated that *”rehabilitation allowance is paid out to an insured person, whose working capacity is reduced because of illness by at least a quarter and when this person is participating in a vocational rehabilitation in order to reduce the period of illness, with the intention of wholly or partly preventing work incapacity or totally removing reduced work capacity”*. The rehabilitation accounted for in studies I-V is the vocational rehabilitation, which is financed by national funding through the Social Insurance Office.

INTRODUCTION

Development of the Rehabilitation Reform and long-term sick-leave in Sweden

Public spending regarding ill health in social insurance increased considerably during the eighties and there was concern for a future shortage of labour. General welfare was threatened by this possibility of more and more people being excluded from the labour force. Rehabilitation activities became the target for various governmental investigations during the eighties (SOU 1988:41, SOU 1990:49). These investigations led to the passing of a new legislation in this field 1992 (known as the Rehabilitation Reform 1991/1992), which among other things implied that responsibility for rehabilitation shifted to employers. Employers were given the responsibility for the employee's need of vocational rehabilitation to be taken care of as soon as possible and the Social Insurance Office took the role of supervisor and co-ordinator for the actual activities regarding vocational rehabilitation (Proposition 1990/91:141). Two separate laws regulate vocational rehabilitation, namely the Social Insurance Act (SFS 1962:381) chapter 22 (in Swedish: Lagen om allmän försäkring, AFL) at individual level and the Work Environment Act (SFS 1977:1160) (in Swedish: Arbetsmiljölagen, AML) at organisational level. For a number of years after the introduction of the Rehabilitation Reform in 1992, discussions regarding sick-leave were almost non-existent. Expectations flourished as it now seemed it would be easier to keep people from being excluded from the labour force due to ill health. The Rehabilitation Reform was the tool that would put a stop to elimination from the labour force and therefore public spending regarding sick pay and sick allowances could be minimised.

Sick-leave and its rising costs during the last few years of the nineties and the beginning of the year 2000 have led once more to increased discussions concerning this. The expectations tied to the Rehabilitation reform have not been fulfilled. The current number of cases of ill health, exceeding 30 days, is now more than before the Rehabilitation Reform was carried out. It is noted that in December 1990 169 300 cases (roughly 3.7% of the labour force) had been sick-listed for 30 days or more while ten years later, in December 1999 the number of cases was 203 400 (roughly 4.7% of the labour force (SOU 2000:78 p. 447). From December 1996 to December 1999 34 000 people had taken early retirement collecting disability pension or have been on sick-leave for over one year (S 1999:08 p.44). During the last two years of the nineties the number of cases of long-term sick-leave (more than one year) have increased from 43 800 to 72 800 or by 66 percent (SOU 2000:72 p. 75). From 1998 to 1999 the cost for sickness benefit increased from just under 2.2 billion to 2.8 billion EUR (1 EUR = 8.59 SEK, 13 Oktober 2000) (S 1999:08 p 46).

Three groups of diagnoses dominate the cases of long-term sick leave and are outstanding among newly granted (in Swedish: nybeviljade) disability pensions. These are diseases of the musculoskeletal system, mental disturbances/psychiatric illnesses, cardiovascular diseases (SOU 1998:104 p. 137, S 1999:08 p. 42-43). The decrease of productive capacity due to back problems is estimated at roughly 30 billion SEK annually (SOU 1998:104 p. 132). The number of people on sick-leave due to minor psychiatric disorders has increased since 1998 and these include people on sick-leave due to stress, for example being "stressed out". For 1999 the cost of ill health to the Social Insurance, including collective insurance agreements was 8.4 billion EUR. The cost of sickness allowance, rehabilitation allowance and disability pension has increased by 1.3 billion EUR in current prices between the years 1992 and

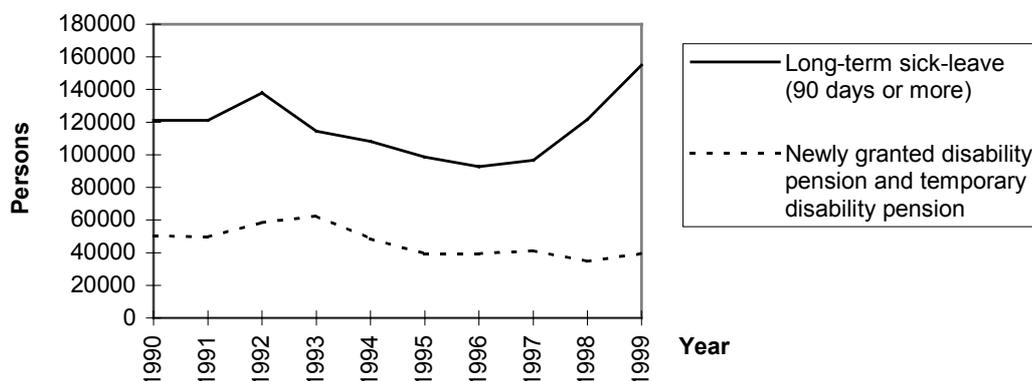
1999 (SOU 2000:78 p 454). Currently, 15% of all Swedes between the ages of 18 and 65 are recipients of sickness allowance or disability pension (SOU 2000:78 p. 492). Seen from the basis of demographic changes in Sweden, age groups from 16 to 64 years, the number of newly granted disability pension will increase annually with the amount of 7000-8000. This means that in ten years time we will have a further addition of 50 000-75 000 disability pensioners. The calculations were made according to the risks in 1997's respective age groups. This will most certainly lead to enormous expenses for the national economy (S 1999:08 p.137, 138). Despite the investments made in the field of rehabilitation during the nineties only 20% of long-term sick-listed are offered any type of rehabilitation (S 1999:08 p. 128). Fifty five percent of the sick-listed, however, estimated that they needed vocational rehabilitation (S 1999:08 p 61). The measures directed towards vocational rehabilitation are also much later in starting. During 1991 – 1993 the social insurance office started a vocational measure, on average, within roughly four months of assessment, while by 1998 it took slightly more than six months before rehabilitation was started (SOU 2000:78 p.

57). With efficient rehabilitation about 50 000 of the 423 000 now receiving disability pension, would not have had to leave the labour force (Nygren et al 1999).

Figure 1 illustrates the waiting situation, which has arisen in social insurance during the past years in Sweden. The number of newly granted temporary disability pensions and disability pensions has more or less remained constant (34 487 - 41 198 per year) since the middle of the nineties, while long-term sick-leave has increased considerably since 1997 . Consequently there are a large number of long-term sick cases waiting to be finalised. This means that many long-term sick cases risk being converted into disability pensions.

The county of Jämtland

Jämtland, Härjedalen and sections of Hälsingland and Ångermanland form the County of Jämtland. There is a local insurance office located in each of the county's eight municipalities. The central social insurance office for the county is located in Östersund, which is the only town in the county. Jämtland is situated in central Sweden, approximately 560 km north-west of Stockholm. The county of Jämtland



Source: Social Insurance Committee SOU 2000:72 and The National Social Insurance Board , RFV, Statistical Information IS-I 2000:002

Figure 1. Long-term sick-leave 90 days or more and newly granted disability pension and newly granted temporary disability pension in Sweden (newly granted: nybeviljade in Swedish).

makes up 12 percent of the total area of Sweden and at the turn of the year 1999/2000 had a population of 130 705, which is 1.5 % of the population of the whole country. If the County of Jämtland had as many residents per km² as the Netherlands, it would be home to 18 million people. All the municipalities outside Östersund may be classified as rural communities in a sparsely populated countryside. Population development in these municipalities has shown a negative trend all through the nineties. This negative population development has usually followed a special pattern. There is partly a move from inland to the coast and partly a move of young people to the south,

especially of young women. There is also a tendency of those seeking education in other parts of the country then being recruited and caught up in work where they have studied. Age structure diagrams in Norrland's inland contain few inhabitants between 20 and 30 years old and an excessive amount of pensioners (Glesbyggsverket 1998).

For the entire period from 1990 through 1999 only Östersund can show an increase in the population and this with a modest addition of 70 people (Table 1). Worst hit are the sparsely populated municipalities of Strömsund and Bräcke with a loss of slightly more than 11% of their population.

Table 1. Population 1990 and 1999 and the difference between these years in numbers and per cent and the population density in municipalities of Jämtland and all Jämtland.

Municipality	Population 1990	Population 1999	Difference	%	Inhabitant/ km²
Berg	8 660	8 272	-388	-4.5	1.4
Bräcke	8 739	7 744	-995	-11.4	2.2
Härjedalen	12 491	11 594	-897	-7.2	1.0
Krokom	14 373	14 221	-152	-1.1	2.3
Ragunda	7 078	6 489	-589	-8.3	2.6
Strömsund	16 093	14 244	-1849	-11.5	1.4
Åre	9 975	9 754	-221	-2.2	1.3
Östersund	58 317	58 387	+70	+0.1	26.3
Jämtland	135 726	130 705	-5 021	-3.7	21.6

Source: Statistics Sweden (in Swedish: Statistiska Centralbyrån, SCB, Population and welfare (in Swedish: Befolkning och välfärd), Development of populations in Sweden's municipalities 1950 - 1999 (In Swedish: Befolkningsutvecklingen i Sveriges kommuner 1950 - 1999).

Circumstances in Jämtland are the opposite to those in Sweden as a whole. The population in the sparsely populated municipalities has a female deficit while the opposite is true for the rest of the country (Table 2).

The average age for both men and women is higher for the county of Jämtland than for the nation as a whole (Table 3).

Table 2. The fraction of women (%) in the population 1999-11-01.

Municipality	%
Berg	49.2
Bräcke	48.6
Härjedalen	48.7
Krokom	48.9
Ragunda	49.1
Strömsund	48.9
Åre	49.1
Östersund	51.2
Jämtland	49.9
Sweden	50.6

Source: SCB. Befolkning och välfärd. Befolkningsutvecklingen i Sveriges kommuner 1950 - 1999.

Table 3. Average age for men and women 1999-12-31, in the municipalities of Jämtland, all Jämtland and Sweden.

Municipality	Men	Women	Total
Berg	42.9	44.3	43.6
Bräcke	42.3	44.6	43.4
Härjedalen	43.3	45.7	44.5
Krokom	40.0	40.9	40.4
Ragunda	43.3	45.5	44.4
Strömsund	43.3	45.5	44.4
Åre	39.5	41.2	40.4
Östersund	38.7	41.7	40.2
Jämtland	40.5	42.9	41.7
Sweden	38.9	41.5	40.2

Source: The County Administrative Board or Jämtland. Facts about the County of Jämtland 2000.

Trade and Industry

During the past 20 years Jämtland, like other parts of Norrland's inland, has undergone an emphatic structural reorganisation. A great deal of job opportunities in a strongly mechanised forest and production industry have dwindled dramatically and most of the available job opportunities are now to be found in the public sector.

Most of the employment in the sparsely populated municipalities is to be found in branches such as agriculture/forestry (including hunting and fishing), manufacturing (including mining) and health care (including social services and veterinarians) (Table 4). In Östersund, however, trade (including transport, storage and communication), civil authorities (including defence and international organisations) and credit institutes (including property management and business services) dominate. Personal/cultural services (winter tourism) is important to Härjedalen and Åre municipalities. At national level an increase of employment has been noted during the nineties in the public sector while employment in industry and construction has decreased considerably. From 1990 to 1998 a decrease of 15% in employment rates can be noted in the sphere of health care, which is a female dominated area.

A majority of those employed in Jämtland (53%), compared to the whole of Sweden (40%), are employed in businesses with less than 20 employees (Table 5).

Table 4. Employment by sectors 1998, (%), in the municipalities of Jämtland, all Jämtland and Sweden.

	Agriculture/ forestry	Manufac- turing	Energy	Construc- tion	Trade	Credit institutes
Berg	7.7	16.4	1.6	4.5	13.1	11.5
Bräcke	9.6	15.5	0.6	4.5	11.6	6.7
Härjedalen	5.8	11.7	2.5	5.2	15.7	12.1
Krokom	9.2	15.2	1.2	7.9	9.7	5.6
Ragunda	8.8	22.0	5.1	4.0	12.1	7.2
Strömsund	7.6	16.5	1.3	5.4	16.9	7.9
Åre	5.7	9.1	1.4	6.6	15.8	9.1
Östersund	2.3	11.9	1.2	4.9	18.3	10.4
Jämtland	4.8	13.3	1.5	5.3	16.2	9.6
Sweden	2.1	19.8	1.0	5.5	18.6	11.9

Table 4. (to be continued)

	Education/ development	Health care	Personal/ cultural services	Civil authorities	Sector unknown	Total
Berg	8.6	24.8	6.4	1.2	4.1	100.0
Bräcke	9.2	26.3	8.1	4.0	3.9	100.0
Härjedalen	7.7	19.7	12.6	5.0	2.1	100.0
Krokom	12.0	24.7	5.8	4.5	4.1	100.0
Ragunda	8.6	21.0	3.0	4.5	3.8	100.0
Strömsund	8.1	24.5	5.2	3.5	3.2	100.0
Åre	8.8	16.0	20.1	3.8	3.5	100.0
Östersund	9.2	22.0	7.1	11.0	1.7	100.0
Jämtland	9.1	22.1	8.1	7.5	2.5	100.0
Sweden	8.0	18.4	6.6	5.5	2.5	100.0

Source: The County Administrative Board of Jämtland. Facts about the County of Jämtland 2000

Table 5. Employees by size of workplace in Jämtland and in Sweden 1999, (%)

<i>Employees</i>	Jämtland	Sweden
0*	22	14
1 - 19	31	26
20 - 199	39	37
200 -	8	22
Total	100	100

*Provided the company without employees occupies the owner full or part-time.

Source: The County Administrative Board of Jämtland. Facts about the County of Jämtland 2000

Sickness absence and its development

The number of long-term sickness cases has increased dramatically during the latter part of the nineties. Nationally the lowest number of sickness cases with a duration of one year or more was noted in 1996 when the count was 42 600. Following this there has been a 71% increase of really long-term sickness cases and the count 1999 was 72 800 (SOU 2000:72 p. 258).

During this same period of time Jämtland had its lowest count of long-term sickness cases in progress in 1998 when 966 cases were noted. The equivalent count for 1999 was 1 124, (Jämtlands läns allmänna

försäkringskassa; årsredovisning 1995/96, Jämtlands läns allmänna försäkringskassa årsredovisning; 1999) which is an increase of 16%. The relative count of women's sick-listing is 3 percentage points higher in Jämtland than in the rest of the country while for men an excess sick-listing of roughly 1 percentage point can be seen (SOU 2000:72 p. 85). Regional differences in sickness absence are large. Sick-listing is high especially in the Northern counties where unemployment is and has been excessive for many years. The difference in sickness absence between the counties is also large, despite the fact that variations in age structure has been taken into consideration (SOU 2000:72 p. 85).

A slight increase in newly granted disability pensions/temporary disability pensions for women in Jämtland, can be noted from 1996 and on (Table 6).

During the latter part of the nineties there has been a striking increase in the incapacity rate both in Jämtland and nationally (Table 7). This increase has mainly been noted within the sphere of sickness allowance. The amount of long-term sickness cases lasting more than a year is larger than ever (SOU 2000:72).

As has been earlier established we know that sickness absence is unevenly distributed throughout the regions. The three counties furthest north, Jämtland, Västerbotten and Norrbotten, had 1999 the highest incapacity rate in the country. Neither age composition, trade and industry structure nor the Labour Market can explain these findings (SOU 2000:78 p 83). One explanation to the great differences could be that regionally there are varying attitudes regarding health insurance and opinions of sickness absence (SOU 2000:72 p. 86).

Incapacity rate (in Swedish: Ohälsotalet) is defined as follows; number of compensated days from the ages 16 - 64, per person and years with sickness allowance, rehabilitation allowance, preventive allowance, training allowance, temporary disability pension and disability pension. Compensation with sick pay from an employer is not included in the incapacity rate.

The northern counties in Sweden have always had a larger share of disability pensioners with musculoskeletal diagnoses compared to the southern parts of the country, where mental disturbances have been higher than in the north (Table. 8).

Table 6. Newly granted temporary disability pension and newly granted disability pension 1990 - 1999 per 1000 insured people exclusive people with disability pension in December the year before.

Year	Jämtland			Sweden		
	Men	Women	Total	Men	Women	Total
1990	7.9	9.7	8.8	9.3	11.0	10.1
1991	9.2	11.7	10.4	9.3	10.5	9.9
1992	11.7	12.0	11.9	11.0	12.2	11.6
1993	13.1	14.8	14.0	11.8	13.0	12.4
1994	12.6	14.5	13.5	9.1	10.2	9.6
1995	7.8	10.5	9.1	7.2	8.3	7.7
1996	8.2	12.1	10.1	7.0	8.4	7.7
1997	9.4	11.2	10.3	7.6	8.5	8.1
1998	7.8	12.0	9.8	6.1	7.4	6.7
1999	8.3	12.6	10.4	6.7	8.8	7.7

Source: RFV, General insurance (in Swedish: Allmän försäkring) 1989-1990 and Social insurance (in Swedish: Socialförsäkring) 1991-1998. RFV, Statistical Information IS-I 2000:002.

Table 7. The incapacity rate (days per insured and year) from 1990 to 1999 divided into sickness allowance, rehabilitation allowance and disability/temporary disability pension in the county of Jämtland and in Sweden.

Year	Sickness allowance/ rehabilitation allowance*		Disability pension/ temporary disability pension		Total	
	Jämtland	Sweden	Jämtland	Sweden	Jämtland	Sweden
1990	18.2	15.5	24.9	23.3	43.1	38.8
1991	18.5	14.9	24.8	23.5	43.3	38.4
1992	17.5	13.8	25.2	24.4	42.8	38.2
1993	16.8	12.4	26.8	26.3	43.6	38.7
1994	15.1	11.5	28.8	27.8	44.0	39.3
1995	14.4	11.0	29.4	28.0	43.8	39.0
1996	13.4	9.7	29.5	27.9	43.0	37.7
1997	12.6	9.6	30.2	28.6	42.9	38.2
1998	14.6	11.7	31.4	29.1	46.1	40.8
1999	18.2	14.4	32.1	29.4	50.4	43.8

Source: RFV, Social insurance (in Swedish: Socialförsäkring) 1991, 1998. RFV register. (* From 1992).

Table 8. Diagnoses among those who got a newly granted temporary disability pension or a newly granted disability pension 1990 and 1999, (%)

Diagnoses	Jämtland			Sweden		
	1990	1999	Difference	1990	1999	Difference
Musculoskeletal problems	55	49	-6	49	39	-10
Circulatory organ diseases	9	7	-2	9	9	0
Mental disturbances	9	14	+5	15	24	+9
Others	27	31	+4	27	28	+1

Source: RFV, Statistical information IS-I 1991:16 and 2000:002

Unemployment in Sweden and in rural Jämtland

The economic recession at the beginning of the nineties hit Sweden harder than it did any other country in Europe (apart from Finland). The GNP (in Swedish: bruttonationalprodukt) decreased by 3.5 % during 1991 to 1993. During three years at the beginning of the nineties the rate of unemployment in Sweden increased from 2 % to 9-10 %. In the summer of 1993 the rate of unemployment was 9.6 % of the labour force (Ds 1999:58 p 88). The national average rate of unemployment 1993 was 8.2. The unemployment rate in Sweden was then at the same level as in other countries in EU (Ds 1999:58 pp. 115, 116). The rate of employed among the

working population has decreased from 83.1 % in 1990 to 72.9 % 1999. In 1999 the corresponding figure in Jämtland was 71 %, which is the second lowest in Sweden (Pekkari 2000). Unemployment rates in Sweden and rural Jämtland 1990-1999 are shown in table 9.

The county of Jämtland has had a higher unemployment rate than the nation as a whole, during all of the investigated period of time (Table 9).

A negative association between high unemployment rates and low sickness cash benefit days per insured person can also be seen in Jämtland as well as in the nation as a whole, which has been shown by others for

instance Selander (1999) (figure 2). This association is complex, which has been discussed by other authors (Höög 1991, Marklund 1995). There is a pronounced increase in the unemployment rate in Jämtland at the beginning of the 1990's, simultaneously with the reduction of cash benefit days. A plausible explanation for this may be that benefit days decrease when unemployment rates increase because people are more apt to want to keep their job and therefore are less prone to be absent from work. Circumstances are reversed when there is an economic boom

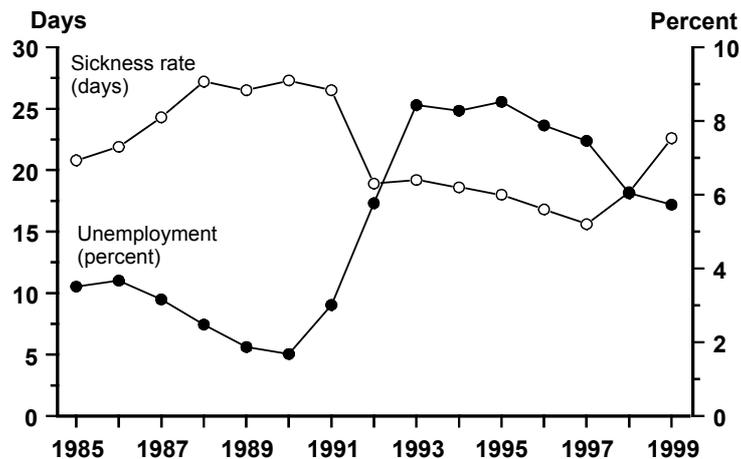
and low unemployment rates. This leads to high intensity, leading to high stress levels, which in turn can also lead to a sickness absence gradient. Another explanation for the reduction of the cash benefit days could be more control over sick people and that the necessity of applying rules becomes more restrictive in a recession.

In figure 2 unemployment rates at county level have been compared with the county's sickness cash benefit days per insured person during the period 1985 – 1999.

Table 9. Job-seekers without employment 1990 - 1999 in relation to the population 16-64 years, (%), in the municipalities of Jämtland, all Jämtland and Sweden.

Municipality	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Berg	1.68	2.63	4.71	6.46	6.06	7.48	7.11	6.44	4.91	5.00
Bräcke	1.40	2.22	5.42	7.21	8.75	8.47	8.44	7.72	7.19	6.28
Härjedalen	3.23	5.39	7.94	10.17	8.71	9.03	8.30	8.31	5.69	4.54
Krokom	1.40	2.50	4.64	6.82	6.40	6.67	7.20	6.22	4.65	5.51
Ragunda	1.40	2.68	5.87	8.59	6.97	6.51	6.94	7.36	5.97	5.21
Strömsund	2.64	4.45	8.04	11.48	10.86	12.06	9.85	8.42	7.20	7.36
Åre	1.69	3.78	6.50	8.64	7.80	7.71	8.25	7.67	6.27	6.44
Östersund	1.27	2.37	5.11	8.10	8.44	8.49	7.58	7.43	6.12	5.60
Jämtland	1.68	3.01	5.77	8.43	8.28	8.52	7.88	7.46	6.04	5.73
Sweden	1.32	2.54	5.70	8.21	8.00	7.91	7.37	6.62	5.14	4.97

Source: The Swedish National Labour Market Board (AMS) register UMDAC1985-1990. AMS register for unemployed people 1991-1999.



Source: AMS register UMDAC 1985-1990. AMS register for unemployed people 1991-1999. RFV, General insurance 1985/1986, 1987/1988, 1989/1990, Social insurance 1991/1992, 1993/1994, 1995/1996, 1997/1998. RFV register.

Figure 2. Sickness rate in the county of Jämtland 1985-1999 (total sick days divided by number of people insured) (in Swedish: Sjuktalet) and unemployment rate (%) in the county of Jämtland 1985-1999.

The unemployed sick-listed

In relation to the increasing unemployment in Sweden at the beginning of the nineties there was an increasing number of unemployed among the long-term sicklisted. In Stockholm the number of unemployed among the sick-listed amounted to 20 % (Selander et al. 1996). Against this background it was of great interest to investigate if the conditions were similar in sparsely populated area like Jämtland. Unemployment has always been a greater problem in the sparsely populated area in the northern part of Sweden compared to the urban areas. The northern parts of Sweden have always had a higher incapacity rate and a higher number of disabled pensioners than a majority of the counties in the southern parts of Sweden. Initiative for study I was therefore taken. For practical reasons the study has been carried out in the rural area of the county of Jämtland.

The employees at the social insurance office experienced the unemployed as

being a group difficult to handle (Hensing et al 1997, Riksrevisionsverket 1996:8). This is also indicated among the physicians responsible for investigating the working capacity of unemployed. (Timpka et al 1995). The number of unemployed among people on long-term sick leave is still high. In Jämtland the unemployed among the long-term sick-listed amounted to 22 % in 1998 and to 19 % in 1999 (Jonsson 1999). The ratio of unemployed among the labour force in Jämtland was 5.73 % in 1999.

It is unclear where the responsibility for the vocational rehabilitation of sick-listed unemployed people lies. When looking at the legislation Social Insurance act (AFL) or the preparatory work of the legislation (SOU 1988:41, Proposition 1990/91:141) there is very little written that can throw light on the issue of the responsibility for the vocational rehabilitation of this group of people, or how it should be managed. In the preparatory work (Proposition 1990/91:141) it is only stated that the Social Insurance Office has the overriding responsibility to co-ordinate

vocational rehabilitation activities. There is, however, very little information given about how this should be done. There is therefore a risk of delay in taking care of unemployed people in need of vocational rehabilitation due to this uncertainty and that subsequently the unemployed on sick-leave may be passed from social insurance offices and job centres without anyone taking full responsibility for the vocational rehabilitation of the group.

Aims of the study

The primary aim of this study was to investigate unemployed people on long-term sick-leave and their vocational rehabilitation in rural Jämtland, Sweden. In study I and II a comparison is made between the unemployed people on long-term sick-leave and employed people. The different purposes were:

To describe the unemployed on long-term sick leave and to generate hypotheses for forthcoming studies (study I).

To describe the vocational rehabilitation process and to test the hypothesis that unemployed people are disregarded in the rehabilitation process (Study II).

To examine the effect of early vocational rehabilitation compared to delayed vocational rehabilitation among employed and unemployed people on long-term sick-leave (Study III).

To investigate which factors are associated with successful vocational rehabilitation i.e. enabling a return to work or regaining availability on the Labour Market (Study IV).

To examine the effect on future sick-leave and self-assessed quality of life of a multidisciplinary vocational rehabilitation programme focusing on work training and case management for unemployed long-term sick-listed people (Study V).

CONCEPTS

How we look upon the occurrence of illness and health in a society depends on the type of measurements used to measure it. In Swedish there is only one word for illness which covers all types of problems related to ill health, irrespective of if we mean subjectively experienced ill health, problems of ill health or a specific disease certified by a doctor. This one word also covers ill health as a social label. The official concept for ill health, when used in a juridical sense in the Social Insurance Act (AFL) covers both the subjective and biomedical concept of ill health.

Illness, disease and sickness

The English language distinguishes between the various aspects of ill health with the concepts, illness, disease and sickness. These words have, over the years, been subjected to a number of concept analyses (Marinker 1975, Taylor 1979, Boorse 1981, Sachs 1987, Twaddle and Nordenfelt 1993). The following definition of the concepts are derived from Twaddle and Nordenfelts dialogue regarding the three concepts disease, illness and sickness (Twaddle and Nordenfelt 1993) .

Illness: subjectively experienced ill health, changes in the state of feeling such as pain, weakness, lethargy anxiety or numbness and lowered competence. These changes in feeling can include medical, psychological and social factors.

Disease: that which medical science, in a certain culture and time, would categorise as a disease. A health problem that usually consists of a pathological process or state (including injuries and defects), located at the organic level and which leads to physiological malfunction.

Sickness: a social labelling in which an individual becomes identified by others as having a health problem(s) with reference to

the social activity or function of that individual, actual or potential. Those activities require certain organic and personality capacities. When people fail to perform certain activities and others attribute this failure to disease or illness, then the target individual is socially defined as sick.

As defined here the relation between illness, disease and sickness can be illustrated as in Figure 3.

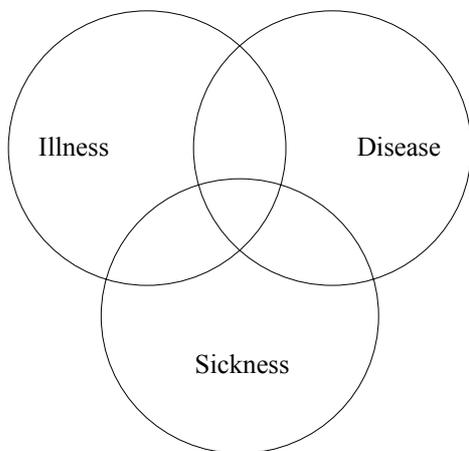


Figure 3. Relation between illness, disease and sickness.

If illness can be seen in a psychological perspective of ill health then disease may be seen as in a medical perspective. The sociological perspective of ill health constitutes a concept of sickness. The medical concepts for ill health are formed by the society medicine is practised in. The society's culture and values influence medical definitions as to what are considered ill or healthy. It may therefore be said that there is a reciprocal influence between the three different concepts. We must therefore try to understand the three terms in relation to each other. Seen from a social insurance juridical perspective both illness and sickness may be said to be included in the everyday usage of ill health while disease comes under that which medical science considers ill health

According to Swedish conditions it is usual for an individual to be sick-listed if he is unable to attend work due to the fact that he does not feel well. This may be due to pain, or even a feeling of general weakness. When this condition becomes abnormal (illness) and the person in question can no longer carry out the social activities expected of him (sickness) his next step is to visit a doctor. The doctor would then give a diagnosis for the complaint the person is suffering from. In Sweden sickness absence underlying 8 days is self-certified. After seven days of sickness a physician must certify the disease or the symptoms.

Questionnaires and interviews are used as a method of measuring the occurrence of illness in a population while the occurrence of disease can be taken from various public records, for example the cancer register. To measure sickness among the normal labour force (age between 16-64) i.e. sick-leave plus early retirement due to illness, data can be taken from The Social Insurance Office's social insurance register. This information also shows the social consequences of this sickness in the form of the inability to work. However, measuring health/ill health from questionnaires/interviews or from records of sick-leave has its limits. Feelings of subjectively experienced health are often influenced by personal characteristics, for example susceptibility to pain. The sick-listing of people is often influenced by adaptations to the rules and regulations in a system, the level of unemployment in a society and doctors' inclination towards sick-listing. The different ways of measuring health/ill health influence our perceptions of the occurrence of health/ill health in a society. Measurements of the occurrence of health used in this study stem from the social insurance juridical concepts regarding ill health as stated in the Social Insurance Act.

The concept of ill health

The concept ill health is not defined in the Social Insurance Act (AFL). We will have to look for support for the interpretation of the legislation in the preparation of the law and the practice, which has been developed in this field. Certain statements made by the Social Insurance Committee in the preparatory work from the forties are still used as guiding lines. When judging if ill health is actually to be found then one should keep to the usage of everyday language and medical science regarding what is reckoned to be ill health. This could mean that any abnormal state of body or mind should be regarded as ill health. Complaints and physiological changes due to a natural ageing process, pregnancy or childbirth are not considered as ill health (SOU 1944:15, p.162). The Committee did not intend for its statements to be bound by court law. They meant that it was important that reasonable points of view should be taken and used as necessary. The circumstances of each case would be decisive for judgement (SOU 1988:41, p. 234). By defining the concept of ill health through everyday language and by what medical science regards ill health to be, then it will be easier to adapt the concept to cultural changes in society and to scientific achievements, without changing rules and regulations (SOU 1995:149 p. 215).

Increased scientific development, health resources and medical achievements have led to the fact that the legal social insurance and bio-medical concept of ill health has expanded to include a growing number of conditions (SOU 1988:41 pp. 233-240). Certain conditions due to pregnancy, surgery as well as psychological reactions during a period of grief and work in incapacitating fatigue are included in the current concept, which entitle compensation (SOU 1995:149 p. 215). Various conditions of pregnancy such as the threat of premature birth or

miscarriage, insufficient growth of the foetus, a twin pregnancy and RH-immunisation entitle sick benefits today. Conditions in need of surgery such as a Caesarean birth, abortion, sterilisation, cosmetic surgery and organ and tissue donation entitle sick benefits, as does a period of grief and weariness, for example when a near relative has died. (SOU 1997:166 p. 175, SOU 1988:41 pp. 234-237). In the proposal (Proposition 1994/95:147) the standing cabinet minister stated *"there is no reason to believe that the increased practice in courts of law that has taken place since the current concept has been introduced, is in any way too generous nor that the usage of this concept through law court practice, does not take into consideration what is formally known as ill health. The problem is rather how the concept is used by patients, doctors and administrators in the field of social insurance. This can seriously threaten to turn the sickness benefits insurance and disability pension into a more general type of insurance for use when incomes decline. A clearer definition of the concept is necessary, so that it may be clear that those judging as to what extent the sickness incapacitates the insured's work capacity do not consider labour market, economical, social or other similar conditions, such as for example problems of so called existential types."* The government points out that the suggested changes should neither be seen as a restriction nor as a development of the concept of ill health. It should instead be noted that the changes should be looked upon as an elucidation of the health concept that was regulated in the Social Insurance Act (AFL).

An elucidation of the concept of ill health was stipulated in 1995. In chapter 3 7§ AFL *"Sickness benefit is entitled when an insured's work capacity is decreased by a quarter due to ill health. This judgement should not be clouded by reasons, which relate to the labour market or for social or economical reasons"*. The text in law was

difficult to interpret due to the wording "this judgement" which could be thought to relate to both the concept of ill health and the concept of work capacity (SOU 1995:149 p. 220). Against this background a further elucidation was made in chapter 3 7§ AFL in January 1997 with the wording "*Sickness benefit is given when the insured's work capacity is decreased by at least a quarter. Judgement of whether there is ill health or not should not be clouded by labour market, economical, social or other conditions*". This explanation clearly states that when judgement is to be made concerning ill health other conditions concerning the labour market, social and economical situations should not be considered.

The legal insurance concept of ill health must not, according to the preparatory work (SOU 1944:15 p. 162) deviate from valid medical scientific conception. It must also fit in with ordinary usage of language. How should we interpret this? That the legal insurance concept of ill health must not deviate from valid medical scientific conception, means that it must fit in to the bio-medical concept of ill health.

According to the representatives for a bio-medical concept of ill health there has to be objectively demonstrable signs of ill health (disease). When using the concept ill health in the ordinary usage of language the concept is the same as is generally accepted in society (sickness).

Westerhäll-Gisselsson (1983 p. 213) discerns three variations of how the legal insurance concept is used. The most usual variation is a state of ill health obvious to both medical experts and laymen. Ill health consists of a process entailing falling ill, a definite state of illness and recovery. A second variation is a state which, according to medical opinion needs care and treatment that leads to the insured losing his/her work capacity. The third variation points to a state of work incapacity caused by ill health and for which sickness benefit

has been received and where this state of work incapacity continues despite regained health. This variation has no medical substance. The illness/disease is cured but has left a permanent reduction to function in the form of decreased work capacity. This condition should be placed on an equal footing with a state of ill health in juridical social insurance relations.

The concept of incapacity for work

The right to compensation from Social Insurance Act (AFL) (sickness allowance, rehabilitation allowance and disability pension) demands a clear connection between the illness/disease (including a condition which is comparable to a illness/disease) and the decreased work capacity. In the AFL however it is not stated what is meant by the concept work incapacity. To be able to interpret, legally what is meant by work capacity we must look at what the Social Insurance Committee wrote in their report (SOU 1944:15 pp. 20-21). The Committee discerns two different concepts of work incapacity. Work incapacity in a legal sense includes both an actual incapacity to work and a prophylactic work incapacity. The Committee for Sickness and Work Injuries (SOU 1995:149 p. 233) define the concept prophylactic work incapacity as being synonymous to the therapeutic work incapacity. Therefore the concept synonymous is used in the continued rendering. Therapeutic work incapacity means that for an insured to be able to recover from a certain illness/disease then it is important that he/she stays clear of any kind of work. Prophylactic work incapacity is a state where it is advisable not to work so as not to aggravate the illness/disease (Westerhäll 1997 p. 361).

According to the Committee for Sickness and Work Injuries (SOU 1995:149 p. 233) actual work incapacity is classed as the work incapacity that is still to be found even after a therapeutic/prophylactic work incapacity ceases to exist. The Rehabilitation Reform's

preparatory work (SOU 1988:41 p. 240) and The Committee for Sickness and Work Injuries (SOU 1995:149 p. 233) state that the therapeutical/prophylactic work incapacity is entirely more medical than the actual work incapacity. Connections with a diagnosis/illness are much more pronounced than in the case of actual work incapacity. According to the Rehabilitation Reform's preparatory work (SOU 1988:41 p. 240) some doctors find it difficult to judge actual work capacity referring to "according to scientific and approved experience". The Rehabilitation Reform's preparatory work stipulates that the insured him-/herself is the best person to judge a type of work in relation to his/her illness.

Current rules and regulations relating to the Social Insurance Act (AFL), states that the insured is entitled to compensation if work capacity is decreased by at least a quarter, due to illness/disease. Compensation can be lifted from AFL when work capacity is reduced by a quarter, a half, three-quarters or completely. Since January 1992 employers have prime responsibility for vocational rehabilitation (Proposition 1990/91:140 p. 42). This means that work capacity is first tried in the insured's usual job or in any other suitable work the employer can provide. If it is not possible for the insured to return to either his previous work or other work offered by the employer, then his/her work capacity must be judged in relation to other work out on the open national labour market. (Proposition 1994/95:147 pp. 22 – 24). It is the illness/disease's influence on the ability to carry out work, which is the determining factor when judgement of work capacity is made. In the government bill (Proposition 1996/97:28 p. 4) it is clearly stated that work capacity is not a static, objectively demonstrable condition, work capacity must be judged in relation to a certain work or certain assignments.

According to the Sickness and Work Injuries Committee it is first of all

judgement of the actual work incapacity that is influenced by the defining of the concept of work incapacity, which was introduced in the Social Insurance Act (AFL) in October 1995 (SOU 1995:149 p. 233) and which was elucidated in January 1997 (SOU 1997:166 p. 177). Conclusively the judgement of the Health and Work Injuries Committee is that actual work incapacity, seen from a social insurance juridical perspective, is the reduction of work capacity remaining when the therapeutical/prophylactic work-incapacity has ceased. This makes it also easier to understand both the Rehabilitation Reform's Preparatory Committee (SOU 1988:41 s 240) and the Health and Work Injuries Committee's (SOU 1995:149 p. 223) statements that the therapeutical/prophylactic work capacity has much more medical substance than actual work capacity. The juridical judgement of the actual work incapacity is made by personnel at the social insurance offices after it has been established that the insured is indeed suffering from an illness/disease or has a condition comparable to an illness. In a case debating the right to compensation the acting physician must first disclose how the insured's medical status influences his/her functional capacity and how in turn this functional impairment influences the work capacity. After considering the doctor's opinion the Social Insurance Office then makes a juridical decision concerning the reduction of work capacity and the right to receive economical compensation (SOU 1996:113 p. 254). This means that a state of illness/disease does not automatically entitle the patient to sickness allowance.

When a judgement is made because of illness/disease, then labour market, social and other conditions must be disregarded. The concept of ill health has always been built on what is regarded as illness/disease, according to the opinion of medical science and ordinary usage of everyday language (SOU 1944:15 pp. 20,162). It is important to remember that the social insurance office's judgement concerning the right to

compensation is made due to the fact that the person in question is sick-listed because of a decreased work capacity and is unable to earn a living. Therefore there must be a connection between a person's functional incapacity and their ability to carry out a job. The social insurance office bases this judgement on working full time, i.e. 100%. The social insurance office's judgement of work incapacity can theoretically be illustrated as in Table 10 and 11.

Table 10. The social insurance judgement of the incapacity for work regarding sickness allowance and rehabilitation allowance.

Incapacity for work (%)	Sickness allowances and rehabilitation allowances (%)
0 - 24	0
25 - 49	25
50 - 74	50
75 - 99	75
100	100

Table 11. The social insurance judgement of the incapacity for work regarding disability pension.

Incapacity for work (%)	Disability pension (%)
0 - 24	0
25 - 49	25
50 - 74	50
75 - 87	75
88 -100	100

Re-employment policy

By re-employment policy we mean that support in the form of economical benefits must be seen as the last resort regarding providing and should only be applicable when all other alternatives, such as work or education/training, are unavailable (Arbetsmarknadsstyrelsen, AMS 1992, 1996). Upholding the re-employment policy is of the utmost importance for the preservation of general welfare in Sweden.

All citizens in the country are therefore obliged to provide for themselves and pay taxes thereafter, to the very best of their ability. Rehabilitation of people on sick leave and early retirement due to ill health must then be seen as an important element in the preservation of a re-employment policy (SOU 1998:104 p. 129). The seed which grew into the current re-employment policy now established in labour market policy as well as in the social insurance of modern times, may be said to have its origins in the work compulsion that was practised in earlier Swedish social policy. During most of the nineteenth century unemployment was regarded as self-inflicted. Unemployment was considered to be caused by deficient individual moral, an inadequate will to work plus the lack of capacity to do one's full share and not as a social problem due to structural reasons (Lindqvist 2000 p. 50). Those who could not confirm their incapacity for work risked being sentenced to compulsory labour (Jakobson 1984 p. 33). The unemployed able to work could not count on any financial help whatsoever from the community (Lundström 1986 p. 15).

The unemployed who still lived in their own homes were forced to work for the so called "care of the poor" (nowadays known as social welfare). Another way of enforcing compulsory labour was to board out poor people to those who claimed the lowest remuneration. Those who claimed the lowest remuneration were able to fully exploit the poor's labour. Poverty was also considered to be self-inflicted. Poor people should be brought up, trained and helped along to become worthy citizens of society (Jordansson 1995 p. 86). During the first two decades of the twentieth century a number of social political initiatives were taken. A work injures insurance was stipulated in 1901 and 1913 saw a general pension reform. Due to this pension reform the first step towards rehabilitation of disabled people was taken. Those who were judged as having adequate capacity to return to some form of work were able to apply for certain

care and/or training/education in a preparatory purpose (Broberg 1973 pp 140, 141, Classon 1984 pp 120, 121.). With the fastly growing industrialisation of society it was becoming more important to be able to separate those with a will and capacity to work from those who were workshy. Compulsory labour became known as re-employment policy with the establishing of the Unemployment Commission of 1914. The Commission was given the task of organising relief work for the unemployed. The question of unemployment could thus be extinguished from that of poor relief.

Due to the principle of the minimum wage system, which was used in relief work, the unemployed were not, however, delivered from poverty. Due to the low wages and the fact that the place of work was often situated at some distance from home, relief work soon became comparable to Crown work camps (Casparsson 1944 p. 30). According to Höjer (1952 pp. 88, 90) however creating this type of work led to an altered Social political outlook. The re-employment policy, which came into use during the thirties, toned down the importance of personal work moral. An increased interest from the heads of state to fight unemployment, which had struck so many of the working class during the depression, with social reforms was noted.

During the forties the State became more and more interested in mobilising those who were at least partially fit for work (Blomqvist 1980 p. 8). The motive for this integrating of people partially fit to work was the feared shortage of labour forces in the post war trade boom. During the fifties the individual's right to work was emphasised through expanding activities such as work shelters, where disabled people with reduced work capacity could be given work experience, functional capability and regain a state of health necessary for placement in work or education (SOU 1965:9 p 362). During the latter years of the fifties an extensive

expansion of the Labour Market's Educational/Training centres (in Swedish: Arbetsmarknadsutbildning, AMU) was activated throughout the country. Potential participants for these training/educational programmes were the unemployed, those partially fit for work and people who, due to their age, were not able to find suitable work without further training/education. Social politics gained a much more humane image during the fifties. Those unfit for work were to be able to receive compensation without any degrading examination and at a level that would guarantee that they would not require social welfare. Two signs of this more humane social policy were the introduction of a general social insurance 1955 and a reformed social welfare service act 1958. Due to the increasing amount of general benefits the need for rehabilitation increased among other things to reduce the risk of undermining the insurance economy (SOU 1958:17 p 23).

It was not before the Social Insurance Act (AFL) came into force in 1963 that the Social Insurance Office was given a statutory duty to examine the possibility of reducing a case after 90 days sick-listing. According to the proposal (Proposition 1962:90 p. 202) the standing cabinet minister considered effective rehabilitation actions probably to be the most important remedy to be used to cut down on the increasing economical pressure now affecting the social insurance system and early disability retirement. The rehabilitation activities, which due to the enforcing of this legislation could now take place, were an attempt to accommodate the re-employment policy that was stipulated in labour market policy. It was, however, not until the later part of the eighties that re-employment policy became an integrated part of social insurance. This was stipulated in a proposal from parliament (Proposition 1988/89:150). The standing cabinet minister stated that "*A re-employment policy should be given increasing priorities in the sector of social insurance. Elimination from working life*

should be countered with preventive measures. We must aim, by measures of adjustment and the removal of obstacles to enable more and more citizens to return to gainful employment.”

After the introduction of the Rehabilitation Reform of 1991/1992 employers were given the prime responsibility for employees on sick leave (Prop1990/91:141 p.42). The planning Committee for the Rehabilitation Reform did not however give any details as to how the responsibility for unemployed's rehabilitation should be divided between the Social Insurance Office and the various authorities in the Labour Market. There was no elucidation of this question in the proposal that the Rehabilitation Reform was based on. Responsibility for the unemployed's rehabilitation was given cursory treatment in the proposal (Proposition 1990/91:141 pp. 49-58). Once the Rehabilitation Reform was carried through employers became an important party in upholding the re-employment policy. The re-employment policy will be upheld by pursuing effective rehabilitation activities and influencing certain attitudes. The re-employment policy has been used by the government throughout cutbacks, deterioration in the compensation system and the demands for better control of ill health. Elucidation of the concept of ill health (SOU 1995:149 pp. 214-234) and the introduction of a step by step method for examination of the right to receive compensation from the social insurance system, can also be seen as active measures for upholding re-employment policy (Proposition 1996/97:28 pp.18-20).

REFORMED SOCIAL INSURANCE

The law regarding general social insurance in Sweden was passed in January 1955. It was compulsory and included all citizens over the age of 16, living in the country, and registered for census purposes. Through co-operation with national

registration everyone over the age of sixteen became automatically registered in the general social insurance. The supervising authority was at that time the National Institute for Social Insurance, a governmental department, which saw light way back in 1902 as a central authority dealing with the laws concerning industrial accidents and the insurance for occupational diseases. A central point of the social insurance was gainful employment. One of the conditions for receiving sickness allowance was that a person had a certain annual income through gainful employment. The annual income from this work ruled which class of sickness allowance the person concerned was placed in. There were special rules for employers. Ill health and work incapacity was now two of the main concepts for deciding the right to sickness allowance in the new general social insurance (Westerhäll-Gisselsson 1983 pp. 164 -242).

The Social Insurance Committee of 1958 took up the question of co-ordinating social insurance and disability pensions. The Committee suggested a co-ordination of the social insurance and the disability pension, an increase of the basic sickness allowance and that the compulsory supplementary sickness allowance insurance should even include self-employed. The scale for sickness allowance would in future be built along the lines of new classes of sickness allowances. This investigation resulted in the proposal 1962:90 the Social Insurance Act (AFL). A decision in parliament in 1962 led to the AFL coming into force in January 1963. The general health insurance offices now became general social insurance offices.

Co-ordination between sickness allowance and disability pensions was realised through maximising the time given to sickness allowance. The upper limit for the period of time allowed, which was 730 days, was removed (Henrekson et al. 1992 p. 47). With the introduction of the reform of 1963 two

important choices were made that have been in force in Swedish social insurance ever since then. The first was that it was fully established that the social insurance systems should be general and compulsory. The other was that compensation should be set in accordance to income (SOU 1997:166 p. 72). The next significant change in the general social insurance system took place in 1967 when two of the three days of qualifying period for economical benefit were removed. At the same time the level of compensation was raised from 65% to 80% of annual income (Broberg 1973 pp. 84, 85). The level of compensation was increased again in 1974 but at the same time became both taxable and pensionable income. Sickness allowance was raised to 90% of earned income (Henrekson et al. 1992 p. 47).

The next permanent adaptation in Social Insurance Act was made in 1987. Before 1987's reform roughly 40% of all workers received 90% of their earned income, for every day they were off ill. After 1987 as good as all workers received compensation corresponding to 100% of their earned income (Henrekson et al. 1992 p. 49.) The development of costs in the field of social insurance, which followed during the following years and the high levels of compensation caused great anxiety to government authorities during the latter years of the eighties. Demands were made on the social insurance offices to reduce the rate of ill health in order to limit the costs for the system (RFV Anser 1990:5 p. 21). Between 1984 and 1989 the number of compensated days of sick leave increased tremendously (Kindlund 1989a, 1989b). Of the total increase of the rate of ill health with 4,7 units between 1983 and 1988, cases of ill health lasting up to 90 days or more answered for 3,7 units (Kindlund 1989b). A number of measures, aiming at creating better control over the costs of insurance and with the intention of creating more effective insurances, were taken (SOU 1996:113 p. 78).

Since July 1990 sickness allowance comprises four levels of compensation, namely full, three quarters, half and a quarter (Proposition 1992/93:31 p. 39). The compensation level for sickness allowance was reduced in March 1991 from 90% to 65% of earned income for the first three days of each period of ill-health and 80% up until the 90th day. From the 91st day compensation is set at 90% of earned income. A law regarding sick pay (SFS 1991:1047) came into force in January 1992, giving employers full responsibility for paying out compensation during the first 14 days of each sickness period. In April 1993 one day of qualifying period for economical benefit was introduced into the sickness allowance insurance (Proposition 1992/93:31 p. 41). In January 1996 the compensation level was altered to 75% from the day following the first day of the qualifying period for economical benefit. In January 1998 it was raised to 80%.

VOCATIONAL REHABILITATION AND ITS DEVELOPMENT IN SWEDEN

In Sweden a disability pension was introduced at the same time as an old age pension, namely in 1913. Starting in the year 1915 the administrative authority known as the Pension Board was given the chance to carry out preventive disability health care and vocational rehabilitation (Broberg 1973 p.24). The aim of this department was to cut the costs for pensions. The department concentrated on relatively young individuals, where the circumstances were such that a disability could be stemmed, if the person in question became the object of a programme or specific measures (Broberg 1973 p. 140). The measures that were carried out were type health care and vocational. The activities carried out by the Pension Board, with the aim of preventing permanent disability, can be said to be the first step towards current rehabilitation activities. These rehabilitation activities carried on

more or less unchanged until 1952 when vocational and educational activities were transferred to the Labour Market Board (in Swedish: Arbetsmarknadsstyrelsen, AMS). The Pension Board was left with care in institutions and health resorts as well as specialist care (Broberg 1973 p. 142).

The rehabilitation activities that have developed within the field of social insurance have their roots in the old age pension insurance. Before the health insurance and pension insurance were joined by the Social Insurance Act in 1963, the main task within the field of health insurance was to pay out compensation and check that the insured fulfilled the stated criteria for claiming compensation. In the compulsory health insurance, which was introduced in 1955, the Social Insurance Office had no significant responsibility for rehabilitation. In January that same year, however, an investigation to examine the rehabilitation measures in connection to the sickness and vocational injuries insurance took place. A report was submitted in 1958 (SOU 1958:17). This investigation established the fact that rehabilitation as a concept was of comparatively late date. Officially, the word rehabilitation in connection with ill and injured people in Sweden, first came into use during the forties. It was also established that the Swedish language has no adequate translation for the word rehabilitation (SOU 1958:17 p. 10). The investigation also pointed to the fact that the expression vocational rehabilitation is accepted internationally for measures aiming at vocational adaptation. This includes such measures as vocational orientation, vocational training/education, re-education and measures aiming to enable disabled people to get and keep a job (SOU 1958:17 p. 10). Medical rehabilitation is, according to the investigation, steered by measures taken by actors in the field of health care to give the patient the best possible physical and psychological capacity. Medical

rehabilitation aims to partly remove any state of illness/disease, partly to shorten the period of sickness and convalescence and at the same time give the patient the highest possible physical and psychological ability (SOU 1958:17 pp. 11,15).

The investigation led to a decision being made to translate the expression vocational rehabilitation with the Swedish term "arbetsvård" (in English: work care). This expression has been in use officially in Sweden since the middle of the forties, to describe all non medical measures for the professional adaptation that has been carried out within labour market policy. The Committee established that the costs for social insurance were extensive and that the possibilities of preventing and minimising the consequences of illness/disease and disability are of the greatest importance for, among other things, the insurance's economy. It is therefore of the utmost importance, according to the Committee, for close co-operation between the sickness insurance and "work care". The forms of co-operation could be left to the co-ordination teams that have been formed, where representatives from both the social insurance office and "work care" are included. Another suggestion from the Committee was that a sickness allowance should be paid out for a maximum of six months during a period of work training. The Committee also ordained an order that there is an obligation to take the initiative to set in measures to reduce the consequences of ill health, as soon as compensation has been paid out for 90 days, or whenever other special reasons are to be found (SOU 1958:117 pp. 23, 28, 52). The proposals submitted by the committee, described above, were worked into the government bill 1962:90 "Proposals for a law for general insurance".

In January 1963 the Law for General Insurance came into force (SFS 1962:381.) This allowed the general social insurance offices to take the initiative for and organise

the measures to prevent and minimise the consequences of sickness and disability, in order to create conditions for permanent provision through gainful employment. During the last years of the sixties and at the beginning of the seventies various local co-ordinated bodies grew side by side with the so-called co-ordination teams. After consulting the National Board of Health and Welfare (SoS) and AMS the RFV directed in 1975 that local rehabilitation groups should be set up at the general social insurance offices. These local rehabilitation groups were a collaboration forum for certain sickness allowance cases or such as were presumptive and when various bodies of society were involved. They were meant for more complex cases.

During the eighties the costs of social insurance increased considerably. This was mainly due to the fact that long-term sickness cases increased. Standing cabinet ministers vented their anxiety over the rising costs and the negative consequences this development was having within the social insurance's field for ill health. This was due to the fact that people were more often given disability pensions, instead of being restored to working life. States of unemployment and long-term sick leave were seen to be destructive for people, while work was said to create self-confidence and self-esteem (Proposition 1990/91:141 pp. 31, 32, 35).

Even before the Rehabilitation Reform was introduced in 1992 certain proposals from the Rehabilitation Preparatory Committee

had been settled. In 1990 the social insurance offices were given the right to purchase vocational rehabilitation services in order to be able to carry out a more effective rehabilitation (Proposition 1989/90:62 p. 1). The concept "work care" was in use until 1982, when it was changed to vocational rehabilitation (Montan 1987 pp. 56, 57). The reforming of the field of rehabilitation continued until 1992, when the Rehabilitation Reform came into force. The proposition was built on the proposals submitted by the Rehabilitation Committee (SOU 1988:41). Against the background that almost all people on long-term sick leave were employed, the reform proposed that employers should be given an increased responsibility for vocational rehabilitation and that the role of co-ordinator, that the social insurance offices had, should be strengthened. The Rehabilitation Reform intended to minimise sickness absence and rejection from working life and through this stop the rising costs within the field of social insurance, as well as to achieve early and active rehabilitation efforts. This concept had previously meant non medical measures, but now came to include a certain medical rehabilitation in a vocational rehabilitation, where the intention was reinstatement in the labour market. Vocational rehabilitation can therefore comprise a medical multidisciplinary programme and/or non-medical activities, such as work-training, training, re-education etc. Individual rehabilitation progress from illness or injury to a return to the labour market is described in figure 4.

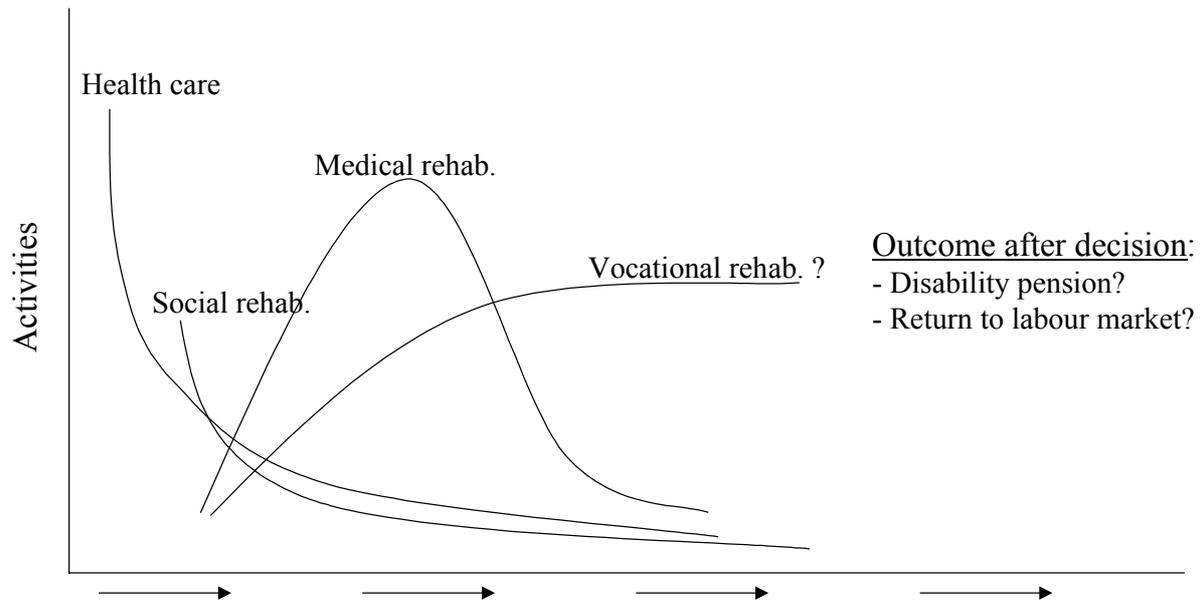


Figure 4. An individual's progress from disease or injury toward return to labour market or disability pension

COMPENSATION SYSTEM

There are various types of compensation available for vocational rehabilitation. Certain rules must be followed and met, in the respective systems, before compensation can be paid out. The usual types of compensation are the special rehabilitation compensation in the form of rehabilitation allowance, sickness allowances, disability pension and training allowance. In order to be entitled to benefits from social insurance one must be insured and registered at the social insurance office. All residents of Sweden aged 16 and over are registered at the General Social Insurance Office. For the right to compensation from social insurance in the form of rehabilitation allowances one must have annual earnings gained by employment that are 24% of the stipulated basic amount (in Swedish: basbelopp).

The rehabilitation allowance and sickness allowance are meant to compensate for the loss in income, which is the result of a person's work capacity being reduced due to ill health. If the insured had a low

earnings-related sickness allowance (In Swedish: Sjukpenninggrundande inkomst, SGI), then a temporary disability pension may be seen to be a suitable form of compensation during rehabilitation. The largest possible annual income for receiving sickness allowance is 7,5 times the stipulated basic amount (The basic amount for the year 2000 is 4 187 EUR). Two factors must be fulfilled before the right to claim rehabilitation allowance and sickness allowance can be given. These are that the insured is suffering from illness/disease and that the said illness/disease has reduced the work capacity by at least a quarter. The most usual type of compensation during the time for vocational rehabilitation is rehabilitation allowance, which dominates the type of compensation given specifically for rehabilitation. When the Rehabilitation Reform was effected rehabilitation compensation level was 100% of the income on which sickness allowance was based, while sickness allowance at that time was 90%. Motivation for this 10% difference was that sick-listed people had to have an incentive for participating in vocational rehabilitation (Proposition 1990/91:141 p. 63). Since then rehabilitation compensation

has been reduced twice, in 1993 to 95% and in 1996 a uniform compensation level of 75% was introduced. As from 1998 this compensation level is now 80%. The right to rehabilitation compensation is regulated in the Social Insurance Act chapter 22 § 7 *”Rehabilitation compensation may be paid out when an insured, whose work capacity due to illness is reduced by at least a quarter, participates in vocational rehabilitation with the intention of cutting short the time of sickness, or completely or partly prevent or stop the reduction in work capacity”*.

The conditions for rehabilitation allowance are that it is a vocational rehabilitation that is taking place (SOU 1997:166 p. 279). When an insured participates in a medical rehabilitation parallel to a vocational rehabilitation the RFV recommends that the insured keep his/her rehabilitation allowance (RFV allmänna råd 1991:12). Rehabilitation allowance may also be paid out for preventive reasons. Work capacity in such cases must be reduced to such a degree that the insured, because of rehabilitation measures, cannot take up gainful employment (Proposition 1990/91:141 p. 60). Rehabilitation compensation is made up of rehabilitation allowance and a special grant. The rehabilitation allowance is meant to cover loss of income during the time he/she is participating in the programme while the special grant is intended to cover costs in connection with training/education. One of the conditions for the right to rehabilitation compensation is that the social insurance office has drawn up a rehabilitation plan (Iseskog 1994 p. 48). The law (for Work Injuries Insurance and the National Insurance for Personal Injuries, SFS 1977:284) states that the Work Injuries Insurance also applies to those taking part in vocational rehabilitation according to chapter 22 Social Insurance Act. Since 1992 the employer has a statutory obligation to pay the employee a sick pay (SFS 1991:1047). During the first 14 days

of a sickness period an employee has the right to receive sick pay from the employer. After the first day of the qualifying period for economical benefit, a compensation amounting to 80% of the current income is received. There is no maximum amount regarding sick pay. Neither is there any grading as with sickness allowance. An employee can have the right to 1/10th or 9/10th depending on work done during the day.

A person with disability pension can also participate in vocational rehabilitation if his/her work capacity has increased so that there are no longer any medical obstacles for participation in rehabilitation measures. According to § 1 chapter 7 in the Social Insurance Act a person aged 16 – 64 can receive disability pension if his/her work capacity, on account of illness/disease or other lowering of his/her physical or psychological performance, is reduced by at least a quarter and if the reductions seem to be permanent. If the reduction is not permanent but is thought to last for a considerable length of time then the insured can receive a pension in the form of a temporary disability pension.

From 1997, according to § 3 chapter 7 Social Insurance Act, when judging to what degree the work capacity is reduced then the individual’s ability *”to provide for him-/herself through ordinary work usually found on the labour market or by other suitable work available to the insured should be considered. Judgement should be made according to the same grounds, irrespective of what type of reduction in performance is to be found. Income by gainful employment includes, to a reasonable extent, household chores in the home”*. Work incapacity must be strictly founded on medical criteria. Special grounds may be taken into consideration when judging the right to a disability pension.

The "loosened-up" rules for the right to a disability pension for those who are 60 and more have been discarded from January 1997 (SOU 1997:166 p 113). Those with a work incapacity of at least 7/8 have a right to a complete disability pension. If the work capacity is reduced by at least 3/4 but not 7/8 then a three-quarter part pension may be granted. If the work capacity is reduced by at least a half but not 3/4 then a half disability pension may be granted. A fourth part pension may be granted to a person whose work capacity is reduced by at least 25 % but not 50 %. If the insured has to change to a job with lower wages after undergoing rehabilitation measures, no compensation through a disability pension can be granted (Björkman 1999 p 75, RFV allmänna råd 1998:2).

Judgement of work capacity for the right to sickness allowance and disability pension shall follow a step by step model. This step by step model is to be found described in the government's bill (Proposition 1996/97:28 pp. 18-20) and in the report from the Disability Pension Investigation (SOU 1997:166 pp. 177,178) as well as in RFV allmänna råd 1998:2).

Step 1

Is the insured able to carry out his/her ordinary work after the necessary treatment and convalescence?

The work capacity is judged here in relation to the insured's ordinary work or other suitable work the employer can offer. If the insured, as a consequence of illness/disease, cannot carry out his/her ordinary work but is judged to be able to return after the necessary treatment and convalescence, then a sickness allowance may be granted.

Step 2

Is the insured able to carry out current assignments after a certain rehabilitation or adaptation of work tasks?

A judgement is made here of what specific, and to what extent, measures should be taken to enable that the insured can return to work. If the measures are needed to a lesser extent then a sickness allowance may be granted. If more complicated measures are needed then it is not always so that step 2 should come before step 3. Compensation according to step 2 can be paid out for up to 3 months.

Step 3

Is the insured able to carry out and keep other assignments with his employer without extra efforts having to be made?

If the insured is unable to return to his ordinary job then his/her work capacity should be examined in relation to the possibilities of replacement to other work for his/her employer. There is no need for rehabilitation measures here. Sickness allowance is not paid out pending another job becoming available. Sickness allowance is paid out during the time necessary treatment is carried out and throughout convalescence.

Step 4.

Can the insured be assigned other work tasks with his employer, after certain training, adaptation of work tasks or of similar rehabilitation efforts?

In this step an examination is carried out to see if the insured may be transferred to other work if rehabilitation measures are taken. Normally rehabilitation measures should not last more than a year. It should be quite clear that his/her current employer could offer the insured work at the end of a period of rehabilitation.

Step 5

Is the insured able to carry out jobs normally found on the national labour market, without extra efforts having to be made?

If no kind of work can be found for the insured at his current employer's then his/her work capacity must be examined in relation to jobs usually to be found on the national labour market. If he/she is judged as being able to carry out such work then he/she has no right to compensation from social insurance. If, however, there is no immediate work to be had then he/she must be regarded as unemployed.

Step 6

Will the insured be able to carry out jobs normally to be found on the national labour market after participating in certain rehabilitation measures such as training/education or re-education?

The rehabilitation measures that are forthcoming in this case normally do not exceed a year. If the insured has the ability to carry out a job after participating in rehabilitation then compensation will no longer be paid out. A job does not necessarily need to be available straight away for this decision to be made.

Step 7

Has the insured permanent work incapacity or a work incapacity that may last for quite some time?

It is first only here that the right to disability pension is examined. For a pension to be granted then all possibilities of returning to his/her current employer must have failed, rehabilitation making it possible to do other work has not been able to be carried out and that his/her work capacity for other suitable work is permanently reduced.

REVIEW OF LITERATURE

This study has focused on rehabilitation of insured people that are on long-term sick leave. They all have a right to sick-leave compensation, certified by a medical certificate proving that they are suffering from ill health causing a reduction of their work capacity. Most of those persons who become objects for vocational rehabilitation are also long-term sick. It is therefore of interest to investigate what risk factors are associated with long-term sickness absence. The insurance juridical demands related to those who are sick-listed are also the same in principle for those who become an object for vocational rehabilitation measures according to the Social Insurance Act. Against this background it seems obvious to start the literature review with factors associated with medically certified sickness absence. Only studies published from 1980 to 2000 are included in the literature reviewed.

Factors associated with long-term sickness absence*Demographic factors**Age*

There is a strong association between increasing age and long-term sickness absence (Kristensen 1991, Alexanderson et al. 1994, Chevalier et al. 1987, Blank and Diderichsen 1995, Marmot et al. 1995, Marklund 1995, Knutsson & Goine 1998, Brage et al. 1998).

Gender

Women have higher rates of long-term sickness absence than men (Kristensen 1991, Kindlund 1992, Alexanderson et al. 1994, Feeney et al. 1998). The female sick-leave rates were much higher in most male-dominated occupations (Alexanderson (1994). For all health problems related to musculoskeletal problems, except neck disorders, women had longer sickness episodes (Brage et al. 1998).

Income

In previous studies low income has been shown to be strongly associated with a higher frequency of sickness absence. North et al. 1993, Chevalier et al. 1987, Marmot et al 1995, Brage et al. 1998)

Level of education

There is a higher risk for long-term sickness absence among subjects with a lower level of education (S 1999:08).

Working status

Unemployed subjects have a longer duration of certified sickness than the group who still had a job (Berg & Tellnes 1992). Unemployed people are over-represented among people on long-term sick leave (Selander et al. 1996).

Type of occupation

The highest sick-leave rates are to be found among blue-collar occupations (S 1999:08, Alexanderson et al 1994). In most male-dominated occupations female sick-leave is much higher than men's (Alexanderson et al. 1994).

Psychological and social factors

Life satisfaction

Among women, negative life events and the personality trait sense of coherence predict forthcoming absence rates (Kivimäki et al. 1997).

Medical factors

Type of disease/injury

Diagnoses of musculoskeletal/connective tissue diseases and mental disorders are most common among subjects on long-term sick-leave (Tellnes et al. 1992). Mental diagnoses were more common among the unemployed than among the employed (Berg & Tellnes 1992, Selander et al. 1996). Knutsson and Goine (1998) showed that women had higher prevalence of musculoskeletal disorders than men in all age groups.

Work place related factors

Subjects with long-term sickness absence perceive a higher physical and mental load in their jobs (Ekberg and Wildhagen 1996). Major organisational downsizing is a risk factor for increased rates of sick leave among employees (Kivimäki et al. 2000, Vathera et al 1998). The observed increase in certificated sickness absence was partially explained by concomitant increases physical demands and job insecurity and a reduction in job control (Kivimäki et al. 2000). Age over 44 years was also a risk factor for increased sick-leave after downsizing (Vahtera et al 1998). Among both men and women low levels of decision latitude are associated with more frequent and longer sickness absences and among men low levels of social support at work increase the number of spells and days of absence (Niedhammer et al. 1998). Work characteristics play a major role in forthcoming sickness absences (Kivimäki et al. 1997).

Health effects and unemployment

The prevalence of anxiety and somatic illness is shown to be higher among unemployed people than among employed people (Claussen et al 1993). Berg & Tellness (1992) show that the duration of certified ill health was longer and there were higher frequencies of mental disorders and diseases of the nervous system/sense organs among unemployed people compared to employed people. It is quite probable that losing one's job can lead to negative emotion, defensive feelings and resignation, which can have a negative effect on coping ability and self-esteem. This is supported by (Ytterdahl 1999). Crowley (1991) reported feelings of low self-esteem and social isolation among the unemployed investigated. Unemployed people are generally more passive than the average population and they are considerably less involved in social activities (Underlid 1996). There is also an increased prevalence of

suicidal intentions, parasuicide and suicide among the long-term unemployed men (Platt and Kreitman 1984, Wilson & Walker 1993, Claussen 1998). This relation is however questioned by others (Jones et al. 1991). Prolonged unemployment early in working life seems to have a persisting effect on future health among young men (Wadsworth 1999).

In the literature there are different opinions concerning cause and effect regarding the relationship between ill health and unemployment. At an individual level three explanations of ill health in unemployment are suggested. The first approach suggests that ill health may be caused by unemployment. There are several studies in literature that indicate a causal relation between unemployment and ill health (Linn et al. 1985, Beale & Nethercott 1987, 1988, Westin et al. 1988, Grayson 1989, Hamilton et al. 1990, Martikainen 1990, Lahelma 1992, Wilson & Walker 1993, Jin et al. 1995, Janlert 1997, Liira & Leino-Arjas 1999).

There are also studies that support the selection hypothesis, which suggest that poor health reduces the likelihood of finding a job (Iversen et al. 1987, Ravaud et al. 1992, Klein-Hesselink & Spruit 1992, Claussen et al. 1993, Mastekaasa 1996, Janlert 1997, Leino-Arjas et al 1999, Liira & Leino-Arjas 1999). Chronic illness or a long absence from work for health reasons is positively associated with the risk of unemployment (Arrow 1996).

A third explanation of health inequality in unemployment is that unemployment leads to economical deprivation and the resulting poverty leads to ill health. Increasing length of unemployment is associated with increasing economic and experiential deprivation and economic deprivation is associated with lower subjective feelings of well being (Brief et al 1995). Economic deprivation also sets limits of the extent to which the unemployed person can fulfil

needs and values and move on towards important future goals (Feather 1997). Lobo and Watkins (1995) showed that loss of income due to unemployment leads to material deprivation, and marital conflicts.

Regarding urban and rural unemployed there are more similarities than differences in the factors and models explaining ill health (Leeflang et al. 1992). Iversen et al. (1987) showed that unemployed people living in areas of high unemployment rates have lower mortality than in areas with low unemployment rates. Kessler et al. (1987) found that family tension in such areas were unexpectedly low. This may indicate that social circumstances can compensate for unemployment (Thomas et al. 1980). Most of the people suffering from ill health are to be found in the lowest social classes with poor economy and when class status increases ill health decreases (Klein-Hesselink and Spruit 1992). Leeflang et al. (1992) state that unemployment also tends to concentrate on other risk factors, such as poverty, lack of education and experiencing feelings of lower social status for the unemployed and his family.

Rural vocational rehabilitation

There are few studies that have examined vocational rehabilitation in rural areas. There are also few studies that have compared the effect of vocational rehabilitation between sparsely populated rural areas and urban areas. Selander et al. (1998) show that the unemployed long-term sick-listed were partly disregarded when it came to vocational rehabilitation. In rural Jämtland the unemployed people's potential need for rehabilitation is not investigated to the same extent as employed people's. The unemployed also have to wait longer for an investigation to be started. In the city of Stockholm rehabilitation plans are not established to the same extent for the unemployed as for the employed (Selander et al. 1998) The study also indicated that there was major problems in vocational

rehabilitation in both the rural areas of the County of Jämtland and in the city of Stockholm. Arnold and Seekins (1997) showed that counsellors working in rural areas reported more difficulty with public transportation, locally available jobs and work evaluation services, the number of job coaches, and access to an independent living centre. Rural counsellors also reported problems with the lack of on-the-job training options. All this indicates existing problems within the vocational rehabilitation in rural areas. In a study by Heikkilä (1998) it is concluded that subjects living in the countryside are less likely to return to work.

Early vocational rehabilitation

There is at present no consensus among researchers concerning the value of early vocational rehabilitation (Ekberg and Linton 1994, Statskontoret 1997, RFV 1997:6). Some studies conclude that there is little empirical support for the wide spread opinion that early vocational rehabilitation leads to a more successful outcome than late (Boschen 1989, Ekberg and Linton 1994, RFV 1997:6). There is, however, also studies showing that subjects receiving early vocational rehabilitation are more likely to return to work than subjects receiving late rehabilitation (Sheikh and Mattingly 1984, Gallagher 1989, Infante-Rivard and Lortie 1996, Heikkilä 1998, Selander 1999). The different results concerning the advantages of early rehabilitation can probably be explained partially by the differences in the studies' design i.e. subjects differ depending on personal characteristics etc. Even if there is no consensus concerning the value of early vocational rehabilitation, it is probably important for a successful rehabilitation that the counsellor becomes involved in the case at an early stage, in order to establish contact with the person on sick-leave and with the workplace.

Factors associated with successful vocational rehabilitation

This review focuses on studies that have examined factors associated with returning to work or regaining availability on the labour market.

Demographic factors

Age

Age is most important for a successful rehabilitation period. A number of studies have shown that the chances of returning to work decrease with age (Saxon et al. 1983, Cairns et al. 1984, Gallagher 1989, Tate 1992, Hennessey and Muller 1995, Voaklander et al. 1995, Infante-Rivard and Lortie 1996, Tan et al 1997, Crook et al. 1998, Selander 1999.)

Gender

It is unclear what significance gender has for the outcome of rehabilitation. Various studies have shown different results. There are few studies showing that women have succeeded better than men (Cairns et al 1984, Young & Russel 1995, Jang et al. 1998). The majority of studies show, however, that men have more success with their rehabilitation (Hennessey and Muller 1995, Crook et al. 1998, Ahlgren and Hammarström 1999).

Nationality

A number of studies indicate that foreign citizens have less success with their rehabilitation than native citizens (Hennessey and Muller 1995, Heikkilä 1998).

Income

Level of income seems also to play a part. It appears that people with high incomes have more chance of success than those with low incomes (Cairns et al. 1984, Barnes 1989, Tate 1992, Selander 1999).

Level of education

The level of education appears to be an important factor. Those with a higher education level return more often to work after rehabilitation than those with poorer education (Gardner 1991, Tate 1992, Straaton et al 1995, Hennessey och Muller 1995, Voaklander et al. 1995, Tan et al. 1997).

Civil status

Married people seem to have a better chance of returning to work than those with other civil status (Hennessey and Muller 1995, Tan et al 1997, Jang et al. 1998).

Working status

People with jobs to go to have a better chance of returning to work than those who are unemployed (Gallagher et al. 1989, Voaklander et al. 1995).

Psychological and social factors

Individuals with good self-confidence have much better chances of returning to work than those who lack or have poor self-confidence (Feuerstein and Theborge 1991, LeFort and Hannah 1994, Carosella et al. 1994, Gard & Sandberg 1998). Those who are satisfied with their life have also a better chance of undergoing a successful rehabilitation (Heikkelä 1998), as do those who feel they experience good health (Jensen et al. 1991, Feurestein & Theborge 1991, Gatchel et al. 1995), have a meaningful job content (Gard & Sandberg 1998), are co-operative (Barnes et al. 1989), are satisfied with the rehabilitation measures (Hazard et al. 1994, Beissner et al. 1996), feel motivated (Sheikh and Mattingly 1984) and believe in a return to work (Sandström and Esbjörnsson 1986, Eklund 1992, Carosella et al. 1994). Those with stable living arrangements are more likely than others to return to work after vocational rehabilitation (Lancourt & Kettelhut 1992).

Medical factors

Those with less severe disease or injury have a better chance of returning to work than those with more serious conditions have (Sheikh and Mattingly 1984, Barnes et al 1989, Tate 1992, Asch and Goldstein 1995, Jang et al 1998). Those with pain are less likely to return to work than those without pain (Barnes et al. 1989, Polatin et al 1989). Chances of job return are greater after a first injury compared to a repeated injury (Lancourt & Kettelhut 1992, LeFort & Hannah 1994).

Type of rehabilitation measure

Multidisciplinary treatments of musculo-skeletal problems seem to have a positive effect on returning to work. Several studies of patients treated in a multidisciplinary rehabilitation programme have shown good job outcome (Mayer et al 1985, Mayer et al. 1987, Hazard et al. 1989, Sachs et al. 1990, Deardorf et al 1991, Rosomoff and Rosomoff 1991, Feuerstein et al 1993, Lanes et al. 1995, Ambrosius et al. 1995, Jankus et al. 1995, Revel 1995, Lind et al. 1997, Bendix et al. 1997). Those who have participated in a rehabilitation programme consisting of education have a better chance of returning to work than those subjected to work training (Selander 1999). Rehabilitation in the form of a work hardening programme has also been shown to be successful in terms of returning to work (Ricke et al. 1995, Cooper 1997). Schmidt et al (1995) showed that vocational rehabilitation and working on a trial basis proved to have a significant impact on employment after rehabilitation.

Rehabilitation related factors

Chances for a successful rehabilitation increase if the the programme is fully completed (Sheikh and Mattingly 1984).

Work place related factors

Those who change their work tasks or get a new job are less likely to sign off sick again (Ekberg et al. 1994) and those being allotted new work tasks have a better chance of

returning to work than those who have not (Krause et al. 1998, Crook et al. 1998). Those who are able to take a pause in their work are more likely to succeed with their rehabilitation than others (Infante-Rivard och Lortie 1996). Subjects with longer working history are more likely to return to work (Tate 1992, Infante-Rivard and Lortie 1996). Workers from larger places of work have a better chance of returning to work than those from smaller places of work and workers from the health care and food service sectors have significantly poorer outcome than other vocational sectors (Voaklander et al. 1995). Subjects returning to a work place with bad working environment are more likely than others to leave the work place and report ill again (Ekberg 1995).

Disability benefit system and general unemployment

Disability benefits and not least the amount of the benefit have been shown to be important factors regarding the success or failure of a rehabilitation programme. Those who received a high social insurance benefit were less likely to return to work or make an attempt to work (Johnsson and Ondrich 1990, Russer 1991, Muller 1992, Tate 1992). Subjects with no social benefit more often return to work than subjects receiving social benefits (Straaton et al. 1995). Those living in areas with low level of unemployment rates are more likely to return to work (Sheikh and Mattingly 1984). This is also the case when the national rates of unemployment are low (Misra and Tseng 1986).

Case management

In his book *Total Rehabilitation* (1980 p. 170), Wright defines case management in rehabilitation thus: *"The counselor's managerial activities that facilitate the movement of each rehabilitant through the service process. The counselor, as a "manager" of the case process of each individual is responsible for effective*

activity at each step: case-finding, intake, eligibility determination, assessment, counseling, plan development and implementation, service provision and supervision, job placement and follow-up, and postemployment services. This responsibility depends on the rehabilitationist's professional abilities coupled with planning, co-ordinating, and managing skills". Case management has been used in various settings for different populations with varying social, medical and psychological needs. There is, however, little consensus about what is acutely being introduced under the name of case management. Lee et al. (1998) state that it is due to a need for different definitions of case management, as a result of the differences in the cultural and health care context, in which it is being practised. For many years now case management has been widely used in the field of mental health. In the early 1980's several models of case management were formulated. Four of the most common models used are the broker model, the strengths model, the active community treatment model (ACT) and the rehabilitation model. For a description of each model see Solomon (1992). The models of case management introduced have not been specifically evaluated regarding returning to work, re-employment or regaining availability on the labour market. Focus of research has been made on evaluating effective elements of case management rather than on returning to work. However, there are some studies that have looked at the effect case management has had on employment. Stanard et al. (1999) showed that those undergoing training in a strength model gained an improved quality of life, reduced symptoms and increased vocational/ educational outcomes compared to those who were training in a generalist model. The strengths model is defined as a model of case management in which the focus is on identifying and enriching client strengths and securing the resources needed by client to integrate into the community with the

express purpose of improving the quality of his or her life (Rapp 1993). Goering et al. (1988) found that patients participating in a rehabilitation-oriented case management programme were significantly more likely to gain better occupational function than patients in the control group. Becker et al. (1999) studied the effects of a ACT programme for clients with severe mental illness and found positive outcomes regarding attained employment. Structural factors and process factors seem to play a key role determining return to work after participating in a case management programme. Brines et al. (1999) found that structural factors, which affected returning to work or not, were job satisfaction, relationship with employer and co-workers, financial pressures and system issues such as security benefits. Process factors that influenced return to work were interaction with service providers and the workers compensation system.

When looking at other outcome elements of case management the review will only include studies of ACT and strengths models. This is done because the broker model (outreach case management) has failed to produce results (Franklin et al 1987, Curtis et al. 1992, 1998, Hornstra et al 1993). The effect of the rehabilitation model is limited to one study (Goering et al. 1988) and since the result already has been mentioned above the model is excluded from the further review. The ACT model advocates team-based case management, contrary to the strengths model. Several studies have shown that effectiveness increases if one case manager is responsible for the rehabilitation. This means fewer meetings (Degen et al. 1990, Bond et al. 1991), increased clarity regarding the case management task (Degen et al. 1990) and a more dependable contact with the client (Bachrach 1992). It is probably more difficult and unpractical in a rural area to work according to a case management model that has a team-based

approach (McGrew and Bond 1995, Santos et al. 1993).

Case managers who worked intensively on vocational solutions with mentally disturbed patients, without referring them to others, were most successful with independent living and employment (Stein and Test 1980, Hoult et al. 1983). Both the ACT model and the strengths model use this approach. The size of a caseload seems essential regarding positive outcomes and no studies have found positive outcomes with caseloads exceeding 20 to 1 (20 clients and one case manager) (Rapp 1998). Case load management refers to the responsibility of the counselor for the progress of the whole group of clients who constitute the counselor's caseload (Wright 1980 p 170). Both the ACT model and the strengths model recommend caseload size between 1-12 (Witheridge 1991, Rapp 1998). Contrary to the ACT model the strengths model has also shown impressive results for as little as six months worth of case management (Rapp 1998). The strengths model emphasises more than any of the other models the individual's right of self-determination regarding his/her rehabilitation. Self-determination is one of the fundamental principals of the strength model (Rapp 1993). Kisthardt (1993) found in a study of the strengths model that self-determination contributed to positive client outcomes.

MATERIALS, METHODS AND STATISTICS

The data in the study is based on 4 394 persons on long-term sick-leave, taken from all seven social insurance offices in rural areas of the county of Jämtland. Those with any kind of employment, full or part-time, were classified as employed and those without as unemployed. Self-employed, who were few, were excluded from the study. Data were obtained mainly from the Social Insurance Office registers and the records of the National Social Insurance Board. The data were collected manually by Sven-Uno

Marnetoft and John Selander, and an assistant. In a few cases, where some queries existed concerning the data, the social insurance official responsible was consulted. By analysis of the records at the social insurance office the employed were separated from the unemployed. The records also included the medical certificates with attached diagnoses. The diagnoses reported are in all cases the first diagnosis for the period of sick-leave. The records of The National Social Insurance Board contain, among other things, data concerning sex, age, nationality (native Swedes, Swedes born in another country, foreigners), civil status (married, unmarried, divorced, widowed), income, present and earlier type and level of benefits and received vocational rehabilitation.

In study I the diagnoses included are classified into 13 categories, which include; Neck-shoulder pain, Low back pain, Rheumatoid arthritis/other joint diseases, Other musculoskeletal diseases, Complications to pregnancy/childbirth, Bronchitis/asthma/other diseases of the respiratory system, Cutaneous diseases, Cardiovascular diseases, Other somatic diseases, Traumatic injuries, intoxication etc., Alcohol/drug abuse, Psychiatric diseases (except for alcohol abuse), Psychiatric disorders (neurasthenia incl.). In study II, III and V musculoskeletal diagnoses from neck, shoulder and back-regions are included. In study IV the diagnoses included are classified into three categories; musculoskeletal problems, mental problems and other health problems. Musculoskeletal problems include neck- and shoulder-pain, low-back pain, rheumatoid arthritis/other joint diseases and other musculoskeletal diseases. Mental problems include alcohol/drug abuse and psychiatric diseases and disorders (including neurasthenia). Other problems include bronchitis/asthma/other respiratory diseases, cutaneous diseases,

cardiovascular diseases, other diseases and traumatic injuries, intoxication, etc. In study I the data was based on 795 registered persons on long-term sick-leave (90 days or more) from three randomly chosen social insurance offices in the rural areas of the county of Jämtland. The offices were located at Krokoms, Strömsund and Härjedalen. Of the 795 cases, 678 were employed and 117 unemployed. Sick-leave duration is rated as the number of days from the day the illness was registered to the day when the sick-leave ended. Information concerning when the sick-leave was finalised, i.e. the individual's subsequent sick status, was collected from the National Social Insurance Board Register. Throughout the study comparisons were made between the unemployed on long-term sick-leave and employed on long-term sick-leave. two-sided t-test, two-sided z-test and two-sided Chi² test were used.

In study II the data were based on 118 registered long-term sick-leave cases (90 days or more) initiated during 1992 and 1993. Two inclusion criteria were that the diagnoses should indicate low-back pain or problems in the neck/shoulders and that the patients should be younger than 58 years of age. Sixty-four unemployed people on sick-leave met the criteria (39 men and 25 women). These were matched with people who had been working at the time they were reported sick. Four unemployed men and one unemployed woman were excluded because no matches could be found for them among the employed. This left 35 unemployed men and their 35 employed matches plus 24 unemployed women and their 24 employed matches i.e. total of 118 cases on long-term sick-leave (59 unemployed and 59 employed). The matching variables were sex, age, diagnosis and registered income.

The study was focused on occurrence and the time of waiting before; 'rehabilitation impulse', 'rehabilitation investigation', 'rehabilitation plan' and 'rehabilitation

measure'. A 'rehabilitation impulse' is defined as the first notes in the case indicating the possible relevance of vocational rehabilitation. Examples are suggested physiotherapy or suggested change of task. In a 'rehabilitation investigation' the potential need for rehabilitation for the person on sick leave is investigated and documented. The purpose of this investigation is to clarify all possible needs for rehabilitation and to initiate the necessary action to effect it. According to legislation a rehabilitation investigation must be carried out i) when the employee's sick-leave exceeds four weeks ii) when the employee has repeatedly been briefly absent from work or iii) at the employee's request. To make early rehabilitation possible, the rehabilitation investigation must, depending on the reason for it, be established by the Social Insurance Office i) before the sickness period exceeds eight weeks ii) within eight weeks since the beginning of the last short sickness period or iii) within eight weeks of the employee's request. The employer is responsible for alerting the social insurance office regarding the investigation. Regarding unemployed people on sick-leave this responsibility lies with the Social Insurance Office.

The 'rehabilitation plan' should be produced as soon as rehabilitation is deemed necessary. According to legislation the plan should contain detailed information concerning the cost, a time schedule and other necessary information. The 'rehabilitation plan' fulfils two purposes. One is as a detailed rehabilitation schedule enabling the office to fulfil its statutory and co-ordinative responsibilities. For the employed and the unemployed alike, the responsibility for the plan lies with the Social Insurance Office. The investigation and the plan are related, the former serving as a foundation for the latter. In the present study the occurrence of 'rehabilitation measures' are quantified

as rehabilitation allowance granted. two-sided Chi^2 test and the Mann-Whitney test were used.

In study III the data was based on 469 cases of people on long-term sick-leave (90 days or more) initiated during 1992, 1993 and 1994 and who had undergone vocational rehabilitation during their sickness period. An inclusion criterion was diagnoses from the musculoskeletal system. Of the 469 cases, 78 were unemployed. We used three measures to study the effect of early vocational rehabilitation: signing on well = no economical benefit, number of sick days and level of benefits. Depending on when the vocational rehabilitation started, the cases of ill health were divided into three time intervals: 1-180 days, 181-364 days and 365 days or more. Early vocational rehabilitation is defined as rehabilitation starting within 180 days of reporting sick. To seek connections between the variables early vocational rehabilitation and signing on well (no economical benefit), we used the two-sided Chi^2 test. To study how early vocational rehabilitation influenced the number of sick days 6, 12 and 24 months after the end of rehabilitation we used the Kruskal-Wallis test. When comparing levels of benefits before the start of rehabilitation with those 6, 12 and 24 months after the end of rehabilitation we used the two-sided Chi^2 test.

In study IV the data was based on those 732 registered cases of people on long-term sick-leave (90 days or more) who had undergone vocational rehabilitation and were initiated during 1992-1994. In this study outcome was measured at a defined period after the end of vocational rehabilitation. One definition used for successful vocational rehabilitation was signing on well (no economical benefit) at all three time points 6, 12 and 24 months after the conclusion of vocational rehabilitation. The second way of defining successful rehabilitation was the lowering of benefit levels (including also lowering to zero = well group), compared

with start of rehabilitation, at 6, 12 and 24 months after the end of rehabilitation. We examined the following individual variables: age, gender, civil status, nationality, occupation, employment status, income, diagnosis, number of sick days two years before present sick-leave, levels of benefit at the start of rehabilitation, length of the case. We also examined variables that could relate to the rehabilitation process. They were: time before start of rehabilitation, type of vocational measure, length of rehabilitation measure, number of rehabilitation actors that decided the vocational measure, the financing of the vocational measure and the cost of vocational measure. Bivariate logistic regression analyses were used to determine which variables were related to successful/unsuccessful rehabilitation.

In a further analysis we used step by step logistic regression to develop a model containing significant variables associated with successful vocational rehabilitation. The logistic regression analysis required a dichotome-dependent variable, i.e. it could only assume one of two values. In our case these are: well (no economical benefit = successful rehabilitation) or not well (unsuccessful rehabilitation). Lower levels of benefit (successful rehabilitation) or not lowered levels (unsuccessful rehabilitation). In the bivariate analysis only those variables with p-values less than 0.25 were included. They were then added one-by-one to the model. Only variables with p-values smaller or similar to 0.05 were included. When independent variables correlated with each other only the variable with the largest estimated explanation value was kept.

Study V was based on cases concerning unemployed people on long-term sick-leave (90 days or more) initiated during 1996-1997 at all eight social insurance offices in Jämtland. Only cases concerning people on sick-leave with diagnosis from neck/shoulder and back were included. The

study group then consisted of 24 cases of unemployed people on long-term sick-leave. The study group was referred to an extended multidisciplinary vocational rehabilitation programme focusing on work training and case management. The first part of the programme consisted of four weeks conventional multidisciplinary treatment at Hälsoinvest, an outpatients' orthopaedic rehabilitation clinic. The control group is based on cases of unemployed people on long-term sick-leave (90 days or more) with diagnoses from the neck, shoulder and back-regions and initiated during 1993 and 1994 from the same social insurance offices as above. To be included in the control group the unemployed sick-listed must also have participated in the conventional multidisciplinary rehabilitation programme which took place at Hälsoinvest during 1993-1994. The control group consisted of 23 unemployed people on long-term sick-leave. Chi² test was used to compare the groups regarding the degree of benefits at the start of the rehabilitation programmes with those at three and 12 months after the end of rehabilitation. Means of sickdays and self-assessed quality of life rates were compared using the Mann-Whitney test. All tests were two-tailed. The significance level chosen was $p = \leq 0.05$.

Quality of data

Large parts of this study are based on facts taken directly from The National Social Insurance Board data register. Before compensation is paid out from social insurance the recipient must leave a written statement of health to the local social insurance office, concerning the current sickness case. The local social insurance office then reports this statement to the central social insurance register at the National Social Insurance Board (in Swedish; Riksförsäkringsverket, RFV), after which compensation can be made. As it is obviously of economical importance to the insured to leave such a statement, this current register is always up to date. Data

were collected from the register directly by us i.e. Sven-Uno Marnetoft, John Selander and an assistant. This method guaranteed high quality data.

Data regarding the reported diagnoses directly are collected from the original medical certificates. Mental diagnoses could perhaps be under represented in the material. With the intention of avoiding inconvenience for the individual, perhaps both the doctor and the person concerned preferred to select a somatic diagnosis, if the cause of the disability was to a certain extent considered to be a mental problem. On the other hand diagnoses from the musculoskeletal system have always been highly represented in the northern counties of Sweden. This could probably be partially explained as being due to the situation on the Labour Market and to the naturally heavier type of work, which has been carried out here i.e. forestry and mining for example. It has also been shown that the amount of diagnoses from the musculoskeletal system increases with the length of the period of sick-listing and makes up half of the diagnoses in sickness cases lasting six months or longer (SOU 2000:78 p. 87). It is therefore most likely that the frequency of diagnoses from the musculoskeletal system in northern counties of Sweden to a certain extent have a natural explanation. It is therefore unlikely that this potential problem would lead to biased results.

There could also be a problem regarding diagnoses changing during a period of time. The studies are all based on the first diagnosis that was reported, but it is quite probable that certain diagnoses have changed during the time a person has been sick-listed. Inasmuch as our study is built around long-term sick leave, 90 days or more, the registered diagnoses must be considered as having an explanatory value for the sickness case. It is therefore unlikely that results are biased to a

significant extent, due to other diagnoses having appeared in the sickness case. Sick-leave has been used pervadingly as an outcome measure. Following the line taken by the re-employment policy, vocational rehabilitation can be considered to be successful when a sick-listed person no longer receives compensation from social insurance and unsuccessful if it finally results in a disability pension. The purpose of vocational rehabilitation is therefore for the sick-listed person to be able to either return to work or be available on the open labour market and wholly or partly provide for her-himself economically. The use of sick-leave as a measure of morbidity is discussed under the concepts illness, disease and sickness. Despite some limitation, we believe that sick-leave is an important and relevant factor that should be taken into consideration when investigating effects of vocational rehabilitation.

In the current study a person is classified as unemployed if he/she reported on the registration form, used when reporting sick, that he/she had no employer. Self-employed were excluded from the study. The information regarding employment status is probably valid. There are absolutely no economical gains or other reasons for a sick-listed person to report otherwise. In this study payments made of rehabilitation allowance determine the occurrence of vocational rehabilitation. Considering the fact that the absolute majority of those receiving rehabilitation through social insurance are mainly recipients of a rehabilitation allowance, at least during the first part of the nineties when the compensation was higher than the sickness allowance, the results may be seen to be valid and unbiased.

A shortcoming of study V is that it was not possible to get a control group from the same years as the study group. There were, however, no statistical significant differences between the study group and the control group regarding background

characteristics. There is therefore no reason to believe that the historical bias would have made our data less valid or reliable.

The project was approved by the Ethical Committee at the Karolinska Hospital (nr. 95:88)

RESULTS

Study I

Unemployed long-term sicklisted people in rural Jämtland

The proportion of unemployed among sick-listed people was lower in the rural area of the County of Jämtland (15 %) than in Stockholm (20 %). Unemployment was higher among men (15 %) than among women (10 %). Unemployment decreased with increasing age and was lowest among those aged between 50 and 59 years. Mental diagnoses were, as in Stockholm, more frequent among the unemployed (16

%) than the employed (6 %). The difference of proportions of unemployment among sick-listed men in Stockholm and Jämtland could be partly derived from different percentage numbers of mental diagnoses (4 % and 16 %, respectively). For both the employed and the unemployed, regardless of sex, the older (40-64 years) received sickness benefit for longer periods than the younger (16-39 years) (employed, 290 days versus 201 days ($p=0.001$, two-sided z-test), Unemployed, 335 days versus 245 days ($p=0.012$, z-test)).

More employed (52.5 %) than unemployed (40.6 %) left the social insurance system when sick-leave ended ($p=0.031$, z-test), while more unemployed (11.3 %) than employed (5.8 %) started on a new sick-leave period ($p=0.034$, two-sided Chi² test) (Fig.5). Also more unemployed (16 %) than employed (7.3 %) received a rehabilitation allowance instead of the usual sickness benefit ($p=0.003$, Chi² test).

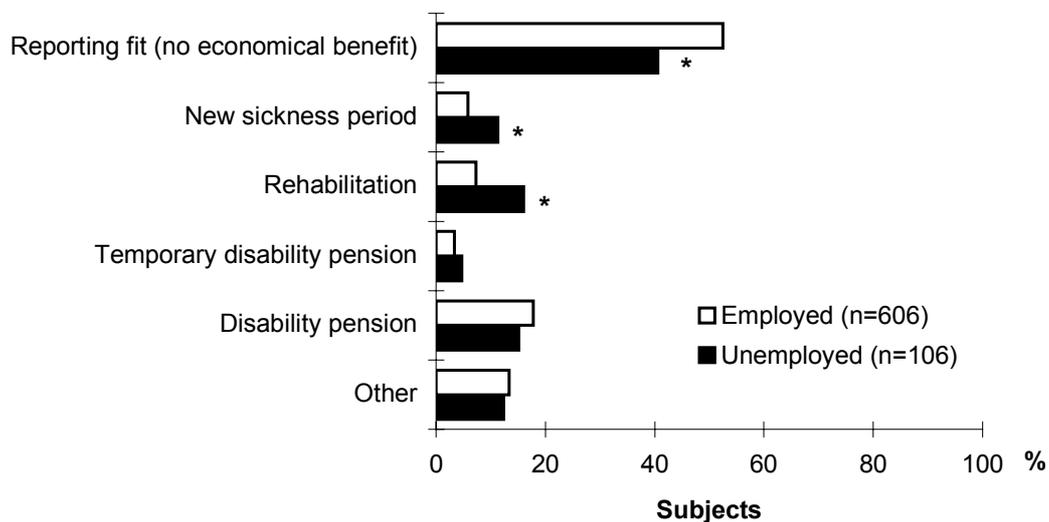


Figure 5. Status of employed people and unemployed people 30 days after termination of sick-leave (subjects in % of subgroup) (83 out of 795 sick cases were still on-going when data was collected).

Study II

The unemployed sick-listed and their vocational rehabilitation.

Of the 59 employed, 73 % (43 persons) had received a reported impulse that rehabilitation could be of current interest. Of the 59 unemployed the corresponding figure was 80 % (47 persons) (n.s., two-sided Chi² test) (Fig.6). The acting physician was the source of most of the given impulses for both the employed (39 %) and the unemployed (46 %). Notable is that only 7 % of the employers gave the first impulse regarding the employed on sick-leave. Of the 59 employed, 37 % (22 persons) experienced a 'rehabilitation investigation'. The rate for the 59 unemployed was 15 % (9 persons) (p=< 0.01, Chi² test). In 20% (12 persons) of the cases for the employed a 'rehabilitation plan' was drawn up. The corresponding figure for the 59 unemployed was 27 % (16 persons)

(n.s., Chi² test). Among the employed, 'rehabilitation measures' occurred in 29 % (17 persons) of the cases; among the unemployed in 41 % (24 persons) (n.s., Chi² test). Among the employed a 'rehabilitation measure' was bought in 17 % (10 person) of cases. The rate for the unemployed was 15 % (9 person) (n.s., Chi² test).

The number of days preceding the given impulse for the employed was 65 and for the unemployed 42 (n.s., two-sided Mann-Whitney test) (Fig.7). The number of days preceding the start of the 'rehabilitation investigation' was 78 for the employed and 168 for the unemployed. (p=<0.05, Mann-Whitney). The time of waiting for the 'rehabilitation plan' for the employed was 163 days and 168 days for the unemployed. (n.s., Mann-Whitney). The employed had to wait 238 days and the unemployed 256 for 'rehabilitation measure' (n.s., Mann-Whitney). The time of waiting for the service bought was 212 days and 210 for the unemployed (n.s., Mann-Whitney).

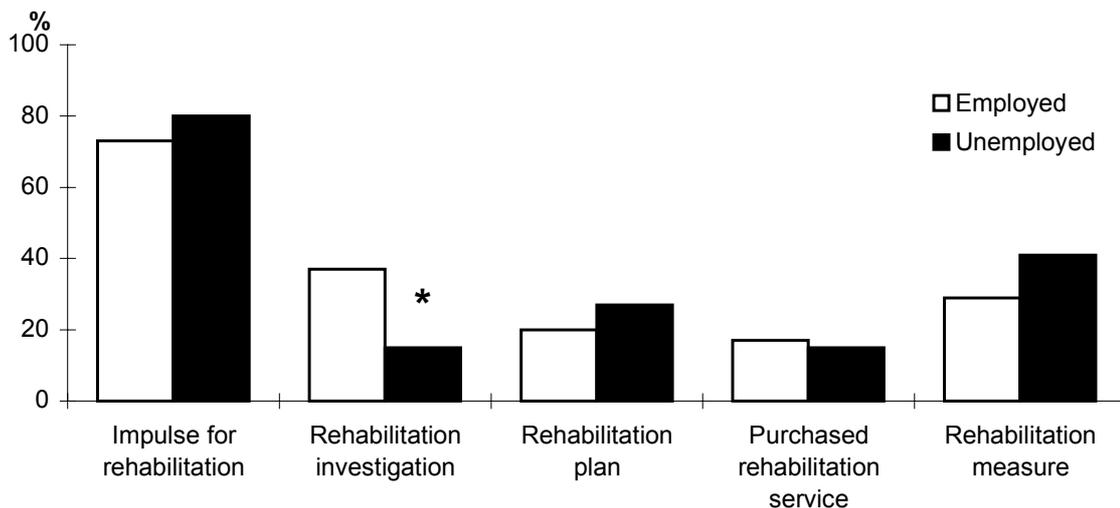


Figure 6. Occurrence in % of subjects studied of rehabilitation impulse, rehabilitation investigation, rehabilitation plan, purchased rehabilitation service and rehabilitation measure.

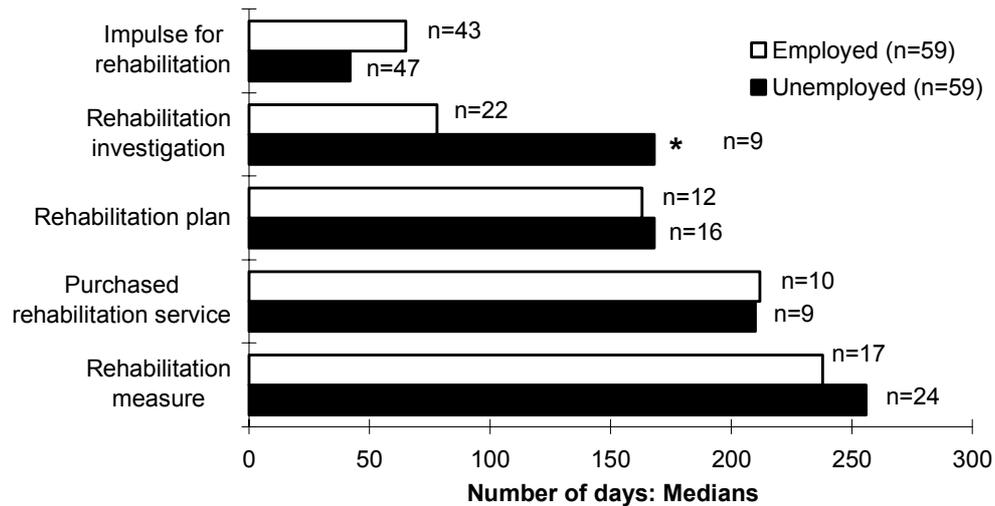


Figure 7. Days on sick-leave before rehabilitation impulse, investigation, plan, allowance and purchased service, and occurrence of these rehabilitation activities.

Study III

Vocational rehabilitation - early versus delayed

There was a significant difference regarding start of rehabilitation and reporting well (no economical benefit), for the employed ($p=0.027$, two-sided χ^2 test) (Table.12). The employed who started their rehabilitation early (0-180 days) reported well to a greater extent than those who started rehabilitation later. No other significant differences could be found for either the employed or the unemployed.

At 12 months there was still a significant difference between the start of rehabilitation and reporting well, regarding the employed ($p=0.032$, χ^2 test)

(Table 13). The employed that started rehabilitation at an early stage (0-180 days) were accordingly reported well to a greater extent than those who started later on. There were no other significant differences noted for either the employed or the unemployed.

At 24 months there was a significant difference between the time for the start of rehabilitation and the number of sick days after the conclusion of rehabilitation, among the employed ($p=0.048$, two-sided Kruskal-Wallis test) (Table. 14). The employed that started rehabilitation before the case had lasted for one year had fewer sick days than those who had to wait one year or more before starting rehabilitation. For the unemployed there were no significant differences.

Table 12. Changes of benefit levels 6 months after the end of rehabilitation compared with the level of benefits when rehabilitation started. Three delay intervals before rehabilitation started, (%).

Degree of benefit	Period of time (days)					
	0 - 180		181 - 364		365 -	
	Employed (n=133)	Unemployed (n=25)	Employed (n=144)	Unemployed (n=26)	Employed (n=111)	Unemployed (n=27)
Reported well	44	28	35	38	27	22
Lower level (excl. no benefit)	14	20	19	12	18	11
Unchanged level	37	48	41	50	51	63
Higher level	5	4	5	-	4	4
Total	100	100	100	100	100	100

Table 13. Changes of benefit levels 12 months after the end of rehabilitation compared with the level of benefits when rehabilitation started. Three delay intervals before rehabilitation started, (%).

Degree of benefit	Period of time (days)					
	0 - 180		181 - 364		365 -	
	Employed (n=133)	Unemployed (n=25)	Employed (n=144)	Unemployed (n=26)	Employed (n=97)	Unemployed (n=27)
Reported well	51	36	42	42	34	30
Lower level (excl. no benefit)	17	28	19	8	23	18
Unchanged level	29	36	33	50	40	48
Higher level	3	-	6	-	3	4
Total	100	100	100	100	100	100

Table 14. Number of sick days within 12-24 months of the end of rehabilitation. Three delay intervals before rehabilitation started.

Number of sick days	Period of time (days)					
	0 - 180		181 - 364		365 -	
	Employed (n=115)	Unemployed (n=21)	Employed (n=105)	Unemployed (n=18)	Employed (n=65)	Unemployed (n=17)
Days (mean value)	136	176	127	135	174	246

Study IV

Factors associated with successful vocational rehabilitation

In the first step bivariate logistic regression analyses were used to determine which variables (factors) were related to successful/unsuccessful rehabilitation. In a further analysis we used a step by step multiple logistic regression analysis, to develop a model containing significant variables associated with successful vocational rehabilitation.

Well group = no economical benefit

Women were at worse risk for unsuccessful rehabilitation than men (odds ratio 0.64 when men were used as a reference, odds ratio = 1.0; 95% CI 0.46-0.88, p=0.006). A more expensive rehabilitation measure (Change in odds ratio with e.g. 5000 SEK) increased the probability for a successful rehabilitation

by 11 % (odds ratio 1.111, CI 1.010-1.221, p=0.0293). Similar changes in odds ratio can also be seen for changes in income (odds ratio 1.038, CI 1.003-1.073, p=0.0289) length of sick-case (odds ratio 0.890, CI 0.869-0.913, p=0.0000) time before starting rehabilitation (odds ratio 0.957, CI 0.933-0.982, p=0.0011) and the length of rehabilitation (odds ratio 1.016, CI 1.0007-1.031, p=0.0400).

Lowered levels group and well group = no economical benefit

An unemployed person had much less chance of succeeding with his rehabilitation than an employed person (odds ratio 0.54, when employed persons were used as reference, odds ratio = 1.0; 95% CI 0.36-0.81, p=0.003). Time before the start of rehabilitation measure (change in odds ratio with e.g. 30 days) decreased the probability for a successful rehabilitation with 4 % (odds ratio 0.962, CI 0.941-0.984, p=0.0010). Similar changes in odds ratio can

also be seen for, the length of rehabilitation (change in odds ratio with 7 days) (odds ratio 1.020, CI 1.005-1.035, $p=0.0085$) and the length of the sick case (change in odds ratio with 30 days) (odds ratio 0.937, CI 0.920-0.954, $p=0.0000$).

Step by step multiple logistic regression

The women's chances of successful vocational rehabilitation were 42 % (1.0-0.58=0.42) lower than those of the men (Table.15). Younger people succeeded better with their vocational rehabilitation than older. An unemployed person had a 46 % (1.0-0.54=0.46) lower chance of successful vocational rehabilitation than an employed person. Interactions between age and the other variables in the model were examined (no data shown). There was an interaction between age and employment status and successful rehabilitation. Unemployed persons' chances of successful rehabilitation decreased with age to a greater extent than for employed persons. Every month that passed without rehabilitation reduced the chance of successful rehabilitation by 4 % (1.0-0.96=

0.04). After six months the chance had decreased by 22 %. A statistically significant interaction was found between age and the length of time before start of rehabilitation. Regarding outcome older people were more sensitive to delay in rehabilitation than younger people. Being on partial sick-leave increased the probability of a positive outcome by 71 % (1.71-1.0=0.71). Compared with education, other types of measure decreased the probability of a positive outcome by 57 % (1.0- 0.43=0.57). There was also an interaction between age and type of rehabilitation measure. Older people who underwent rehabilitation in the form of education were not as successful as those who underwent other measures. No interaction was seen between employment status and the variables included in the model.

The chances of successful vocational rehabilitation were 27 % (1.0-0.73=0.27) smaller for women than for men (Table.16). Both unemployment and a period of waiting before rehabilitation decreased the likelihood of successful rehabilitation while education did the opposite.

Table 15. Factors associated with successful vocational rehabilitation (well = no benefit) after the end of rehabilitation – Step by step Multiple Logistic Regression (n=713).

Variable	Odds ratio	95% confidence intervals
Gender (<i>Male=1.00</i>)		
Female	0.58	0.41-0.82
Age (<i>X years=1.00</i>)		
X+10 years*	0.69	0.59-0.82
Employment status (<i>Employed=1.00</i>)		
Unemployed	0.54	0.33-0.87
Time before start of rehabilitation measure (<i>X days=1.00</i>)		
X+30 days**	0.96	0.93-0.99
Benefit (<i>Full=1.00</i>)		
Partial	1.71	1.16-2.51
Type of rehabilitation measure (<i>Education=1.00</i>)		
Other	0.43	0.21-0.88

* Age X represents any chosen age value in an interval from 18 to 62 years.

** Time factor X represents any chosen time value of the number of days before the start of rehabilitation in an interval from 0 to 1457 days.

Table 16. Factors associated with successful vocational rehabilitation (Lowered levels and well = no benefit) after the end of rehabilitation - Stepwise Multiple Logistic Regression (n=711).

Variable	Odds ratio	95% confidence intervals
Gender (<i>Male=1.00</i>)		
Female	0.73	0.53-0.99
Employment status (<i>Employed=1.00</i>)		
Unemployed	0.51	0.34-0.77
Time before start of rehabilitation measure (<i>X days=1.00</i>)		
X+30 days*	0.96	0.94-0.99
Type of rehabilitation measure (<i>Education=1.00</i>)		
Other	0.49	0.24-1.00

* Time factor X represents any chosen time value of the number of days before the start of rehabilitation in an interval from 0 to 1457 days.

Study V

Multidisciplinary vocational rehabilitation focusing on work training and case management

In the study group 54.2% of the unemployed sick-listed people lowered their level of benefits twelve months after termination of the programme compared with 26.1 % in the control group ($p=0.050$, Chi² test) (Table 17).

The mean number of sick days for the study group were 60 versus 72 for the

control group (3 months) and 215 versus 258 at 12 months (Table.18). However, no significant differences could be shown between the study group and the control group regarding the mean number of sick days three and 12 months after completed programmes. Regarding differences between self-assessed quality of life rates at the start of vocational rehabilitation programmes and three and 12 months thereafter, there were no significant differences either within the groups or between them.

Table 17. The level of benefit 12 months after the end of an extended multidisciplinary vocational programme (study group) and a conventional multidisciplinary vocational programme (control group) compared with the level at the start, (%).

Outcome measure	Study group (n=24)	Control group (n=23)
Lower level (of that 0 benefit)	54.2 (9 out of 13)	26.1 (3 out of 6)

Table 18. Study outcomes during follow-up periods 3 months and 12 months after the end of an extended multidisciplinary vocational rehabilitation programme (study group) and a conventional multidisciplinary vocational programme (control group).

Outcome measure	Study group (n=24)	Control group (n=23)
Mean sick days, 3 months after termination of programme	60	72
Mean sick days, 12 months after termination of the programme	215	258
Self-assessed quality of life 3 months after the end of the programme (0-10)	3.5	4.0
Self-assessed quality of life 12 months after the end of the programme (0-10)	3.0 (n=21)	2.9

DISCUSSION

Main findings and comments

The primary aim of this study was to investigate the unemployed long-term sick-listed and their vocational rehabilitation in rural Jämtland, Sweden.

A surprising finding in study I was that the proportion of unemployed among people on long-term sick-leave was lower in the rural area of Jämtland than in Stockholm. However, as in Stockholm, the unemployed were over-represented among the long-term sick. This was especially true for men. The fact that the wave of unemployment, which affected Sweden in the early nineties, probably hit the larger industrial, densely populated areas first and the smaller industrial areas during the latter part of the recession, may be one explanation to the low proportion of unemployed among long-term sick-listed in Jämtland. The fact that the larger industrial areas were first affected by unemployment is supported in a study by Jönsson & Starrin (1998). The substantial increase in numbers of new disability pensioners in Sweden, which took place at the beginning of the nineties, probably as a result of increasing unemployment rates, came a few years later to the county of Jämtland. Elofsson et al (1996) showed that Jämtland had a lower rate of newly

granted disability pensions than Sweden totally had in all age groups, during the period 1986 to 1993. Another explanation for the lower rate of unemployed among the long-term sicklisted in Jämtland could be that there was a high proportion of labour market activities for the unemployed during the investigated period. Statistics from the Labour Board Market show that the proportion of activities are to some extent higher in Jämtland than in both Stockholm and Sweden totally (C.E. Carlsson, County Labour Board, personal communication, 10th Oct. 2000). However, this small difference between the urban and rural alone could not explain the difference of five per cent.

Uncertainty between the Social Insurance Office and the various Labour Market authorities, regarding rehabilitation of unemployed people on sick-leave, as to where responsibility lies, could be one explanation as to why there are so many unemployed to be found among those on long-term sick-leave. A number of investigations run by the Government have pointed out the difficulties in having shared principal responsibilities for the unemployed on long-term sick leave (Riksrevisionsverket RRV 1996:8, Statskontoret 1997:27).

Mental problems were more frequent among the unemployed than among the employed, especially among the men. That mental problems were more common among

unemployed than among employed, both in Jämtland and Stockholm, is not surprising. The relation between unemployment and poor mental health has been shown in previous studies (Berg & Tellnes 1992, Claussen 1999). The difference however, between Stockholm and Jämtland regarding the share of mental problems among the unemployed, is surprising. A person living in a sparsely populated area is perhaps more vulnerable regarding the diagnoses given to his/her symptoms. A diagnosis regarding mental health is probably more liable to be experienced as a stigma in a rural area than in an urban area. With the intention of avoiding inconvenience for the individual, perhaps both the doctor and the person concerned preferred to select a somatic diagnosis, even if the cause of the disability was to a certain extent considered to be a mental problem. Leeflang et al. (1992) showed that one important difference regarding health effects of long-term unemployment among men in a rural and urban setting is that among the urban unemployed the perceived size of the network is an explanatory factor, but among the rural unemployed perceived stigmatisation is more important. In Jämtland it was also more common among the unemployed compared to the employed for a period of sick-leave to continue with a further period of sick-leave or with a rehabilitation allowance. In Stockholm, however, it was about three times more common that the unemployed's sick-leave was converted into disability pension (Selander et al. 1996).

In study II our hypothesis that unemployed people are disregarded in vocational rehabilitation was partly supported. Rehabilitation investigation for unemployed was not established to the same extent as it was for the employed. It is also quite usual that the unemployed have to wait longer for an investigation. The major result of the study, however, is that vocational rehabilitation in general,

regardless of employment status, seems beset with problems. There appears to be far too few rehabilitation activities and those to be found seem to be initiated rather late. Neither employers nor the Social Insurance Office appear to be able to carry out the responsibilities given to them by the Rehabilitation Reform of 1992. Despite the fact that employers have full responsibility for rehabilitation of the employed they only answered for 7 % of the first impulses to be taken in the cases among the employed on sick-leave. Impulses that were taken indicating the necessity for rehabilitation were documented in a majority of the cases. Impulses were, however, seldom followed up by any action from the employer or the Social Insurance Office. More than half of the current long-term sick-listed, roughly 200 000 persons, are judged to be in need of measures of vocational rehabilitation, but in reality only about 20% receive any measures (SOU 2000:78 p. 89).

For the few cases where rehabilitation measures were initiated, the time of waiting was approximately 8 months for both the employed and the unemployed. There may of course be many reasons for the problems found within the field of vocational rehabilitation. The majority of employees in the county of Jämtland are either self-employed or employed in smaller businesses which can lead to difficulties concerning rehabilitation. The employer may not be aware of his/her statutory responsibilities in vocational rehabilitation or may not have adequate financial resources to carry out rehabilitation measures and therefore fail to comply with the law. Maybe the employer also has learned that he/she will not be punished for lack of action and therefore lets the community take care of the problem. This can perhaps explain why employers have not managed to live up to the rehabilitation demands made at individual level in the Social Insurance Act (AFL) and at organisational level, according to the Work Environment Act (AML). AML stipulates that employers must have a

suitable organisation for adaptation and rehabilitation activities. What is actually meant by "suitable" was not specifically defined in the preparatory work, or in the AML and this may of course contribute to the difficulties concerning where responsibility for rehabilitation lies.

A third possible explanation is that the employer views long-term sick leave as a chance to weed out the organisation in a natural way. This is supported in previous studies by Halvorsson and Johannesson (1991) and Dahl and Colbjørnsen (1991). Maybe the economic incentives for the employer are too weak. An economic sanction would encourage employers to act. Prolonging the current period of two weeks for sick-pay would probably increase awareness among employers. Unfortunately such changes tend to affect other areas; in this example, probably the willingness to hire people that are not entirely fit. The employer's engagement in vocational rehabilitation would perhaps increase if the labour inspectorate played a more active role in guaranteeing the quality of the employer's rehabilitation organisation.

Concerning the frequent lack of action by the Social Insurance Office, our impression is that the officials seem unfamiliar with the actual requirements set for them through legislation. The assignment regarding rehabilitation, which was given to the Social Insurance Office after the Rehabilitation Reform, was not clearly defined in the preparatory work. This meant that social insurance offices lacked effective methods and models for carrying out the rehabilitation responsibility assigned to them. The Social Insurance Office had, like many other authorities suffered from financial cutbacks during the nineties, leading to problems in organisation and this may also have affected the rehabilitation assignment in a negative way. In the present study we found that case documentation is, with very

few exceptions, both vague and unsystematic. The notion of the official as being the purposeful actor, co-ordinating and supervising the different instances involved, is only indicated in a handful of cases. Besides problems concerning information, the unsatisfactory result may possibly be explained by lack of competence. This lack of competence in the field of vocational rehabilitation, has been observed in several governmental investigations (SOU 1995:149, SOU 1996:113). To be able to motivate the rehabilitation process, have close contact with the client, the physician, the employer, the employment service, etc., to co-ordinate these actors and ensure that they do their part, is a new and in many ways complicated role that demands multiple skills in many different areas. Existing problems within social insurance and within vocational rehabilitation are indicated in national studies (SOU 1996:113, Hensing et al. 1997, Statskontoret 1997:27, SOU 1997:166, SOU 1998:104, Selander et al. 1998, S 1999:08, Lindqvist 2000, SOU 2000:78) and internationally (Blumenthal 1987, Aitken and Cornes 1990, Ramsing et al. 1993, Floyd 1996, Bollingmo 1997).

Our hypothesis in study III that those who undergo early vocational rehabilitation, irrespective of employment status, regain their health sooner, have fewer sick days and lower benefit levels after vocational rehabilitation than those who have to wait longer before starting their rehabilitation, was only supported regarding the employed, who mainly reported well (no economical benefit) at 6 and 12 months after vocational rehabilitation. For the unemployed, no significant differences existed between early and late vocational rehabilitation, either at 6, 12 or 24 months after the end of vocational rehabilitation. For both employed and unemployed people on long-term sick-leave with musculoskeletal problems, the time that they start their vocational rehabilitation does not seem to be the determining factor, as so often is stated.

Probably several factors other than simply the time of starting are important for the outcome. However, the person responsible for rehabilitation should, in our opinion, be involved at an early stage in the case to define the nature and extent of the problem. Suitable measures can then be implemented at the right time in the rehabilitation process. We must, however, be careful when drawing conclusions regarding the unemployed, due to the fact that only small samples are available.

There is no consensus regarding the significance of an early start to rehabilitation (Ekberg and Linton 1994, Marklund 1995, Statskontoret 1997). However, there are some studies which indicate that subjects receiving early vocational rehabilitation are more likely to return to work than subjects receiving late rehabilitation (Infante-Rivard and Lortie 1996, Heikkilä 1998, Selander et al 1999). Young and Russel (1995) conclude that further research is needed before it can be stated that early intervention consistently translates to improved rehabilitation outcomes. This different opinion may partly stem from the varying interpretations of the concept of vocational rehabilitation. The different results concerning the advantages of early rehabilitation can also probably be explained by the differences in the studies' design, subjects selection and method used.

There are also different opinions as to which activities should be classified as vocational rehabilitation. Some authors consider that medical activities should be classified as vocational rehabilitation (Riipinen et al. 1994, Schmidt et al. 1995, Berglind et al. 1997). Others are of another opinion (Statskontoret 1997, Trygged 1998). In the preparatory work for the present legislation (Proposition 1990/91:141) the rehabilitation conception is discussed. In Sweden there is a strong association between the initiated activities

and the allowances during these activities. Rehabilitation allowance, as stated in the legislation, may only be made payable for vocational activities, not for medical treatment or medical rehabilitation (Proposition 1990/91:141 s 61, SFS 1962:381). No standardised definition of vocational rehabilitation exists. International habilitative measures are seldom separated from rehabilitative activities (Selander 1999). In Sweden, however, a distinction is made between habilitative and rehabilitative measures (Socialstyrelsen (SoS) 1993:10). Different interpretations of the term "vocational rehabilitation" may hinder communication between the various actors concerned with rehabilitation just as researchers may find that it complicates the interpreting of the results if the said term is differently defined. The vocational rehabilitation notion is further discussed above, under the headline "Vocational Rehabilitation and its development in Sweden".

The aim of study IV was to identify factors that are associated with a positive outcome of vocational rehabilitation and to identify groups that have been successfully rehabilitated. An important finding was that women have less chance of succeeding with their vocational rehabilitation than men have. This finding is also supported in previous studies (Hennessey and Muller 1995, Crook et al. 1998, Ahlgren and Hammarström 1999). One way to try to increase the number of successfully rehabilitated women would be to take gender differences into account when offering rehabilitation measures. The intention is that a person may be able to return to the Labour Market after vocational rehabilitation but conditions on the Labour Market differ considerably for women and men and in different areas. Men are more often connected with the private sector, while the majority of women are working in the public sector, which has experienced large cutbacks in personnel during the past years. The poorer results for the women may also be

explained by the fact that there is a tendency to discriminate women in vocational rehabilitation (Bäckström 1997). This differentiation of gender is worrying and must be taken into account when offering women rehabilitation measures.

The association between age and successful rehabilitation is strong. Younger people are more likely to return to work. This is not surprising since younger people in general have better health and health expectation than older people. Younger people, perhaps with a more modern education, are also more attractive to the Labour Market. The present study shows that an unemployed person on sick-leave has much less chance of returning to work or regaining a place among the labour force, than an employed person. Among the long-term sick there is an over representation of older people, poorly educated people and blue-collar workers. Due to this it is not then surprising if an older person, poorly educated and unemployed from a blue-collar job and now on long-term sick-leave, has difficulty in returning to the present day Labour Market. A number of studies show that subjects with higher level of education more often return to work (Straaton et al. 1995, Hennesey and Muller 1995, Voaklander et al. 1995).

Study IV shows that chances of success for vocational rehabilitation decrease if the rehabilitation activities are delayed. This result is contrary to the result in study III, which shows no positive long-term effect of early rehabilitation. There are, however, important differences between the studies, which must be taken into account when interpreting the results. In study III we only examined the long-term sick persons who had been diagnosed with problems stemming from the musculoskeletal system while in the present study we examined people with all kinds of diagnoses. The most common diagnosis among those

receiving a disability pension is a diagnosis from the musculoskeletal system. There is also a difference in the actual study design i.e. in study III the time before rehabilitation activities started was divided into time intervals while in study IV there were no time intervals used.

A person on partial sick-leave has a better chance of succeeding than one who is on full sick-leave at the start of rehabilitation. First of all several are presumably in better health and have no problem to return to work. Probably there is also a group where part time sick-listing may be a useful way for an active sick-leave period to facilitate a return to work. Part time sick-listing is probably not optimally utilised as a tool to support return to work. Previous studies have also shown that subjects with higher levels of disability compensation more seldom return to work (Johnson & Ondrich 1990, Russer 1991, Tate 1992).

We showed that programmes including education are associated with successful rehabilitation. This is also supported by in a previous study (RFV 1997). We also found that education is more suitable for younger people than for older. This probably indicates that older people need more time for education. The year's limit regarding the length of education/training within social insurance, is probably an obstacle when it comes increasing competence for an older work force. Older people need to gain more fundamental knowledge as well as proficiency in information technology. Education/training aiming at increasing their competence level would take longer than one year but would most certainly lead more successful rehabilitation for this age group.

Our results indicate that younger, male employed persons, with an early start of rehabilitation, in a programme entailing education and who are partly sick-listed before the start of this programme, have the best chance of successful rehabilitation. The results have indicated how to improve the

rehabilitation process; several process-related factors have been shown to be connected with successful vocational rehabilitation, such as the length of time before start of rehabilitation, partial instead of full sickness allowance before the start of the rehabilitation programme, and programmes entailing education. If the unemployment rate can be reduced, it will also reduce the incidence of new disability pensioners. The results also indicate the need for a discussion regarding the effectiveness in management of vocational rehabilitation and the need for ethical discussions about selections for vocational rehabilitation.

The aim of study V was to compare the outcome of an extended multidisciplinary vocational rehabilitation programme focusing on work training and case management with the outcome of a conventional multidisciplinary vocational rehabilitation, for unemployed people on long-term sick-leave. This multidisciplinary vocational rehabilitation programme had a much more positive effect, twelve months after termination, than the conventional programme, which the control group participated in. For the community the extended programme is probably cheaper in the long run since a majority of those in the study group reduced their sick-leave compared with those in the control group

In recent years debates concerning the effectiveness of vocational rehabilitation have begun to focus on the individual. In a newly published investigation about vocational rehabilitation in Sweden the individual is put in focus (SOU 2000:78). Sheikh and Mattingly (1984) show that a motivated individual more often returns to work. Several studies also show that those who believed in the activities they were involved in (Sandström and Esbjörnsson 1986, Eklund 1992, Carosella et al. 1994), and those who were satisfied with their activities (Hazard et al. 1994, Beissner et

al. 1996) were more likely to return to work. These results highlight the importance of focusing on the individual and of involving people on long-term sick-leave, especially those who are unemployed, in extended multidisciplinary vocational rehabilitation programmes with work training and case management. The individual should be at the centre of the rehabilitation process. A case manager guides the individual throughout the rehabilitation process but it is the individual who makes the choices during the rehabilitation process. Further studies are needed, however, with more subjects in both groups, to elicit long-term effects of the multidisciplinary programme.

The data concerning our subjects' quality of life showed no differences within groups or between study group and control group. This could be due to several explanations. One could be that the quality-of-life test used is not sensitive enough to catch possible changes among unemployed people on long-term sick-leave. Another explanation could be that the difference is really not larger.

SUMMARY OF RESULTS AND CONCLUSIONS

The overall aim of the studies performed was to investigate unemployed people on long-term sick-leave and their vocational rehabilitation in the county of Jämtland, which is a rural area of Sweden. In study I and II the unemployed are compared with employed people. In study III the aim was to investigate one of the fundamental grounds on which the legislation for vocational rehabilitation in Sweden today is based, namely that an early start to rehabilitation activities is more successful than a delayed start. In study IV the aim was to investigate the factors that are associated with successful vocational rehabilitation. In study V the aim was to investigate the effect of an extended multidisciplinary vocational rehabilitation programme focusing on work training and case management compared with a conventional vocational rehabilitation

programme, for unemployed people on sick-leave.

Study I, based on 795 long-term sick-leave cases, showed that:

- 15 % of the cases consisted of people who were unemployed when reporting sick.
- Unemployment was more prevalent among men (19 %) than among women (10 %).
- More of the unemployed (16 %) than the employed (6%) had mental diagnoses.
- Mental diagnoses were more prevalent among unemployed men (24 %) than among employed men (4 %).
- For both the employed and the unemployed, older people (40-64 years) received sickness benefit for longer periods than the younger ones (16-39) (employed, 290 days versus 201 days, unemployed, 335 days versus 245 days).
- More employed (52.5 %) than unemployed (40.6 %) left the social insurance benefits at the end of their sick-leave.
- More unemployed (11.3 %) than employed (5.8 %) started a new sick-leave period at the end of their sick-leave.
- Also more unemployed (16 %) than employed (7.3 %) received a rehabilitation allowance at the end of their sick-leave.

The unemployed were over-represented among the long-term sick. This was especially true for men. Mental diagnoses were more common among the unemployed, especially among the men. The study indicates that the unemployed

long-term sicklisted people may be a group with special needs regarding vocational rehabilitation. Unemployed people on sick-leave lack important support from a number of actors involved in vocational rehabilitation e.g. employer, workmates and occupational health care etc. The responsibility for the vocational rehabilitation of the unemployed is also unclear. There are therefore a great risk that the unemployed being sent around between the Social Insurance Office and the job centre without anyone taking adequate responsibility for them.

Study II, where 59 employed were individually matched with 59 unemployed showed that:

- 73 % of the employed and 80 % of the unemployed had a reported 'impulse' i.e. notes in the case that indicated that vocational rehabilitation might be relevant. The median number of days before noted impulse was for the employed 65 days and for the unemployed 42 days.
- 37 % of the employed and 15 % of the unemployed had a 'rehabilitation investigation' conducted. The median number of days preceding the start of the investigation was for the employed 78 and for the unemployed 168.
- For 20 % of the employed and for 27 % of the unemployed a 'rehabilitation plan' was drawn up at the Social Insurance Office. The length of time for waiting for the rehabilitation plan was for the employed 163 days (Md) and for the unemployed 168 days (Md).
- 29 % of the employed and 41 % of unemployed received vocational rehabilitation measures. The employed had to wait 238 days (Md) and the unemployed 256 (Md) days from the time

they reported sick to the start of the measure.

The hypothesis in study II that unemployed people are disregarded in vocational rehabilitation was partly supported. Rehabilitation investigations were drawn up more seldom for the unemployed, who also had to wait longer for an investigation. It seems that the Social Insurance Office has found it difficult to carry out its supervisory and co-ordinating responsibility for rehabilitation. The full significance of the rehabilitation assignment was not clearly defined in the preparatory work for the Rehabilitation Reform of 1991/1992, which among other things has most likely led to the state of uncertainty how to manage the vocational rehabilitation assignment effectively.

The Rehabilitation Reform of 1991/1992 also meant that employers were given increased responsibility for their employees. Neither the law nor the preparatory work, however, define clearly what this responsibility implies in reality. This means that responsibility is interpreted in different ways, which in turn has led to the fact that rehabilitation of employees has not been carried out as effectively as was stipulated in the Rehabilitation Reform. The major result of the study is, however, that vocational rehabilitation in general, regardless of employment status, seems beset with problems.

Study III, based on 469 long-term sick-cases with diagnoses from the musculoskeletal system, showed that:

- At six months after the end of vocational rehabilitation employed people who started their rehabilitation early reported well (no economical benefit) to a greater extent than those who started rehabilitation later.

- Also at 12 months employed people who started their rehabilitation early reported well to a greater extent than those who started rehabilitation later.
- At 24 months there were no significant differences regarding reporting well or lower level of benefits between those employed who started their rehabilitation early compared with those who started their rehabilitation later.
- Regarding the unemployed no significant differences existed at any time after the end of rehabilitation and reporting well or lower level of benefits between those who started their rehabilitation early compared with those who started later.
- Neither for the employed nor the unemployed were there at any investigated time after rehabilitation any significant differences between the number of sick days and the duration of delay before the start of rehabilitation.

Our hypothesis in study III that those who undergo early vocational rehabilitation, irrespective of employment status, often get well (no economical benefit) sooner, have fewer sick days and lower benefit levels after vocational rehabilitation than those who have to wait a long time for their rehabilitation, was only supported regarding the employed who mainly reported well at 6 and 12 months after vocational rehabilitation. The time element regarding the start of vocational rehabilitation does not appear to be the determining factor that is so often stated, neither for employed nor unemployed people on long-term sick-leave with musculoskeletal problems. However, the person in charge of rehabilitation should, in our opinion, be involved in the case at an early stage, to define the nature and extent of the problem. Suitable measures may then be implemented at the right time in the rehabilitation process.

Study IV, based on 732 long-term sick cases undergoing vocational rehabilitation in a rural area showed that:

- Women have less chance than men in succeeding with their vocational rehabilitation.
- A difference in age of ten years reduces the chance of successful rehabilitation by 31 % for the older person.
- An unemployed person on sick-leave has less chance of succeeding with the vocational rehabilitation than an employed person.
- A six months delay before the start of vocational rehabilitation decreases the chance of successful rehabilitation by about 22 %.
- A person on partial sick-leave has a better chance of succeeding with the vocational rehabilitation than one who is on full sick-leave at the start of rehabilitation.
- Education as a rehabilitation measure led to a successful rehabilitation to a greater extent than other measures did.

An important finding in study IV was that women have less chance than men of succeeding with their vocational rehabilitation. One explanation for this could be that the situation on the Labour Market is in many ways different for men and women. Another explanation of the poorer results for the women may be the tendency to discriminate women in vocational rehabilitation i.e. men participate in programmes containing education more often while women receive more work training. Education has been shown to be an effective measure for successful vocational rehabilitation. The association between age and successful rehabilitation is strong. Younger people are more likely to return to work. This is not

surprising since the younger in general have better health and better health expectation than older people. The present study shows that an unemployed person on sick-leave has much less chance of returning to work or to the labour force than an employed person. The present study shows that chances of succeeding with vocational rehabilitation decrease if the rehabilitation activities are delayed. This result is contrary to the result in study III that shows no positive long-term effect of early rehabilitation. There are however important differences between the studies that must be taken into account when interpreting the results.

A person on partial sick-leave has a better chance of succeeding than a person on full sick-leave at the start of rehabilitation. First of all several are presumably in better health and have no problem to return to work. Probably there is also a group where part time sick-listing may be a useful way for an active sick-leave period to facilitate a return to work. Part time sick-listing is probably not optimally utilised as a tool to support return to work. The results have given indications on how to improve the rehabilitation process; several process-related factors have been shown to be connected with successful vocational rehabilitation, such as the length of time before the start of rehabilitation, partial instead of full sickness benefit, and programmes entailing education. If the unemployment rate can be reduced, the incidence of new disability pensioners will also decrease.

Study V, where 24 unemployed people on long-term sick-leave, undergoing an extended multidisciplinary vocational rehabilitation programme focusing on work training and case management, is compared with a study group undergoing a conventional multidisciplinary vocational rehabilitation programme showed that:

- Twelve months after the programme, 54.2% in the study group had lowered their

benefit levels compared with those at the start, while 26.1% in the control group had lowered their benefit levels ($p=0.050$, Chi^2 test).

- Three months after the end of rehabilitation the mean number of sick days for the study group were 60 versus 72 for the control group and 215 versus 258 at 12 months. However, these differences were not statistically significant.

The study showed a positive outcome regarding lowered level of benefits 12 months after the end of the extended multidisciplinary vocational rehabilitation programme. These results highlight the importance of involving people on long-term sick-leave, especially those who are unemployed, in extended multidisciplinary vocational rehabilitation programmes, with work training and case management.

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