



Fit For Work?

Musculoskeletal Disorders and the Lithuanian Labour Market



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About The Work Foundation

The Work Foundation is a not-for-profit organisation that aims to inspire and deliver improvements to performance through improving the quality of working life via a unique combination of rigorous research and strong advocacy links with senior policymakers and business leaders.

Our research is grounded in strong conceptual and theoretical foundations, and conducted by researchers with a high level of expertise in both academic and applied work.

The Work Foundation is committed to widely disseminating its research findings in an accessible format to a range of audiences and stakeholders nationally and internationally, including employers, policy makers, practitioners, and employees. Furthermore, such dissemination is central to our mission to improve productivity, enhance quality of working life, develop the vision of 'Good Work for all' and the future of work more generally. Our ambition is to shape the public conversation about work and to influence the future performance of organisations.

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1. Executive summary

The economic downturn is hitting Lithuania hard. The consequences for the Lithuanian labour market have been especially difficult, partly because of the speed with which unemployment has risen, with all its individual, social and economic ramifications. The health of Lithuanian workers is also giving serious cause for concern. A high proportion of the workforce is not healthy enough to drive the improvements in productivity which Lithuania needs to compete in an increasingly globalised, knowledge-based economy when the up-turn comes. There is also overwhelming evidence that worklessness is, itself, bad for health and that job retention and rehabilitation back into work can positively affect physical health, psychological well-being and raise people out of poverty.

Among Lithuanian people of working age, diseases of the musculoskeletal system and connective tissue are the second cause of disability. In 2007, they constituted up to 50 per cent of all occupational diseases, and the cases of recognised musculoskeletal disorders (MSDs) is increasing. Early diagnosis, intervention and adequate rehabilitation is needed to reduce the burden of these conditions on Lithuanian individuals and society.

The 'Fit for Work?' project

This project, part of a wider programme of work across 25 European and other countries, has looked in some detail at the impact that MSDs have on the working lives of thousands of workers, the adequacy of the treatment and support they receive, their experiences at work, the effect of their condition on their family and colleagues, and the human and financial costs involved. Specifically, we have looked at back pain, work-related upper limb disorders (WRULDs) – two groups of conditions which are usually characterised by non-specific and short episodes of pain and incapacity – and rheumatoid arthritis (RA) and spondyloarthropathies (SpAs), specific conditions that are often progressive and increasingly incapacitating. We conducted a review of the recent academic and practitioner research on the relationship between these MSDs and labour market participation, and conducted interviews with acknowledged experts in this field.

In September 2009, we disseminated the findings of our research to a European audience in Brussels, with the aim of stimulating and developing debate, policy and practice across each participating country and the EU as a whole.

The Impact of MSDs on the Lithuanian workforce

MSDs have a significant impact on people's ability to work; not only on an individual but an aggregate basis. Together, they affect the productivity and labour market participation of thousands of Lithuanian workers. Evidence suggests that:

- Back pain is a very common complaint in Lithuania. It is widespread among professions, and about 38 per cent of workers report work-related back pain;
- Around 35 per cent of the workforce report having experienced muscular pain in their neck, shoulders and upper limbs. Among workers in the spinning industry, this percentage reaches 55 per cent;
- The prevalence of RA has been estimated to vary between 0.47 and 0.65 per cent. RA has a strong effect on people's ability to work and work disability is about 52 per cent higher among Lithuanian people with RA compared to the general population. People's productivity is also badly affected by RA. Among patients at work, the average sick leave is 31.9 days compared to the national Lithuanian average of 10.8 days. Based on a prevalence rate of 0.65 per cent, the total costs of RA to Lithuanian economy have been estimated to be 101 million euro per year;
- Spondyloarthropathies (SpAs) have a prevalence of 0.84 per cent in Lithuania. They include several other chronic inflammatory conditions such as ankylosing spondylitis (AS) and psoriatic arthritis (PsA) and have a great affect on people's ability to work. For AS, for example, reported unemployment rates are three times higher than in the general population.

Looking to the future, with prospects for an ageing workforce, it is likely that the incidence and effects of MSDs will intensify and worsen rather than improve in the medium-to long term. We are concerned that this will affect the quality of working life of many Lithuanian workers and that the productive capacity of the Lithuanian workforce will be adversely affected at a time when we need it to be on top form.

What can be done?

We believe that there are a few main principles which key stakeholders should focus and work on if they want to improve not only the working lives of workers with MSDs, but ultimately the ability of the Lithuanian economy to deal with the current economic downturn.

- **Invest in the health and wellbeing of the Lithuanian population.** This will allow you not only to reduce health expenditure without compromising people's right of access to health care services and treatments but also to reduce social expenditure for compensating illness, improving labour productivity and enhancing the competitiveness of private and public sector organisations.
- **Take seriously the existing evidence that the proportion of the Lithuanian workforce with MSDs is likely to grow over the next few decades.** This would require not only to increase the number of occupational health specialists, but also better and clearer guidelines for the provision of health care services in general, and

rehabilitation in particular, to people with MSDs. To help address the issue, you might want to consider initiating a multi-stakeholder working group.

- **Early intervention is essential.** The overwhelming evidence is that long periods away from work are usually bad for MSD patients – the longer they are away from work, the more difficult it is for them to return. Early action, preferably in partnership between GPs, the patient and their employer, can help those with MSDs to keep their jobs and to achieve a balance between the individual's need for respite and their need to work. For some MSD patients early access to physiotherapy or to drug therapies can reduce the severity, impact or progression of the condition – a delay in diagnosis or treatment can make recovery, job retention or rehabilitation much more difficult. Once the economic upturn arrives – which it assuredly will – the Lithuanian economy cannot afford for its recovery to be inhibited by a shortage of skilled, motivated and healthy workers.
- **Focus on capacity not incapacity.** Employers and employees can 'catastrophise' MSDs, imagining their effects to be far more serious or insurmountable than is strictly the case. Most workers with MSDs can continue to make a great contribution at work if they are allowed to. They do not need to be 100 per cent fit to return to work – a little lateral thinking will allow managers to give them useful work to do that supports them on their journey back to full productive capacity. For example, if GPs were asked to issue a 'Fit Note' rather than a 'Sick Note' then it would be clearer what the worker was still able to do at work. This approach is being introduced in the UK, and should be considered in Lithuania too.
- **Imaginative job design is the key to rehabilitation.** Although the concept might be new in Lithuania, evidence from other countries shows that managers can change the ways work is organised (including simple changes to working time arrangements) to help prevent MSDs getting worse and to help people with MSDs to return to work. They need to do this in a way which preserves job quality, avoids excessive or damaging job demands and takes heed of ergonomic good practice. It's important that workplaces are adjusted to the individual characteristics and needs of each worker, and according to health and safety requirements

The evidence presented in this report illustrates that a large proportion of working age people in Lithuania are, or will be, directly affected by MSDs in the coming years. This can have very significant social and economic consequences for these individuals and their families, it can impede the productive capacity of the total workforce and parts of Lithuanian industry, and it can draw heavily on the resources of both the health system and the benefits regime.

We have found important clinical, epidemiological, psychological and economic evidence and expert opinion on the nature, extent and consequences of the MSD problem in Lithuania.

However, there still seems to be a lack of coherence or 'joined-up' thinking and action which focuses on the MSD **patient as worker**. While the number of advocates of the biopsychosocial model as it applies to all MSDs is growing, we noted that some of those who can have most impact on fulfilling the labour market participation of workers with MSDs have yet to embrace its principles as fully as they might.

2. Introduction

2.1 After a decade of very strong economic boom, the Lithuanian economy has been severely impacted by the global economic and financial crisis since 2008. The latest world economic outlook projection forecasts real GDP to decline by 18.5 per cent in 2009 and by 4 per cent in 2010. The fiscal situation is also challenging. Tax revenues have declined sharply with the economic contraction. To contain the impact on the deficit, a sizeable fiscal consolidation of 7 per cent of GDP was approved in 2009. Nonetheless, reflecting the legacy of generous wage and benefit increases in the boom years, government spending continued to grow, rising by almost 8 per cent year-on year through the end of August 2009 and pushing the central government deficit to almost 6.5 percent of full-year GDP. Without additional consolidation, the deficit would widen further as revenue continues to suffer and additional spending needs arise, notably from growing unemployment and debt service.¹

**Why is
workforce
health
in Lithuania
important?**

Although the unemployment rate rose only marginally in the first half of 2008, a fall in the total vacancy rate has been observed (Lietuvos Bankas, 2008). Youth unemployment is still a big problem. It is nearly twice as high as the total unemployment rate, and the percentage of young people in paid employment is well below the EU average (25.2 vs 36.3 respectively) (Ministry of Social Security and Labour, 2008).

Along with skills, training and qualifications, one of the most significant drivers of labour productivity is workforce health and well-being. Having a significant proportion of the working age population either temporarily or permanently unable to work through ill-health – even in a favourable economic climate – can reduce the aggregate level of labour productivity in an economy, and damage the competitiveness and effectiveness of private and public sector employing organisations. Of course a significant burden of ill-health or chronic disease can also have a number of damaging social consequences.

Now that economic growth is slowing, and that the buoyancy of the Lithuanian labour market is diminishing, the imperative to maximise labour productivity and to ensure that the workforce is equipped to take full advantage of the up-turn in the economy has intensified still further.

Improving the health and wellbeing of the workforce means reducing health expenditure without compromising people's right of access to health care services and treatments as formulated by the European Charter of Patients' Rights.² It also means reducing social expenditure for compensating occupational illness, improving labour productivity, enhancing the competitiveness of private and public sector employing organisations, avoiding

¹ <http://www.imf.org/external/np/ms/2009/100509.htm>

² http://www.activecitizenship.net/images/stories/media/EuropeanCharter/carta_ing_def.pdf

loss of employees' experience, and reducing costs in hiring and training new employees. Of course facilitating access to work for people affected by ill-health or chronic disease is a necessary and further requirement to provide new dynamism to a stagnant economy.

As unemployment keeps rising, it will be important to ensure that those with illness or long-term conditions are not disproportionately affected. This turnaround in fortunes has a number of important implications.

Firstly, unemployment and job loss have serious financial and health consequences for individuals. Studies have shown widespread deterioration in aspects of physical and mental well-being among those who lose their jobs which can persist for many months (Armstrong, 2006; Brinkley, Clayton, Coats, Hutton, and Overell, 2008).

Secondly, it is essential that job loss is not concentrated in the most vulnerable parts of the workforce, especially among those with a disability or with a long-term or chronic health condition. Finding ways of improving job retention for these workers is vital as we know that, once they become detached from the labour market, their chances of finding meaningful work again are severely damaged.

Thirdly, once the upturn arrives – which it assuredly will – the Lithuanian economy cannot afford for its recovery to be inhibited by a shortage of skilled, motivated and healthy workers. It is on this last point which much of this report focuses.

Despite the benign economic conditions, the health and well-being of the Lithuanian workforce has given cause for concern for a number of years, and these concerns will continue in the light of both the economic downturn and of the ageing of the workforce. A number of other indicators suggest that workforce health will remain an important priority for policy-makers and employers for the foreseeable future; according to official statistics from the Statistikos Departamentas:³

- In 2008, more than 26.6 thousand people of working age were granted disabled status;
- In 2008, expenditure on pensions as percentage of the GDP increased by 0.9 compared to 2007, and 1.3 compared to 2006;
- Between 2006 and 2009 the number of beneficiaries of work incapacity pensions has risen from 30.7 thousand to 120.9 thousand;⁴

³ <http://www.stat.gov.lt/en/pages/view/?id=1542>

⁴ Since 1 July 2005, state social insurance work incapacity pensions are awarded to individuals aged 18 years or over who are treated as incapable or partially capable to work in accordance with the law on the Social Integration of the Disabled

- In Lithuania, among people of working age, diseases of the musculoskeletal system and connective tissue are the second cause of disability after diseases of the circulatory system;
- In 2005, diseases of the musculoskeletal and connective tissue constituted 42 per cent of all occupational diseases;
- The cases of recognised MSDs is increasing. Between 2007 and 2008, nearly 400 more people were granted disabled status because of MSDs;
- In 2008, 14,653 disabled people were unemployed; 5,668 were employed, and 475 were in vocational training and retraining programmes.

In addition other sources state that:

- In 2007, the State Register of Occupational Diseases registered 1,123 cases of occupational diseases among 860 people: 45 per cent presented diseases pertaining to connective tissue and musculoskeletal system; 31 per cent presented diseases of nervous system, and 22 per cent presented auricular diseases (Ministry of Social Security and Labour, 2008);
- More than 50 per cent of Lithuanian drivers experience MSDs, which are manifested through tension, pain and decreased work capacity (Obelenis, Gedgaudienė and Vasilavičius, 2003);
- A survey on occupational accidents and work-related health problems run by the Lithuanian Department of Statistics in 2007 as part of the Labour Force Survey, found that 3.65 per cent of the working population experienced work-related MSDs during the 12 months preceding the survey (3.3 per cent of men versus 4 per cent of women). Work-related MSDs constituted up to 50 per cent of all occupational diseases experienced by participants;⁵
- According to data from Institute of Hygiene, in the period 1995-2006 morbidity from occupational diseases increased four times: from 370 to 1,447 cases per year. The major growth was recorded in the years 1996-1997, 2002 and 2005.⁶

The government and social partners are formulating far-reaching reforms. However, the dominance of MSDs as one of Lithuania's biggest workforce health problem warrants further investigation.

⁵ Expert interview

⁶ Expert interview

2.2 In the European Union (EU) context, concern in the European Commission and among the social partners over the prevalence and impact of work-related MSDs has been growing for several years. Chronic musculoskeletal pain (CMP) is estimated to affect 100 million people in Europe (Veale, Woolf and Carr, 2008), MSDs affect more than 40 million workers in the EU and account for about half of all work-related disorders in EU countries (European Trade Union Institute, 2007), representing an estimated cost to society of between 0.5 and 2.0 per cent of gross domestic product (GDP) (Camarota, 2005). The fourth European Working Conditions Survey (EWCS) published by the European Foundation (Parent-Thirion, Fernandez Macias, Hurley and Vermeylen, 2007) has shown that 24.7 per cent of workers across the EU experience backache and 22.8 per cent muscular pain. Indeed, the European Commission estimates that MSDs account for 49.9 per cent of all absences from work lasting three days or longer and for 60 per cent of permanent work incapacity. If the European, knowledge-based economy is to recover and compete against the US and the growing economies of Asia the health and productivity of the EU workforce must be a policy priority. This report looks at Lithuania in this wider EU context and assesses where Lithuania is doing well and where it has challenges to confront.

- 2.3** More specifically, this project has sought to address each of the following questions:
- Objectives of the study**
1. What is the impact of MSDs on employment and economic performance in Lithuania? How is this likely to change in the context of future demographic, workforce and lifestyle changes?
 2. What is the relationship between work and MSDs? What impact do biological, psychological and social factors, including work-place factors, have on MSDs?
 3. How well do employers, governmental bodies, general practitioners (GPs) and occupational health professionals understand and deal with MSDs as they relate to the work-place? How well equipped is the health sector to provide early intervention, rehabilitation and other support for people with these conditions?
 4. What early interventions can policy-makers and employers deliver to ensure that those with MSDs a) retain their jobs b) maximise their quality of working life and their contribution to society and c) maintain access to (and routes back into) employment?

In addressing the objectives outlined above, we have used the following approaches:

1. Desk research: Here we have drawn on existing published research from the medical, occupational health and health economics literature. This has enabled us to draw together the evidence on the nature, extent, impact and costs of MSDs to the Lithuanian economy, to employers and to individuals. We have examined a range of

MSDs to assess the extent to which their impact varies and where policy and practice has been both strong and weak in preventing and intervening.

2. Secondary data analysis: We have used data from domestic and European studies and surveys to examine the prevalence and costs of MSDs in the working age population in Lithuania.
3. Expert interviews: We have conducted interviews with Lithuanian experts to identify the main areas of policy and practice which need to be addressed by policy-makers, health professionals and by employers.

In addition to the wider picture, to focus the research, we have chosen to concentrate on four categories or groups of MSDs. These are:

- Back pain;
- Work-related upper-limb disorders (WRULDs);
- Rheumatoid arthritis (RA);
- Spondyloarthropathies (SpAs).

Back pain and the majority of WRULDs are categorised as non-specific and episodic conditions which may frequently be caused by, or be made worse by, work. They manifest themselves in disparate ways and may cause periods of intense discomfort and incapacity which may affect the ability of the individual worker to carry out their work. They may also abate for long periods. Many people with these conditions, such as back pain, never seek treatment and most recover on their own but the conditions can cause significant absence from work or lost productivity. Back pain and WRULDs are often included in the occupational health and safety guidelines and literature. Occupational health practitioners typically deal with these conditions.

On the other hand, RA and SpA are specific and progressive rheumatic diseases which are not caused by work, but may be made worse by work and are often handled by general practitioners and specialists, not within the occupational health arena. They are clinically diagnosed conditions that progress in a broadly predictable way, if untreated. They can have a significant impact on functional capacity at work and, in the long-term, participation in the labour market. Most people with these conditions require clinical interventions over a prolonged period of time and the management of these conditions for those of working age should involve the frequent and active participation of clinicians, employers and occupational health professionals.

Together, these MSDs illustrate the effects of conditions from which a large number of Lithuanian workers may report at any one time. Improving our understanding of the effects of these conditions, how staying in work can be beneficial, and what might be done to alleviate their impact, can yield significant social and economic benefits.

2.4
A note
on definition

In the absence of a consensus on a clinical definition of many MSDs, navigating the literature on their prevalence, incidence, diagnoses, epidemiology, treatment and cost to Lithuanian society is a difficult task. The lack of standardisation and validation of the terminology and classification of MSDs is one of the reasons for the contradictory findings in the literature regarding the diagnosis, epidemiology, treatment and rehabilitation of these conditions (WHO Scientific Group, 2003). Some clinicians differentiate between ‘musculoskeletal conditions’ and ‘musculoskeletal disorders’. The former refers to all clinical conditions affecting the musculoskeletal system and the latter, to borrow a definition from the ETUI (European Trades Union Institute, 2007), meaning ‘any affliction of the musculoskeletal system that appears at work and causes discomfort, difficulty or pain when performing work’.

In Lithuania, the term ‘musculoskeletal disorders’ is defined in compliance with the order of 28 October 1996 of the Minister of Health Care ‘On the Introduction of the International Statistical Classification of Diseases and Health Disorders (ICD-10)’, which reads as follows: ‘Diseases of the musculoskeletal system and connective tissues (M00-M99)’. Occupational diseases are defined in accordance with the ICD-10, concurrently describing the factors influencing the state of health pursuant to the biomechanical-ergonomic and physical factors indicated in the European occupational health guidelines. These factors could be defined as disorders related to:

1. Local muscular tension; monotonous movements made at a quick pace; pressure on nerve trunks, muscles, ligaments, tendons, injuries thereof; repetitive keeping in hands, lifting and relocating of loads; works related to repetitive stooping down, staying in forced working posture (on the knees, leaning forward, with hands raised, etc);
2. Vertical vibration affecting the whole body;
3. Hand-arm vibration characteristic to operating vibrant machinery.

2.5
Structure of
the report

This report is structured as follows:

- Section 3 examines the extent of MSDs in Lithuania and the impact they have on productivity and attendance at work, on labour market participation and on the wider Lithuanian economy.

- Section 4 reviews the range of interventions, including vocational rehabilitation, which can improve job retention and labour market participation among those with MSDs.
- Section 5 sets out our recommendations for employers, employees, GPs, occupational health professionals and for the Lithuanian government.
- Appendix 1 provides the list of experts who have contributed to this report.
- Appendix 2 provides a benchmarking grid in which a number of indicators covering the labour market, the welfare system and the health care system are presented for each of the country involved in the Fit for Work project.

3. Work and MSDs in Lithuania

This section sets out what we know about the impact of musculoskeletal disorders (MSDs) on people of working age in Lithuania. It uses data, research and interview evidence from Lithuanian sources where this is available, and paints a picture of the challenges faced by both current and future Lithuanian workers, their families, their employers and, ultimately, state agencies. It looks at four main issues:

1. The inadequacy of the data on MSDs in Lithuania and the consequences of this;
2. The impact that MSDs have on people's ability to work;
3. The impact that work can have on MSDs;
4. The wider economic and social impact of MSDs in Lithuania.

We begin by looking at data quality.

3.1
An unclear
picture

Although there have been a few attempts, it remains difficult to quantify precisely the extent of MSDs in the working age population of Lithuania. The term 'work-related musculoskeletal diseases' is little-used, and information about work-related musculoskeletal diseases is neither collected nor analysed.⁷ The system of health care disposes of information on the aggregated rate of suffering from diseases of the musculoskeletal system (without singling out those related to work) as well as on the already established occupational diseases, which account for only a part of all work-related musculoskeletal diseases.

Information on the occupational diseases is held by:

1. The Board of the State Social Insurance Fund (Valstybinio socialinio draudimo fondo valdyba, Sodra) and its territorial units;
2. The Labour Medical Centre of the Institute of Hygiene (Higienos instituto Darbo medicinos centras, DMC);
3. The National Labour Inspectorate (Valstybinė darbo inspekcija, VDI) and its territorial units;
4. Public Health Centres and their branches;
5. Personal health care institutions: Kaunas University Hospital, University Antakalnio Hospital, Vilnius, Public Institution Klaipėda Mariner Hospital and other institutions delivering preventive examination services.

⁷ <http://www.eurofound.europa.eu/ewco/studies/tn0611018s/lt0611019q.htm>

In Lithuania, more than three quarters of cases of occupational diseases are caused by physical reasons such as vibration and noise. Ergonomic reasons account for about 20 per cent. According to data from the Institute of Hygiene,⁸ in 2007 the sector with the highest number of cases of occupational diseases was agriculture (roughly 200 cases per 100,000 of population) followed by construction (about 120 cases per 100,000 of population) and manufacturing (about 110 cases per 100,000 of population) respectively. The services sector showed the lowest number of occurrences (25 cases per 100,000 of population).

Information on absence days caused by MSDs should be found, in principle, in the databases of Sodra; however, this information is neither published nor analysed.⁹ On the same note, there are no available estimates of cost of MSDs to Lithuanian society.

As for chronic MSDs such as RA and SpA, most data come from epidemiological studies, and no much is known in terms of the impact of these conditions on the working life of patients.

This is a troubling picture for a number of reasons:

- It is impossible to be accurate about the economic consequences of MSDs, their productivity impact or their social costs to the nation, to its workers and to their families.
- If, as is likely, the prevalence of MSDs increases as the average age of the Lithuanian workforce increases, the absence of good baseline data today makes forecasting the future impact of MSDs very difficult.
- Poor data make it difficult to make a compelling case for action to Lithuanian employers or to Lithuanian policy-makers.
- The benefits of clinical, labour market or workplace interventions are made all the more difficult to quantify (or justify) if there are no reliable or comprehensive data on the extent or impact of MSDs in the Lithuanian workforce.

Despite this, The Work Foundation is confident that there is sufficient evidence in Lithuania to argue strongly for MSDs to be a policy priority in the coming years.

What we do know is that, compared with other EU member states, a relatively high proportion of the Lithuanian workforce currently reports having regular backache or muscular pain (European Foundation for the Improvement of Living and Working Conditions, 2007).

⁸ Expert interview

⁹ <http://www.eurofound.europa.eu/ewco/studies/tn0611018s/lt0611019q.htm>

As demographic projections by Eurostat¹⁰ see the percentage of people over 65 years to increase to 34.7 in 2060 (well above the EU27 figure of 30 per cent), Lithuania should learn from economies with older age distributions which show that the burden of MSDs can have significant economic and social consequences, and must stand ready to anticipate and manage the almost certain growth in the coming years of what some commentators have called 'an ill-understood pandemic' (European Trade Union Institute (ETUI), 2007).

3.2 The impact of MSDs on ability to work

The impact of MSDs on individuals and their ability to work varies significantly from person to person. Attempts to measure relative work disability differ according to methods of data collection, respondent selection and definitions of work disability. Work disability usually refers to cessation of employment, reduced working hours or claiming of disability benefits. These estimates rarely include estimations of lost productivity whilst at work.

MSDs can cause work-limiting pain and fatigue which many people feel unable to disclose. Research shows that up to 30 per cent of workers with conditions such as rheumatoid arthritis (RA) are reluctant to disclose their condition to their colleagues and managers out of a fear of discrimination (Gignac, Cao, Lacaille, Anis and Badley, 2008), and 22 per cent of workers do not tell their employers about their condition (Gignac et al., 2004).

MSDs, as outlined in Section 2, can be non-specific or specific. The effects of specific MSDs are discussed below with particular reference to RA and spondyloarthropaties (SpAs). Other, largely non-specific MSDs are described in relation to two main categories, back pain and work-related upper limb disorders. The effects of pain from MSDs can thus impact on the following aspects of one's performance at work:

- Stamina and resilience;
- Cognitive capacity or concentration;
- Rationality/mood;
- Fatigue;
- Mobility;
- Agility.

An MSD can also have effects on safety aspects of work. If concentration or movement is affected by the condition or associated pain then some aspects of work may become unsafe. It must also be noted that, following diagnosis, some treatments can have significant side effects

¹⁰ <http://europa.eu/rapid/pressReleasesAction.do?reference=STAT/08/119&format=HTML&aged=0&language=EN&guiLanguage=en>

which affect an individual's ability to perform. Where particular hazards such as heavy machinery or driving are involved then safety aspects of job performance will also be of concern.

3.2.1 Back pain

Back pain is a very common complaint in Lithuania, though good data on prevalence is not collected systematically. In a study on occupational health issues among dentists, back pain was, after fatigue, (91 per cent vs 94.7 per cent respectively) the most reported physical complaint (Puriene, Aleksejuniene, Petrauskiene, Balciuniene and Janulyte, 2008). Similarly, back pain was found to be a main health issue among drug distribution companies' workers (Skemiene and Draksiene, 2004) and to a lesser extent among workers in the spinning industry (Gamperiene and Stigum, 1999).

Although the data come from a small sample, the fourth EWCS (Parent-Thirion et al., 2007) shows that 38.1 per cent of Lithuanian workers report work-related back pain. In the vast majority of patients with back pain no specific diagnosis is given.

Back pain is common, episodic, often recurrent and generally self-limiting. It is defined as recurrent if several episodes occur in one year for a duration of less than six months, acute if an episode lasts for less than six weeks, sub-acute (7-12 weeks) and chronic if it endures for over 12 weeks. Back pain is a recurrent problem for many people, although this does not necessitate that symptoms will worsen. For the majority of people pain will disappear of its own accord within four to six weeks. In a European study of people visiting their family doctors because of back pain, 65 per cent were free of symptoms within 12 weeks (van der Hoogen et al., 1998 in Bekkering et al., 2003). Recorded absence is greatest amongst the minority of individuals whose condition is chronic or recurrent. Most people who are affected by back pain either remain in work or return to work promptly. About 85 per cent of people with back pain take less than seven days off, yet this accounts for only half of the number of working days lost. The rest is accounted for by the 15 per cent who are absent for over one month (Bekkering et al., 2003).

It is important to recognise that there is a difference between having symptoms, care seeking, lost productivity and disability, and the factors that contribute to them (Burton, 2005). This means that whilst individuals may experience musculoskeletal pain (in their back, for example), it is not possible to predict their strategies for dealing with illness or injury (seeking medical attention for example), how it will affect their work performance, whether they will take time off work and whether, ultimately, they will become one of the very small minority who become

permanently disabled by their condition. The important question is therefore why, when so many people experience back pain, does it have such an adverse effect on some and not others? There is a growing consensus that psychological factors are the differentiating factor as they are strongly associated with the progression of back pain from an acute to a chronic condition that affects two to seven per cent of people (Burton, 2005), and to disability (Burton, 2005; Bekkering et al., 2003).

3.2.2 Work-related upper limb disorders (WRULDs)

According to the fourth EWCS (Parent-Thirion et al., 2007), just under 35.8 per cent of Lithuanian workers report that they have experienced muscular pain in their neck, shoulders and upper limbs. Gamperiene and Stigum (1999) found that out of the 363 spinning industry workers, 55 per cent had arms or neck pain. WRULDs are MSDs affecting the upper part of the body caused or aggravated by work and the working environment. However, there is considerable debate about the definition and diagnostic criteria for WRULDs, which are also commonly referred to as 'sprains or strains', 'repetitive strain injuries or disorders', or 'cumulative trauma disorders'. Both specific and non-specific disorders and symptoms can be covered by this category. Van Eerd et al. (2003) identified 27 different classification systems for work related MSDs, of which no two were found to be alike. The fact that a single disorder is often described in different ways only amplifies the problem. Critically, Van Eerd et al. (2003) found that the different classification systems did not agree on which disorders should be included. This definitional problem makes it difficult to calculate the number of people with WRULDs and to develop a common understanding of the associated risk factors.

Whilst no agreed classification exists there is a common consensus that symptoms of WRULDs can present in the tendons, muscles, joints, blood vessels and/or the nerves and may include pain, discomfort, numbness, and tingling sensations in the affected area. WRULDs can be specific and non-specific conditions (Aptel, Aublet-Cuvelier and Cnockaert 2002) and attempts at classification tend to focus either on the affected body area or on the cause. Examples of WRULDs by body part include the following:

- Elbow: Epicondylitis (tennis or golfer's elbow);
- Hand, wrist and forearm: Carpal tunnel syndrome; repetitive strain injury (RSI), de Quervain's syndrome;
- Shoulder: Tendinitis of the shoulder;
- Neck: Neck pain.

Classification by occupational causes refers to actions such as vibration of the hand and arm, which can result in Raynaud's syndrome, for example. The breadth of the category of WRULDs means that almost all symptoms and impacts on work associated with MSDs are associated with WRULDs. Specific symptoms and impacts of MSDs are therefore discussed in more detail below with reference to back pain, RA and SpA conditions.

3.2.3 Rheumatoid arthritis

RA is an example of a specific MSD. It is a form of inflammatory arthritis with a prevalence of between 0.3 per cent and one per cent in most industrialised countries (WHO Scientific Group, 2003). Data on the prevalence of rheumatoid arthritis derive largely from studies performed in the USA and Europe. In Lithuania, Adomaviciute, Pileckyte, Baranauskaite, Morvan, Dadoniene and Guillemin (2008) report a prevalence rate, standardized for age and sex, of 0.55 per cent; Lundkvist, Kästang and Kobelt (2008) report a prevalence of 0.65 per cent, while a recent paper from Kobelt and Kästang (2009) sets the prevalence of RA among the Lithuanian population aged over 19 years at 0.47 per cent. The disease affects people of any age, although peak incidence is in the mid age range of the working age population, between the ages of 25 and 55 years. Epidemiological studies have shown that RA shortens life expectancy by around 6-10 years.

The exact cause of RA is unknown. Evidence suggests that it is an immune reaction, presenting as an inflammation affecting joints and other tissues. Risk factors include gender, family history of RA and specific leukocyte antigen (HLA) (WHO Scientific Group, 2003). Whilst at an individual level the clinical course of RA is extremely variable, its features include pain, stiffness in the joints and tiredness, particularly in the morning or after periods of inactivity, weight loss and fever or flu-like symptoms. It affects the synovial joints, producing pain and eventual deformity and disability. The disease can progress very rapidly, causing swelling and damaging cartilage and bone around the joints. It can affect any joint in the body, but it is often the hands, feet and wrists that are affected. RA can also affect the heart, eyes, lungs, blood and skin.

The course of RA varies, meaning that it can go from a mild and even self-limiting form of the disease, to being severe and destructive within a short time (Young et al., 2000). RA is usually chronic (persistent) and people with the condition often have 'flares' of intense pain frequently associated with fatigue, although the reason for these is not known. In effect, 'flares' mean that one day someone will be able to perform their duties and the next they cannot. This can be difficult for colleagues and managers to comprehend, and can make planning workloads challenging. Managing these 'flares' in employment requires close communication and understanding between employees and employers.

The effects of the disease can therefore make it difficult to complete every day tasks, often forcing many people to give up work. Work capacity is affected in most individuals within five years from initial diagnosis (WHO Scientific Group, 2003). One review of work productivity loss due to RA estimated that work loss was experienced by 36-85 per cent of people with RA in the previous year, for an average (median) of 39 days (Burton, Morrison, Maclean and Ruderman, 2006). Young et al. (2002) reported that 22 per cent of those diagnosed with RA stopped work at five years because of their RA. Grazulevičiūtė and Dadoniene (2003) found that of all patients in the Vilnius rheumatoid arthritis registry, 24 per cent were working while as many as 58.2 per cent were disabled.

However, in some cases the condition itself is not the main or only cause of having to leave work. Indeed Young et al. (2002) found a further group of respondents who stopped work due to a combination of RA and other personal factors, giving an estimate of 40 per cent of those with RA withdrawing from the workforce because of their condition. In Lithuania, the impact of RA on work disability is important. Dadoniene, Stropuviene, Vendis and Boonen, (2004) found that age- and sex-adjusted employment was 24.2 per cent lower and work disability 51.7 per cent higher in patients with RA compared to the general population. After 10 years of disease, 48 per cent of the patients had withdrawn from the labour force. In those with a paid job, the average sick leave was 31.9 days compared to the national average of 10.8 days. Although disease activity was not significantly different in employed compared with work-disabled patients, physical function and perceived quality of life (except general health) were worse among patients with work disability.

A comparison between Norwegian and Lithuanian patients (Dadoniene, Uhlig, Stropuviene, Venalis, Boonen and Kvien, 2003) found that patients from Lithuania were less often employed (27 per cent vs 42 per cent), had higher disease activity expressed by the disease activity score, had worse physical function by the modified Health Assessment Questionnaire, had more often comorbidity (73 per cent vs 53 per cent) and reported worse general health.

3.2.4 Spondyloarthropathies

Spondyloarthropathies (SpA) represent a family of chronic inflammatory conditions which include:

- Ankylosing spondylitis (AS);
- Reactive arthritis (ReA)/ Reiter syndrome (RS);
- Psoriatic arthritis (PsA);
- Spondyloarthropathy associated with inflammatory bowel disease (IBD);
- Undifferentiated spondyloarthropathy (USpA).

Recent research on the frequency of SpAs across the European population concludes that the prevalence has long been underestimated and SpAs may have a similar prevalence rate to RA (Akkoc, 2008). Adomaviciute et al. (2008) report a SpA prevalence of 0.84 per cent in Lithuania.

Ankylosing spondylitis (AS) is a specific progressive and chronic rheumatic disorder that mainly affects the spine, but can also affect other joints, tendons and ligaments. Its prevalence in the general population is most commonly reported to be 0.1 to 0.2 per cent, with a 3:1 to 2:1 male: female ratio (Dagfinrud, Mengshoel, Hagen, Loge and Kvien, 2004). First diagnosis is often made when people are in their teens and early twenties (the mean age of onset is 26). Research suggests that there is a strong genetic component to the cause of AS. Although anyone can get AS, it affects men, women and children in slightly different ways (Dagfinrud et al., 2004). In men, the pelvis and spine are more commonly affected, as well as the chest wall, hips, shoulders and feet. Women are supposed to have a later age of onset, milder disease course, longer asymptomatic periods but more extraspinal involvement. Accurate diagnosis can often be delayed since the early symptoms are frequently mistaken for sports injuries; Sieper, Braun, Rudwaleit, Boonen and Zink (2002) suggest an average of seven years between disease onset and diagnosis. Typical AS symptoms include pain (particularly in the early morning); weight loss, particularly in the early stages; fatigue; fever and night sweats and improvement after exercise. Again, as with RA, the temporal aspects of the disease require good management to ensure that individuals can perform their job but do not make work impossible.

Approximately half are severely affected whilst others report very few symptoms. AS is generally considered to be a disease in which many individuals can maintain relatively good functional capacity (Chorus, Boonen, Miedema and van der Linden, 2002), yet reported unemployment rates are three times higher among people with AS than in the general population (Boonen et al., 2001).

Recent research has provided evidence that physical health related quality of life of people with RA (Chorus, Miedema, Boonen and van der Linden, 2003) and AS (Gordeev et al., 2009) was positively influenced by work. Chorus et al.'s conclusion was that work '*might be an important factor in positively influencing patients' perception of their physical performance*'. This finding concurs with Waddell and Burton (2006a) that, overall, good quality work has health and recuperative benefits for workers. The extent to which the workplace can have a positive or negative effect on development of MSDs is discussed below.

Psoriatic arthritis (PsA) is a form of joint inflammation affecting between 0.2 and 1 per cent of the general population (Wallenius et al., 2008) and between 10 and 20 per cent of individuals with psoriasis. No Lithuanian data on PsA were found. When joints are inflamed they become tender, swollen and painful on movement. The joints are typically stiff after resting, early in the morning or while resting in the evening. Tissues such as ligaments and tendons around the joints may also be involved. Inflammation of tendons or muscles (such as tennis elbow and pain around the heel) is also a feature in those with psoriatic arthropathy. In approximately 80 per cent of cases the arthritis develops after the appearance of psoriasis. Men and women are considered to be equally affected, and comparative studies have showed that patients with PsA have a burden of illness which is comparable to that of patients with RA or AS (Wallenius et al., 2008).

There are several features that distinguish PsA from other forms of arthritis: one pattern of inflammation is usually in the end of finger joints. Another pattern is involvement of the joints of the spine and sacroiliac joints which is called spondylitis (similar to ankylosing spondylitis). Neck pain and stiffness can occur or an entire toe or finger can become swollen or inflamed (dactylitis). There can also be a tendency for joints to stiffen up and sometimes to fuse together. Importantly the absence of rheumatoid factor in the blood helps distinguish psoriatic arthritis from rheumatoid arthritis. It is usual for the condition to develop in the teenage years. In women there may be an increased incidence following pregnancy or the menopause. As PsA affects both the skin and the joints, this has a negative impact on the quality of life of people with PsA due to emotional problems, in fact, they may experience more pain and role limitations than patients with RA (Husted, Gladman, Farewell and Cook, 2001). A higher level of mortality compared to the general population has also been reported among people with PsA (Wallenius et al., 2008).

3.3 The risk factors for MSDs are wide ranging. Whilst there is broad consensus among experts that work is a risk factor for MSDs, non-work activities such as sport and housework can contribute to musculoskeletal strain. Some studies, for example, have noted that a higher prevalence of musculoskeletal pain among working women may be linked to the fact that women are responsible for doing the majority of housework (Punnett and Wegman, 2004). Intrinsic risk factors also have a part to play in the onset and deterioration of MSDs. Some intrinsic factors can be altered, others, such as genetic predisposition, cannot.

Table 1 summarises the intrinsic risk factors for non-specific MSDs.

Table 1: Summary of intrinsic risk factors for non-specific MSDs

Intrinsic factors
<ul style="list-style-type: none"> • Obesity, height • Spinal abnormalities • Genetic predisposition • Pregnancy • Psycho-social stress: self-perception • Health beliefs: locus of control, self-efficacy, perception of disability and expectation • Family stress • Psychological stress: somatisation, anxiety and depression • Ageing

Source Adapted from WHO Scientific Group (2003)

In terms of evidence and risk factors for the impact of work on MSDs a distinction needs to be made between 'work-related' disorders and 'occupational' disorders (Punnett and Wegman 2004). Certain MSDs are recognised as occupational diseases by some European governments, such as wrist tenosynovitis, epicondylitis of the elbow, Raynaud's syndrome or vibration white finger and carpal tunnel syndrome (Eurostat, 2004). As such, the fact that work can cause and contribute to these conditions is widely recognised and the use of assessments of work-place risk to reduce the incidence of these conditions is well established.

It is clear that work is not the cause of rheumatic diseases such as RA and SpAs, though there is evidence that physical work demands, lack of support, self-stigma and lack of flexibility over working time can each make job retention or return to work more difficult (der Temple and van der Linden, 2001; Gignac et al., 2004).

The evidence linking other non-occupational MSDs and work is not conclusive and attributing cause and effect between specific aspects of work and particular parts of the body is difficult. However, many of the established risk factors that may contribute to the development of non-specific MSDs can be encountered at work; even if work does not cause a condition it may have an impact on it. Moreover, if we consider risk factors beyond the physical, then the impact of the work-place on MSDs is likely to be much greater.

The most frequently cited risk factors for MSDs encountered in the work-place include the following:

- Rapid work pace and repetitive motion patterns;
- Heavy lifting and forceful manual exertions;
- Non-neutral body postures (dynamic or static), frequent bending and twisting;
- Mechanical pressure concentrations;
- Segmental or whole body vibrations;
- Local or whole-body exposure to cold;
- Insufficient recovery time (Punnett and Wegman, 2004).

MSDs affect employees in all kinds of industries and occupations, although some are more high risk than others, and certain occupations are associated with strain on specific parts of the musculoskeletal system.

Many jobs involve activities that can constitute a risk factor for MSDs. According to the European Working Conditions Survey, 17 per cent of European workers report being exposed to vibrations from hand tools or machinery for at least half of their working time, 33 per cent are exposed to painful or tiring positions for the same period, 23 per cent to carrying or moving heavy loads, 46 per cent to repeated hand or arm movements and 31 per cent work with a computer (Parent-Thirion et al., 2007).

Much of the attention that employers pay to the issue of MSDs and the impact of the workplace on their onset or deterioration is driven by a concern to avoid or limit litigation and ensure that they are fulfilling their duty of care, by performing workstation assessments and giving guidance on manual handling, for example. However, this neglects a wider issue that other work associated factors can also contribute to MSDs. These aspects are often missed out in the literature and advice on dealing with health and safety. Even where 'stress' is mentioned, the connection between psycho-social factors and physical conditions is omitted, reinforcing the primary focus on safety.

Generally there is an increased risk of injury when any of the physical risk factors mentioned above are combined, or adverse psycho-social factors, personal or occupational are present (Devereux, Rydstedt, Kelly, Weston and Buckle, 2004). Psychological and organisational factors can also combine with physical factors to influence the probability of an individual leaving work prematurely. Research on low back pain shows that an employee's belief that work itself produces pain precedes sickness behaviour and is a risk factor for chronic work disability

(Werner, Lærum, Wormgoor, Lindh and Indhal, 2007). Sokka and Pincus (2001) reviewed 15 studies and showed that physically demanding work, a lack of autonomy, higher levels of pain, lower functional status and lower educational levels were predictors of someone with RA leaving work early. The evidence from Sokka and Pincus highlights that it is not only the physical elements of work that can influence someone's functional work capacity and likelihood of staying in the labour market. We must also consider the psycho-social and organisational factors of work.

Psycho-social and organisational factors associated with MSDs include:

- Rapid work pace or intensified workload;
- Perceived monotonous work;
- Low job satisfaction;
- Low decision latitude/ low job control;
- Low social support;
- Job stress.

Job stress is a broad term and can result from a variety of sources such as high job demands, or a mismatch between skills and job requirements. In addition stress can result from abuse or violence at work, as well as discrimination.

Again, it is important to recognise the connection between the psychological and the physical. While job stress, including violence and discrimination at work, might lead to lost productivity due to stress or common mental health problems, it may also lead to MSDs caused by tension or strain. An increased probability of experiencing a high level of pain has also been associated with low social support, low social anchorage or low social participation (Katz, 2002). 'Good work' and the provision of high quality jobs is therefore crucial (Coats and Max, 2005, Coats and Lehki, 2008).

3.4 The wider economic and social impact of MSDs

The effect that MSDs can have on an individuals' ability to work and the time they may require to be absent from work means that MSDs have significant associated costs to the individual, their family, the employer and the wider economy. Calculating the exact costs is not straightforward (Lundkvist et al., 2008). Several factors need to be considered and obtaining accurate, reliable and consistent figures is almost impossible. However, existing figures on the economic impact of specific MSDs based on conservative approximations show that MSDs are a significant economic burden to Lithuania.

To calculate the cost of MSDs (or any illness) the following factors must be estimated:

- **Direct costs** including medical expenditure, such as the cost of prevention, detection, treatment, rehabilitation, long-term care and ongoing medical and private expenditure. They are often further separated into medical costs occurring in the health care sector and non-medical costs occurring in other sectors (Lundkvist et al., 2008);
- **Indirect costs** including lost work output attributable to a reduced capacity for activity, such as lost productivity, lost earnings, lost opportunities for family members, lost earnings of family members and lost tax revenue;
- **Intangible costs** including psycho-social burden resulting in reduced quality of life, such as job stress, economic stress, family stress and suffering (WHO Scientific Group, 2003).

These costs vary considerably depending on the condition, on the severity of the symptoms, and whether these cause short or long term absence or disability. Moreover, they vary depending on the particular methods used to calculate the costs. Some factors which affect the calculations include the following:

- Severity of patient's conditions;
- Mix of patient demographics in a study;
- Calculation method for productivity;
- Definitions of work disability;
- The treatment costs or outcomes due to treatments (the year costs were calculated is also a factor not least because treatment processes can change);
- Change in health care financing systems;
- Incidence or prevalence based estimates of costs.

Intangible costs are rarely included in cost calculations as it is almost impossible to properly express the intangible costs in monetary terms (Sieper et al., 2002). However, the evaluation of intangible costs gives useful information regarding the price paid by people with MSDs in terms of quality of life (QoL), and QoL measures should be used as further indicators to measure the effectiveness of interventions (Leardini, Salaffi, Montanelli, Gerzeli and Canesi, 2002).

Presently two measures widely used are:

1. **Disability adjusted life years (DALYs)**. This is a measure of the overall disease burden which attempts to tally the complete burden that a particular disease exacts.

Key elements include the age at which disease or disability occurs, how long its effects linger, and its impact on quality of life. One DALY, therefore, is equal to one year of healthy life lost. For example, RA accounted for 0.79 per cent of all DALYs lost in Lithuania (Lundkvist et al., 2008).

- 2. Quality adjusted life years (QALYs).** The QALY is also a measure of disease burden, including both the quality and the quantity of life lived. It is used in assessing the value for money of medical interventions and is based on the number of years of life that would be added by these interventions. A QALY gives a measure of how many extra months or years of life of a reasonable quality a person might gain as a result of treatment and helps in the assessment of the cost-utility of this treatment.

Both measures are the subject of debate, but have become accepted as helpful in making comparative judgements across medical conditions and internationally.

3.4.1 Direct costs

As mentioned above, cost-of-illness estimates require input from a number of different factors, and great variation is found across different studies. For low back pain (LBP), the most significant direct costs are related to physical therapy, inpatient services, drugs, and primary care (Dagenais, Caro and Haldeman, 2008). Nachemson, Waddell and Norlund (2000) calculated that some 80 per cent of health care costs are generated by the 10 per cent of those with chronic back pain and disability. For RA, although direct health care costs have been relatively small in the past (Lundkvist et al., 2008), a number of studies indicate that direct costs increase as functional capacity decreases – making functional capacity a major cost driver (Huscher, Merkesdal, Thiele, Schneider and Zink, 2006; Kobelt, 2007; Leardini et al., 2002).

Direct costs, compared to indirect costs, usually represent a minority of the total costs (Dagenais et al., 2008; Kavanaugh, 2005; Kobelt, 2007; Lundkvist et al., 2008). However, for RA, large cross-country variations of estimates of direct costs are found in the literature due to the different uptake of particular treatments in different countries (Lundkvist et al., 2008).

Table 2 on the next page shows some of the specific direct costs associated with musculoskeletal conditions (MSCs) in general, and RA and low back pain in particular, as found in the literature (Woolf, 2004 as cited in *The Bone and Joint Decade*, 2005; Kavanaugh, 2005; Dagenais et al., 2008).

Table 2: Direct costs associated with MSDs, RA, and low back pain

	MSDs	RA	Low back pain
Health care costs	Physician visits	Physician visits Other health professional visits	Physician visits Chiropractic visits
	Outpatient surgery	Outpatient surgery	Outpatient surgery
	Emergency room	Emergency room	Emergency room
	Rehabilitation service utilisation (physiotherapist, occupational therapist, social worker)		Physical therapy and rehabilitation service utilisation Complimentary and alternative medicine
	Medications	Medications (including administration costs)	Medications
	Diagnostic/therapeutic procedures and tests	Imaging Laboratory monitoring Toxicity (diagnosis, treatment)	Imaging
	Devices and aids	Medical assist devices	
	Acute hospital facilities (with and without surgery) Non acute hospital facilities	Hospitalisations (related to RA or its treatment): orthopaedic surgery, extended care / rehabilitation facilities	
Personal costs	Transportation		
	Patient time		
	Carer time		
Other disease related costs	Home health care services		Mental health services
	Environmental adaptations		
	Medical equipment		
	Non-medical practitioner, alternative therapy		

Source: Woolf, 2004 as cited in *The Bone and Joint Decade 2005*; Kavanaugh, 2005; Dagenais et al., 2008

Calculations of the costs of treatment tend to evaluate the clinical costs and benefits of treatments. The wider impact of people with MSDs remaining in work or returning to work early extends to the biopsychosocial and economic effects to the individual of being in work and to the reduced costs to government departments. Taking a wider joined-up approach to an analysis

of costs of treatments for illness in general and MSDs in particular may provide a different and perhaps more realistic assessment of the costs and benefits of treatments.

3.4.2 Indirect costs

There are two main types of indirect cost most commonly measured in association with ill health in employees. These are absence from work and what is termed 'presenteeism', or loss of productivity in an employee while they are at work with an illness or incapacity. Presenteeism is extremely difficult to measure and there are no Lithuanian data on presenteeism costs, rather it is measured on a case by case basis in individual studies. As a result, most estimates of indirect costs are based on absence data. However, it is worth noting some of the limitations of data collected on absence from work. The recording of sickness absence is rarely accurate. Different organisations have different ways of recording absence: in some cases employees complete records themselves, in other cases managers must record the absence for them. Employer surveys require HR professionals to complete the survey about their organisation from their records. Self-report surveys ask individual employees to complete the survey with respect to a particular reference time, for example, the previous two to four weeks. Each method has limitations, for example with the self-reported surveys, employees might report sickness on days when they were not due to work anyway. With employer surveys the responses are limited by the quality of the absence records employers keep (for example, employees do not always record absence accurately or categories for recording causes are not adequate). Employer surveys are also subject to response biases where only organisations with good methods to measure absence are likely to be able to respond quickly to the survey request. In all cases records and reports are subject to biases. Managers, for instance, tend to underreport their own absence.

Not only are indirect costs associated with sickness absence and presenteeism, but indirect costs are also associated with early retirement among people with MSDs (Dagenais et al., 2008; Alavinia and Burdorf, 2008). In the literature, high variation is found about early retirement rates depending on the country, the year of the study and the sample included. However, in most studies it varies between 30 and 50 per cent (Lundkvist et al., 2008).

However, these figures still underestimate the true cost of conditions such as MSDs. Most people with MSDs do not become disabled. In fact, whilst there is a relatively high background prevalence of MSDs, most people (even those with diagnosed conditions) continue to work (Waddell and Burton, 2006a). However, there are still potentially significant costs associated with lost productivity where people remain at work but in pain or distress while awaiting intervention or work-place adjustments. As discussed in the previous section, the indirect costs

of ill health extend beyond lost productivity of the individual, often impacting on the labour participation of family members (Pugner, Scott, Holmes and Hieke, 2000). A further extension from work-related indirect costs, are additional costs associated with hiring household help (Kavanaugh, 2005) and provision of informal care. Although informal care is difficult to identify, quantify and value (what is considered 'informal care' by some people may be considered 'normal' by others), Lundkvist et al. (2008), estimated that for RA the annual cost of informal care in Europe was equal to 2,562 euros per patient. This figure varies greatly according to the services provided by the health care or social systems and the characteristics of the labour market in each country.

3.4.3 Total costs

Calculating the costs for specific MSDs is fraught with the same difficulties as for MSDs as a whole. The majority of studies estimating the economic burden of RA have provided cost estimates specific to the US population and health care system (Cooper, 2000). The cost of AS to society is less well established (Chorus et al., 2002). More research has been done on cost in the US, Canada and other European countries, particularly the Netherlands, France and Belgium, than in Lithuania where we could not find any. However, findings across countries with respect to work disability rates are generally not directly comparable given the differences in working terms and conditions, such as the length and conditions of statutory sick pay (Sieper et al., 2002).

Based on a prevalence rate of 0.65 per cent, Lundkvist et al. (2008) estimated that the total cost of treating RA patients in Lithuania is 4,508 euros per patient per year, or 101 million euros. These included medical costs, drug costs, non-medical costs, the costs of informal care and other indirect costs, but do not differentiate between those of working age and those above retirement age. These figures are slightly lower, per patient, than those for other Eastern European countries.

The limitations of data collection outlined above highlight some of the difficulties encountered in trying to cost the impact of MSDs for employers and society.

3.5 Summary

In this section we have considered the impact that MSDs have on a person's ability to work, both physically, as a result of the condition itself, and from the associated effects, such as loss of concentration from pain. We have also discussed the impact that the workplace can have on MSDs, both at onset and during the development of the conditions. Whilst there are many intrinsic risk factors for MSDs it is clear that the workplace has the potential to expose employees to other risk factors, both physical and psycho-social. Some of the well-established

workplace risk factors such as vibrations and workstation ergonomics are already recognised by many employers and assessed in order to minimise their impact. However, the impact of other workplace risk factors, such as job quality, are not as widely understood.

We have also highlighted that it is important to distinguish between risk factors for the onset of MSDs and risk factors for chronic illness and disability. Whilst the physical conditions of work may cause or aggravate musculoskeletal symptoms, the impact or outcome on individuals (absence from work and disability) is strongly associated with psycho-social factors (Waddell and Burton, 2006b).

Finally, we have looked at the economic and social impact of MSDs and have discussed the direct, indirect and total costs of MSDs. Unfortunately, total costs estimates as found in the literature do not take into account the enormous intangible costs born by people with MSDs. This is due to the difficulty of expressing intangible costs in monetary terms. However, data for RA in particular, point out how direct and indirect costs increase with the progression of the disease. As a consequence, the development of strategies and interventions to stop this progression and ensure that those with MSDs are enabled to enjoy full and productive working lives appears necessary.

The next section will discuss for each condition the most common and appropriate interventions outside and within the workplace.

4. Interventions

The impact of MSDs, as we have seen, can be significant to the people living with them, to employers and to society as a whole. Their impact on the workforce has recently started to receive greater recognition. Whilst it is widely acknowledged that early intervention is an essential part of addressing the onset of MSDs and absence caused by these conditions, there is still some way to go before people with MSDs are given the best support possible to remain in work or return to work. Long waiting times for care, certain employer's lack of capacity to deal with sickness, lack of employee awareness about conditions and their management, and mixed messages on the effectiveness of various methods of workplace interventions or return to work programmes are all barriers to making good and healthy work a reality for those with MSDs.

This section looks at the kinds of interventions which are most likely to help workers with MSDs to stay in work, to return to work, to remain productive, to derive health benefits from work and to continue to make a contribution to society. In addition, Appendix 2 provides a wide number of indicators that may help to identify both enablers and barriers to early intervention in Lithuania, and to compare Lithuania to countries with similar or different labour market, welfare and health care systems.

4.1 The case for early intervention

Ensuring that workers who have MSDs get access to the appropriate treatment and support as quickly as possible must be a top priority for employers and health care professionals. Epidemiological studies of employees whose absence is caused by low back pain have shown that the longer the sick leave, the more difficult it is to get the employee to return to work and the higher the economic cost (Frank et al., 1998; Meijer, Sluiter, Heyma, Sadiraj and Frings-Dresen, 2006). Sick leave has also been shown to have a negative psychological impact on employees (Meijer, Sluiter and Frings-Dresen, 2005). Early intervention is therefore crucial to individual recovery and self-management, and may contribute to reducing the number of working days lost and reduced productivity caused by MSDs (although the evidence on the cost-effectiveness of specific return to work programmes is inconclusive).

However, in Lithuania, a rheumatic disease can be diagnosed as late as after five to seven years from onset of the condition. Due to the high cost of tests to diagnose these conditions and limited economic resources available to hospitals, rheumatologists tend to delay the needed tests although they recognise the importance of early diagnosis and intervention.¹¹

It is also in an employer's best interests to act early if they are to minimise the costs to the health of employees and to their business through absence. Based on a review of the available evidence Breen et al. (2005) recommend that employees and employers should discuss and

¹¹ Expert interview

adjust work within the first week. If employees have concerns about their condition they should consult a health care professional and, following referral or diagnosis, advice and planned action, a review should be conducted within four weeks.

Below, we report a Lithuanian example of workplace intervention aimed at reducing the risk of spine damage among workers of a tiles factory.

Case study

AB 'Dvarčionių keramika'

The problem

Packs of tiles had to be lifted by a manual-hydraulic system. Workers had to lean about 1,700 times per shift and lift packs of tiles weighting about 15-30 kg. As a consequence, workers were developing occupational diseases.

Type of intervention

Two robot manipulators were introduced in the workplace.

Results

The risk of getting injured was minimised. Work productivity increased, number of sick leave days dropped, and salary of workers was increased by 21 per cent.

Job retention and return to work programmes are contingent on patients receiving appropriate medical care as quickly as possible. Yet the length of time that it takes to be seen by a medical professional is a complaint that is heard frequently from individuals and employers. Moreover, since GPs are the first point of call for most people with MSDs and the signatory of sick notes, they have a vital role to play in ensuring that patients are able to manage their conditions, and are pivotal in either obstructing or facilitating an individual's return to work.

In Lithuania, some of the experts we interviewed stressed that geographical differences in provision of health care constitute a big problem. Although the country is relatively small and easy accessible by public transport, some remote places do lack specialists since they are normally based in large cities. As a consequence, those patients who live in large cities are more likely to be diagnosed earlier and to receive speedy and appropriate treatment.

4.2 It is clear that, in most EU member states, interventions made by the social security system can make a significant difference to citizens of working age with long-term, chronic or work-disabling conditions. The beginning of state social insurance in Lithuania is considered 23 March 1926 when the then President of the Republic of Lithuania Mr. Aleksandras Stulginskis signed the Law on State Social Insurance System. The state social insurance system was destroyed by the state funded Soviet social maintenance system. All benefits, as well as pensions were paid from one centralised budget and financed from the general taxes. After the reestablishment of independence, the social security system was rearranged in 1990. Social maintenance was differentiated into the separate fields of social protection and care and state social insurance with separate financing sources – budgets. For the implementation of social insurance, the State Social Insurance Fund (hereinafter – the Fund), 'Sodra' for short, was established. The main function of the Fund is to collect social insurance contributions, also to award and pay pensions, allowances and other benefits. Activities of the Fund are organised and implemented by the Fund Board under the Ministry of Social Security and Labour (hereinafter – the Fund Board) and territorial offices subordinate to it, as well as other institutions.

**The social
security
regime**

Approximately four thousand employees work in the entire state social insurance system. The financial basis of the Fund and the guarantee of its functioning is the budget. It is autonomous and not dependent on the state and municipal budgets.

Currently, state social insurance comprises the biggest part of the social insurance system. Pension, sickness, accidents at work and occupational diseases, health and unemployment social insurance is provided. The state social insurance system covers the majority (83 per cent) of residents of the country: whilst some people pay social insurance contributions, others are recipients of social insurance benefits. In 2007, 1 million 78 thousand different types of social insurance pensions were granted by the Fund to 588.9 thousand beneficiaries.

In 1991 the Fund became a member of the International Systems Security Association (ISSA). From 1 January 2004, pension accumulation insurance was commenced – the transfer of a part of the social insurance contributions payable to the Fund Board on voluntary basis for accumulation in the pension funds was validated. From 2004, after Lithuania became a member of the European Union, the migration of people in foreign countries became more intense. Seeking to ensure social protection of persons migrating between foreign countries, state social insurance is coordinated at the international level.¹²

¹² <http://www.sodra.lt/get.php?f.3962>

4.3 For those with specific musculoskeletal conditions, speedy referral to the appropriate specialist for investigation and treatment is usually vital. Those with MSDs can experience numerous problems associated with long term care, including long waits, failure to undertake a multidisciplinary approach, poor advice on pain management, and a lack of clear integrated pathways. Notwithstanding this, there are a number of condition-specific interventions which have been shown to be effective in improving job retention and return to work.

Condition-specific interventions

However, the Lithuanian health care system is failing in providing an efficient rehabilitation service for people with musculoskeletal conditions. Not enough money is allocated for rehabilitation which means that, in the majority of cases, patients have to pay for their own treatment. In addition, the current legislation do not provide a clear outline of which rehabilitation treatment is provided by the national health care system and to what extent, making it very confusing for patients as well as for physicians.¹³

4.3.1 Non-specific MSDs

The primary focus of this report has been to examine the interventions and other factors which affect job retention, labour market participation and job quality among those with MSDs. As we have seen, there is evidence that physical impairment can represent a barrier to each of these aspects, but that many people – even those with serious and chronic incapacity – can and do lead full and fulfilling working lives. Since back pain and the majority of work-related upper limb disorders are not diseases to be cured and there is very limited evidence that prevention is possible, it has been argued that the focus of treatment should be on returning to the highest or desired level of activity and participation, and the prevention of chronic complaints and recurrences (Burton, 2005; Bekkering et al., 2003) rather than eradicating the cause of the problem or returning to normal function.

Whilst treatment to ease or relieve the symptoms of non-specific MSDs will always be a priority, medical intervention is not necessarily the only, or the best route to recovery or helping those with non-specific MSDs to manage their condition. In fact, for non-specific conditions, an individual's recovery and chances of returning to work can be adversely affected by 'over-medicalising' their condition. The limitations imposed by sick notes, statutory sick leave and formalised return to work programmes may serve to reinforce the 'illness' of the patient and can tie employers hands. Based on evidence that psycho-social factors are a determinant of chronicity and disability in those with back pain, there is a strong argument for re-conceptualising this condition and its treatment, which has important lessons for other types of non-specific musculoskeletal pain (Burton, 2005).

¹³ Expert interviews

Waddell and Burton (2006b) summarise the challenge neatly in their work on vocational rehabilitation. They point out that, whilst many non-specific MSDs do not have clearly defined clinical features and have a high prevalence among the working age population, most episodes resolve themselves and most people with these conditions remain at work or return to work very quickly. In their view, a focus on incapacity alone can be unhelpful:

*‘..the question is not what makes some people develop long-term incapacity, but **why do some people with common health problems not recover as expected?** It is now widely accepted that biopsychosocial factors contribute to the development and maintenance of chronic pain and disability. Crucially, they may also act as obstacles to recovery and return to work. The logic of rehabilitation then shifts from dealing with residual impairment to **addressing the biopsychosocial obstacles that delay or prevent expected recovery.**’ (Waddell and Burton, 2006b, p.7) [bold in original text]*

The biopsychosocial model is an explanatory framework that recognises the importance of psychological and social factors in determining how MSDs cope with their conditions. We will describe it in more detail in Section 4.4.

4.3.2 Rheumatoid arthritis

The importance of effective and early treatment of rheumatoid arthritis in reducing joint damage and disability is now widely acknowledged (Pugner et al., 2000). Since there is currently no ‘cure’ for RA, the focus of treatment is on controlling signs and symptoms, enabling the patient to manage their condition and improving quality of life. Medical treatments for RA are directed at suppressing one or other part of the joint damaging processes, the effectiveness of which have improved in recent years. Since it is well documented that the functional capabilities of RA patients will decline over time, it is critical that patients should be treated as quickly as possible with disease-modifying anti-rheumatic drugs (DMARDs) to control symptoms and disease progression (Scottish Intercollegiate Guidelines Network (SIGN), 2000). One study found that there is a 73 per cent risk of erosive damage in patients who wait over a year between symptom onset and referral to rheumatology clinics (Irvine, 1999 in Luqmani et al., 2006).

Clinical evidence is also growing which demonstrates that anti-TNF drug therapies can have a more powerful effect on RA than DMARDs, especially in improving job retention and work participation (Halpern, Cifaldi and Kvien, 2008). Unfortunately, only approximately 1 per cent of all rheumatic patients in Lithuania are treated with anti-TNF therapies.¹⁴ The low uptake of biologic treatment in Lithuania compared to other European countries is confirmed by Kobelt

¹⁴ Expert interview

and Kästang (2009) who estimated that after Bulgaria, Poland, Romania and Latvia respectively, Lithuania has the lowest proportion of patients treated with biologics.

However, medical interventions in the form of drug therapy to control inflammation and disease progression, and surgery to redress structural damage are only part of managing the care of RA patients. Other important elements include patient education and empowerment, practical self-management to help deal with symptoms and specialist support to help live with the disease and its consequences. The effective management of RA has to involve not only the clinical team (including GPs, consultant rheumatologists, physiotherapists, occupational therapists, chiropodists, podiatrists, pharmacists, primary care nurses and orthopaedic surgeons), but the participation of the patient and, ideally, their employers. Social workers also have their role to play.

4.3.3 Spondyloarthropathies

Prompt referral to specialists for confirmation of diagnosis and the start of treatment is also essential for those with AS and other rheumatic conditions. Since (similarly to RA) there is no cure for AS, the aim of therapeutic intervention is to reduce inflammation, control pain and stiffness, alleviate systemic symptoms such as fatigue, and to slow or stop the long-term progression of the disease. The prescription of non-steroidal anti-inflammatory drugs (NSAIDs) or anti-TNF drugs coupled with regular physiotherapy forms the current basis for the treatment of AS.

As AS typically affects relatively young people, its potential to disrupt or even curtail an individual's labour market participation may be significant. As we have discussed, there are important clinical, social and economic benefits to keeping these patients in work as long and consistently as possible. Depending on the severity of their condition, AS patients can benefit from work-place adjustments, flexible working arrangements, exercise regimes and physiotherapy (Boonen et al., 2001).

4.4 The biopsychosocial model and work

The biopsychosocial model advocates that clinicians, occupational health professionals and others should assess the interplay between the **biological** (eg disease, joint damage), the **psychological** (eg disposition, anxiety) and the **social** (eg work demands, family support). Clearly, the psychological disposition and behaviour of a patient can have a significant impact on the way a physical 'injury' (such as back pain) is approached by a patient. In some cases the patient risks entering a self-reinforcing cycle of incapacity, delayed recovery and even depression if their dominant response to pain is to 'catastrophise' it. Of course there may be many factors which affect an individual's disposition to 'catastrophise', including personality,

previous medical history, levels of family support or job satisfaction (Sullivan and D'Eon, 1990). It is evident that the interaction of the biological, psychological and social dimensions can have a significant impact on the development, progression of, and rehabilitation from, a musculoskeletal condition.

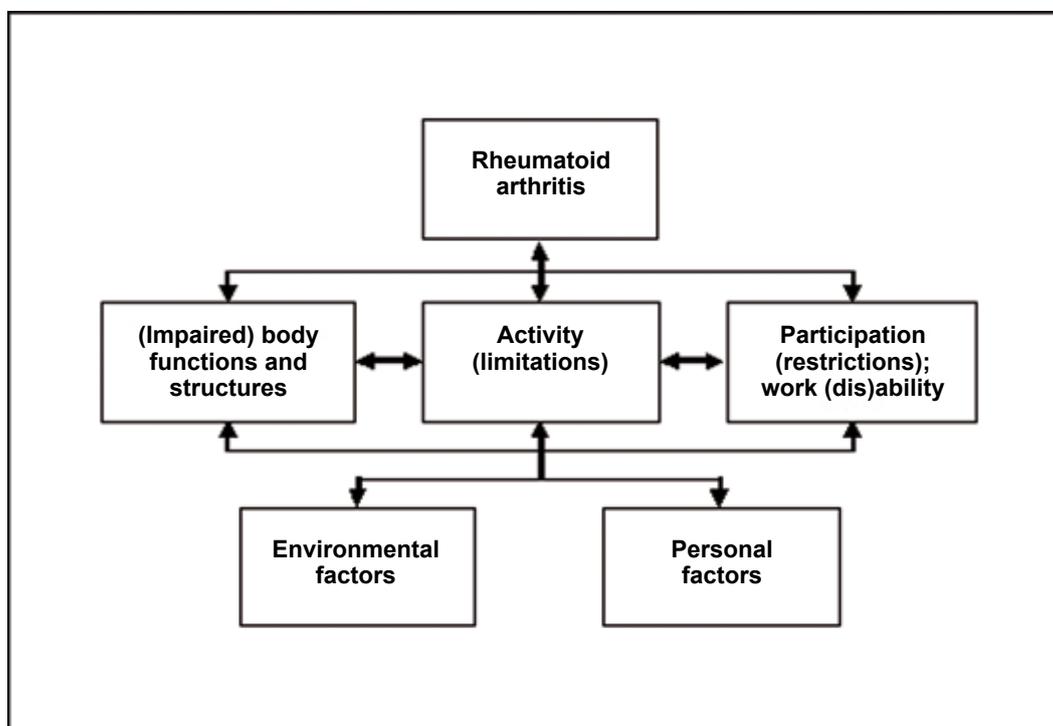
Since it was first proposed in the late 1970s, a growing body of evidence has developed to support the biopsychosocial model. For example, research has demonstrated that job dissatisfaction can be an important predictor of speedy and successful return to work (Bigos, Battie and Spengler, 1992). On the issue of social support, studies have shown that limitations in functioning attributable to MSDs can stress family systems and lead to family conflicts if the patient is unable to perform normal family duties (Hamberg, Johansson, Lindgren and Westman, 1997; MacGregor, Brandes, Eikermann and Giammarco, 2004; Kemler and Furnée, 2002). On the other hand, an overly solicitous family (or, by extension, manager or colleague) may reinforce MSD patient passivity and encourage the patient to adopt a 'disabled' role (Kerns, Haythornthwaite, Southwick and Giller, 1990; Block, Kremer and Gaylor, 1980).

De Croon et al. (2004) looked at the research on work disability among people with RA and concluded that psycho-social factors were often a better predictor of work disability than standard bio-medical factors. In Figure 1 on the next page, the authors highlight how wider environmental and personal factors enhance the explanatory power of the *International Classification of Functioning, Disability and Health* (ICF) in the case of work disability and RA.

Some critics of the biopsychosocial model (McLaren, 2006) have focused on this last point, highlighting concerns that this approach may encourage or 'permit' helplessness in some patients or that, in other circumstances, it may alienate patients who feel that they are being told that their condition is 'all in the mind'. Clearly, care must be taken in the way that clinicians and others mitigate these risks, but the balance of the literature – and of the expert opinion offered during the course of our interviews – is strongly in support of the biopsychosocial model and its role in informing the management of MSDs in both clinical and occupational settings (Smyth, Stone, Hurewitz and Kaell, 1999; Carter, McNeil and Vowles, 2002; Zampolini, Bernardinello and Tesio, 2007). Indeed, it forms the basis of the World Health Organisation's *International Classification of Functioning, Disability and Health* (ICF) which has been widely embraced as an authoritative guide for vocational rehabilitation (WHO Scientific Group, 2001).

An example of successful intervention to reduce sickness absence based on the biopsychosocial model is provided by Ektor-Andersen, Ingvarsson, Kullendorff and Ørbæk (2008). In their study Ektor-Andersen et al. developed a tool based on the cognitive behavioural

Figure 1: ICF model applied to work disability in RA



Source: de Croon et al., 2004

theory (CBT) method of functional behaviour analysis according to which risk factors for long-term sick leave due to musculoskeletal symptoms were identified in four different domains: the community, the workplace, the family/spare time and the health care system. Care-seekers were examined by each member of the interdisciplinary team and risk factors were identified and classified as stable or dynamic. Dynamic factors were the ones the care-seekers and the team agreed to intervene on. Some of these interventions involved CBT sessions and other focused more on physiotherapy which were then administered for a year. Results from the study showed that this type of intervention is effective in significantly reducing sick leave and social security expenditure only four months after the intervention started. Although the cost-benefit analysis presented by Ektor-Andersen et al. (2008) underestimates the total savings by only taking into account social security costs, the costs of this type of intervention are balanced out by the reduced costs in sickness allowance during the first year.

As Waddell and Burton (2006b) have argued, the goals of the biomedical model are to relieve symptoms, whereas the goals of clinical management informed by the biopsychosocial model – especially in occupational settings – should be to control symptoms and to restore function. This

suggests that employers contribute to the 'social' part of the biopsychosocial model and that their actions can make a difference to the outcome for individuals with MSDs.

4.5 4.5.1 Awareness of conditions and their management

The role of employers

Many employers remain unaware of the nature of MSDs, both in terms of the immediate impact on functional capacity at work and, where relevant, the manifestations and progression of the conditions. For example, employees with RA or SpA may be susceptible to periodic 'flares' of inflammation and severe pain followed by fatigue and possible depressed mood. Unless employers are aware that these symptoms are expected or 'typical', they can adopt an unhelpful or over-cautious approach to return to work.

Whilst the message about manual handling and work design may have got through to many employers, the fact that absence and even reduced work requirements can be counter-productive has yet to become common currency. Changing attitudes and raising awareness about the management of MSDs is an important part of reducing their burden to employers and society. However, it is not just employers that need to know more about MSDs and their treatment. One of the most persistent (and pernicious) myths about back pain, for example, is that bed rest is the best solution. Health promotion campaigns have been shown to be effective at getting the message across that experiencing pain does not necessarily mean that the condition has worsened or that being active is bad for you (Buchbinder, Jolley and Wyatt, 2001). This demonstrates that with sufficient commitment and investment from central government, campaigns of this scale can have an impact on public perceptions of common MSDs.

4.5.2 Intervention and adjustment of work demands

Not only has evidence shown that work is good for you but returning to modified work can help recovery (Feuerstein et al., 2003; van Duijn and Burdorf, 2008). Among occupational health specialists, the use of vocational rehabilitation has long been an accepted mechanism for ensuring that individuals with illness, injury or incapacity can return to work (even to perform adjusted work) as soon and as sustainably as possible. There have been concerns that rehabilitation is not well-integrated into mainstream clinical practice and that return to work is not seen by a sufficient proportion of clinicians as a valued outcome for the patient (Frank and Chamberlain, 2006). It is also important to stress that vocational rehabilitation is not the preserve of professionals. In practice effective management is as, if not more important than formal rehabilitation.

Yet, employers, if they think about this at all, invariably consider the physical job demands which need to be met by an employee with an MSD. The biopsychosocial model requires that the

mental demands of the work are also considered as part of the return to work process. There is a growing body of work which shows that adjusting a variety of work demands can support successful return to work among those with a range of MSDs (Schultz, Stowell, Feuerstein and Gatchel, 2007; de Croon et al., 2004; Feuerstein, Shaw, Nicholas and Huang, 2004; Chorus, Miedema, Wevers and van der Linden, 2001). The success with which both employee and employer can manage the process of re-adjustment during return to work can also depend on the beliefs that both parties have about the extent to which the work itself is (at least in part) caused by or related to the incapacity.

There are numerous types of work-based intervention for assisting those with MSDs, ranging from ergonomic adjustments to providing access to physiotherapy, modifying work programmes to cognitive behavioural therapy, or a combination of various strategies. Evidence on the success of these interventions at tackling non-specific MSDs is mixed (Meijer et al., 2005).¹⁵ A systematic review of multidisciplinary treatments of patients with low back pain, for example, demonstrated that whilst the treatment improved function and decreased pain in individuals, it could not be demonstrated that this was linked to employees returning to work earlier than those who had not received it (Guzman et al., 2001). Whilst biomechanical or ergonomic factors may be related to the onset of back pain, evidence that interventions based on these principals will prevent re-occurrence or progression to chronicity is thin on the ground (Burton, 1997). In fact, it has proved virtually impossible to determine whether one treatment is significantly more effective than another (Ekberg, 1995). Even for specific conditions such as RA, the evidence for the effectiveness of vocational rehabilitation is slim (Backman, 2004; de Buck, Schoones, Allaire and Vliet Vlieland, 2002).¹⁶

There is nonetheless broad agreement on the principles for managing non-specific MSDs, particularly back pain, that are outlined in Box 1 on the next page. This includes advice and a number of relatively simple measures for employees and employers to follow on how to deal with back pain.

This requires employers to think beyond their statutory duty to address health and safety risks, and to recognise that sickness absence management, effective return to work programmes and rehabilitation are, at bottom, principles for effective management (Waddell and Burton, 2006b). Much is dependent on raising awareness about how to manage the symptoms of MSDs amongst employees and their managers, and ensuring that the latter have the skills and confidence to support employees in work.

¹⁵ Findings from an evaluation of the effectiveness of return-to-work treatment programmes were inconsistent

¹⁶ Backman, 2004 found only six studies for the period 1980 to 2001

Box 1: Principles of managing non-specific MSDs

- Early treatment should be sought for back pain.
- Most back pain is not due to a serious condition.
- Simple back pain should be treated with basic pain killers and mobilisation.
- It is important to keep active both to prevent and to treat back pain.
- Getting back to work quickly helps prevent chronic back pain.
- Adopt the correct posture while working.
- All work-place equipment should be adjustable.
- Take breaks from repetitive or prolonged tasks or postures.
- Avoid manual handling and use lifting equipment where possible.
- Clear information should be provided to employees about back care.
- Health and safety policies should be implemented to cover all aspects of day-to-day work and should be reviewed regularly.

Source: Health and Safety Executive (HSE), 2002

4.5.3 Line managers

What is clear is that the role of line managers in early intervention is crucial, both in work retention and rehabilitation. Yet many line managers feel ill-equipped to manage long-term absence and incapacity. They may find aspects of mental ill-health or chronic incapacity awkward and embarrassing to talk about or confront, and are concerned about challenging or asking for more information about GP sick notes, making home visits or telephoning staff at home for fear of being accused of harassment or falling foul of the law and landing themselves and their organisation in a tribunal. They are also ignorant of, or uncomfortable with, the idea of rehabilitation. Although the Employment Equality Act requires employers to make 'reasonable accommodation' to support employees with long-term illness or injury, most line managers find job re-design difficult, irritating and disruptive.

Given that MSDs are one of the most common work-related health problem, and the importance of psycho-social factors in determining whether employees remains in work or return to it as soon as they can, managers need to have the skills to deal with staff who have them, or the costs to their organisation may be significant, particularly for small and medium enterprises. Small employers also have issues with employees with MSDs, as their absence from work can have, potentially, more impact on customer service, productivity and business performance.

4.5.4 Improved employer-clinician dialogue

On the face of it, many of the return to work challenges faced by employees with MSDs may be improved if there was an improved level of mutual understanding between employers and clinicians. As highlighted above, the clinical appreciation of most MSDs by employers can be cursory to say the least. It is often argued that most GPs, in their turn, have little or no appreciation of the vocational or occupational dimension of many MSDs. Occupational health in Lithuania is a rather new concept, and medical students spend a very small proportion of their time learning about occupational health, whilst musculoskeletal training for GPs has been found lacking (Akesson, Dreinhofer and Woolf, 2003). In addition, many GPs feel uncomfortable or incompetent when asked to assess 'workability' (Arrelov, Alexanderson, Hagberg, Lofgren, Nilsson, Ponzer, 2007; Swartling, Hagberg, Alexanderson, Wahlstrom, 2007). However, without an understanding of specific tasks undertaken by employees and the ability to adjust those tasks, GPs may feel that a return to work would exacerbate a condition unless an individual is 100 per cent fit.

For their part, employers will only very rarely challenge a GP's sick note, or ask for a second opinion on the potential for a beneficial return to work for a patient. The consequence of this mutual lack of understanding and resulting dearth of dialogue can often be that the MSD patient is left stranded in the middle, with no clear pathway back to work and, more importantly, no voice. A proactive, inclusive, multi-disciplinary, capability-focused approach to vocational rehabilitation, informed by the biopsychosocial model and delivered through case management is widely regarded as the most enlightened and effective approach to take in the majority of work-related MSD cases. Quite often both employers and GPs will focus on the aspects of the job which an MSD patient cannot currently perform, rather than on those which they can.

One of the attractions of the biopsychosocial model is that it 'joins up' the three core strands of the MSD patient's experience, and management of, their condition. It offers a comprehensive framework with which to look at the diagnosis and treatment of a range of MSDs, especially when an important outcome for the individual is to stay in, or to return swiftly to, work.

4.6 This section has outlined the case for early intervention, first and foremost to benefit the health of those with MSDs, but also to ensure that they remain productive members of the workforce. However, it also demonstrates that intervention should ideally begin before those experiencing musculoskeletal pain visit their GP, and extend beyond the signing of a sick note. The biopsychosocial model clearly illustrates the need for a more comprehensive understanding of the factors that contribute to the development of non-specific MSDs, taking into account individual or psychological factors as well as the social milieu in which individuals live their lives,

Summary

in which work plays a large part. To achieve this, employers, employees and clinicians need to talk to one another more effectively. Whilst this is challenging, and undoubtedly not common practice today, the costs of not addressing this problem were highlighted in this chapter.

5. Conclusions and recommendations

Work is, unambiguously, good for our health. It provides us with income, generates social capital and gives us purpose and meaning. Even when unwell or injured, remaining in work – at least in some capacity – is often better for recovery than long periods away from work. If Lithuania's workforce is to be productive and competitive in the global economy, and if the quality of their working lives is to be enhanced, it is important that a high proportion of the workforce is, as far as possible, fit for work.

The evidence presented in this report illustrates that a large proportion of working age people in Lithuania are, or will be, directly affected by MSDs. This can have very significant social and economic consequences for these individuals and their families, it can impede the productive capacity of the total workforce and parts of Lithuanian industry and it can draw heavily on the resources of both the health service and the benefits regime.

As in many countries, there is a disappointing shortage of clinical, epidemiological, psychological and economic evidence on the nature, extent and consequences of the MSD problem in Lithuania, but we know enough to be able to conclude that MSDs will affect a growing proportion of the working age population in the coming years. However, there seems to be a lack of coherence or 'joined-up' thinking and action by government, clinicians and employers which focuses on the MSD **patient as worker**. While the numbers advocating the application of the biopsychosocial model to MSDs is growing, we noted that some of those who can have most impact on fulfilling the labour market participation of workers with MSDs have yet to embrace its principles as fully as they might.

In March 2009, EULAR launched a Charter for Work for people with rheumatic diseases aimed at raising work related issues amongst policy makers, employers, people with rheumatic diseases, the health professionals treating them and the media at both European and national level.

The Work Foundation, fully supportive of EULAR's initiative but interested in the wider spectrum of MSDs, has, therefore, a number of recommendations for several interested parties in this field. Our intention is to encourage some of the key players to recognise that more can be done to ensure that continued active participation in the labour market is almost always a strongly positive force for health, fulfilment and for prosperity.

5.1

Recommendations for employers

- Managerial awareness-raising and training must include a health and well-being component. Managers are in the front line of staff absence and are in a good position to spot the early warning signs of a problem and to help rehabilitate employees after a

Conclusions and recommendations

period away from work. Despite the current focus on 'stress', managers in Lithuanian organisations need to be aware that MSDs can be even more of a problem for their staff and for the whole organisation.

- Imaginative job design will assist rehabilitation. Although the concept might be new in Lithuania, evidence from other countries shows that managers can change the ways work is organised (including simple changes to working time arrangements) to help prevent MSDs getting worse and to help people with MSDs to return to work. They need to do this in a way which preserves job quality, avoids excessive or damaging job demands and takes heed of ergonomic good practice. It's important that workplaces are adjusted to the individual characteristics and needs of each worker, and according to health and safety requirements.
- Build communication with GPs. Although it might not be common practice in Lithuania, building a dialogue with GPs and clarifying their assessment if sick notes are not providing enough details, will help employers to understand which tasks the employee can still perform, or what support they might need to return to work.
- Intervene early. Employers should always take action sooner rather than later because caution and delay can only make matters worse. As long as they behave compassionately and make decisions based on evidence and on expert opinion, early intervention cannot be construed as harassment and can often hasten recovery or rehabilitation.
- Use occupational health advice. Vocational rehabilitation carefully organised and tailored to the individual, can make a real difference to return to work, productivity, morale and sustainability of performance. Involve occupational health professionals as early as possible.
- Beyond legal compliance. Try to avoid a 'risk management' mentality when dealing with an employee with an MSD, this can often lead to delay and ambiguity. In almost all cases, the employee is better off at work.
- Use the biopsychosocial framework. Thinking about the physical symptoms of the MSD without considering the psychological and social dimensions can mean that the work-related *causes* of an MSD, or the work-related *benefits* of rehabilitation can be underestimated.
- Focus on capacity not incapacity. Employers can catastrophise too! Most workers with MSDs can continue to make a great contribution at work if they are allowed to. They do not need to be 100 per cent fit to return to work, and a little lateral thinking will allow you to give them useful work to do which will support them on their journey back to full productive capacity.
- Work with trade unions to create well-designed and safe workplaces, to improve working conditions, and to reduce work load.

5.2

Recommendations for trade unions

- Work with employers to help create well-designed and safe workplaces. Monitor the health conditions of the workforce in your company and encourage a positive dialogue among all parties.

5.3

Recommendations for employees

- Focus on capacity not incapacity. It's natural to be anxious or even guilty about the parts of your job which you may find difficult to perform because of your MSD. But you still have much to contribute and you should play to your strengths. Your specialist knowledge and experience doesn't disappear just because you are in pain, discomfort or mobility problems, you can still contribute in many ways. Work with your managers and your colleagues to find out how you can maximise your impact at work within the constraints of your condition. Be open with them and they should respond better.
- Talk early. Your line manager, despite what he or she might tell you, is not a mind-reader. If your MSD is causing you difficulty or you anticipate a period when you will need to adjust your working time, talk to your manager so that you can both plan what to do about it. The earlier the better as managers don't like last minute surprises, but they can usually find a solution to most problems if they have some notice. You might also find it useful to talk to your union representative, your HR manager or someone in occupational health. Don't delay.
- Play an active part in the management of your condition. Your MSD is bound to get you down sometimes and you will feel like it's controlling your life at home and at work. But you don't need to be a passive victim of pain or immobility. Find out more about your condition, watch for patterns in pain or fatigue and learn how you can minimise its impact on your functioning and your mood. This can sometimes be very hard to do, but persevere: people who play an active part in the management of their condition tend to get back to work more quickly.
- Know your rights. As both a patient and as a worker you should know what support and advice you are entitled to. If you are a trade union member, your union should be able to guide you on much of this.
- Family involvement in job retention and rehabilitation. Your family and friends are important sources of support. They may not realise that staying in or returning to work is both possible and desirable. You need to help them to help you by getting them involved in your rehabilitation at work. Even small adjustments to working time or travel to work arrangements can make the world of difference.

5.4

Recommendations for clinicians

1. GPs

- Identify where job retention or early return to work is good for the patient. It is easy to assume that work is unambiguously bad for your patient, especially if you suspect that aspects of their job make their symptoms worse. Consider carefully whether, with some adjustments, you can recommend staying at work on lighter duties or with adjusted hours might still be a better option than a prolonged absence from work.
- Think beyond the physical symptoms. Bring to bear your understanding of the biopsychosocial model and the limitations of the biomedical model in your diagnosis of the patient and – most importantly – your assessment of the role that their job might play in helping them stay active and avoid isolation. As a GP you are ideally placed to identify the early presentation of many MSDs. Where appropriate, you should seek to refer patients to specialist teams as early as practicable, to enable management of the condition to begin.
- Avoid catastrophising. A patient can hold a very negative view of the impact and likely progression of their condition if the way that clinicians present it focuses on incapacity rather than capacity.
- Encourage self-management. Try to ensure that the patient can adopt strategies to manage aspects of their own condition, especially if they are staying in or returning to work. A feeling of empowerment and control will help their mood and ensure that they can keep on top of important aspects of their incapacity while at work.
- Early intervention. The evidence suggests that long periods away from work are usually bad for MSD patients. The longer they are away from work, the more difficult it is to return. Early action, preferably in partnership with the specialists in MSDs, the patient and their employer, can help achieve a balance between the individual's need for respite and their need to work.

2. Specialist in MSDs

- Include short and long-term work disability in the clinical outcomes of patients with progressive conditions in a way that you could identify and solve problems earlier on in the disability process by both introducing changes in the disease management and modifying the psycho-social factors involved.
- In order to optimise access to specialised care for patients, consider MSDs disability as a marker of poor health status. Remember that an early clinical diagnosis and treatment of patients with recent onset of work disability caused by MSDs can substantially diminish the burden of these conditions at both individual and societal levels.

5.5

Recommendations for occupational health professionals

- Think beyond the physical symptoms. More importantly, ensure employers, employees and GPs fully appreciate how this multi-factor perspective can contribute to constructive, active, participative and sustainable rehabilitation. Shape your interventions and advice around the three domains of the biopsychosocial model and help employers see how small work-place adjustments can bring wider benefits than just compliance with the Employment Equalities Act.
- Early intervention. Occupational health professionals, above all others, understand the benefits of early interventions with MSDs. They must play a proactive part in mediating between employer and employee, or employer and GP, to ensure that the patient can use return to work as a positive part of the way they learn to manage their condition and maintain their sense of self-worth and self esteem.
- Encourage self-management. Working with the employee, their colleagues and their manager, help the individual to find strategies to manage their own condition. This will enable them to make their own decisions about their working arrangements.
- Support managers with job design interventions. Making changes to work demands under the Employment Equalities Act is often seen by managers as a way of complying with the law. Helping managers to look at job redesign as a more constructive way of meeting the needs of a patient/worker with an MSD and meeting changing customer demands can help them to see the business benefits of more flexible working arrangements.

5.6

Recommendations for government

- Invest in the health and wellbeing of the Lithuanian population. This will allow you not only to reduce health expenditure without compromising people's right of access to health care services and treatments but also to reduce social expenditure for compensating illness, improving labour productivity and enhancing the competitiveness of private and public sector organisations.
- Take seriously the existing evidence that the proportion of the Lithuanian workforce with MSDs is likely to grow over the next few decades. This would require not only an increase in the number of occupational health specialists, but also better and clearer guidelines for the provision of health care services in general, and rehabilitation in particular, to people with MSDs. To help address the issue, you might want to consider initiating a multi-stakeholder working group.
- Improve data collection and estimate the direct and indirect costs of MSDs to Lithuanian society. Managing a phenomenon which is not being measured is very hard and can lead to the misdirection of effort and resources.

Conclusions and recommendations

- Improve health care provision across the territory. The existing geographical differences affect patients' ability to receive early and appropriate intervention thus affecting their quality of life and ability to stay or return-to-work.
- Review the extent of collaborative working between government departments on the issues of job retention, early intervention, the costs to society of people with MSDs being detached from the labour market and vocational rehabilitation. The government should also consider a national service framework for the treatment of people with MSDs. This framework should enshrine the principle that job retention or return to work are legitimate clinical outcomes.
- Help make GPs more effective in handling occupational health issues. Although occupational health is a rather new concept in Lithuania, it is important that it becomes part of GP training. In fact, we believe that medical training at all levels, from undergraduate to continuing professional development would benefit from inclusion of health and work issues, especially if the health of the working age population is set to deteriorate.
- Bring forward proposals to replace the current system of sickness certificates with a UK-style 'Fit Note'. This innovative concept currently piloted in the UK, encourages GPs to indicate what a worker is still capable of performing. This would help other health care professionals and employers to plan return to work and to make appropriate adjustments to job demands and/or working time.
- Consider the piloting of the allocation of trained occupational health advisors in selected GP surgeries to offer advice on the best way of supporting patients with MSDs staying in work or returning to work

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Appendix 1: Interviews and consultation with experts

The following people shared their views and information with us during the course of our research and we are very grateful for the time each spent. We have taken their views into account in writing this report, though their participation in the study does not in any way imply endorsement of the report's conclusions.

Prof Jolanta Dadoniene	Rheumatologist, Vilnius University Institute of Experimental and Clinical Medicine
Mrs Martynas Grockis	Deputy Chairman, Lithuanian Bechterew Patient Organisation
Mr Gintautas Paltanavicius	Chairman, Lithuanian Bechterew Patient Organisation
Ms Loreta Rakutiene	Chief specialist of the Social Protection and Health Statistics Division Statistics Lithuania
Mrs Danguole Raudonikiene	Representative of the Lithuanian Arthritis Association
Mrs Onute Stefanija Telyceniene	Chairman, Lithuanian Arthritis Association
Dr Saulius Vainauskas	Chief of the Occupational Medicine Centre, Institute of Hygiene
Prof Algirdas Venalis	Head of the Centre of Rheumatology of Vilnius University Hospital Santariskiu Klinikos; Vilnius University Institute of Experimental and Clinical Medicine

Appendix 2: Benchmarking grid

The Fit for Work Europe study has looked across 23 European countries plus Israel and Canada. This approach allows us to explore how far early intervention is implemented across Europe. It also enables us to see how far we may identify both enablers and barriers to early intervention given the different approaches to policies that affect the labour market, the welfare system and the health care system. To explore this we have looked widely at a number of indicators covering the:

- Labour market;
- Welfare system ;
- Health care system.

The data presented below come from various international data sources. We used 2005 data to allow for comparisons across countries for a number of different indicators. The data mainly come from the OECD. However, where OECD data was not available the data was supplemented with Eurostat data. We present a selection of indicators below.

Appendix 2: Benchmarking grid

	GDP per capita in PPP	Percentage of the population working age	Unemployment rate (%)		Long term unemployment rate, % of unemployed	Average age of withdrawal from the labour market		Labour productivity per hour worked, GDP in PPS	Hourly labour costs
			Male	Female		Male	Female		
Austria	\$33,496	67.7	4.9	5.5	23.3	59.1	58.1	100.2	€26.23
Belgium	\$32,063	65.6	7.7	9.5	51.6	59.3	58.1	123.4	€30.73
Canada	\$35,002	69.3	7.0	6.5	9.6	63.3	61.5	-	-
Croatia	-	66.9*	-	-	58.4*	60.5*		-	-
Czech Republic	\$20,366	71.0	6.5	9.8	53.6	61.5	58.4	51.7	€6.63
Denmark	\$33,196	66.1	4.4	5.3	25.9	64.1	61.4	101.6	€31.98
Finland	\$30,695	66.7	8.2	8.6	24.9	60.5	60.1	94.9	€26.70
France	\$29,759	65.1	8.4	10.2	41.4	58.6	59.4	116.2	€29.29
Germany	\$31,380	66.9	11.2	10.0	54.1	61.6	60.7	113.0	€27.20
Greece	\$24,928	67.3	6.2	15.3	53.7	62.4	61.2	71.2	-
Ireland	\$38,693	68.3	4.6	4.0	34.3	65.2	65.3	105.9	-
Israel	\$23,207	-	6.2	10.0	52.2	-	-	-	-
Italy	\$28,122	66.5	9.5	32.5	32.5	60.4	60.9	90.4	€21.39
Lithuania	-	67.8*	8.2*	8.3*	52.5*	60.0*		43.1	€3.56
Netherlands	\$35,111	67.5	4.4	5.0	40.1	60.3	60.5	121.2	€27.41
Norway	\$47,319	65.6	4.8	4.4	9.5	63.3	61.8	159.3	-
Portugal	\$20,656	67.4	6.8	8.7	48.6	66.2	66.0	54.4	€10.60
Romania	-	69.4*	7.8*	6.4*	56.3*	63.0*		28.8	€2.33
Slovakia	\$16,175	71.5	15.5	17.3	68.1	59.2	55.5	57.5	€4.80
Slovenia	\$23,456	70.2*	6.2	7.1	49.2	58.5*		62.8	€10.76
Spain	\$27,377	68.8	7.1	12.2	32.6	61.2	63.6	89.9	€15.22
Sweden	\$32,298	65.3	7.3	7.3	18.9	65.4	62.5	101.6	€31.55
Switzerland	\$35,839	68.0	3.9	5.1	39.0	65.3	64.9	92.3	€32.82
Turkey	\$10,841	65.7	10.2	10.1	39.6	64.5	63.8	-	-
UK	\$32,695	66.0	5.2	4.3	22.4	63.2	61.4	91.9	€24.47
OECD	\$26,849	-	8.3	9.6	45.9	-	-	-	-
EU-27*	-	67.0	-	-	-	-	-	88.3	€20.47

Sources: GDP per capita in PPP; Unemployment rate; Long-term unemployment rate: OECD, 2009b; *Eurostat, 2009; Working age population: OECD, 2009a; Average age of withdrawal, 2000-2005: OECD, 2009d; *Eurostat, 2009; Labour productivity per hour worked, GDP in PPS: Eurostat, 2009b; Hourly labour costs: Eurostat, 2009a

Appendix 2: Benchmarking grid

	Public social expenditure (% GDP)	Public expenditure on health (% GDP)	% spent of benefits spent on*:			Generosity of the welfare system	Social protection system interventions
			Sickness/Health care	Disability	Unemployment		
Austria	27.2	7.9	25.5	8.6	5.8	5.46	2
Belgium	26.4	7.4	27.1	7.0	12.2	4.38	2
Canada	16.5	6.9	-	-	-	3.52	-
Croatia	-	-	-	-	-	-	-
Czech Republic	19.5	6.3	35.3	7.8	3.6	5.15	2
Denmark	26.9	7.9	20.7	14.4	8.6	5.40	2
Finland	26.1	6.2	25.9	12.9	9.3	2.60	3
France	29.2	8.9	29.8	5.9	7.5	5.24	3
Germany	26.7	8.2	28.4	6.2	7.0	6.11	2
Greece	20.5	5.6	27.8	4.9	5.1	-	1
Ireland	16.7	6.5	40.9	5.3	7.5	-	3
Israel	-	-	-	-	-	-	-
Italy	25.0	6.8	26.7	6.0	2.0	-	2
Lithuania	-	-	30.3	10.4	1.8	-	2
Netherlands	20.9	6.0	30.7	9.7	6.1	3.40	3
Norway	21.6	7.6	32.0	19.1	2.7	-	3
Portugal	-	7.3	30.1	10.0	5.8	4.75	1
Romania	-	-	36.2	6.8	3.2	-	-
Slovakia	16.6	5.3	29.6	8.1	3.4	5.00	2
Slovenia	-	6.1	32.3	8.5	3.3	-	2
Spain	21.2	5.8	30.9	7.5	12.3	4.75	2
Sweden	29.4	7.5	25.9	15.0	6.1	6.73	2
Switzerland	20.3	6.8	26.4	12.7	4.4	5.09	2
Turkey	13.7	4.1	-	-	-	-	-
UK	21.3	7.1	30.9	8.9	2.6	3.87	3
OECD	20.5	6.5	-	-	-	-	-
EU-27	-	-	28.8	7.6	6.0	-	-

Sources: Public social expenditure; Public expenditure on health: OECD, 2009d; % spent on disability benefits: Eurostat, 2009c; Generosity of the Welfare System: Osterkamp and Rohn, 2007 (higher score = more generous); Social protection system Intervention ratings (1 = limited interventions to 3 = advanced interventions available)

Appendix 2: Benchmarking grid

	Sickness absence due to health reasons (%)	Average days absent ¹	DALYs MSDs (% of Total)		DALYs RA (% of Total)	Prevalence work-related backache (Working population)	Number of RA Patients (General population)		Physicians per 1,000 population	
			Male	Female			(Prevalence)	(General population)	Rheumatologists*	GPs
Austria	20.6	3.4	3.3	5.4	0.86	23.9	55,000 (0.67)	0.024	1.47	
Belgium	28.8	7.0	3.1	5.1	0.78	19.4	69,000 (0.66)	-	2.08	
Canada	-	-	-	-	0.86	-	215,000 (0.66)	0.014	1.03	
Croatia	19.3	9.4	2.3	4.5	-	41.7	-	-	-	
Czech Republic	28.2	5.5	-	-	0.69	22.8	68,000 (0.66)	0.014	0.73	
Denmark	32.8	6.6	3.1	4.7	0.78	18.8	36,000 (0.66)	-	0.77	
Finland	44.6	8.5	3.1	5.5	0.88	26.1	35,000 (0.67)	0.020	0.72	
France	19.1	5.5	3.1	5.4	0.81	21.6	283,000 (0.45)	0.036	1.66	
Germany	28.0	3.5	3.3	5.5	0.83	18.8	544,000 (0.66)	0.015	1.46	
Greece	14.0	2.8	3.1	5.5	0.78	47.0	50,000 (0.45)	0.025	0.29	
Ireland	21.1	3.9	2.7	4.6	0.77	14.4	28,000 (0.67)	0.011	0.51	
Israel	-	-	-	-	-	-	-	0.014	-	
Italy	25.1	3.8	3.5	6.0	0.91	24.3	264,000 (0.45)	0.029	0.94	
Lithuania	21.1	4.3	2.8	6.6	0.79	37.8	22,000 (0.65)	0.024	-	
Netherlands	33.7	8.6	3.6	5.2	0.87	13.9	108,000 (0.66)	0.014	0.46	
Norway	27.2	7.1	3.5	5.3	0.89	22.6	31,000 (0.67)	0.044	0.81	
Portugal	13.4	8.6	2.5	5.1	0.72	30.8	70,000 (0.66)	0.009	1.68	
Romania	11.1	2.0	3.2	5.9	0.76	42.4	143,000 (0.66)	0.013	-	
Slovakia	22.9	5.2	3.6	7.3	0.93	38.9	36,000 (0.67)	0.017	-	
Slovenia	28.2	8.7	2.7	4.9	0.72	46.2	13,000 (0.65)	0.012	-	
Spain	14.2	3.6	3.1	6.0	0.83	29.1	197,000 (0.45)	0.018	0.85	
Sweden	28.1	-	3.9	5.9	0.97	27.9	60,000 (0.66)	0.029	0.59	
Switzerland	19.2	4.0	3.9	6.2	0.96	18.1	49,000 (0.66)	0.055	0.52	
Turkey	18.6	4.8	-	-	0.84	34.7	482,000 (0.66)	0.002	0.74	
UK	22.6	3.7	3.2	4.9	0.81	10.8	399,000 (0.66)	0.015	0.71	
EU-27	22.3	4.6	3.2	5.5	-	25.6	-	-	-	
Europe	-	-	-	-	0.84	-	2,962,000	-	-	

Sources: Sickness absence due to health reasons: prevalence work-related backache: EWCS 2005; Parent-Thirion et al., 2007 DALYs MSDs: WHO 2006, 2007; DALYs RA, Prevalence RA: Lindkvist et al. 2008; Rheumatologists per 1,000 population: various sources and years*; GPs per 1,000: OECD, 2009c

Variable	Definition – Provided by source	Source
<i>Labour indicators</i>		
GDP per capita in PPP 2005	Gross domestic product is an aggregate measure of production equal to the sum of the gross value added of all resident institutional units engaged in production (plus any taxes, and minus any subsidies, on products not included in the value of their outputs). The sum of the final uses of goods and services (all uses except intermediate consumption) measured in purchasers' prices, less the value of imports of goods and services, or the sum of primary incomes distributed by resident producer units.	OECD, 2009b; Data starred (*) in the table come from Eurostat, 2009
Working age population, % 2005	Share of total population between the ages of 15 and 64, inclusive.	OECD, 2009a
Unemployment rate by gender 2005	Unemployed persons are defined as those who report that they are without work, that they are available for work and that they have taken active steps to find work in the last four weeks. The ILO Guidelines specify what actions count as active steps to find work and these include answering vacancy notices, visiting factories, construction sites and other places of work, and placing advertisements in the press as well as registering with labour offices. The unemployment rate is defined as the number of unemployed persons as a percentage of the labour force, where the latter consists of the unemployed plus those in employment, which are defined as persons who have worked for one hour or more in the last week.	OECD, 2009b
Long-term unemployment – Annual averages by gender (%) 2005	Long-term unemployment is conventionally defined either as those unemployed for six months or more or, as here, those unemployed for 12 months or more. The ratios calculated here show the proportion of these long-term unemployed among all unemployed.	OECD, 2009b

Appendix 2: Benchmarking grid

Variable	Definition – Provided by Source	Source
<i>Labour indicators, continued</i>		
Average age of withdrawal from the labour market – retirement 2005	Retirement is associated with cessation of work and receipt of a pension. Actual retirement ages are difficult to measure directly without internationally comparable longitudinal data, so international comparisons must rely on indirect measures from cross-sectional data. Indirect measures regard persons above a specified age as 'retired' if they are not in the labour force at the time of the survey (average age at labour force exit). Net movements into retirement are proxied by the changes over time in the proportion of the older population not in the labour force. This indirect measure is used in ongoing OECD reviews of older workers. It measures the average effective age of retirement. The official age of retirement is also complex to pin down, especially when retirement is based on fixed years of pension contribution.	OECD, 2009d; Data starred (*) in the table come from Eurostat, 2009
Labour productivity per hour worked – GDP in PPS	Gross domestic product (GDP) is a measure for the economic activity in an economy. It is defined as the value of all goods and services produced less the value of any goods or services used in their creation. GDP per hour worked is intended to give a picture of the productivity of national economies expressed in relation to the European Union (EU-15) average. If the index of a country is higher than 100, this country level of GDP per hour worked is higher than the EU average and vice versa. Basic figures are expressed in PPS, i.e. a common currency that eliminates the differences in price levels between countries allowing meaningful volume comparisons of GDP between countries. Expressing productivity per hour worked will eliminate differences in the full-time/part-time composition of the workforce.	Eurostat, 2009b
Hourly labour costs 2005	Average hourly labour costs, defined as total labour costs divided by the corresponding number of hours worked.	Eurostat, 2009a

Appendix 2: Benchmarking grid

Variable	Definition – Provided by Source	Source
<i>Welfare indicators</i>		
Public social expenditure (% of GDP) 2005	Social expenditure is classified as public when general government (ie central administration, local governments and social security institutions) controls the financial flows.	OECD, 2009d
Public expenditure on health care 2005	Public expenditure on health refers to expenditure on health care incurred by public funds. Public funds are state, regional and local government bodies and social security schemes. Public capital formation on health includes publicly financed investment in health facilities plus capital transfers to the private sector for hospital construction and equipment. Public funds correspond to HF.1 in the ICHA-HF classification of health care financing.	OECD, 2009d
Sickness/health care benefits – % of total benefits 2005	Expenditure on social protection contain: social benefits, which consist of transfers, in cash or in kind, to households and individuals to relieve them of the burden of a defined set of risks or needs; administration costs, which represent the costs charged to the scheme for its management and administration; other expenditure, which consists of miscellaneous expenditure by social protection schemes (payment of property income and other).	Eurostat, 2009c
Disability – Social benefits by function – % of total benefits 2005	Same as above.	Eurostat, 2009c
Unemployment – Social benefits by function – % of total benefits 2005	Same as above.	Eurostat, 2009c

Appendix 2: Benchmarking grid

Variable	Definition – Provided by Source	Source
<i>Welfare indicators continued</i>		
O&R generosity index	Seven different measures of generosity were combined to construct a single measure of generosity that ranges from between zero and seven, where seven indicates the highest level of generosity. The seven variables include waiting period, self-certification, total maximum duration of payment, employer maximum duration of payment, employer amount of payment, sickness fund amount of payment and external proof.	Osterkamp, and Rohn, 2007
Social protection system interventions	The Mutual Information System on Social Protection (MISSOC) database provides a description of the social protection systems for each European country and allows for comparison between systems. Three independent reviewers reviewed the summary descriptions of the social protection topics geared toward benefits for invalidity and employment injuries and occupational diseases. The systems were scored from one to three with one meaning very limited regulations in place that could contribute to early intervention and three meaning advanced regulations in place that could contribute to early intervention.	Ratings by independent reviewers. Data from MISSOC (2009). Comparative tables on social protection – January 2005. Retrieved 27 July 2009 from http://ec.europa.eu/employment_social/missoc/db/public/compareTables.do?lang=en

Variable	Definition – Provided by Source	Source
<i>Health outcomes</i>		
Average days absent due to health reasons	The median number of days absent because of health.	Parent-Thirion, Ferrández Macías, Hurley and Vermeylen, 2007
% sickness absence due to health reasons 2005	% reporting absence caused by ill-health.	EWCS, 2005
DALYs – MSDs, male and female	Disability adjusted life years (DALYs) are frequently used to assess the burden of disease. The WHO's definition of DALY – 'combines in one measure the time lived with disability and the time lost owing to premature mortality. One DALY can be thought of as one lost year of healthy life.'	WHO, 2006, 2007)
DALYs – RA	DALYs are frequently used to assess the burden of disease. The WHO's definition of DALY – 'combines in one measure the time lived with disability and the time lost owing to premature mortality. One DALY can be thought of as one lost year of healthy life.'	Lundkvist, Kastång and Kobelt, 2008
Prevalence – Backache 2005	% reporting work-related backache in the EWCS.	EWCS, 2005
Number of people with RA	Estimated number of people with RA. The percentage is calculated from the number of people with RA divided by the population numbers listed in the article.	Lundkvist, Kastång and Kobelt, 2008
Practising rheumatologists, density per 1,000 population	Number of practising rheumatologists per 1,000 population. The definition that was used to derive the ratio for rheumatologists may differ by country depending on the source, which makes comparability difficult.	Various sources
Practising general practitioners (GPs), density per 1,000 population 2005	Number of practising GPs per 1,000 population.	OECD, 2009c

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