1 Introduction

A GLOBAL PROBLEM

Arthritis and osteoporosis are among the world's leading causes of long-term pain and disability (Lidgren 2003). Although they are not often direct causes of death, these conditions make large contributions to pain, deformity, mobility restriction and functional impairment, as well as affecting mental health and quality of life. The burden of arthritis and osteoporosis applies not only to the individuals affected by these conditions, but to their families, friends and society in general, through reduced social interaction, role restrictions, lost productivity, and the significant cost of ongoing management and treatment.

The World Health Organization (WHO) estimated that musculoskeletal diseases were the fifth largest cause of global years of life lost due to disability (YLD) in 2002, accounting for more than 5% of the total (WHO 2004). This figure does not include the contribution of osteoporotic fractures; falls in people aged 65 years or over were estimated to account for another 0.8% of global YLD in 2002.

Recognition of the burden of arthritis, osteoporosis and other musculoskeletal conditions, and the need for action worldwide, led to the declaration of 2000–2010 as the Bone and Joint Decade. The Decade aims 'to improve the quality of life for people who have musculoskeletal conditions and to advance the understanding and treatment of these conditions through research, prevention and education' (Weinstein 2000). More than 750 professional bodies, advocacy groups, industry and research organisations, and governments across 60 countries (including Australia) support the Decade, confirming the global nature of the musculoskeletal disease burden and its impact on all sectors of society.

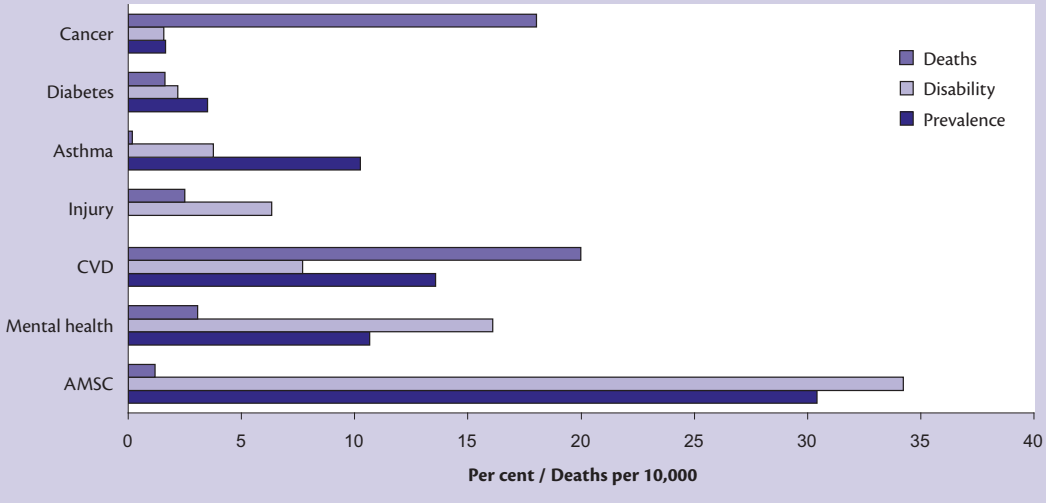
THE AUSTRALIAN PICTURE

In Australia, arthritis and osteoporosis are identified as a focus under the National Health Priority Area (NHPA) of arthritis and musculoskeletal conditions. Self-reported data suggest that long-term arthritis and musculoskeletal conditions affect 31% of the Australian population, more than 6 million people (ABS 2006). Although these conditions cause relatively few deaths, they are by far the most prevalent of all the NHPA diseases and conditions, and the most commonly reported causes of disability (Figure 1.1). The WHO Global Burden of Disease project estimated that musculoskeletal conditions were the sixth largest contributor to YLD in Australia in 2002, at almost 5% of the total (WHO 2004).

Overall, the most commonly reported musculoskeletal conditions in Australia are arthritis (affecting an estimated 3.0 million people), back pain (2.1 million), disc disorders (1.1 million) and osteoporosis (0.6 million). Prevalence is highest among people aged 65 years or over: two out of three people of this age have arthritis or another musculoskeletal condition, and more than 50% have arthritis, osteoporosis, or both. But those at younger ages are not immune, with 1 in every 36 people aged less than 18 years reportedly having arthritis or a musculoskeletal condition—an estimated 131,000 Australian children and young people.

Arthritis and musculoskeletal conditions are the most common causes of long-term disability in Australia, with 34% of people with disability in 2003 reporting that arthritis or another musculoskeletal condition was their main disabling condition (ABS 2004). Almost half of these people were restricted in schooling or employment due to their disability, and over one quarter had a severe or profound core activity limitation (meaning that they were unable to perform, or sometimes or always needed help with performing, communication, mobility or self-care tasks).

Arthritis and musculoskeletal conditions are also common reasons for the use of health care services. In 2006–07, arthritis and musculoskeletal conditions were managed at 17 out of every 100 of GP encounters reported in the Bettering the Evaluation and Care of Health (BEACH) GP survey (Britt et al. 2007), and accounted for more than 3% of all hospital separations (AIHW 2007). Use of these and other medical and allied health care services, along with the need for medications and high-level residential care services, results in substantial expenditure on these conditions. Arthritis and musculoskeletal conditions were the fourth leading contributor to direct health expenditure in Australia in 2004–05, at $4.0 billion. The three conditions osteoarthritis, rheumatoid arthritis and osteoporosis together accounted for more than 40% of this expenditure.



AMSC arthritis and musculoskeletal conditions
CVD cardiovascular disease

Notes

1. Data are prevalence of condition, deaths from the condition, and proportion of people with disability reporting it as their main disabling condition.
2. Deaths from self-inflicted injury have been assigned to the mental health group. Deaths from hip fracture have been assigned to the AMSC group.
3. Prevalence and deaths data have been age-standardised to the Australian population as at 30 June 2001.

Source: ABS 2004 (disability); AIHW National Mortality Database (deaths); AIHW analysis of the 2004–05 NHS CURF (prevalence).

Figure 1.1: Burden of arthritis and musculoskeletal conditions compared with other NHPAs

POTENTIAL FOR CHANGE

The effects of arthritis and osteoporosis can be reduced through prevention, early diagnosis and initiation of treatment, and appropriate long-term management. Over the past couple of decades, better understanding of the causes, risk factors and progression of the various conditions has led to new strategies for primary prevention and improved management techniques. Advances in the pharmaceutical field have also resulted in new and more effective medications for treatment, and improvements in surgical techniques have meant that joint replacement surgery is more widely available.

Primary prevention

Osteoarthritis and osteoporosis can be prevented, or at least have their onset delayed, through preventive action. Although varying in their impact on specific conditions, lifestyle changes (including regular physical activity, maintenance of healthy weight, a balanced diet, limiting alcohol intake and not smoking) are the basic building blocks for prevention of these and many other chronic diseases. In addition, avoidance or limitation of repetitive load-bearing activities and prevention of joint trauma can reduce the risk of developing osteoarthritis.

Treatment and management

The treatment of arthritis and osteoporosis is focused on alleviating symptoms, optimising function, minimising the impact of disability and maximising quality of life. The use of medication is the most common way of achieving these outcomes, in combination with physical and occupational therapy and self-management education. Early diagnosis and prompt initiation of treatment can minimise functional limitations and slow disease progression. In people with severe osteoarthritis or rheumatoid arthritis, joint replacement surgery is a cost-effective intervention that can reduce pain, increase joint functionality and improve the quality of life. Interventions that reduce the risk of falling, or devices (such as hip protectors) that absorb the impact of falls, can be beneficial in people with osteoporosis.

More detailed information about prevention, treatment and management is provided in chapters 4, 5 and 6. Information about reducing the impact of arthritis-associated disability can be found in Chapter 3.

NATIONAL ACTION

In July 2002, Australian health ministers formally recognised the burden of arthritis and musculoskeletal conditions in Australia, and the potential for reduction of this burden, by declaring them an NHPA. Listing as an NHPA provides impetus for regular surveillance and monitoring activity, and provides a framework for the introduction of health interventions. The initial focus of the NHPA was on osteoarthritis, rheumatoid arthritis and osteoporosis, with juvenile arthritis added to the list in 2006. Although the importance of other musculoskeletal conditions and their significant impact on health and quality of life is recognised, focusing efforts on a small number of conditions at any one time enables targeted action and the setting of more manageable and achievable goals.

To guide action under the NHPA, a National Action Plan was developed by the National Arthritis and Musculoskeletal Conditions Advisory Group (NAMSCAG), in consultation with stakeholders and consumers (Australian Health Ministers' Conference 2005). The plan aims 'to provide a blueprint for national efforts to improve the health-related quality of life of people living with osteoarthritis, rheumatoid arthritis and osteoporosis, reduce the cost and prevalence of those conditions, and reduce the impact on individuals, their carers and communities within Australia' (Australian Health Ministers' Conference 2005:2). The plan states five key objectives:

- to reduce the burden of disease associated with osteoarthritis, rheumatoid arthritis and osteoporosis
- to advance and disseminate knowledge and understanding of osteoarthritis, rheumatoid arthritis and osteoporosis

- to reduce disadvantage by considering groups with special needs
- to drive national improvements in systems and services
- to measure and manage performance and outcomes.

More recently, the National Chronic Disease Strategy and National Service Improvement Frameworks identified osteoarthritis, rheumatoid arthritis and osteoporosis as conditions of major importance in Australia (National Health Priority Action Council 2006a, b). These documents outline the need for improvements in the prevention, detection and management of chronic diseases, optimisation of self-management strategies, and a focus on population groups with special needs. The need for the development, collection and reporting of measures to monitor program outcomes, and national data systems that can monitor population trends in prevalence, risk factors, comorbidities and service use patterns, is also emphasised.

In the 2002–03 Federal Budget, funding for four years was allocated to the *Better Arthritis Care* initiative. The 2006–07 Budget extended this funding for a further four years as the *Better Arthritis and Osteoporosis Care* (BAOC) initiative, allocating a total of $14.8 million over 2006–07 to 2009–10. The focus conditions were also expanded at this time to cover juvenile idiopathic arthritis. The aims of the BAOC initiative are to provide better diagnosis, promote best-practice treatment and management, provide multidisciplinary care, promote self-management and support proven self-management options.

The two budget allocations provided funding for a large number of projects for improving care, the development of the National Action Plan, and several projects addressing the plan's key objectives (see DoHA 2008). Funding was also provided for the production of a baseline monitoring report on arthritis and musculoskeletal conditions in Australia, and the establishment of a national monitoring centre.

NATIONAL MONITORING AND SURVEILLANCE

Data on arthritis and osteoporosis in Australia are limited. The largely non-fatal nature of these conditions, and the perception that arthritis is 'an old person's disease' related to normal wear and tear, has probably contributed to the lesser degree of attention that monitoring of arthritis and musculoskeletal conditions has received in the past, compared to more obvious causes of ill-health and death such as heart disease and cancer. However, arthritis and osteoporosis have a substantial impact on disability and quality of life, and are among the most prevalent long-term health conditions occurring in Australia. It is important, therefore, that accurate, reliable and comprehensive information about them is available, to inform national discussion and decision-making and support further research.

The National Action Plan for Osteoarthritis, Rheumatoid Arthritis and Osteoporosis identifies the need for establishing baselines and implementing ongoing data collection systems to support research (Australian Health Ministers' Conference 2005). The plan also outlines a number of monitoring-related strategies to achieve the five key objectives listed above, including:

- gathering information on the disease burden related to osteoarthritis, rheumatoid arthritis and osteoporosis
- planning and developing the ongoing collection of comprehensive data
- developing and monitoring performance indicators (Australian Health Ministers' Conference 2005).

An effective monitoring and surveillance system can facilitate the prevention and management of arthritis and musculoskeletal conditions; it can determine their impact, reveal variation between population groups and detect underlying trends. This information can underpin workforce and service planning, inform national policies and strategies, and identify groups with special needs.

To progress monitoring and surveillance activities, the National Centre for Monitoring Arthritis and Musculoskeletal Conditions was established in 2005. The primary objective of the centre is to undertake national surveillance and monitoring of arthritis and musculoskeletal conditions, and become a reliable source of national information on these conditions. Located within the Australian Institute of Health and Welfare, the Centre has access to a range of national data relevant to osteoarthritis, rheumatoid arthritis, juvenile arthritis and osteoporosis. The Centre is guided by a steering committee, formerly the Data Working Group of NAMSCAG, which includes representatives from government, professional and consumer organisations, as well as clinical experts.

PURPOSE AND STRUCTURE OF THIS REPORT

This report is the second in the series of comprehensive surveillance reports that began with *Arthritis and musculoskeletal conditions in Australia 2005* (AIHW: Rahman et al. 2005). That report provided baseline information on the status of arthritis and musculoskeletal conditions in Australia, with a focus on osteoarthritis, rheumatoid arthritis and osteoporosis. The current report provides more in-depth information about prevention, treatment and management of the these three conditions, as well as providing insight into significant issues such as disability. In addition, the problem of arthritis in children and young people is discussed, with reference to impacts on development, schooling and quality of life, and the effects of the diagnosis on the child's family.

The report has been organised into seven chapters and two appendixes. This introductory chapter provides an overview of the burden of arthritis and osteoporosis in Australia, and describes national action to reduce this burden. General information on the focus conditions of osteoarthritis, rheumatoid arthritis, juvenile idiopathic arthritis and osteoporosis, including their clinical presentation, prevalence, risk factors and treatment goals, are provided in Chapter 2.

The significant disability caused by arthritis, and the effects this has on quality of life and mental health, is detailed in Chapter 3. The types of problems experienced, forms of assistance needed, and modifications and aids that can be used are described.

Chapter 4 focuses on juvenile arthritis. The various types of arthritis that affect people at young ages are described, along with an overview of their treatment, management and prognosis. The effects of arthritis on the young person's physical and mental health, development, education, social interaction and quality of life are also discussed. In addition, the chapter looks at some of the impacts that the diagnosis of arthritis has on the young person's parents and siblings.

Specific strategies for reducing the burden of arthritis in Australia are discussed in Chapter 5. The chapter details prevention and management options, and presents data about the use of health services for arthritis management.

Chapter 6 is devoted to osteoporosis and fractures. In people with established osteoporosis, the risk of fractures can be greatly decreased through interventions that prevent or reduce the risk of falling. The chapter details the causes and development of osteoporosis, discusses its treatment and management, and outlines prevention strategies. It also describes common fracture types and their treatment, impacts on physical and mental health and quality of life, and fall-related interventions.

Finally, Chapter 7 explores trends and patterns in osteoarthritis, rheumatoid arthritis and osteoporosis through examining the national indicators for these conditions. Information on recent trends in prevalence, use of health services and types of therapies is provided. The chapter also considers variation across population groups and geographic areas. Baseline data for each of the indicators (the most recent year available, by age group and sex) are provided in Appendix 1.

The information presented in this report should complement that provided by the baseline report, *Arthritis and musculoskeletal conditions in Australia 2005*. In addition to providing the most recent data on prevalence, health service use and uptake of therapies, this report considers significant issues in detail, promoting greater awareness and understanding of the burden of arthritis and osteoporosis in Australia.

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