



Inventory of socio-economic information about work-related musculoskeletal disorders in the Member States of the European Union

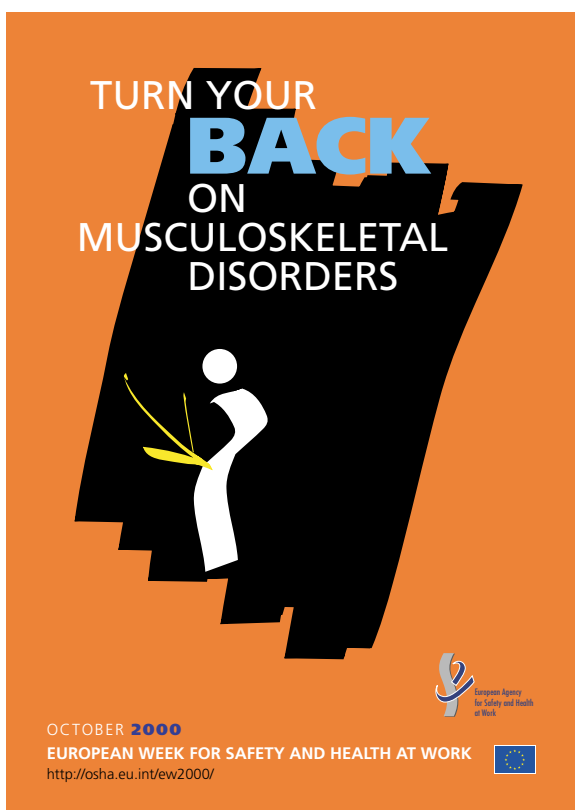
Contents:

Introduction

1. Prevalence of musculoskeletal disorders
2. Work-relatedness of musculoskeletal disorders
3. Occupational diseases
4. Short term absence due to musculoskeletal disorders
5. Long term absence due to musculoskeletal disorders
6. Job change due to musculoskeletal disorders
7. Resuming work/reintegration with musculoskeletal disorders
8. Medical and rehabilitation costs with musculoskeletal disorders
9. Rehabilitation at the workplace work
10. Period of prolongation of working life after rehabilitation
11. Loss of income due to work-related musculoskeletal disorders
12. Income transfers due to work-related musculoskeletal disorders
13. Costs to enterprises
14. Subjective costs of work-related musculoskeletal disorders
15. Costs of work-related musculoskeletal disorders as percentage of Gross National Product

Annex I: Acknowledgement

Annex II: References



Introduction

This inventory of socio-economic information about work-related musculoskeletal disorders (MSD) brings together existing information from European Member States about specific cost elements related to these work-related disorders. It aims to present basic socio-economic information that can be used by all those who have an interest in the prevention of musculoskeletal disorders and/or the reintegration into employment of (ex) workers with this kind of health problem.

The aim of this document is not to provide a model or a definition of the total costs due to work-related musculoskeletal disorders. It only aims to collate relevant information available in the Member States about certain specific socio-economic factors in relation to MSD. In this way this document provides background information as required by the European Commission's Advisory Committee for Occupational Safety and Health (Luxembourg).

It should be kept in mind that all information provided here is based on existing literature in the Member States or references given to us by our network partners (national Focal points and members of the Thematic Network Group Systems and Programmes) in the Member States. For each statistic or data a reference to a source is given. The content of this inventory has been the subject of consultation with the national Focal points (including social partner representatives in the Focal Point Group).

It should be borne in mind that methods of calculation and definition often differ so that any direct comparison between data can be questioned. However given the range of data available, we believe that the information provides a useful overview of the current situation.

I. Prevalence of musculoskeletal disorders

[1]. The *second European Survey on Working Conditions* (1996) from the European Foundation (Dublin) provides the following data about the prevalence of specific ill health complaints related to MSD¹:

	A	B	D	DK	E	EL	F	FIN	I	IRL	L	NL	P	S	UK	EU
Back ache (in%):	31	21	34	30	35	44	29	33	32	13	32	17	39	31	23	30
Muscular pains in arms/legs (in%):	14	9	13	24	24	37	19	29	19	6	13	10	31	24	11	17

[2]. In *Germany* around 37% of all employees reported suffering from low back pains during and after work. 29% from neck/shoulder and 13% from arm/hand pains. The highest rates of low back pain were reported in the construction sector (55%) and mining and quarrying 55%²

[3]. In *Spain* work-related low back pain was reported by 32.9%, neck pain by 29.6%, pain in the upper back by 19.7%, legs by 11.7%, feet-ankles by 8%, shoulders by 7.2%, buttocks-hips by 6.9%, knees by 6.7%, arms by 6.2%, hands by 5.4%. In total around 69.2% of the workers reported some sort of musculoskeletal complaint³

[4]. In *Britain* a 1995/6 survey (1995 data; 1995/6 prices, 1999 updated calculations) showed that around 750,000 people, who had been working in the last 12 months, reported suffering from work-related MSD. This concerned 423,000 cases that affected the back, 314,000 that affected the upper limbs or neck and 104,000 cases that affected the lower limbs⁴

[5]. In *Italy* an investigation in 54 hospitals in various northern and central regions revealed that 8.4% of the workers (mean age 36 years) had had at least one episode of acute low back pain in the previous 12 months. This incidence is 4 times as high as the mean incidence⁵

[6]. In *Britain* the illness rate by occupation for workers suffering MSD is highest in craft and related occupations (5.1%) and lowest in professional occupations (1.5%). The illness rate by sector is highest in the construction sector 4.7%, followed by health and social work (4.3%). The average for the working population is 2.7%⁴

[7]. In *Germany* 8.8% of all employees have work-related disorders affecting the back; 2.7% the neck/shoulder, and 3.1% the arm/hand⁶

[8]. In *Finland* the prevalence of neck pain is estimated at 26% in the population. It was found particularly high in occupation groups such as secretaries and other office workers, factory workers and construction site workers⁷

II. Work-relatedness of musculoskeletal disorders

[9]. In the *Netherlands* the work-relatedness of sickness leave (less than 1 year) due to MSD is estimated at around 13% of all sickness leave. The work-relatedness of the inability to work (with a duration of more than 1 year) due to work-related musculoskeletal disorders is estimated at approximately 40% as well. If based only on direct self reporting the last figure increases up to 67%, if based on judgement (of the same cases) by physicians it is approximately 38%⁸

[10]. In *Denmark* the work-relatedness of MSD is estimated at approximately 33%⁹

[11]. In *Finland* the work-relatedness of MSD is estimated at approximately 33% in 1992 and 1996¹⁰

[12]. In a 1996 *British* survey of back pain, the most common reasons for the onset of pain were work related: around 25% considered the pain was related to the type of work they did, and 12% gave an accident or injury at work as the reason¹¹

[13]. An *Austrian* survey showed that the chances of developing problems with the spinal cord increased significantly with multiple exposures to risk factors at the workplace. Without any exposure the chance is 1.7%. With exposure to one risk factor it is 10.1%; with exposure to two risk factors it is 13.8%; with exposure to three risk factors it is 18.6%; with exposure to four/five risk factors it is 26.2%; and with exposure to six or more risk factors it is 38.2%¹²

III. Occupational diseases

[14]. In *Spain*, 3.2% of the sample of workers approached in the third national survey on working conditions (1998) indicated that they suffered from a recognised occupational disease or a disease in the process of being recognised as an occupational disease. Around half of the diseases involve MSD³

[15]. In *Italy*, data from the Institutes of Occupational Medicine revealed that strain lesions due to occupational accidents are seen in 60-70% of the cases of acute lumbago, with a consistent incidence and prevalence. These are underestimated in official figures because they are not declared¹³

[16]. In *Finland* the number of newly recognised occupational diseases of the musculoskeletal system is 1,279 (1998) being around 25% of all recognised occupational diseases (4,816 cases in total)¹⁴

[17]. In *France* the number of recognised occupational diseases of the musculoskeletal system is sharply rising: from 2602 cases in 1992 to 6183 cases in 1996¹⁵.

IV. Short term absence (less than 1 year) due to work-related musculoskeletal disorders

[18]. In *Britain* 750,000 people working in the previous 12 months reported suffering from work-related MSD. Of these around 335,000 had to take time off work as a result of their work-related condition. The estimated working days lost is around 9,862,000 (back: 4,820,000; upper limb and neck: 4,162,000; and lower limbs 2,204,000)⁴

[19]. In *Germany*, 28.7% (135 million) of all working days lost due to sickness are caused by MSD. The total costs for sickness leave due to work-related MSD is estimated at 24 billion DM⁶

[20]. In *Finland* around 11% of all sickness leave over 9 days is attributed to work-related MSD¹⁶

[21]. In the *Netherlands* the total costs of sickness leave (less than 1 year) due to work-related musculoskeletal disorders is estimated at 2,019 million Dutch guilders (1995). This is around 46% of all work-related sickness leave⁸

V. Long term absence due to work-related musculoskeletal disorders

[22]. In the *Netherlands* the costs for inability to work (that is for more than 1 year) due to work-related musculoskeletal disorders is estimated at 2,363 million Dutch guilders (1995)⁸

[23]. In *Finland* 31% of the new disability pensioners (early retirements) is due to MSD. Work-relatedness of MSD is estimated at one-third. As a consequence around 6,600 working years were lost in 1996 because of work-related MSD⁷

[24]. In *Germany* (1997) around 70,000 workers took early retirement due to (work-related) MSD. These are not recognised as occupational diseases. Approximately 25.9% of all early retirements are caused by MSD⁶

VI. Job changes due to work-related musculoskeletal disorders

[25]. It is estimated that in *Britain* around 58,000 workers who had worked (some time) in the previous year were forced to change jobs due to work-related MSD⁴

VII. Resuming work/reintegration with musculoskeletal disorders

[26]. A study on "Return to Work" of workers who had been absent for three months with low back pain shows that there are substantial differences between the Member States



involved (*Sweden, Germany, Denmark and the Netherlands*). In particular with respect to medical and non-medical interventions as well as in work resumption patterns¹⁷

[27]. The “Return to Work” study indicates that of those workers being absent for three months the following percentages of workers were at work again after 12 months: approximately 56% in *Sweden*; 53% in *Germany*, 37% in *Denmark* and 73% in the *Netherlands*. After two years these figures increased in *Denmark* (43%) and *Sweden* (66). They stayed more or less stable in the *Netherlands* (72%), and decreased in *Germany* (43%). Differences can only partly be attributed to demographic factors. The ways social benefit and rehabilitation programmes work as well as (the lack of) job protection seem to affect the work resumption rates substantially¹⁷

[28]. The “Return to Work” study indicates that of those workers who resumed work after 12 months most were employed by their old employer (*Sweden* 97%, *Germany* 96%, *Denmark* 59% and the *Netherlands* 89%). Only in *Denmark* a substantial part started work for a new employer (41% at 12 months increasing to 51% at 24 months) %¹⁷

[29]. Permanent return to work after any occupational injury or disease is estimated at 58% in *Austria*, 55% in *Belgium* and 57%-60% in *France*¹⁸

VIII. Medical and rehabilitation costs of MSD

[30]. In *Britain* it is estimated that the medical costs for work-related musculoskeletal disorders are between 84-254 million UK sterling. Musculoskeletal disorders affecting the back cost 43-127 million UK sterling; musculoskeletal disorders affecting the upper limbs or neck cost 32-104 million UK sterling; and musculoskeletal disorders affecting the lower limbs take 17- 55 million UK sterling. The variation reflects the ranges of medical treatment costs and the differing patterns of GP/ inpatient/ outpatient visits that people with work-related ill health have had over a year⁴

[31]. In *Spain* it is estimated that each year around 10% of all workers consult a doctor for a work-related ill-health complaint. The highest rates can be found in social services, chemical industry and administrative/banking. The lowest rates are found in trade/hotels/restaurants and the construction sector. Most frequently mentioned reasons seem to be back pain, eye-complaints, stress, and neck pain³

[32]. In the *Netherlands* the total costs for medical consumption for work-related musculoskeletal disorders are estimated at 441 million Dutch guilders (1995) which is approximately 30% of all work-related medical consumption. This consists of 249 million for hospital costs, 19 million for family doctor; 2 million for community care, 128 million for paramedic care, 13 million for mobility aid, and 30 million for medicine⁸

[33]. In *Finland* the medical costs of work-related MSD are estimated at around 2% of expenditure on publicly financed health services (excluding dental care, transportation, investments) amounting to around 670 million Finnish marks in 1996¹⁵

[34]. A survey in the *Netherlands* indicated that of all workers that had complaints relating to physical exposure around 40% consulted their family doctor, 22% a specialist and 1% were treated in hospital¹⁹

[35]. The odds of a work-related musculoskeletal disorder resulting in lost time was three times greater without an ergonomics intervention than where an ergonomic intervention was made. The return on investment, i.e. the

cost benefit of intervention in an office environment was 17.8%²⁰

[36]. In *Belgium* the average costs of a medical treatment of an illness is 1,754 Belgium francs. For Low back pain this is 2,488 Belgium francs. The difference is mainly caused by higher cost for physiotherapy (451 versus 115), for radiology (370 versus 67), and for specialist consultation (243 versus 112)²¹

[37]. In *Spain* around 12% of the respondents to the Third National Survey on Working Conditions indicated that they had consulted a physician for a work-related problem. It is estimated that in around 30% of these cases this was related to back pain³

IX. Rehabilitation at the workplace

[38]. The “Return to Work” study indicated that of those workers who resumed work with their old employer after 12 months of absence many were performing other work (*Sweden* 16%, *Germany* 12%, *Denmark* and *Netherlands* 26%). After 24 months these percentages increased to 32% for *Denmark* and 23% for *Sweden*; while they decreased to 1% in *Germany*¹⁶

[39]. The “Return to Work” study also indicated how many workers who resumed work after 24 months of absence had been offered work place adaptations. In case of their existing (old) employers. In *Sweden* this was 20%, in *Germany* 19%, in *Denmark* 38% and in the *Netherlands* 27%). Where they returned to work with a new employer work place adaptation were applied: in *Sweden* 13%, *Denmark* 19% and *Netherlands* 15%)¹⁶

X. Period of prolongation of working life after intervention

[40]. The “Return to Work” study also indicated which part of those workers who resumed work after 12 months were still at work after 24 months: in *Sweden* 82%, *Germany* 68%, in *Denmark* 81%, and in the *Netherlands* 86%¹⁶

XI. Loss of income

[41]. It is estimated that in *Britain* each individual forced to stop working permanently due to a work-related illness loses on average 51,000 UK sterling until the age of retirement⁴

[42]. The “Return to Work” study also indicated those workers who had returned to work after 24 months most (in *Sweden, Germany, Denmark* and the *Netherlands*) had the similar or even higher wages compared to when they commenced their sickness leave period¹⁶

XII. Income transfers

[43]. In the *Netherlands* the total amount of expenditure on compensation schemes for inability to work (for more than 1 year) due to work-related musculoskeletal disorders is estimated at 2,363 million Dutch guilders (1995). This is around 37% of all expenditure related to the scheme⁸

[44]. It is estimated that in *Finland* (1996) around 256 million Finnish marks were been spent on national sickness allowance due to work-related MSD - based on 33% of all allowances¹⁰

XIII. Costs to enterprises

[45]. In the *United Kingdom* the total costs to an individual enterprise of one case of work-related upper limb disorders was estimated to be 5,251 UK sterling. This includes employee lost time, investigation time, operational inefficiencies, treatment costs, occupational health physician & nurse, liaison with the Health and Safety Executive, claim costs and settlements. A case of Hand Arm Vibration Syndrome was estimated at 11,498 UK sterling on average²²

[46]. In *Germany* 28.7% (135 million) of all working days lost due to sickness, are caused by MSD. As a consequence the production losses amount to around 24 billion German marks²

XIV. Subjective costs

[47]. In *Britain* it was estimated that the subjective costs of work-related musculoskeletal disorders are around 2.2 billion UK sterling. Subjective costs represent loss of quality of life or general welfare – i.e the pain and suffering associated with the illness, the worry and grief caused to family and friends, and the loss of amenity resulting from permanent incapacity⁴

XV. The total costs of MSD as a percentage of Gross National Product (GNP)

[48]. It is estimated that in *Britain* the total costs per year of work-related MSD (including subjective costs) was 5.6-5.8 billion UK sterling in 1995/1996. These total costs were equivalent to 0.79-0.82% of British GNP in 1995/1996⁴

[49]. It is estimated that the total cost of neck pain in the *Netherlands* amount to around 687 million US dollars, consisting of 160 million US dollars direct costs and 527 million US dollars indirect costs, equalling around 0.1% of GNP²³

[50]. In the *Netherlands* the total costs for inability to work (adding the costs for short term and long absenteeism as well as the medical costs) due to work-related musculoskeletal disorders is estimated at 4,823 million Dutch guilders (1995). This is around 37% of all costs of work related inability to work⁸

[51]. In *Germany* it is estimated that the total losses due to work-related musculoskeletal disorders point to an amount of around 0.61% of GNP (which equals around 29% of the total losses due to work related ill health). This includes loss of working days and production losses of around 23 billion German marks²⁴

[52]. In *Finland* the total socio-economic costs of work-related MSD were estimated at around 5,700 million Finnish marks, which was around 1% of GNP in 1996¹⁰

[53]. In *Denmark* the socio-economic costs of work-related musculoskeletal diseases were estimated at 1,150 million ECU (1992). This was around 31% of all work-related socio-economic costs in *Denmark*²⁵

Annex I. Acknowledgement

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