

The Bone and Joint Decade: working together to make musculoskeletal conditions a public health priority

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- **Musculoskeletal conditions are common in all countries and cultures**
- **Worldwide, they are the commonest cause of long-term pain and physical disability, and have a major impact on quality of life**
- **There are effective strategies to prevent and treat many of these disorders**
- **These chronic conditions are not given the public health priority afforded to high-mortality conditions such as cancer and infectious diseases. As a result there is enormous unmet need and avoidable disability**
- **The Bone and Joint Decade is a global alliance which aims to increase awareness and influence policy around musculoskeletal conditions**

Musculoskeletal conditions are common in all countries and cultures. They include joint diseases, spinal disorders, back and regional pain problems, osteoporosis and fragility fractures, and consequences of injuries and trauma. They affect hundreds of millions of people around the world. They are characterised by long-term pain and physical disability, of which they are the commonest cause. They have the worst impact on quality of life of many chronic diseases. As a consequence they are a major burden on health and social care. This burden will increase with changing demographics of populations across the globe. There are effective ways of preventing and controlling musculoskeletal conditions but these are not being implemented with equity and there is a lack of policies and priorities for the prevention, management and research related to these conditions. As a result there is enormous unmet need and avoidable disability.

The Bone and Joint Decade (BJD) is a global alliance promoting musculoskeletal health. It brings together professional, scientific and patient organisations from all countries relevant to all conditions that affect musculoskeletal health. It has come together because of the lack of recognition of the importance of musculoskeletal health and of the needs of people with musculoskeletal conditions. Entering the second

decade it is recognised that further efforts are needed to gain priority at the policy level and actions that adequately reflect the enormous and growing challenge that musculoskeletal conditions pose to public health and health and social care budgets as well as workers' compensation and pensions. Policy-makers must appreciate that action has to be taken now.

The impact of musculoskeletal conditions on the public health

Pain is the most prominent symptom in most people with musculoskeletal problems and pain is usually associated with some limitation in function. In Europe, nearly a quarter of adults report having some form of arthritis or rheumatism, and 1 in 3 say they have had musculoskeletal pain restricting their activities of daily living in the previous week (Figure 1).¹ This may relate to one of many specific causes, such as osteoarthritis or rheumatoid arthritis, but often the symptoms cannot be attributed to any specific condition – for example, back pain most often has a non-specific cause. They may also be related to sprains and strains or work-related activities or be the long-term outcome of trauma. Musculoskeletal disorders are the commonest work-related health problem (Figure 2).² In 2005 they constituted 38% of the total occupational diseases recorded by the European Occupational Diseases Statistics in twelve member states.³

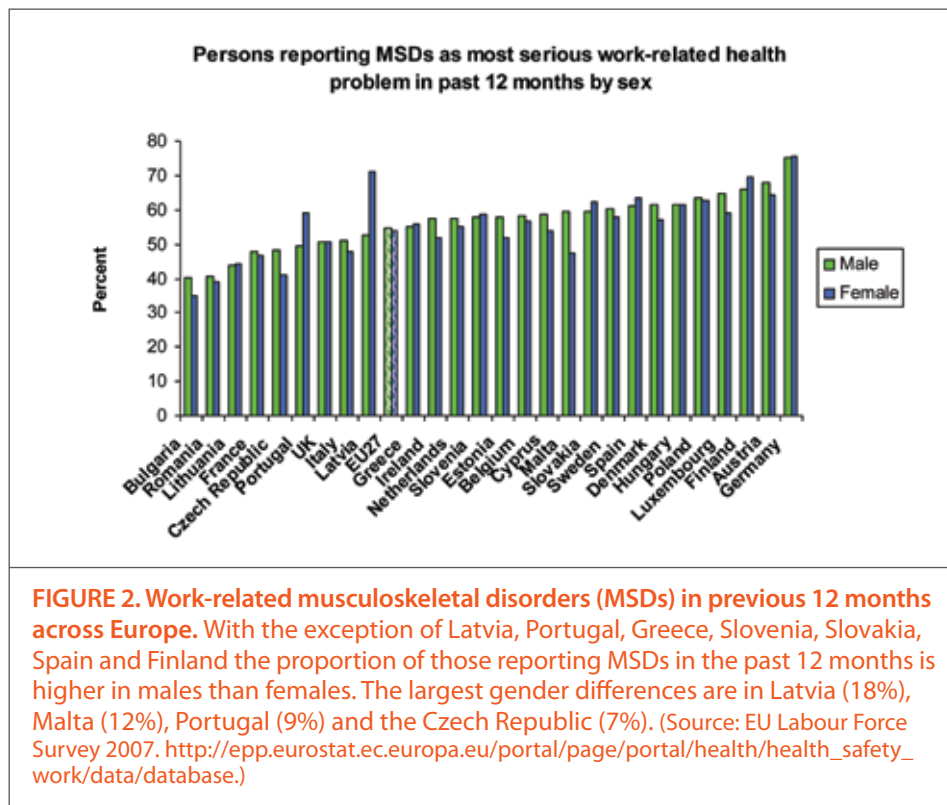
Musculoskeletal disorders have a major impact on healthcare resources, being one of the commonest

reasons for primary care consultation, and a long-standing musculoskeletal problem is the reason for 1 in 4 adults being on long-term treatment in Europe.¹ As a consequence these conditions are a major cost to healthcare systems. Musculoskeletal conditions are the commonest cause of physical disability.⁴ This is measured as years lived with disability (YLDs) in the Global Burden of Disease⁵ estimates and the only conditions with greater associated disability are neuropsychiatric disorders (Figure 3).² Osteoarthritis accounted for the greatest part of this disability burden (Figure 4) but the impact of other musculoskeletal conditions was underestimated in the burden estimates of 2004. New estimates of the global burden of disease are currently being made which should better reflect the impact of all musculoskeletal conditions.

Although musculoskeletal disorders are more common with ageing, they have a big impact on the working population, being the commonest cause of health problems limiting work in developed countries. Up to 60% of people who retire early or are on long-term sick leave claim a musculoskeletal problem as the reason. They also have one of the greatest impacts on quality of life compared to other long-term conditions. As a result of their high prevalence and impact on healthcare utilisation, activities of daily living, need for social support and work loss, they are among the group of conditions most costly to society. In the UK in 2003 the estimated cost of GP consultations for diseases of the musculoskeletal system was £1340 million; only costs of diseases of the respiratory



FIGURE 1. People reporting activity-restricting musculoskeletal pain in the previous week. (Source: EC Health in the European Union 2007.¹ http://ec.europa.eu/health/ph_publication/eb_health_en.pdf.)



system (£1790 million) and diseases of the circulatory system (£1350 million) were higher. In the UK in 2009 one-third of all sick-leave days were attributed to musculoskeletal disorders, with 9.3 million work days lost.⁶ Since the mid-1990s, incapacity for work in the UK due to musculoskeletal disorders has declined and been rapidly overtaken by incapacity due to mental health problems. It would appear that this change was driven more by a reduction in the stigma associated with mental illness than by changes in working conditions.⁷ There is some evidence that this trend may be true across Europe.⁸

With the ageing of the population and the changes in lifestyles of reduced physical activity and increasing obesity, there will be a dramatic increase in musculoskeletal conditions and consequent disability. These conditions are one of the greatest threats to healthy active ageing, a goal of Europe 2020's new strategy,⁹ and to independence in later life and the ability for people to have longer working lives.

Can musculoskeletal health be improved?

There are now many effective ways of preventing and controlling the conditions that affect musculoskeletal health. Primary prevention is a challenge for most musculoskeletal conditions but a healthy lifestyle as promoted for cardiovascular disease and other major non-communicable diseases will

benefit musculoskeletal health. Increasing physical fitness, an ideal body weight, a balanced diet that meets the recommended daily allowance for calcium and vitamin D, avoidance of smoking and a balanced use of alcohol all have potential to reduce the burden of musculoskeletal disease.¹⁰ Injury prevention, whether related to sport, occupation or road accidents, will also have short- and long-term impacts on musculoskeletal health. In recent years, treatments for various musculoskeletal conditions have improved considerably. The outcome for people who now develop rheumatoid arthritis is radically different from 20 or even 10 years ago. Remission is achievable in many and functional impact far less with reduced work loss. Osteoarthritis can be treated by arthroplasty with extremely good outcomes,¹¹ but simple lifestyle measures of physical activity, specific exercises and avoiding excessive weight can relieve symptoms and slow progression.¹⁰ Osteoporotic fractures can be prevented by various therapies.¹² Back pain can be effectively managed in many,¹³ although it still causes an enormous burden. There are now evidence-based guidelines for many of the musculoskeletal conditions which have been developed by national bodies such as the National Institute for Health and Clinical Excellence (NICE) and scientific organisations such as the British Society for Rheumatology (BSR), European League Against Rheumatism (EULAR) and American College of Rheumatology (ACR).¹⁴⁻¹⁶ The challenge is to translate the evidence into clinical practice.

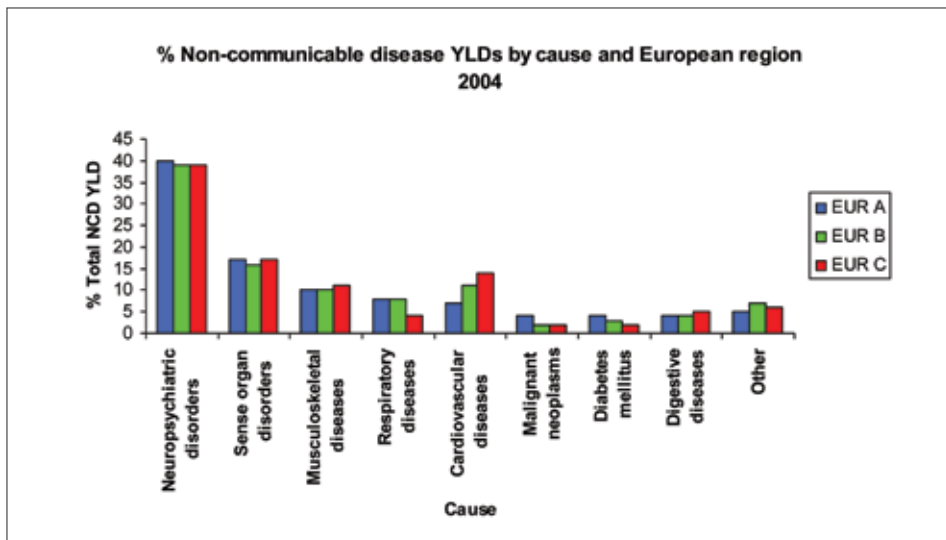


FIGURE 3. Years lived with disability (YLDs) in Europe related to major non-communicable diseases (NCDs). In European A region (see 'Further information') musculoskeletal diseases are the third largest cause of disability from non-communicable diseases after neuropsychiatric disorders and sense organ disorders. For regions B and C musculoskeletal diseases rank fourth after cardiovascular disease. (Source: WHO Global Burden of Disease 2004.⁵ http://www.who.int/healthinfo/global_burden_disease/YLD14_30_2004.xls)

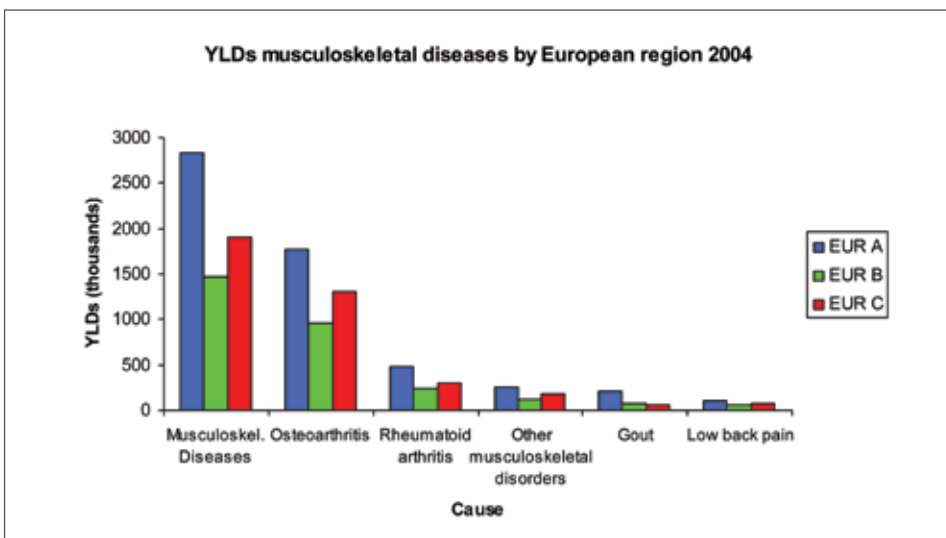


FIGURE 4. Years lived with disability (YLDs) in Europe related to different musculoskeletal conditions. The burden of musculoskeletal diseases as measured by YLDs is highest in the European A region and European C region (see 'Further information'). This is true for all conditions except gout where European C region has the lowest levels of gout-related disability. (Source: WHO Global Burden of Disease 2004.⁵ http://www.who.int/healthinfo/global_burden_disease/YLD14_30_2004.xls)

What are the barriers to improving musculoskeletal health?

People with musculoskeletal disorders often do not achieve the best possible outcomes. People with rheumatoid arthritis are not getting early diagnosis and the early use of disease-suppressing therapy¹⁷ that is necessary to achieve best outcomes. People with back pain do not always get rapid access to physiotherapy and advice about

keeping mobile. The management of musculoskeletal pain is often poor.¹⁸ Underlying osteoporosis and risk of further fracture is frequently unrecognised in those who have sustained a fragility fracture and opportunities for secondary prevention are therefore missed.¹⁹

There are multiple and complex reasons why musculoskeletal conditions are not a priority and why people do not get access to appropriate care. Issues

that relate to the public, healthcare providers and policy-makers need to be considered.

People do not always recognise what can be done for them and do not avail themselves of healthcare services. Cultural aspects of pain are complex and many decide it is something they should not complain about or take medication for. Many clinicians have not received sufficient education or training in musculoskeletal assessment, diagnosis and management. In many parts of the world there is a shortfall of clinicians with musculoskeletal expertise, with few orthopaedic surgeons and rheumatologists and a lack of rehabilitation services. Policy-makers prioritise conditions with high mortality that have a more easily measured and striking impact on society, and do not fully recognise the personal and societal costs and potential savings related to high-prevalence, high-morbidity but low-mortality conditions which are often long-term and progressive.

Many of these issues stem from an underlying lack of awareness by policy-makers, non-expert health workers and the public about the impact of musculoskeletal conditions; what can be achieved by prevention and treatment; and how to implement evidence to optimise prevention and management of musculoskeletal conditions. How can physicians and other health professionals be expected to understand these conditions when they gain so little relevant education and training?²⁰

The consequences of not improving musculoskeletal health

A consequence of limited understanding of musculoskeletal health is a lack of inclusion of musculoskeletal health in major policies, strategies and actions.

The World Health Organization (WHO) has developed a strategy over the last 10 years for non-communicable diseases which focuses on cancer, cardiovascular diseases, respiratory diseases and diabetes – chosen because of their high mortality and possibilities of prevention by modifying the common risk factors of tobacco use, unhealthy diet, harmful use of alcohol, physical inactivity and obesity. This was recently endorsed by the UN and is being launched and implemented by nations across the globe.²¹ Conditions with high prevalence and morbidity but low mortality such as musculoskeletal conditions are omitted from any reports, policies or actions related to the non-communicable disease strategy. Although recognising non-

communicable diseases as a global health problem is a major advance, the omission of conditions with low mortality is a major barrier to raising priority for musculoskeletal health. This is despite the fact that the recommendations for improving lifestyles will all benefit musculoskeletal health.

The first World Report on Disability was launched in June 2011 by WHO and the World Bank,⁴ giving guidance on the implementation of the UN Convention of Human Rights of Persons with Disabilities. It presents a picture of the lives of people with disabilities, their needs and unmet needs, and the barriers they face to participating fully in their societies. It highlights examples of good practice and makes recommendations on the way forward. Globally, it is estimated that there are over 1 billion people with disabilities, and the report found that 35% had difficulties with mobility and 55% reported pain – of which musculoskeletal conditions are the major cause. The report promotes the rights of those with disability but does not fully address the preventable disability that exists in all countries because of failure to implement effective ways to prevent and treat the common causes of disability such as musculoskeletal conditions.

What can be achieved by improving musculoskeletal health?

Musculoskeletal conditions need to gain greater importance in the minds and actions of opinion-formers and policy-makers throughout the world to avoid preventable disability and unnecessary suffering. Musculoskeletal health needs to be a public health priority. Strategies for prevention and treatment of musculoskeletal conditions have been proposed in the 'European Action Towards Better Musculoskeletal Health' report.¹⁰ These need to be implemented. There needs to be:

- promotion of a lifestyle that will optimise musculoskeletal health at all ages;
- identification and treatment of those who are at highest risk;
- accessible, timely, safe, appropriate treatment to control symptoms and prevent unnecessary disability due to musculoskeletal conditions and injuries;
- accessible and appropriate rehabilitation to reduce any disability due to musculoskeletal conditions and injuries.

We also need to move towards equity across and between countries. People need to know more about what to do to optimise their musculoskeletal

health. Health professionals need to be trained to meet the needs. Research needs to be supported to reflect the burden and needs. These measures should result in major gains for individuals and considerable savings for society.

How the Bone and Joint Decade (BJD) can improve musculoskeletal health

The BJD as a global alliance

Influencing public health policy requires clear definition of the problems and proposed solutions. The BJD has brought together a global alliance of professional, scientific and patient organisations as well as other relevant stakeholders. It was launched in 2000 with the endorsement of the UN, WHO and over 60 governments and was remandated in 2010. The key strength of this alliance is the breadth of stakeholder involvement and the will to address all conditions that affect musculoskeletal health with a strong and unified voice. It is supported by international, regional and national organisations representing health professionals including rheumatology, orthopaedics, rehabilitation and allied health professionals as well as patient organisations. These work at the national level as 'National Action Net-

works', represented in the UK by the Arthritis and Musculoskeletal Alliance (ARMA). Organisations and networks are also beginning to work together at a regional level. There is an International Co-ordinating Council which helps develop the strategies to gain priority, gives guidance to the National Action Networks and works with international organisations such as WHO. In the first 10 years of the BJD great efforts were made to bring the musculoskeletal community together, to rebut the criticism that the musculoskeletal community was a disparate group of clinicians dealing with a vast spectrum of conditions due to congenital disorders, specific acquired diseases, ageing or injury. Since these disparate conditions have common outcomes – chiefly pain and physical disability – recognition can be gained of the total impact of musculoskeletal conditions on public health. The next 10 years of the BJD are focused around activities to make musculoskeletal health a public health priority (see box).

There are many ways, often complementary, to influence health policy. A key approach of the BJD is to identify and disseminate evidence that will support advocacy through the Bone and Joint Monitor Project.²² This is addressing, through a series of collaborative projects, the burden of

The Bone and Joint Decade 2010–2020

A global alliance promoting musculoskeletal health

Keep people moving

Mission

The Bone and Joint Decade works to reduce the burden and cost of musculoskeletal conditions to individuals, carers and society by promoting musculoskeletal health and science worldwide.

Objective

To make musculoskeletal health a priority in health and social policies, strategies and actions at global, regional and national levels.

Actions

This is being achieved by:

- **Surveillance:** increasing knowledge of the burden of musculoskeletal conditions
- **Standards of care:** improving access to cost-effective evidence-based prevention and treatment
- **Partnership:** developing global, regional and national networks of professional, scientific and patient organisations
- **Public and patient education:** empowering people to gain priority for their own care by developing patient organisations and supporting advocacy
- **Advocacy:** raising awareness of the public and policy-makers of the burden of musculoskeletal conditions and effective prevention and treatment
- **Professional education:** setting and implementing standards for training all relevant health professionals
- **Research:** increasing research that will advance understanding of musculoskeletal conditions and improve prevention and treatment.

musculoskeletal conditions on individuals and society, including the socioeconomic impact; strategies for prevention and control; identifying the gaps between the possible and what is currently being delivered; and making recommendations on how these gaps can be closed. It is already clear that a sense of priority and resources are needed to close these gaps.

The burden of disease has been identified by the BJD, in collaboration with WHO, in order to produce better estimates of disability-adjusted life years (DALYs) and the YLDs associated with them,²³ and is now again being fully revised.²⁴ These revisions have resulted in greater estimates of the burden. These summary measures of health are used to set global, regional and national priorities and it is therefore important to ensure that they fully capture the impact of all conditions that affect musculoskeletal health. The DALY measures both YLDs and years of life lost (YLLs) and therefore the impact of musculoskeletal conditions is overshadowed by conditions with high mortality. YLDs or healthy life years (HLYs) better reflect the impact of chronic conditions such as musculoskeletal disease.

As noted above the first World Report on Disability⁴ provided estimates of the huge burden of musculoskeletal disability. Various national surveys confirm musculoskeletal conditions as the major cause of disability. The BJD is working with WHO and other non-governmental organisations (NGOs) in the dissemination and implementation of the report which provides the opportunity to focus on preventing disability through better access to appropriate care. In particular there is a need to identify the causes of disability more clearly in order to guide prevention.

A comprehensive approach to musculoskeletal health and disability

The priority of the BJD is prevention of musculoskeletal disability from whatever cause. This includes not just conditions such as arthritis, osteoporosis and back pain but also injuries and trauma. Road traffic accidents are the biggest cause of trauma and this is greatest in less developed parts of the world. The long-term outcome of many accidents is musculoskeletal pain and disability. Since its inception the BJD has been working to gain greater recognition of road traffic accidents as a public health problem, and played a key role in the launch in May 2011 of the WHO Decade of Action for Road Safety.²⁵ The BJD is working on what happens after the accident and is a core partner in the Global

Alliance for the Care of the Injured. This includes not just improving trauma care but also ensuring that people have the best chances of being reintegrated into society after an accident. There is a need for improved access to rehabilitation, ensuring that the goal of treatment is not just to reduce mortality but also to minimise long-term disability. Improving competencies in rehabilitation with regard to trauma would potentially also benefit management of musculoskeletal disability due to other causes.

Strategies for prevention of all major musculoskeletal conditions have been identified through European Action Towards Better Musculoskeletal Health,¹⁰ undertaken in a partnership of BJD with EULAR, the European Federation of National Associations of Orthopaedics and Traumatology (EFORT) and the International Osteoporosis Foundation (IOF) with the support of the EC Directorate-General for Health and Consumers (DG-SANCO). The European Musculoskeletal Surveillance and Information Network (EUMUSC.NET) project,^{26,27} supported by the EU, EULAR and partners across Europe including the BJD, aims to facilitate implementation of evidence-based strategies, assessing the impact of musculoskeletal conditions across Europe and developing and disseminating patient-centred standards of care and healthcare quality indicators for healthcare providers. Auditing the achievement of these standards and indicators will provide comparative data to drive forward patient outcomes, ensuring equity across Europe.

Communication and education

This compelling evidence needs to be communicated. The public needs to be aware of the enormous impact of and the missed opportunities for prevention and effective treatment and rehabilitation. Healthcare professionals, providers and policy-makers also need to be better educated about the possibilities for prevention and treatment. The BJD brings together stakeholders at the national, regional and global level to raise awareness. As noted above, ARMA is the BJD UK National Action Network and acted as a model for creating similar networks across the globe. Annual World Network Conferences have been held since the launch of the BJD to bring together professional and patient delegates from National Action Networks to share challenges and also learn from others' experiences of what works to influence policy and improve care.

The challenges are not inconsiderable:

- Non-communicable diseases are recognised as a major health problem **but** the focus is on high-mortality, not high-morbidity, conditions.
- Urgency of improving lifestyle is recognised **but** the benefits to musculoskeletal health are not appreciated.
- The need for lifelong economic independence is recognised **but** the threat from common disabling musculoskeletal conditions to healthy ageing and people's ability to work is not recognised.
- The ageing of the population globally is recognised **but** the focus is on minds, not mobility.

There is a need to develop advocacy to encourage and help the development of patient organisations across the globe. It is necessary to develop advocacy skills for patients' representatives, for example through training courses during annual BJD World Network Conferences. More needs to be done so that there are strong patient, public and professional voices together advocating access to better care for all musculoskeletal conditions.

The main target of this advocacy is policy-makers at the global, regional and national level. Employers are equally important since musculoskeletal disorders are the commonest cause of work loss. National Action Networks have been working with their policy-makers and some advances have been made in countries such as the UK and Australia, with national strategies being developed, but priority for implementation has not been achieved. Since its inception the BJD has worked with WHO, for example taking part in consultative meetings during the development of the WHO Global Strategy for the Prevention and Control of Noncommunicable Diseases. However, there has only been limited success in shifting the emphasis from diseases with high mortality to including those with high morbidity. This is a concern not just to those planning and delivering musculoskeletal healthcare but also to those involved with services for other non-fatal conditions such as mental health, vision and hearing. However, the risk factors of tobacco use, unhealthy diet, alcohol, physical inactivity and obesity are all relevant to musculoskeletal health so the BJD needs to be engaged in the implementation of policies at a global, regional and national level to have a major impact on lifestyle and highlight the benefits which will be gained for musculoskeletal health.

Access to appropriate care to reduce the impact of musculoskeletal conditions depends not only on gaining political priority but also on access to

competent health professionals. Medical students often receive less than adequate education and training in musculoskeletal conditions and lack basic competencies of history-taking, examination and assessing with regard to disability. There is a lack of health workers in many parts of the globe and there are few rheumatologists and orthopaedic surgeons in less developed countries. Core recommendations for a musculoskeletal undergraduate curriculum appropriate to any country have been developed by the BJD²⁸ in an effort to ensure all doctors have basic competencies, and these are influencing curricula in for example Croatia, the Lebanon, Canada and Australia. Specific projects in Canada and Australia have aimed to improve medical undergraduate education. However, more needs to be done to train the workforce and ensure that musculoskeletal problems are appropriately assessed and managed, especially at the first contact with healthcare services.

Finally it is vital to ensure that there will continue to be improvement in prevention and treatment of musculoskeletal conditions. This requires that musculoskeletal research is given greater priority and that research expenditure is linked to burden of disease. There has been an active campaign led by EULAR and supported by the BJD to gain priority for musculoskeletal research in European research programmes. In the UK, the recent emphasis on clinical research in the NHS and the engagement in this programme by Arthritis Research UK is resulting in a great increase in clinical trials and enhancement of research expertise in musculoskeletal conditions across the UK. There has also been a successful research mentoring programme in the USA undertaken by the US BJD Network resulting in many successful grants. More such initiatives are needed, as well as campaigning for more resources, to increase knowledge about common conditions such as osteoarthritis and back pain so that the successes already achieved in advancing the management of rheumatoid arthritis can be mirrored in these high-prevalence disorders.

Conclusion

Challenges remain in gaining appropriate priority for these often long-term musculoskeletal conditions with their high personal, family and societal costs, when current priorities focus on conditions with high mortality. There needs to be greater recognition that musculoskeletal conditions are the leading cause of disability, much of which can be prevented. The paradigm needs changing from the

quantity of life to the quantity of quality life. To achieve this there is an ongoing need to work together across diseases, professions, disciplines and countries to make musculoskeletal health a priority. At the launch of the Bone and Joint Decade in 2000 Gro Harlem Brundtland, Past WHO Director-General, said, 'Musculoskeletal diseases are the major cause of morbidity throughout the world. These diseases have a substantial influence on health and quality of life and they inflict an enormous cost on health systems,' and Kofi Annan, Past UN Secretary-General, said, 'With the increasing number of older people and changes in lifestyle occurring throughout the world, this trend will increase dramatically over the next decade and beyond ... we must act on them now.' This remains true in 2012. Much more still needs to be done by working together.

Further information

WHO European Regions

WHO Member States are grouped into 6 geographical regions, including Europe (EUR). These regions are further divided based on patterns of child and adult mortality in groups ranging from A (lowest) to E (highest): EUR A,B,C.

EUR A: Andorra, Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Monaco, Netherlands, Norway, Portugal, San Marino, Slovenia, Spain, Sweden, Switzerland, United Kingdom

EUR B: Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Georgia, Kyrgyzstan, Poland, Romania, Serbia and Montenegro, Slovakia, Tajikistan, the former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Uzbekistan

EUR C: Belarus, Estonia, Hungary, Kazakhstan, Latvia, Lithuania, Moldova, Russian Federation, Ukraine

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New call for education research applications

Arthritis Research UK is pleased to issue a **call for expressions of interest** in research on the subject of the **education of health care professionals and the public**. This will be in relation to particular priority topics – please read the document ‘Call for research proposals in the education of health professionals and the public 2012’, available on our website (<http://www.arthritisresearchuk.org/health-professionals-and-students/educational-grants-fellowships-and-prizes/education-project-grants.aspx>), before you apply.

The application process will be in three stages, as follows:

- Stage 1** Submission of an intent form
Deadline: Wednesday 19 September 2012
- Stage 2** Shortlisted applicants from Stage 1 may be invited to attend a review/mentoring workshop in January 2013. Those subsequently invited to submit a full application will be informed of this by
Wednesday 27 February 2013
- Stage 3** Submission of a full application form, for those invited to submit only
Deadline: Wednesday 17 April 2013

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