Facts
European Agency for Safety and Health at Work

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

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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 MSD:1

<table>
<thead>
<tr>
<th>Country</th>
<th>Back ache (in%)</th>
<th>Muscular pains in arms/legs (in%)</th>
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<td>EU</td>
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[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%.

[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 complaint.
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 of the last figure increases up to 67%, if based on judgement (of the same cases) by physicians it is approximately 38%.

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

[11]. In Finland, the work-relatedness of MSD is estimated at approximately 33% in 1992 and 1996.

[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 reason.

[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%.

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 MSD.

[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 declared.

[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).

[17]. In France, the number of recognised occupational diseases of the musculoskeletal system is sharply rising: from 2,602 cases in 1992 to 6,183 cases in 1996.

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).

[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 DM.

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

[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 leave.

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).

[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 6,800 working years were lost in 1996 because of work-related MSD.

[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 MSD.

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 MSD.

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 patterns.

[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 substantially.

[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 93% and the Netherlands 88%). Only in Denmark a substantial part started work for a new employer (41% at 12 months increasing to 51% at 24 months). Only 1% in Germany started work for a new employer.

[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.

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 year.

[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 pain.

[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 medicine.

[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 1996.

[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 hospital.

[35]. The odds of a work-related musculoskeletal disorder resulting in lost time was three times greater without an ergonomic 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%.

[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).

[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 pain.

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.

[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%.

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%.

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 retirement.

[42]. The “Return to Work” study also indicated those workers who had returned to work after 24 months most (in Sweden 81%, Germany 68%, in Denmark 81% and in the Netherlands 86%) had the similar or even higher wages compared to when they commenced their sickness leave period.

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 scheme.

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

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 work4

[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 199624

[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 Denmark25

Annex I. Acknowledgement

We would like to thank all those who have actively contributed to the production of this Inventory:

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