European Foundation for the Improvement of Living and Working Conditions

MSDs and autonomy at the workplace

Conference report

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Background

On 11–12 October 2007, the European Foundation for the Improvement of Living and Working Conditions (**Eurofound**), in cooperation with the Portuguese EU Presidency, held a **conference on musculoskeletal disorders (MSDs)** in Portugal's capital city of Lisbon. In his concluding **remarks (240Kb PDF)** at the conference, Eurofound's Director, Jorma Karppinen, proposed that the creation of a network of exchange focusing on the need for 'room to manoeuvre' would be instrumental in responding effectively to the challenge of MSDs. This conference therefore represents the starting point for the creation of such a network.

Opening session

Eurofound Research Manager, Jean-Michel Miller, opened the conference in Brussels by welcoming the participants and presenting the **agenda** for the seminar, as well as explaining its objectives as outlined in the **background information**. Mr Miller highlighted the need to compare EU-level actions, such as the agriculture framework agreement on MSDs, with examples at national level. Most notable are French and Nordic national approaches in preventing MSDs by intervening on employees' autonomy at the workplace.

According to Eurofound's European Working Conditions Surveys (**EWCS**), MSDs have increased on average over time, revealing a significant correlation with different types of work organisation. On the one hand, factors such as discretion at work, better learning opportunities and training lead to lower levels of MSDs; on the other hand, the Tayloristic model is associated with the highest levels of such disorders. The preliminary results of the Eurofound project **Working conditions and social dialogue** show that employees' involvement has a similar impact on the incidence of MSDs.

In their interventions, the seminar participants stressed the gap between everyday life as reflected by the MSDs reported by employed people and research, since causal links are not always clearly established and there is no one-size-fits-all solution. Moreover, they highlighted that the links between health and working conditions in relation to MSDs, which are similar to psychosocial risk factors such as stress, should not be limited to prevention but also include an emphasis on the impact of work on health.

Mr Miller pointed out that the seminar aimed to discuss the further advances made both in terms of research and in regulation among the social partners and public institutions – at EU and national levels. He envisaged that this network of exchange constituted a form of interdisciplinary teamwork, which combined different research environments and types of social partners in studying work organisation, so that better contexts across countries according to various methodologies could be selected and discussed.

EU-level policy developments

Policy Officer at the European Commission's Directorate-General for Employment, Social Affairs and Equal Opportunities, Antonio Cammarota, summarised the policy developments in relation to Commission initiatives seeking to reduce the negative impact of work-related MSDs (see **presentation (87Kb PDF)**). This objective has been on the Commission's agenda since the beginning of the decade – more specifically, in its 2002–2006 and 2007–2012 strategies on health and safety at work. The **second-stage consultation of the social partners on work-related MSDs (123Kb PDF)** advocates a global approach by combining both regulatory and non-regulatory elements. In this context, the Commission considers the benefits of introducing a new individual directive under the framework of **Council Directive 89/391** on the introduction of measures to encourage improvements in the safety and health of workers at work. Such a directive would set out a simplified, integrated and more eligible framework, covering all types of situations and addressing all risk factors. This regulation could, at the same time, be combined with non-regulatory outreach initiatives, such as

awareness-raising, prevention guidance and compliance assistance actions in conjunction with the Senior Labour Inspectors' Committee (**SLIC**), the European Agency for Safety and Health at Work (**OSHA**), the Advisory Committee on Safety and Health at Work (**ACSH**) and sectoral social dialogue committees, combining inter-sectoral and sectoral dimensions.

The social partners maintain divergent positions in this context. Employers take the position that the introduction of new legislation is unrealistic because of the multi-factorial nature of MSDs and place a greater emphasis on the implementation level (see **BusinessEurope archive** for position paper on the second-stage consultation, 8 May 2007). Trade unions, on the other hand, hold the **view (122Kb PDF)** that new legislation would be worthwhile, encompassing a global approach based on an anti-MSD framework and including psychosocial aspects. Despite these divergent positions, the **joint response (27Kb PDF)** in the agriculture sector, along with that in the telecommunications sector, have been encouraging, especially with regard to the degree of cooperation that the social partners have put into practice.

The European Commission has also promoted the need for an extended social and economic impact assessment of regulatory initiatives, based on a preparatory study. According to the interim results of the latter, the social partners share the view that the 'status quo' approach is not an option and are strongly interested in the global approach option, with the highest impact on indicators at national, sectoral, company and individual levels – although it should be added that some differences emerge in their opinions on the balance between the regulatory and non-regulatory approach. The impact assessment is to be carried out, along with the identification of further quantitative indicators and a cost-benefit analysis. Based on the opinions of ACSH, SLIC and of national technical groups expected in 2009, a proposal for a new Community legislative initiative is anticipated by the beginning of 2010.

The participants of the seminar highlighted that the current legislation does not encourage action, limiting the efforts to medical intervention after the development of MSDs. Therefore, they highlighted the need for a legislative initiative that encourages a more proactive approach, generating greater knowledge and awareness of MSDs on the ground and establishing several indicators as a starting point. While education and training are seen as highly important, they are not the ultimate solution: instead, a global approach needs to be adopted, especially for small and medium-sized enterprises (SMEs), since such companies seem to have taken only a short-term approach, as reflected by the fact that 10 years of widespread training has had a 'poor impact' on reducing the incidence of MSDs; at the same time, the efforts need to allow for the widest possible involvement, including of the social partners, consumers and the 'third sector'. Finally, the seminar participants underlined the need to consolidate data and to integrate different dimensions at company level, not only in medical terms.

In his reply, Mr Cammarota focused on the difficulties involved in selecting quantitative indicators for social policies, although they are more straightforward compared with those for industrial policies, and that such indicators should be simplified in a way that will increase their effectiveness. The discussion on MSDs highlights, on the one hand, the need to consolidate the current legislative framework, which at present encompasses three directives – namely, those pertaining to vibrations, manual handling and visual display units (VDUs). At the same time, the discussion points to the shortcomings of the existing legislation, which does not ensure adequate coverage in terms of the type of activities and risk factors.

Good practice exemplified by agriculture agreement

When presenting the follow-up to the 2005 **agreement (440Kb PDF)** on the reduction of workers' exposure to the risk of work-related MSDs in agriculture, a representative of the European Federation of Food, Agriculture and Tourism Trade Unions (**EFFAT**), Arnd Spahn, pointed out that agriculture shows the highest rates of MSDs. This has placed a huge burden on the social security system, managed in several countries by sectoral mutual funds, and thus by

companies. Further reasons supporting the need for joint action in the sector were the high proportion of migrant workers (totalling almost 50% of employees in agriculture) and the dominance of micro-enterprises, which imply poor levels of knowledge of health and safety issues, an insufficient supply of instruments for dealing with such issues, and difficulties in implementing solutions, most of them at extra-sectoral level.

The implementation of the 2005 agreement highlighted how the definition of MSDs represented one of the biggest problems, since it differs across countries, thus impacting on its cost for the countries' social security systems. When the social partners agreed to create an observatory of MSD statistics and best practices – both at EU and national level, and also involving state bodies or existing bodies such as universities, with the support of EU institutions – an information trade-off emerged: when information on best practice is good, the statistics are often weak and vice versa. It is expected that 15 observatories on MSDs in agriculture will be set up during 2009, mostly using existing institutions. Examples of best practice are to be collected at EU level and translated; these will be published on the website **http://www.agrimsd.eu** (not yet online). The full implementation of the 2005 agreement is foreseen by 2013. The national observatories will provide national definitions of MSDs, publish information updates on EU-level documents, instruments and maintenance measures, along with toolkits for medical and ergonomic issues, as well as providing national-level information on training programmes in the agriculture sector,

The seminar participants requested that examples of good practice be gathered, in particular, from small and micro-enterprises. They also highlighted how MSDs not only result in direct costs, such as those faced by social security systems and which vary greatly according to the MSD definition, but also lead to hidden costs. It was also announced that ergonomic issues would be incorporated into Slovakia's national implementation of the health and safety strategy for agriculture.

In his reply, Mr Spahn outlined that implementation has been easier in those countries where the social partners are well organised at regional and local level, and where special social security schemes are in place – such benefits appeared to be evident in eight of the 27 EU Member States. Notwithstanding the difficulties involved in getting in touch with operators of farms, which are often not run as enterprises, such organisations are able to develop good practices, especially when regional-level social partners are integrated into the observatory, with the help of mainstreaming through their newspapers and newsletters, as well as the training and support systems that they provide.

Sickness leave and return to work with MSDs

When introducing the main results of the *White Paper on sickness leave and return to work with MSDs – Summary and recommendations*, a spokesperson from Denmark's Herning Regional Hospital, Johan Hviid Andersen, pointed to the change in perception and treatment of MSDs that has arisen over the past 20 years (see **presentation (330Kb PDF)**). Dr Hviid Andersen also highlighted how between 75% and 80% of reported MSDs are not diagnosed from a traditional medical viewpoint and that their causes are multi-factorial. Follow-up studies show that, for most people, back pain fluctuates over time from low levels of pain to acute pain. Despite the lack of a clear-cut diagnosis, pain levels strongly affect sickness absence.

According to the results of the White Paper – which was based on a sample of 4,000 employees in 20 manufacturing companies and 20 companies in the services industry, mostly medium-sized enterprises – only 8% of the respondents had no experience of MSD pain over the last year. A further 6%–8% of the respondents, on the other hand, reported acute pain. Dr Hviid Andersen remarked that most of the intervention measures focused on those with the greatest pain have only marginal effects. Instead, population-based strategies, based on a bio-psychosocial (BPS) perspective, seem to perform better, notwithstanding the scarcity of good studies in this area. This latter approach aims to reduce overall levels of sickness absence due to pain by eliminating a proportion of pain problems in all groups through measures such as

information campaigns and training for doctors. Dr Hviid Andersen pointed out that, as the clinical severity decreases, there is a shift from organic pathologies showing concurrent medical and mental problems towards the increasing role of psychological and behavioural issues and finally socio-occupational factors.

The Danish White Paper put forward several recommendations in line with the 2004 **Back pain Europe group conclusions (294Kb PDF)**. In particular, it referred to a 2006 report by the Department of Work and Pensions (**DWP**) in the United Kingdom (UK), showing strong evidence that when quality of work and the right social context is achieved, work can be therapeutic for many people with disabilities and for most people with common health problems. In contrast, 'worklessness' is associated with poorer physical and mental health. In addition, a UK report entitled **Fit for work** states that: 'for some people, work can be part of their treatment because work is an important aspect of life that helps people keep hold of their self-confidence and sense of being productive.'

According to the Danish White Paper, the ergonomic initiative should form part of a broader organisational intervention that seeks to organise and establish workplaces that are more satisfying to employees, by reducing fear and anxiety. The workplace and working conditions can be further modified in order to allow each individual suffering from an MSD to continue to work as much as possible, bearing in mind that 100% work efficiency is not possible to achieve. Mr Hviid Andersen pointed out that only 15%–20% of cases need specific intervention, which could be better managed by general practitioners (GPs) since they could focus at an early stage on identifying the most important return-to-work barriers at the workplace. Such barriers may include a lack of guidelines for employees with health problems and on the physical and psychosocial work environment, or employers' lack of knowledge on how to handle pain and sick notes as routine matters. The White Paper finally recommends improved coordination between social workers, the workplace and, if necessary, the local job centre; this could be achieved through the training of return-to-work coordinators both in large companies and job centres.

The seminar participants described some of their own comparable experiences, pointing to the importance of contextual factors. These included the following examples:

- a number of investigations carried out in Quebec;
- a project conducted by the Agence Nationale pour l'Amélioration des Conditions de Travail (**ANACT**, National Agency for the Improvement of Working Conditions) in the French region of Pays-de-la-Loire, which sought to encourage the return to work of employees affected by chronic lower back pain, by ensuring that they do not break their ties with the workplace, thus preventing their exclusion both within and outside of the company – this initiative required good coordination between medical and psychosocial issues;
- a project financed by the Belgian occupational sickness fund on the return to work of employees reporting chronic lower back pain, whereby ergonomists intervene by adapting workplaces.

As a follow-up to the White Paper, a 2008 tripartite agreement foresees the early return to work of people with a range of disorders broader than MSDs. Moreover, according to the 2009 Danish budget law, local job centres should promote early return to work by involving GPs, who are now required to provide additional information on the work ability, limits to activities and type of tasks that the person returning to work could perform during their convalescence. Such projects are to be financed by the savings obtained from the expected reduction in sickness leave. At the seminar, the participants also raised questions about the following issues:

- the role of employee training on how to report MSDs;
- the balance between the biomechanical aspects and psychosocial factors of the BPS approach;

- how some employers automatically expect 100% efficiency from their employees;
- the possibity of devising a tool the could help in the early detection of chronic back pain.

In his response, Dr Hviid Andersen pointed out that return-to-work measures should be more in line with a bio-psychosocial approach rather than a biomechanical one, and that while there is greater scope on an organisational level in the long term, such a strategy suffers from the scarsity of resources needed to perform studies of this kind among large groups. He added that although psychosocial aspects are more important in some situations, the traditional biomechanical physical factors should not be forgotten. Dr Hviid Andersen concluded by saying that he did not believe that it was possible to devise a tool for classifying MSDs as chronic at an early stage.

Sustainable prevention of MSDs

A representative from the French University of Clermont-Ferrand, Fabien Coutarel, gave a **presentation (71Kb PDF)** outlining the results of the report on the **Sustainable prevention of MSDs (in French, 3.3Mb PDF)**. The latter report contains the main results of three years of qualitative research, supported by the French Ministry of Employment, Social Cohesion and Housing (Ministère de l'emploi, de la cohésion sociale et du logement), based on an interdisciplinary approach and involving the ANACT network. It aims to focus on factors encouraging and preventing change across 30 companies of various sectors and size. The companies allowed the research team to carry out an analysis of their actions over the last few years, and 18 of them even went on to devise a project of transformation by verifying the effects of their activities. Most of the companies introduced practical changes addressing ergonomic problems, such as proper equipment and job rotation, which can be significant risk factors. Training on correct movements and posture was also introduced. A few of the companies introduced pathologies-oriented control measures or employee-oriented actions, thus implementing a health-oriented managerial style.

In his presentation, Mr Coutarel pointed out that poor coordination among institutions is the most relevant external obstacle; when these institutions show contradictory approaches, companies choose the less problematic experts. Furthermore, the managerial culture usually shows poor awareness of the importance of health and safety issues, which is reflected in the training and education system, whereby health and safety outcomes are perceived as an individual issue and therefore a responsibility of the individual. Moreover, the biomechanical representation of work leaves poor scope for acknowledging the underlying cognitive aspects, thus increasing the tendency to use permanent workplace restructuring as the main way to react to economic pressures. This, in turn, prevents the consolidation of knowledge and work practices; as a consequence, employees' participation is usually confined to the bottom of the process.

However, the French report shows that companies that are implementing the greatest changes are those where the core health at work factors and performance could be assessed according to an extensive cost-benefit analysis, whereby health at work is considered as a possible strategic dimension. In this context, the challenge is to integrate prevention and the perspective of work in practice, by promoting the representation of the latter. Mr Coutarel pointed out that the development of sustainable prevention requires the integration of prevention and the perspective of work in practice in design projects and company strategies, through the implementation of a model of intervention shared by all relevant actors. This requires a shared representation of actual work by involving management and workers in proper training on project management and work situation analysis, encouraging them to take into account the variability of situations and to develop appropriate sets of indicators for both economic performance and health. A more favourable external context and consistent approach to health at work is needed, by including health and safety in the initial training of managers. Such an approach would enable more workers with MSDs to remain in the workplace in adapted and adaptable work situations; these measures should take into account the fact that workers' needs may change or evolve in this respect and that any member of the workforce could fall sick tomorrow.

The participants viewed the sustainable prevention strategy as a marketing issue which is similar to that of corporate social responsibility (CSR). They also raised questions about the primary aim and potential for success of such an intervention, as well as pointing to the fact that in a socio-technical system, the indicator 'perception of non-specific MSDs' as defined in the BPS approach shows whether the system is balanced. The participants also pointed to the fact that the efforts of the research team in the French project generated mainstreaming at regional level, thanks to the role played by the National Direction of Work.

Mr Coutarel pointed out that the French approach focused on workers' ability to control their tasks, aiming firstly to improve physical conditions on the basis of a holistic approach rather than a focus on different risk factors. Even companies that did not fully adopt this strategy gained awareness about their situation and competences, which enabled them to make significant improvements.

Development of sustainable production systems

In his **presentation (20MB PDF)** on the 'Development of sustainable production systems – possibilities and challenges', Jorgen Winkel from the University of Gothenburg in Sweden outlined some of his conclusions of an analysis on the links between MSDs and mental health in creating sustainable work systems. The review had been conducted by Professor Winkel and Professor Rolf Westgaard.

Docherty et al (2002) defined Sustainable Productive Systems (SPS) as a 'joint consideration of competitive performance and working conditions in a long-term perspective' – an approach which requires the company to remain competitive. Following this definition, Professor Winkel pointed to an ergonomic paradox: complaints of MSDs increased when ergonomic intervention was also increased in a company, in spite of the outsourcing of much of the heavy industrial work and a number of other initiatives.

Professor Winkel outlined the need to integrate the occupational health approach, focused on individual well-being, in conjunction with the rationalisation movement; the latter approach can be traced back to Adam Smith and Frederick Taylor, and focuses on ways in which to achieve good productivity and quality products. This twofold approach has never been considered by any previous reviews. When intervention follows just one of these approaches, as both the scientific society and EU institutions do, conflicts may arise between them.

'Waste' is a key word in the economic definition of 'rationalisation', which has for a long time been associated with Taylorism. Today, the main strategies of rationalisation are 'lean production' and 'new public management' (involving the public sector). In this context, 'waste' is viewed as a non-value added activity that customers do not want to have to pay for – for example, time wasted on handling, walking from one station to another, or taking breaks. Work intensification, on the other hand, reduces the physical and mental 'porosity' of work, which in turn allows for more opportunities for recovery and rest in service-oriented activities – a factor which also partly explains the so-called 'ergonomic paradox'. Studies show that rationalisation strategies are strongly affected by cultural, economic, power and competence factors in the company, although as Eurofound research shows, the selected strategy differs according to each country, thus reflecting variations in the countries' current model of health and MSDs. Therefore, these issues should not be limited to the individual level but rather also addressed at the company level.

Professor Winkel referred to Liker's (2004) eighth type of waste – 'unused employee creativity' – when discussing the issue of lean production, highlighting that it is a key factor when moving from 'intensive production systems' to 'sustainable production systems', combining both 'health' and 'efficiency' points of view. When taking into account such waste, lean production and new public management both consider autonomy in their rationalisation strategies as there are some competitive advantages in all kinds of production: its management requires a balanced approach to regulation,

since when regulation is pushed too far, it can lead to a deterioration in the work environment and the development of MSDs; on the other hand, a poor degree of regulation would affect efficiency. The management style plays a key role in achieving such a balance, as is shown in many Scandinavian companies, which are highly competitive and have a favourable work environment. However, effective solutions are not always easily transferrable, since they depend on the context and are largely based on local knowledge. Nevertheless, the value of good quality case studies should not be underestimated for offering guidelines on intervention processes; similarly, cooperation with stakeholders can be beneficial in helping to identify the facilitating and inhibiting factors of good processes.

Professor Winkel stated that it is not ergonomists who change and reduce the risks of MSDs: most of the ergonomic intervention research is retroactive, and ergonomists should intervene when the primary stakeholders are planning for future systems by engaging all groups and individuals involved, since the key knowledge and solutions exist locally – as demonstrated by experiments conducted at a Volvo plant.

During the seminar, the participants reported several national experiences. According to the ANACT approach, MSDs are not only a health issue: a focus also needs to be placed on the added value gained from MSD prevention and the factors that are needed to produce this. In particular, attention should be given to the unexpected impact on human health of the work model and the fact that such concerns are shared by all companies employing workers. Among the examples discussed were a series of collective agreements signed in Germany in the 1980s, such as in the media sector, which introduced employee discussion groups on health issues with work councils, the outcomes of which were reported to management with the aim of increasing dialogue in this area. In Denmark, collective agreements regulating rationalisation and learning processes at company level according to lean production principles sought to foster a more human-centred approach, and thus call for some caution in criticising the lean philosophy. Participants pointed out that there is no longer any opposition between corrective ergonomics and ergonomics in practice, although the former has been used far more frequently and highlights the need for greater discussion between various groups within a company to achieve a common language and for more attention to be paid to the context and implementation level. Leaving room to manoeuvre is not so much a matter of health but of performance, innovation and product quality, thus highlighting the importance of the role of social dialogue. On the other hand, the participants emphasised that with proper risk assessment and management, the ergonomic paradox should not arise when a risk is eliminated, as long as such a process is properly implemented.

In his response, Professor Winkel said that agreements establishing health groups that involve cooperation with operation managers is one approach to initiating production systems for those with health problems. He also underlined the need for interfacing with people and achieving a common language in order to develop SPSs – such decisions should consider both the competitive state and the ergonomics of the company. Risk assessment should constitute the first step, followed by the development of an effective work system: it is far easier to integrate this as a part of the development of the company's production system; when ergonomists intervene to solve problems, they usually create new problems since they focus on the work station design, and people are still forced to work faster, thus resulting in time pressures and the ergonomic pitfall.

Conclusions

Mr Miller of Eurofound highlighted the value of such meetings which facilitate the exchange of experiences and ideas between researchers and practitioners – along the same lines as the Eurofound report on **Managing MSDs**, which compared national systems, available information and the interpretation of collected data across the different Member States. He underlined the importance of prevention as an intervention at the earliest stage of the design process, along with the value of collaborating with experts and of using a global, holistic or pluralist approach which is based on a partnership between the scientific world and practitioners. The importance of organisational models is highlighted in the

recent Eurofound report – **Working conditions in the European Union: Work organisation** – which is based on a secondary analysis of EWCS findings; this priority is also reflected in the participants' question about workplace organisational models and the importance of placing the employee at the centre of work organisation. This stresses the need for appropriate indicators supporting quality of work based strategies.

Mr Miller mentioned that it is part of Eurofound's remit to initiate research projects seeking to promote the improvement of working conditions and to establish a network of this kind. He added that the network established as part of this seminar could act as a complementary tool, supporting the need for further research along with the European Commission's impetus to promote and devise new Community legislative initiatives on MSDs.

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