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Musculoskeletal disorders in Europe: unions show a lead

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The current upheavals in production technology - and especially organization - are driving working conditions down for a growing number of casualised workers. At the same time, there is an exponential rise in complaints like stress and musculoskeletal disorders (MSD) in all developed countries linked to the way work is managed. These are becoming the main work-related illnesses, signalling a rift between work organization, job design, work load, working time arrangements and workers' capacities.

The growing incidence of work-related MSD points to an effective epidemic in Europe and elsewhere. Current scientific knowledge offers sufficient proof positive of the link between MSD and working conditions, mainly physical but also organizational and social factors, and the fact that effective action on the causes is possible (NIOSH, 1997; National Research Council, 1998).

That is why the European Trade Union Confederation (ETUC) decided to wage an awareness and action campaign on musculoskeletal disorders (see box below). Its member organizations mounted a range of actions in the EU Member States, while the TUTB carried out a survey with help from experts in different countries. This report draws extensively on its findings.

Two questionnaires were sent to trade union experts and various agencies. The first - in 1997 - was to collect information on legislation, available statistics, union activities, the problems and needs for preventive strategies, and the scope for compensation and protection through the courts. The second - in 1998 - aimed more to compile a list of projected union campaigns on MSD for the ETUC Campaign seminars of 17 and 18 March and 5 and 6 May 1998, in Brussels.

Questionnaire N°. 1 - replies received from unions and other organizations: *AK (Austria), CC.OO (Spain), CFDT (France), CGT-FO (France), CFE-CGC (France), CGT-L/LCGB (Luxembourg), DBFT (Denmark), FGA-CFDT (France), FILTA-CISL (Italy), GHBV (Germany), HIOHS (Greece), JGBE (Germany), Kooperationststelle Hamburg (Germany), KOZ SR (Slovak Republic), NGG (Germany), NSZZ Solidarnosc (Poland), Sindnova (Italy), TUC (United Kingdom), USL Poggibonsi (Italy).*

A European awareness-building campaign

The ETUC first flagged up a Europe-wide trade union awareness-building and action campaign on MSD at a Manchester seminar in 1996. A transnational task force to coordinate and discuss campaign preparations was set up in 1997. It planned the campaign as two series of participatory day training sessions and a questionnaire to collect information on national trade union activities on MSD.

The first training session (17-18 March 1998, in Brussels) brought together 18 participants from 17 national organizations in 14 countries and the European Textile Workers Federation. N. Cock opened proceedings by describing the main forms of MSD and ways of preventing them, followed by an analysis of the initial results of the TUTB's questionnaire survey, Owen Tudor's run-down on the TUC campaign, and concluding with Giovanni Cesareo's talk on the essentials of a workplace information campaign. The participants suggested aims, means and resources for new activities and pledged to consult their unions in order to work out practical actions, allocate responsibilities and lay down a timetable of action for the following seminar.

At the second meeting (5-6 May 1998, in Brussels) the participants presented their action programme and the pledges given. They drew up a list of potential areas for negotiating preventive action on MSD, and training needs. They suggested how the campaign could be structured and what tools the ETUC and TUTB needed to set up (brochures, Newsletter, training, etc.). Tasks covering the different aspects of the campaign were also allocated between national trade unions.

The discussions were taken forward in the ETUC's Working Environment Committee in September 1998 and April 1999.

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Questionnaire N°. 2 - replies and documents received from: *ABVV/FGTB (Belgium), BECTU (United Kingdom), CC.OO (Spain); CFDT (France), CGIL-CISL-UIL (Italy), CGT (France), CSC (Belgium), IG Medien, GHK (Germany), LO-S (Sweden), LO-N (Norway), NNF (Denmark), SAK (Finland), TUC (United Kingdom), UGT (Spain), UNISON (United Kingdom).*

Data (not)available

The sources of information on MSD, and on work-related accidents and diseases generally, vary widely in detail, quality and availability. All national unions report dissatisfaction with official information systems, which are neither adequate to describe the range of disorders nor assess their health impacts. Often they reflect only the characteristics and diversity of the compensation systems themselves. The differences between compensation systems and between the lists of legally and medically recognized occupational diseases makes it impossible to get a detailed view of the size of Europe's MSD problem. The recent (1999) Eurostat report (see box below) confirms this view and makes recommendations for improvements.

So we need to go beyond the occupational disease statistics and bring in other sources, like national health systems and subjective, industry sample surveys which can help signpost European and national trends (see box p. 14).

The legislative framework

All EU countries have legislation covering prevention of both general and specific risks; occupational disease legislation covering insurance, compensation and

Making Data comparable

The Eurostat report (A., Karjalainen, S., Virtanen, European Statistics on Occupational Diseases - Evaluation of the 1995 Pilot Data, *Eurostat - Population and Social Conditions 3/1999/E/N°. 2)* comes out of the pilot study (EODS) launched by the Commission in 1991 to achieve comparability of data on recognized occupational disease in the Member States. It analyses the data on a sample of 31 classes of recognized occupational disease recognized in the 15 Member States in 1995 (57,444 cases out of a total 89,735), stressing their limits and how they might be improved:

- More detailed estimates by the Member States of the reference populations for national recognition systems.
- A clearer definition of the inclusion criteria by type of disease (for the MSDs cited, "The various paralyses included should be coded, or at least carpal tunnel syndrome should be separately identifiable and consistently included into the same code by all Member States"; "The different types of bursitis to be included (site, acute/ chronic) should be defined and the coding should enable identification by site of bursitis").
- A more detailed classification of diagnosis should be used. Expressing disability as a percentage without any clear definition does not enable the severity of the consequences of the disease to be assessed. Also, because some States recognize diseases at different stages of development, it is important to distinguish incident cases from older ones which have become more severe during the reference year.
- States often collect data according to different criteria; for example, "The data from NL represent notifications from a selection of company physicians and is far from representative of the whole working population". "The data from S do not represent recognised cases, but cases reported by the employer and completed with the diagnosis from the physician". The data from Greece do not represent the entire workforce, which makes it difficult to compare them with the other data.
- The data reflect not only the occurrence of diseases, but also the way in which the concept of an occupational disease has been integrated into the social security system. "Even for severe diseases, e.g. mesothelioma or asthma, the reporting rate is likely to be low, if the financial level of social security is not affected by the decision (for example, the case of NL and S)". The questionnaires used in the study to determine the national recognition criteria for a sample of diseases should also be used for all other occupational diseases (including MSD).
- The current figures probably underestimate occupational diseases, especially those which may be caused by non-work-related factors (some MSDs, mental ill-health or fatigue). More harmonized data would improve analysis of this aspect.
- The medical diagnosis and causative agent should be coded separately, and diseases due to old exposures (cancer) clearly differentiated from those due to recent exposures (allergy), in the European Schedule of Occupational Diseases.
- Some diseases (respiratory allergies) should be notifiable; the problems of harmonization this may create are compensated by the benefit of rapid data collection.
- "It is advisable not to rely on only one source of information when supervision of health and safety at work is concerned".

Directive 89/391/EEC
Article 6.2d.
(The employer shall take the measures necessary for) "adapting the work to the individual, especially as regards the design of work places, the choice of work equipment and the choice of working and production methods, with a view, in particular, to alleviating monotonous work and work at a predetermined work-rate and to reducing their effect on health".

Directive 90/269/EEC
Article 3.1.
"The employer shall take appropriate organizational measures, or shall use the appropriate means, in particular mechanical equipment, in order to avoid the need for the manual handling of loads by workers".

Directive 90/270/EEC
Article 3.2.
"Employers shall take appropriate measures to remedy the risks found, on the basis of the evaluation referred to in paragraph 1, taking account of the additional and/or combined effects of the risks so found"
(the risks being "risks to eyesight, physical problems and problems of mental stress").

Directive 89/655/EEC, as amended by Directive 95/63/EC, Article 5a
"Ergonomics and occupational health - The working posture and position of workers while using work equipment and ergonomic principles must be taken fully into account by the employer when applying minimum health and safety requirements".

Directive 98/37/EC
Article 1.1.2d, Annex I.
"Under the intended conditions of use, the discomfort, fatigue and psychological stress faced by the operator must be reduced to the minimum possible taking ergonomic principles into account".

Directive 89/686/EEC
Article 1.2.1.3, Annex II.
"Any impediment caused by PPE to movements to be made, postures to be adopted and sensory perception must be minimized; nor must PPE cause movements which endanger the user or other persons".

Beyond the figures

- 45% of EU workers describe their jobs as monotonous, and 37% say they do repetitive tasks. The pace of work (speed and deadlines) increased sharply between 1991 and 1996; 49% of workers claimed not to have been consulted on changes in work organization having an impact on their working conditions. The most common work-related health problems are back pain (30% of workers), stress (28%) and muscular pains (17%), (Paoli, 1997).
- The Eurostat pilot study (1999) indicates that MSD were among the ten most frequent occupational diseases in 1995: "Paralysis of the nerves due to pressure" (code 506.40, for example "carpal tunnel syndrome", 3,392 cases), "Osteoarticular diseases of the hands and wrists caused by mechanical vibration" (code 505.01, for example "arthrosis" of the wrist, 2,539 cases), "Angioneurotic diseases caused by mechanical vibration" (code 505.02, for example "hand arm vibration syndrome", 2,454) and "Diseases of the periarticular sacs due to pressure" (code 506.10, for example "bursitis" of the knee and shoulder, 2,305). The incidence calculated in the report differs widely from one State to another.
- In the United States, "*the number of repeated trauma cases increased dramatically, rising steadily from 23,800 in 1972 to 332,000 in 1994 - a 14-fold increase*" (NIOSH, 1997).
- In France, the statistics reveal a sharp increase in cases of MSD recognized as occupational diseases: 1981: 430; 1993: 3165; 1995: 4710, (CNAM, 1997). "*Overall, 3.4 million people - 28% of the work force - are exposed to MSD. Of these, 13% continually repeat the same movements at high speeds, 8% habitually work in stressful postures, and 7% do both*" (French Employment Ministry, 1997) (Hernan-Le Roy and Sandret, 1997).
- "*Overall, women factory workers are most exposed to joint strain, especially the lower-skilled ones, who account for 75% of those exposed*", chiefly in the leather, clothing and food processing industries, as well as in service industry jobs like check-out staff (French Employment Ministry, 1997).
- In the United Kingdom, during the period 1985-1995, "*The single most common cause of an over-3-day injury to employees was injury while handling, lifting or carrying (35%). (...) the proportion of handling accidents has remained constant since 1991/1992. In 1995/96, there were 44,404 over-3-day incidents, and 1114 major injuries reported to the enforcing authorities*" (HSE, 1997) (Dickinson, 1997).
- In Spain, in 1997, 64% of the workers interviewed said they had to stay in one position or perform repeated movements during part of the working day. Almost 45% of building workers, 35% of manufacturing workers and 30% in the service sector reported exposure to repeated movements for over half the day. 69% of workers who replied to the questionnaires claimed to suffer MSD in lower back, neck and chest. Manufacturing and building workers had more lumbar pains, while service sector employees suffered more neck problems (INSHT, 1998).

rehabilitation; and public health legislation covering prevention and treatment for the general public. These three systems are often interconnected and integrated differently in the different countries.

The first group of legislation is now mostly based on the common rules in the European directives, especially Framework Directive 89/391/EEC and some of its individual directives like Manual Handling Directive 90/269/EEC, VDU Directive 90/270/EEC and Directive 95/63/EC amending the Work Equipment Directive, all adopted under article 118A of the Treaty (see box opposite)[1].

The essential safety requirements for equipment design are laid down in Directives enacted under article 100A of the Treaty, chiefly Machinery Directive 98/37/EC (under review) and PPE Directive 89/686/EEC, and filled out in voluntary technical standards which give new products a presumption of conformity with the Directive (see box opposite). These technical standards are drawn up by CEN - the European Committee for Standardization - which is currently working on a series of draft European standards addressing aspects directly related to MSD (see A. Ringelberg's article p. 39).

It might be inferred from this that the broad statutory principles to protect workers' health were now in line, but that would be to disregard the differences which may appear when directives are incorporated into national legislation (Vogel, 1997 and 1998), in most cases as little more than the minimum requirements set at European level. The Community health and safety Directives may be a major gain in which the trade union movement's contribution was decisive, but many issues remain unresolved, such as the rights of workers' representatives (Walters, 1997) especially in small firms, the functions of multidisciplinary prevention services, health surveillance, MSD risk factors and other insufficiently covered risks (like vibrations and other physical agents), over-general prevention criteria, etc. Nor, of course, has there yet been an exhaustive evaluation of how the Community directives are being put into workplace practice in the different Member States.

In the medium-term, the legislative differences in countries applying to join the EU will also have to

[1] Article 13 "Pattern of work" of Directive 93/104/EC of 23 November 1993 (adopted under article 118A of the Treaty) concerning certain aspects of the organization of working time re-enacts article 6 of the Framework Directive and specifically refers to "breaks during working time" as one of the measures to be taken into account in order to adapt the work to the worker.

be reckoned with. The CEECs are hurrying to amend their laws to incorporate the acquis communautaire (established body of Community laws and regulations) which they had no hand in drafting, and so are finding it very hard to strike the right balance between their existing framework and the new European laws.

The second group of legislation - on occupational disease insurance schemes - is anything but harmonized. Commission Recommendation 90/326/EEC[2] updated the first European schedule of occupational diseases (dating from 1962) and added a further list of diseases whose occupational origin was suspected but not proven, recommending that Member States introduce them into their national laws. Six years later, however, the Commission Communication COM(96)454 recognized that diseases suspected to be of occupational origin were still different in each country. Mostly, they are still defined in exhaustive, insufficiently harmonized lists (e.g., Italy recognizes very few MSD, Germany a limited number, while France has a more extensive and detailed list). Often, there are also supplementary open lists of diseases for which workers can claim compensation if they can clear the difficult hurdle of proving cause-and-effect between their disease and working conditions.

The third group - public health legislation - reveals a striking division between occupational health policies and public health policies which often keeps epidemics of multifactorial work-related disease invisible - yesterday, asbestos-related cancers, now other occupational cancers, MSD, allergies. The costs created tend to be foisted onto the community health care system but, above all, the information "collected" by family doctors, specialists or hospitals is not used for collective prevention in the workplace, while information on workers' health is very rarely fed back into public health practitioners' knowledge bases. Any attempt to make occupational diseases more visible, reintroduce them into the prevention cycle, look for, identify, treat and prevent them by forging closer and more effective links between the different health sectors must be encourage (see box below).

Trade unions acting across the spectrum

Trade unions across Europe are engaged in an ongoing major offensive against MSD in widely differing ways according to country. The TUTB survey and task force meetings revealed that trade unions in the United Kingdom[3] have been campaigning on MSD since 1993, publicizing victims' fights to gain recognition for their complaint, training employee representatives in negotiating skills, stressing the economic benefits of prevention and, generally, putting out information to anyone capable of arguing the victims' case.

In France, the CFDT, for example, has mounted comprehensive campaigns in the metalworking, retail, and food industries focussed chiefly on the links between work organization, diseases and compensation. Also, the different union organizations have an effective say in decision-making bodies in the social security system and regional health funds. Their efforts have paid off in the form of two recently-published schedules on compensation for chronic lower back disorders caused by certain vibrations and those caused by the manual handling of heavy loads (Decree N°. 99-95 of 15.2.1999).

In Spain, the CC.OO. has concentrated on information and training for workers' representatives to promote surveys (to identify symptoms and risk factors) as a

Closer integration of public and occupational health

Local health authorities in Spain are setting up systems to detect and prevent certain occupational diseases with short latency periods as part of a redistribution of health responsibilities between the Autonomous Communities in a bid to bring to light disorders which escape the traditional national workplace policing systems (Factory Inspectorate, mutual insurance organizations).

Between 1993 and 1998, for example, the Barcelona CSL (*Centro de Salud Laboral* - occupational health centre) assisted by the medical services of five of the city's CAPs (*Centros de Atención Primaria* - early warning centres), identified 103 potentially work-related diseases, including 86 cases of MSD (66 women), chiefly in the cleaning industry, meat and retail trades and administrative services. 68 workers then agreed to meet CSCST (*Centro de seguridad y condiciones de salud in trabajo* - centre for occupational health and safety) specialists, and the disease was confirmed as having a work-related origin in 41 cases. In agreement with the workers, the CSCST then audited and recommended improvements to the working conditions in 19 workplaces.

Source: A. M., Sánchez Miguel, Programa Treball al CAP – Vigilancia y prevención de enfermedades relacionadas con el trabajo por los servicios de atención primaria de salud, Jornadas *Caducas o trabajas?* , CC.OO., Madrid, 25-26 may 1999.

[2] Annex I of the Recommendation lists other MSD than those considered in the Eurostat study (1999): 506.21 (*Diseases due to overstraining of the tendon sheaths*), 506.22 (*Diseases due to overstraining of the peritendineum*), 506.23 (*Diseases due to overstraining of muscular and tendinous integrations*), 506.30 (*Meniscus lesions following extended periods of work in a kneeling or squatting position*).

[3] Owen Tudor, "The TUC experience on campaigning on MSD" - ETUC Campaign on MSD - first preparatory meeting, Brussels, 17-18 March 1998.

basis for workplace negotiations to improve working conditions, increase the visibility of MSD cases, and gain recognition for them as occupational diseases. CC.OO. has worked with the TUC and LO-DK under the European Leonardo programme to produce training materials for prevention reps which can be used in awareness-building campaigns in the different countries. The focus for action has been metalworking firms (aeronautics industry) and those in sectors where the risks of fragmentation and growing job insecurity are particularly high, like hotel chambermaids, supermarket check-out staff, transport, clothing manufacture.

In Italy, CGIL, CISL and UIL handle compensation claims, but have focussed chiefly on direct workplace action to improve working conditions. The actions are usually initiated by local trade unions and led by the workers' representatives with strong technical backing from the local public health institutions and a highly proactive stance by the criminal courts.

Trade unions in Norway are working for public insurance systems to give individuals effective rehabilitation and a pathway back to work. Agreements have been reached giving workers the right to refuse to carry out certain types of very heavy handling. Danish unions have agreed on an action plan with employers to halve new MSD cases by the year 2000, and are rolling out industry-wide campaigns in the textile and food sectors, for example.

Reducing the incidence of MSD has been a primary aim of occupational health in Sweden since the Eighties; LO-S adopted a programme in 1991 on changing work organization to address MSD, one major success of which was the new regulations brought in in 1998 (see next page).

In 1997/99, trade unions - mainly in the United Kingdom, Denmark, Spain, France, Belgium and the Netherlands - brought in general programmes of action on MSD. The European federation of textile industry unions (FETHC) launched a joint industry study on MSD with the TUTB, the European federation of public service unions (EPSU) collected national experiences and the European federation of building and wood workers (EFBWW) put the issue at the top of its agenda. In the United Kingdom especially, self-help groups like the RSI Association and the National Back Pain Association also kept up the pressure.

Some trade unions have produced handbooks, tools and materials on how their national MSD campaigns were launched.

A European trade union communication strategy may be necessary to boost the effectiveness of national efforts. Suggestions have been made[4] on the fundamentals: starting the communication

Trade union awareness-building campaign materials

The following non-comprehensive list gives some idea of the range of materials produced by trade unions in Europe for their action and awareness-building campaigns.

- In the United Kingdom, the TUC's "*WRULD Campaign Pack*"; the Unison guide for trade union campaigns: "*A handbook for Unison safety representatives Campaigning on Health & Safety*" and its practical guides to the application of the Directives: "*Display Screen Equipment Regulations 1992*", "*Manual Handling Operations Regulations 1992*".
- In Denmark, the food industry union NNF mounted a wide-ranging campaign (1997) using depictions of assembly-line work, audiovisual materials, case studies, logoed items, leaflets, posters, etc.
- In Spain, CC.OO. (1998) staged conferences, produced risk assessment guides, posters, the information sheet *Eh!*, industry-specific training materials for the textile, retail/hospitality and metalworking industries, and role play-based schemes.
- In Germany, the media and printworkers' union IG Medien published an MSD information sheet "*TIP Gesundheitsschutz*" N°. 7 (1995), while the wood, building and metalworkers' unions GHK, IGM, IKK produced a brochure on manual handling of loads, with photos and drawings illustrating relevant solutions to practical problems "*Den Rücken schonen: Rükgrat zeigen*" (1998).
- In France, the CFDT (1997) set up training and seminars, and produced posters and leaflets describing case studies in the electronics industry and poultry processing plants (see "Dossier TMS: le travail en question" in *CFDT magazine*, N° 229, September 1997).
- In Belgium, the FGTB (1998) distributed an explanatory brochure on the issue.
- In Italy, documents were published on actions launched by industry federations like the FIOM (metalworking/car manufacture) in Turin (see Internet site, www.pmt.cgil.it/fiompie/626.htm) and the Milan branches of the CGIL, CISL and UIL's women's coordinating committee "*Donne-Salute-Lavoro*" ("*100 gesti al minuto. Donne o macchine?*") in electronics, industrial laundry, food, chemicals and service industries.

process by "active listening", taking care not to "inflate numbers, overstate facts and processes in order to impress public opinion" which "then may become convinced that nothing can be done in front of a thus overwhelming fate" resulting in distrust. The "media's habit is exactly to "shoot" a statement or a story, to handle it with the maximum of overtones for a definite period and then to let it drop abruptly. And this is the worst damage a social or political campaign can suffer".

Instead, we need to provide reliable scientific information, tell "the real story" of individuals and of groups, but also reach the audience in a relevant way which allows for their preconceptions and avoidance strategies (prevention/compensation, work/daily activities as causes of disease, active/passive acceptance of technologies, etc.). It is important to exchange ideas, observe behaviour patterns and learn the lessons of other experiences. Putting questions and problems rather than offering answers and solutions adds new dimensions to solutions that were not clearly understood and rallies support for the action.

National trade unions have campaigned on four types of demand:
• follow-up on European and national legislation and official measures;
• ensure that European regulations and technical guides are kept up-to-date;
• facilitate exchanges of experiences;
• ensure greater consistency in measures incorporating Directives into national legislation.

Pending the final version of the report commissioned by DGV from the European Agency in Bilbao on risk factors for work-related neck and upper limb MSD, a series of currently available key documents could provide a basis for regulatory or technical harmonization at European level:
• the new Swedish regulation (AFS 1988: 1, "Ergonomics for the prevention of MSD") which offers a cogent review of all risk factors for MSD, including psychosociological aspects, and the guide (available from: http://www.arbsky.se/provisi.htm) to apply it in practice (see M. Bjurvald's article p. 36);
• the guides and codes of practice published in some countries (Spain, Italy, United Kingdom, Norway) to implement the Manual Handling of Loads Directive[5];
• the integrated approach to risk factors proposed by an extended IEA panel of experts (1999) for the assessment of exposure to repetitive upper limb movement (see article by E. Occhipinti and D. Colombini p. 22);
• the controversy which has dogged the OSHA's attempts to draft ergonomic protection regulations since 1990 (see box) show the size of the problem, but also the hurdles to be cleared in trying to introduce into America a method of ergonomic risk management based on an - albeit not too onerous - obligation to carry out a preventive evaluation with participation by employees.
Clearly, awareness-building campaigns must continue to run alongside initiatives to tighten up the rules in order to increase public awareness of the problem. Training provision must also be developed for employee representatives at both local workplace level and transnationally to spread information on victims' rights, case studies which signpost possible solutions, methods of evaluating physical and psychosocial factors, and negotiating tools.

The OSHA draft standard: a benchmark document

The draft put out by the OSHA for discussion on the Internet excludes agricultural, construction and maritime activities. Where there are manufacturing or manual handling jobs in a workplace, the employer must set up a system to identify hazards and inform workers, which includes employee participation. Where workers have already reported MSD or a known hazard exists, the employer must set up a job analysis and hazard control programme, provide medical management and training, and evaluate the effectiveness of the programme. If the evaluation shows that the programme is not controlling the hazards, the employer must correct the deficiencies. If the evaluation shows it is functioning properly, the employer must keep the controls in place and evaluate them again after three years. The standard also includes a guide with practical information on carrying out risk assessments.

OSHA (1999), *Working draft of a Proposed Ergonomics Program Standard*. Available at: http://www.osha-slc.gov/SLTC/ergonomics/ergoreg.html

The challenges of prevention

Among the difficulties encountered in implementing measures to prevent MSD, unions report employers' resistance to change (United Kingdom), the pressure of the jobs shortage (France) and the failure of companies to see any financial benefit in it (Austria, United Kingdom).

Workers in all countries generally fear reporting their disease, with all that implies for prevention and compensation. A work-related incapacity may still put a worker out of a job. That seems to hold true for all countries, with varying consequences according to the state of collective labour relations. That is a striking comment on the balance of power in the

[4] G. Cesareo, "Suggestions for an ETUC campaign on MSD", ETUC Campaign on MSD - first preparatory meeting, Brussels, 17-18 March 1998.

[5] Min. de trabajo, INSHT (1998), *Guía técnica para la evaluación y prevención de los riesgos relativos ala Manipulación Manual de cargas*; A., Grieco, E., Occhipinti, et al. (1997), Manual handling of loads: the point of view of experts involved in the application of EC Directive 90/269, *Ergonomics*, 40, 10: 1035-1056; *Guidance on Manual Handling Operations Regulations*, UK, 1992; Lisbet Samdahl Hoiden (1997), Regulation in Norway on the subject - Manual Handling - Directive on heavy load and repetitive, monotonous work, *Proceedings of the 13th triennial Congress of the International Ergonomics Association*, 571-573, Tampere.

workplace and the failings of national employment legislation as well as the legislation incorporating the Framework Directive's provisions on workers' participation in managing their own health and safety.

Many companies, of course, have introduced so-called safety incentive programmes based on management bonuses. Unfortunately, these often put additional pressure on workers to keep quiet about their afflictions, and in most cases encourage under-reporting of accidents and especially diseases (Pransky, Snyder *et al.*, 1999).

Workers have to protect their jobs - even dangerous ones - and fragmentation of the workforce works heavily against this problem being put on the collective agenda. Workers also find it very hard to get the risks recognized and prove the link between their disease and their work. Trade union action is vital to break down this isolation, spread knowledge, provide tools and reassert the fundamental right to a job which is consonant with human expectations.

Trade unions have written guides to risk assessment - like Unison's *Work- it's a risky business* (1996) in the United Kingdom and the joint ISTAS/TUTB guide *Risk assessment at the workplace. A guide for union action* (Boix and Vogel, 1999). Methods usable by workers to analyse work organization and risks must be developed at national and workplace level. These methods must be based on existing data - like sick leave for disease or accidents -, but must also be open to the collection of new data, and focus on systematic job observation, symptoms audits, the analysis of work schedules and work pace. Data on the development of MSD by non-specifically exposed workers may also be necessary to compare incidence rates and so confirm the work-relatedness of disorders detected at work (Batevi, Menoni *et al.*, 1998).

Under European law, employers have a strict legal obligation to perform a risk assessment. Many, however, only carry it out and follow it up when forced by trade union action. Union reps can then socialize the experience of those actions by working out case studies and good practice.

A wide range of research and experiences with evaluating exposure to physical risk factors for MSD is under way using a variety of methodologies, some of which have been field-validated to varying degrees (Li and Buckle, 1999). Questionnaire-based methods have also been developed to evaluate the psychological aspects of MSD (Lindström, 1997). The National Research Council study (1998) describes methods of intervention and ways of evaluating the effectiveness of the changes achieved, by comparing a group involved in an intervention with another group which was not, or comparing observations made before and after the changes. Some of these results should be usable, bearing in mind that they need to be constantly improved and validated by research and experience with workers. Better than setting hypothetically "safe" occupational exposure limits would be to produce assessments by which to identify clearly unacceptable conditions or take immediate action and determine the direction of workplace changes to be promoted.

A previous issue of this *Newsletter* reported (Verde, 1997) on some of the tools which have been developed to identify the hazards and assess the risks of MSD in practice. Some are immediately usable, like "body mapping"[6] - a quick way for workers to describe their subjective symptoms by sticking different coloured self-adhesive flags to the parts of their own body where they have a particular feeling (red - pain, green - continuous pain, black - stress, etc.). Other methods, based on the observation and logging of working conditions, can be included in a participatory method which strikes the best practical balance between the requirements of rigorous analysis and immediate action to reduce the risks of MSD. The fact that some situations can only be described by using instruments of growing complexity and precision is no reason for putting off direct changes to jobs (see the article by J. B. Malchaire and N. A. Cock p.27). The TUTB is shortly to publish a compilation of risk estimation methods and proposed check-lists usable by machinery designers and union reps alike (A. Ringelberg, *Risk Estimation for MSD: Guidelines for Machinery Designers and Workers' Representatives*, TUTB, in press).

Generally, assessing MSD exposure takes an overall and complex approach: a psychosociological approach to tasks, a physiological one to movements, because the consequences flow from tasks or movements, or both at once, as well as existing social/workplace barriers, like the gender division of labour. So, a full and effective job analysis means taking into account the sector, organization (see F. Daniellou's article p. 32) and type of work - e.g., repetitive, monotonous - the work station and the distinguishing features of the workers, their type of training, and gender (Messing *et al.*, 1999).

Other key issues to emerge from the TUTB survey relate to the need for closer links between workers, their representatives, occupational health services and public enforcement agencies. Trade unions condemn the general difficulty in getting consistent diagnoses and effective treatment, and because these are relatively new diseases, occupational health doctors and inspectors are often unaware, unprepared, and in some cases, not sufficiently

[6] Body of Evidence, *Hazards 61*, January/March 1998.

independent from firms (United Kingdom, France, Greece, Spain).

The lack of properly harmonized diagnostic criteria[7], weak legislation, the need for a multidisciplinary approach, and the relative complexity of new analytical methods[8], make it essential for trade unions to have access to the technical and scientific expertise of public and multidisciplinary services. In the latter, which may administer employee's pay-related contributions (like the "Mutuas" in Spain), trade unions exert a decisive influence in increasing the effectiveness and reliability of their methodologies (Li and Buckle, 1997) and commitment. Effective links with potential sources of scientific expertise, the research community, occupational health doctors, as well as general public health agencies, ergonomists, designers, local, national and more broadly European public enforcement agencies must also be strengthened.

Compensation - disparate and insufficient

Compensation systems also differ widely between Member States, ranging from an excessive number of individual funds in Greece each applying different case assessment criteria, to a unified single national insurance scheme which in most countries covers most sectors, but again with national variations. The most striking differences are in the public sector and agriculture. Employment status is another area where systems differ, especially for self-employed and family workers, who are only partially covered. The Funds also have completely different functions in each country: some simply administer the medical, legal and compensation aspects (Italy), while others have significant powers to act directly in the workplace through information and risk prevention (France and Germany), and in research (INRS in France); they are often generalist but sometimes industry-based (Germany).

The TUTB study brought to light clear disparities between compensation systems, which in most cases cannot provide data of sufficient quality or quantity to mount preventive actions. Many scheduled occupational diseases are not actually admitted as such, and those that are differ from one country to another. The procedure may be started in very different ways with different degrees of decision-making independence and guaranteed protection for workers. In Italy, for example, doctors must report the suspected disorder to the inspection agencies, and so to the national legal service; in France, workers can notify their insurance organization and the labour inspectorate directly; in Spain, workers must inform their employer first, and trust in him to report it (Otero Sierra, Varona, Chau *et al.*, 1997).

In some cases, the statistics only include diseases from a specific degree of incapacity upwards. Compensation is set by reference to different degrees of incapacity, so the number of compensable diseases is always far fewer than recognized ones.

The functions of insurance funds are also totally different according to the country, so a worker's right to compensation for the same disease will vary from one country to another; it may entail costly legal proceedings (United Kingdom) and frequently a challenge to the decision taken by the agencies concerned (France, Italy, Austria, Germany). In most cases, compensation levels offer no incentive.

Finally, the key issue of permanent disablements and the opportunities offered victims for compensation through the criminal courts remains an open question. In most Member States, trade unions play a key role in giving workers legal advice. Striking a balance between compensation and prevention where the costs of the one are not a bar to the other are still in many cases a challenge to the union, employers and the public authorities.

Impact of selected MSD in Europe (1995)
(Incidence rate/million)
(Eurostat, 1999)

	506.40	505.01	505.02	506.10
EU	26	20	19	18
B	34	600	7	32
DK	0.4	15	49	13
D	0.3	7	3	6
EL	-	-	-	-
E	40	24	(*)	47
F	154	4	2	73
IRL	-	6	-	1
I	0.1	11	0.3	0.2
L	6	-	-	37
NL	-	-	-	-
A	1	6	(*)	2
P	4	1	-	29
FIN	14	-	8	23
S	48	23	19	6
UK	14	-	95	11

(*) Included under 505.01

The recent Eurostat report (1999) (see table p. 19 and note 2) confirms the lack of consistency between compensation systems in the different countries. Prevention must remain the top priority, but there should also be better and fairer guarantees of access to care, recognition and compensation of occupational diseases (and accidents) throughout

[7] See, e.g., report EUR 14768 EN written by a working group of the European Commission's DGV under Recommendation 90/326/EEC: "Information notices on diagnosis of occupational diseases", 1997.

[8] In a recent article: Occupational Musculo-Skeletal Disorders of the Upper Limbs due to Mechanical Overload, *Ergonomics*, Vol. 41, N° 9, September 1998; D. Colombini, E. Grieco and E. Occhipinti offer useful guidance for tackling MSD. Working from epidemiological data, they propose a methodology based on a new concise index for risk assessment (OCRA), a health surveillance system, and principles for equipment and work environment design.

the European Union.

More must be done to provide effective rehabilitation for injured workers and reaffirm the principle of adapting the work to the individual rather than the other way round.

Conclusions: pathways to action

While it has not provided a detailed panorama of country-to-country variations in risk - nor was it intended to - our survey has helped pinpoint certain key issues and emerging trends.
The findings of the Dublin Foundation, Eurostat and the national surveys - which, albeit incomplete, are significant pointers - confirm that MSD is a very widespread problem in Europe and is growing in the developed world. The replies to the questionnaires from trade union experts involved in the workface realities, confirm it to be a major problem.

There are two basic lines of attack through traditional trade union and legislative channels. Firstly, prevention, i.e., action to change existing working conditions (environment, organization) so as to eliminate MSD factors at source; and secondly, identification, remedial action, compensation and more effective rehabilitation when damage results from hazard exposure.

For prevention, **technical benchmarks for equipment design, validated by trade unions**, must be established. Notwithstanding the limits of the New Approach, setting stringent technical requirements in voluntary standards would be a significant achievement. Two key processes are currently under way: the Machinery Directive and standard EN 292 Parts 1 and 2 are being amended; and the prEN 1005 series of draft standards on safety of machinery to provide biomechanical evaluation methods for MSD risk factors are at the public inquiry stage. Also, the TUTB's "Ergonomics Guide" could itself soon become a type B European standard[9], thereby giving added importance to ergonomic design principles in machinery design.

However, prevention is above all a workplace issue between employers and workers faced with using equipment supplied by designers and manufacturers, and coping with new forms of work organization. Here, we have to address not just the gains but also the limitations of the framework of European laws as they stand, and the way they are incorporated, and especially implemented, in national law.

That framework could be improved by **new regulation at Community level, such as through a stocktaking of existing directives**, taking up the GMB's 1993 initiative for a proposal for a directive, and tightening the legislation up more in line with recent Swedish provisions. The draft directive on physical agents (vibrations), the conclusions of the Bilbao Agency's study of MSD for DGV and the national reports on the application of the VDU and Manual Handling Directives will be the basis for discussions on MSD in the tripartite Luxembourg Committee this year.

Matters could also be moved forward at national and European level by **harmonizing or just distributing the guides and codes of practice already produced in some countries**, like those on manual handling in Spain, the United Kingdom, Italy and Norway, and those on all MSD exposure situations in Sweden. **The various national trade unions absolutely must exchange experiences**. Rory O'Neill's brochure *Europe under strain*, shortly to be published by the TUTB, will give a bird's eye view of European and international trade union initiatives.

Workplace action requires **the most consistent, effective and recognized scientifically reliable instruments for the multifactorial analysis and monitoring of workplace safety and health conditions**. The IEA technical group document, for example, shows that an international consensus does exist on a methodology based on integrated multifactorial indicators which includes work organization elements (breaks) for the exposure assessment of upper limb repetitive movements.

Workers must validate the outcomes of using these methods in the workplace and feed back their findings as input to new preventive measures. Workers' representatives have a pivotal role in identifying and assessing the influence of work organization factors on MSD. The "Topic Centre MSD-good practices" set up by the Bilbao-based European Agency[10] will doubtless prove a key source of benchmarks in the matter.

Finally, the experiences and means of trade union action deployed in recent national campaigns could be incorporated in **targeted training and coordinated action schemes** at industry level or for transnational works councils, for example.

What the MSD issue also shows is how unfitted existing compensation and rehabilitation systems are to cope with an epidemic of injuries: differences between systems, unharmonized, uncodified diagnoses and causes, inadequate compensation, too few job rights, need to strengthen rehabilitation programmes. The Eurostat report at least offers a basis for improving the reliability and comparability of data. We must also - but this is beyond the scope of this article - look hard at the criteria used to set priorities for the use of social security resources and

[9] CEN/TC/AH wi 122083: *Safety of machinery - Guidance for introducing ergonomic principles and for the drafting of ergonomics clauses.*

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Website: www.osha.eu.int.

to guarantee consistent, high levels of public health in Europe.

Finally, we must continue to **strengthen the links between workers' representatives, public enforcement agencies, medical and multidisciplinary services**. Maximum effectiveness can be achieved for actions to prevent MSD by incorporating a multidisciplinary approach combining technical, medical and scientific knowledge and practices. It is essential to keep close tabs on the debate on the application of the Framework Directive's provisions on "preventive services" currently under way in the working group of the Commission's DGV Consultative Committee. The opportunity to build close and effective links with preventive services is a top priority, not just for across-the-board action in cases where conflict is unavoidable, but also where cooperation with employers is possible. ■

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