

Musculoskeletal Health Network

Inflammatory Arthritis Model of Care

Prepared by the Inflammatory Arthritis
Working Party
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Government of **Western Australia**
Department of **Health**



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Executive Summary

Inflammatory Arthritis (IA) is a chronic condition with acute exacerbations “characterised by complex causality, multiple risk factors, a long latency period, a prolonged course of illness, functional impairment or disability, and in most cases, the unlikelihood of cure.”¹ It encompasses the major inflammatory forms of arthritis in children, adolescents and adults. It indicates the presence of synovial inflammation, synovitis, in contrast to non-inflammatory musculoskeletal conditions, such as osteoarthritis. For the purposes of this report it has been restricted to cover those forms of inflammatory joint disease which contribute most to the total disease burden in Australia including rheumatoid arthritis (RA), ankylosing spondylitis (AS), psoriatic arthritis (PsA), juvenile idiopathic arthritis (JIA). Gout is very common and is also characterised by acute inflammation. It has been excluded, because its management differs significantly from the other conditions. However its high and increasing prevalence due to lifestyle factors, particularly in the indigenous population, has persuaded the Working Group that a separate Model of Care should be developed. Septic arthritis, viral arthritis and other specific arthritides are important and need to be considered in the differential diagnosis of an inflammatory arthritis, but their further management has not been included in this model of care.

The Model of Care for Inflammatory Arthritis has been developed to meet the purpose and vision outlined in “Strategic Intent 2005 – 2010”² and the Clinical Services Framework (2005)³ to deliver a healthy WA. It has been developed by a team of diverse experts which has met regularly, examined a wide range of literature and other resource materials, and consulted widely. Emphasis has been placed on recommendations for which there is strong, evidence-based support as reflected in broad agreement between existing national and international guidelines, particularly where they address an identified deficiency in Western Australia.

The following deficiencies in current service provision have been identified:

- Early diagnosis of inflammatory arthritis in adults and children is crucial, yet delays are common, particularly in consulting appropriate specialists. Early recognition and treatment is now all the more important because of the opportunity to achieve better outcomes.
- The management of inflammatory arthritis has become more complex. In both public and private practice, there are deficiencies in disease monitoring. Assessing patients’ needs and monitoring disease activity, drug toxicity and response to treatment requires a multi-disciplinary team and appropriate information and communication technology.
- The services of relevant allied health personnel are under-utilised. This is predominantly due to inadequate access and shortcomings in communication and funding, especially in relation to the need for multiple visits and access to equipment through the Community Aids and Equipment Program.
- Currently best practice in the management of inflammatory arthritis is limited by lack of quality health information available to general practitioners, allied health professionals, clients and carers.



- Lack of GP education, limited medical personnel and the challenge of delivering outreach services to a large state continue to hinder the care of children and adolescents with inflammatory arthritis.
- Regional services are deteriorating due to increasing demand, inadequate numbers of skilled rheumatology nurses, slow development of Telehealth and the lack of adequate support for on-going professional education.
- Teaching and research, including targeted health services research, are seriously constrained by WA being the only State in Australia not to have a Chair of Rheumatology or Musculoskeletal Medicine.

Key Recommendations

- Where rapid access is not already available, Early Synovitis Clinics should be established to expedite referrals, diagnose Inflammatory Arthritis (IA) and initiate treatment early in the course of disease and prevent long-term morbidity.
- Improve access to a Multidisciplinary Team (MDT) closer to home for adults and children living with IA to assess their needs and provide equitable access to appropriate interventions.
- Establish transition pathways and protocols for adolescents from paediatric to adult rheumatology services.
- Annual reviews for patients with chronic inflammatory arthritis.
- Develop information technology infrastructure and systems that support the delivery of integrated services for Inflammatory Arthritis, especially biological and conventional disease-modifying therapies.
- Establish a Chair of Rheumatology or Musculoskeletal Medicine with an attractive level of initial funding and research to facilitate development of a statewide research strategy.
- Support rural rheumatology clinics and telehealth consultations by identifying and training appropriately qualified members of staff and sustainable sources of funding.
- Develop strategies to facilitate workforce, professional development & education to improve services for people living with IA, for example;
 - Chronic Disease Management Teams to provide services for people with Inflammatory Arthritis
 - Rheumatology nurse specialists (or practitioners).
 - Extended scope physiotherapists, occupational therapists or pharmacists.
- Consumer education and access to self management tools for patients, carers and the parents of children with inflammatory arthritis.



1. Methodology

The Musculoskeletal Health Network provides advice on delivering patient-centred, sustainable, and effective health services across the continuum of care in relevant clinical areas. Consistent with national priorities for musculoskeletal conditions as outlined in the National Services Improvement Framework of Osteoarthritis, Rheumatoid Arthritis and Osteoporosis,⁴ the importance of Inflammatory Arthritis was recognised at a Stakeholders Workshop in Nov 2006.

The Inflammatory Arthritis Working Party has reviewed current literature, guidelines and standards, analysed current service delivery (where information is available), identified gaps and made recommendations to implement in a Model of Care.

The Model of Care for Inflammatory Arthritis has been developed to meet the purpose and vision outlined in WA Health “Strategic Intent 2005–2010”² and the Clinical Services Framework (2005) to deliver a healthy WA. This Model of Care should be viewed as a dynamic strategy, which will evolve over time to include new research findings for improving health care along with information gathered through the consultation process.

The Model of Care and recommendations are informed by and aligned with a number of national and international strategic documents which provide the evidence base. They include:

- National Chronic Disease Strategy (Australian Health Ministers’ Advisory Council)
- National Service Improvement Framework for Osteoarthritis, Rheumatoid Arthritis, and Osteoporosis. (Australian Health Ministers’ Advisory Council)
- National Action Plan for Osteoarthritis, Rheumatoid Arthritis, and Osteoporosis.
- National Indicators for Monitoring Osteoarthritis, Rheumatoid Arthritis, and Osteoporosis. (National Centre for Monitoring Arthritis and Musculoskeletal Conditions, Australian Institute of Health and Welfare)
- Evidence to Support the National Action Plan for Osteoarthritis, Rheumatoid Arthritis, and Osteoporosis
- Arthritis and Alliance Standards of Care for People with Inflammatory Arthritis (Arthritis and Musculoskeletal Alliance, UK)
- The Musculoskeletal Services Framework (Department of Health, UK)
- British Society for Rheumatology Guidelines on Standards of Care
- Guideline for the Management of Rheumatoid Arthritis (the first 2 years) (British Society for Rheumatology and British Health Professionals in Rheumatology)
- Royal Australian College of General Practitioners’ Clinical Guidelines for Rheumatoid and Juvenile Idiopathic Arthritis (2008)



Development of the Model of Care also included analysis and integration of the following policies and reports:

- Declaration on patient-centred healthcare as adopted by the Health Consumers' Council (WA)
- WA Aboriginal Health Impact Statement and Guidelines
- WA Transitional Care document
- Cultural Impact Statement
- National Strategic Implementation Framework
- WA Chronic Disease Strategic Framework
- National Chronic Disease Strategy
- Royal Australian College of General Practitioners guidelines
- British Society of Rheumatology guidelines
- UK National Collaborating Centre for Chronic Conditions guidelines
- American College of Rheumatology guidelines

After endorsement from the Musculoskeletal Health Network Executive Advisory Group, the draft was distributed widely for consultation with stakeholders including health professionals, health service planners and providers, consumers, and non government agencies.



2. Background

Nearly one in five Australians has arthritis,⁵ indeed more Australians have arthritis than any other condition listed as a national health priority. In 2007, there was an estimated 3.86 million Australians with arthritis, including ~0.5 million with rheumatoid arthritis.⁶ For the purposes of this report, Inflammatory arthritis (IA) describes a range of conditions, including rheumatoid arthritis (RA), ankylosing spondylitis (AS), psoriatic arthritis (PsA), and juvenile idiopathic arthritis (JIA). In such cases inflammation is recurrent or chronic, but some patients with inflammatory arthritis have self-limiting disease and it can be difficult at the outset to predict the course and diagnosis. In most cases it is not known exactly what causes a person to develop IA. The majority of risk factors for these conditions, such as age, gender and genetic make-up, cannot be modified. Treatment is effective in all forms of IA.

2.1 Rheumatoid arthritis

RA is the second most common form of arthritis in Australia. More than 1% of the total disease burden in Australia is accounted for by RA alone.⁷ Access Economics estimates that in 2007 the allocated health system expenditure on RA was ~\$406 million.⁶ Almost 438,000 Australians were reported to have RA but the prevalence is projected to double by 2050.^{6, 8} It often begins in the productive middle years of life, the prevalence increases with age, and women are two to three times more likely to develop RA than men. It is a major cause of morbidity and disability, resulting in substantial limitation of activity and ongoing need for care and assistance. Most patients exhibit a chronic fluctuating course of disease. Unrecognised or inadequately treated it often results in progressive joint destruction, deformity, disability, and premature death. The pathogenesis of RA encompasses both genetic and environmental factors, with the former contributing up to 60% to susceptibility. Cigarette smoking is a risk factor for the development of RA and possibly for more severe disease.⁹⁻¹¹

Consumer Comment

“The public misconception that arthritis is an old person’s disease is one of the hardest things to cope with. Better public awareness would help sufferers immensely, particularly in regard to inflammatory arthritis and how it differs from osteoarthritis.”

2.2 Ankylosing spondylitis (AS)

AS is a chronic inflammatory disorder that mainly affects the axial skeleton. Peripheral arthritis occurs in about 20% of patients, predominantly in the lower limb joints. Extra-articular manifestations include iritis, which occurs in 25 - 30% of patients, and which can threaten sight. The association between AS and HLA-B27 constitutes the strongest immunogenetic association observed for any human immune disease. The prevalence of AS in HLA-B27⁺ individuals is 2 – 5%. The prevalence of HLA-B27 varies considerably from one ethnic group to another, but the strong association with AS is highly consistent. About 90 – 95% of affected white persons express the HLA-B27 tissue type.¹² Large twin



and family studies^{13, 14, 15} indicate that approximately 90% of the risk of disease is related to genetic makeup.

2.3 Psoriatic arthritis (PsA)

The prevalence of PsA is low (~0.1%) but it develops in 5 – 30% of patients with psoriasis. Systemic features are rare but about one-third of patients will have significant disability. PsA is associated with genes that are associated with psoriasis (e.g. HLA-CW6) and with arthritis (e.g. HLA-B27).¹⁶ The role of environmental factors is unclear.

2.4 Juvenile idiopathic arthritis (JIA)

JIA is one of the commonest causes of physical disability in childhood. The onset can be gradual or abrupt. Affected children most commonly present with joint symptoms alone, but systemic manifestations of disease occur in some cases. Symptomatic or asymptomatic eye involvement, which may be missed by non-specialists, can cause blindness. The prevalence in WA is 0.4%¹⁷ which is in line with international experience. In Western Australia nearly 1,800 children or adolescents are estimated to suffer from JIA, representing 25% of new patients seen by paediatric rheumatologists. Approximately 44% will go into remission within 2 years, though many remit later.¹⁸ The burden of disease related to JIA is significant because of the many years spent with disability.

Consumer Comment

“My three-year old has always shuffled along. We called her “Geisha Girl”. We had no idea that she actually had severe arthritis ever since she could walk!”

2.5 Burden of Disease and Resource Utilisation

Chronic conditions of bones and joints, the leading cause of disability and chronic pain worldwide, are projected to increase as a consequence of the ageing population, and changes in lifestyle and risk factor profile.⁴ The significance of this has been recognised through the World Health Organisation designating the Bone and Joint Decade (2000-2010). Chronic health conditions are rapidly increasing the overall burden of disease in Australia. At present in Australia, arthritis and other chronic diseases are responsible for 70% of the total burden of disease. This is expected to increase to 80% by the year 2020.¹ Access Economics estimates that the overall burden of disease from arthritis is 93,855 disability adjusted life years (DALYs) at a net cost of \$11.7 billion, almost all attributable to years of life lost due to disability.^{6, 19} Mortality rates for arthritic diseases are relatively low with an estimated 2,376 years of life lost due to premature death.

IA is managed predominantly in primary care and in specialists’ rooms and out-patient clinics. Musculoskeletal conditions are one of the most common reasons for GP consultation. Table 1 shows that GPs prescribe medication in 96% of cases of RA seen and request pathology in 72%. Referrals to physiotherapists and specialists are infrequent, as corroborated by the National



Health Survey in 2001. In WA 26% of those with RA consulted an allied health professional; of these, 6% were pharmacists, 6% physiotherapists (including 3% for hydrotherapy), 3% podiatrists and 3% chiropractors.⁵ Patients with IA frequently use complementary and alternative medicines.

Table 1. Management of rheumatoid arthritis by general practitioners 2003-04

Type of management	Number of problems managed	Per cent ^(a)
Medications	485	96.6
Referrals	66	13.1
Orthopaedic surgeon	6	1.2
Physiotherapist	12	2.4
Rheumatologist	35	7.0
Pathology	361	71.9
Full blood count	94	18.7
Erythrocyte sedimentation rate (ESR test)	68	13.5
Liver function test	54	10.8
Imaging	23	4.6
X-ray	14	2.8
Ultrasound	2	0.4
Total management types	989	

(a) Per cent of rheumatoid arthritis problems managed.

Source: Bettering the evaluation and care of health survey, AIHW

Because the majority of patients in WA with IA are treated in private practice, service planning is impeded without access to Medicare information on their utilisation of specialist services. There is little hospital data available which reliably captures the use of rheumatology services, because most accurate data pertain only to in-patient episodes of care and arthritis is predominantly treated in an out-patient setting. Table 2 shows that national hospital separation rates, patient days and average length of stay have decreased for RA over 5 years from 1998/9 to 2003/4. The table also indicates that total patient days for RA have fallen by 31%, with separations down 6% and average length of stay by more than 30% to 4.5 days. There has been a significant reduction in the number of in-patient admissions for those with a diagnosis of inflammatory arthritis. The decreases in multi-day admissions are probably due in part to the new medical therapies available and the shift to outpatient treatment. The new treatments and more targeted use of existing treatments should result in fewer patients developing end-stage joints which require replacement.



Table 2. Change in hospital separation rates, patient days and average length of stay for chronic diseases including RA, 1998-99 to 2003-04.

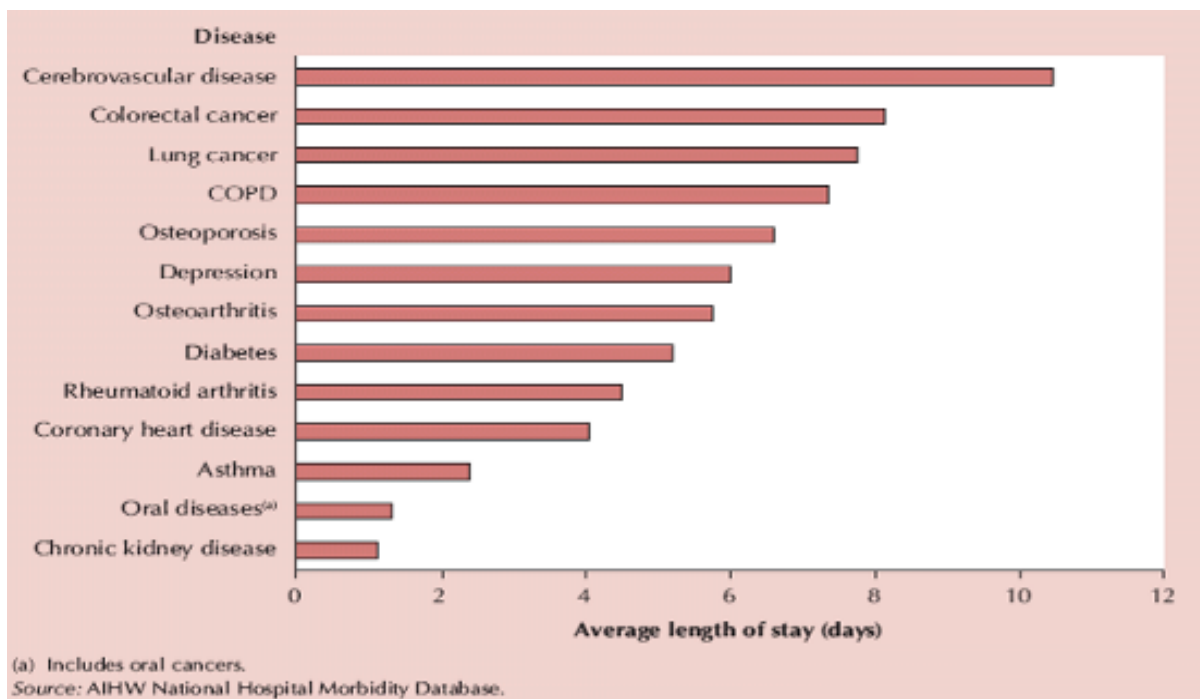
Disease	Per cent change in		
	Age-standardised separation rate	Patient days	Average length of stay
Chronic kidney disease	55.6	46.9	-6.1
Coronary heart disease	-8.8	-9.7	-13.0
Oral diseases ^(a)	30.2	19.5	-12.4
Depression	25.6	4.6	-23.4
Osteoarthritis	16.9	11.6	-15.2
COPD	1.5	7.6	-7.0
Cerebrovascular disease	-12.1	-3.5	-4.7
Asthma	-32.0	-38.5	-12.7
Colorectal cancer	11.7	15.7	-8.9
Lung cancer	-5.7	9.2	2.5
Osteoporosis	62.0	46.9	-22.1
Rheumatoid arthritis	-6.0	-30.6	-34.4

a) Includes oral cancers.
 Note: Changes not available for diabetes, because of variations in the coding standards.
 Source: AIHW National Hospital Morbidity Database.

Source: AIHW National Hospital Morbidity Database

In 2003-2004, the AIHW National Hospital Morbidity Database report also showed that the average length of stay in hospital for people with Rheumatoid Arthritis was approximately 4.5 days (Figure 1).

Figure 1. Average length of stay for chronic diseases including rheumatoid arthritis, 2003 – 2004

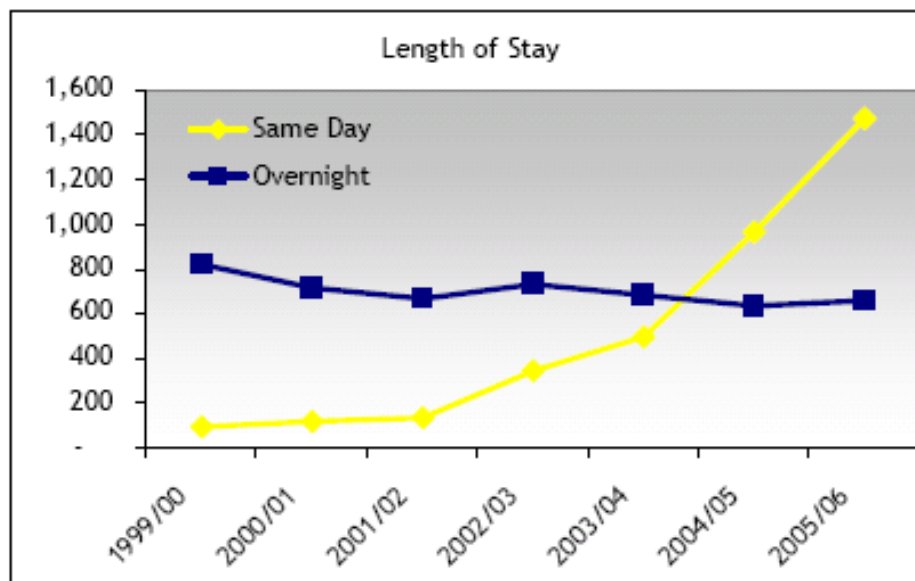


Source: AIHW National Hospital Morbidity Database



Figure 2 shows the changes that have occurred in same day and overnight admissions for rheumatoid arthritis in WA hospitals over the past 7 years. It can be seen that there has been a sharp increase in same day admissions, due almost certainly to the need for scheduled administration of biologic DMARDs, many of which require closely supervised infusion over several hours. Others are self-administered by patients at home.

Figure 2. Length of hospital stay for patients with rheumatoid arthritis in WA



Source: Epidemiology Branch, Department of Health WA. WA Hospital Morbidity Data System 2008



3. Model of Care for Inflammatory Arthritis

The model of care takes a holistic approach to the provision of services for people with Inflammatory Arthritis in WA. The model of care aims to ensure patients receive:

“The right care, at the right time, by the right team, in the right place”

The ultimate goal of treating Inflammatory Arthritis is to induce complete remission. This occurs infrequently, although appreciably more often with current therapy than was the case 10 to 20 years ago. In the absence of complete remission, the management goals²⁰ are to optimally control disease activity, alleviate pain, maintain function for essential activities of daily living and work, maximise quality of life and slow or preferably stop joint damage.

The rationale and overarching principles that guide the development of the Inflammatory Arthritis model of care and other chronic diseases are based on the National Chronic Disease Strategy (2006)²¹, which states that models should:

- adopt a Population Health approach and reduce health inequalities among population groups²¹⁻²³
- prioritise health promotion and illness prevention, incorporating chronic disease prevention and risk reduction across the continuum through early detection and early treatment
- achieve person centred care and optimise self-management
- provide the most effective care by implementing cost effective and evidence based methods and strategies
- facilitate coordinated and integrated multidisciplinary care across services, settings, and sectors
- achieve significant and sustainable change
- monitor progress

The Model of Care aligns with the aims of the ARMA standards of care to:

- improve quality of life for those affected by inflammatory arthritis
- identify the care and treatment they can expect
- promote more consistent approaches to care
- improve access to care and treatment
- reduce treatment costs associated with advanced disease
- improve productivity of those affected by inflammatory arthritis

3.1 Promoting musculoskeletal health

There may be little to be done about non-modifiable risk factors (age, gender, family history)⁴ but **people, including those with inflammatory arthritis, should be given general advice on lifestyle such as smoking cessation, alcohol consumption and weight control** [Recommendation 25].²¹⁻²⁵ General strategies to increase community awareness about the importance of healthy environments, reducing risk factors (e.g. smoking) and promoting healthy behaviours (e.g. physical activity, weight management, stress management)



may be helpful. A population health approach should attempt to reduce health inequalities. Chronic disease prevention (and management) must be responsive to the needs of people from diverse cultural backgrounds, across all stages of the lifespan, of all socioeconomic and educational backgrounds, living in all settings including rural and remote communities.²⁶

3.2 Providing access to early diagnosis

The optimal management of IA requires early diagnosis and treatment because:

1. Joint damage in RA occurs early: 75% of erosions occur within the first 2 years, and at least 25% of patients already have erosions at the time of diagnosis.²⁷
2. Early DMARD use decreases joint damage compared with delayed use.²⁸
3. Early DMARD use makes the disease easier to control in the long term.²⁹
4. Growth in children may be affected resulting in permanent deformity and disability.

Early diagnosis and good disease control produce better outcomes including a reduction in disability. Success depends on: increased awareness in the community and among health professionals, adequate triage and referral systems, and access to specialist rheumatology services. There are opportunities to:

- convey the importance of seeking early advice in the presence of symptoms suggestive of inflammatory arthritis (particularly in children),
- ensure timely diagnosis of inflammatory arthritis to limit the joint damage and improve health outcomes and
- develop or improve existing care and referral pathways to ensure that people receive optimal care and support in the early stages.

Adults and children with suspected IA should be referred promptly for specialist advice [Recommendation 1].^{4, 24, 25, 30} The limited Australian data on diagnostic and treatment delays in early RA indicate problems in recognition and timely referral at the primary care level, as well as delays between referral and the first specialist assessment (MD Reed, poster presentation, ARA Scientific Meeting 2007). Inflammatory arthritis is usually recognised in primary care by general practitioners and allied health professionals (AHPs). Awareness of the importance of early referral requires on-going, directed education of medical students, GPs and AHPs together with support from rheumatologists, the WA General Practice Network and GP Divisions. Recognition and referral can be facilitated by appropriate documentation. GPs (and relevant AHPs) should have access to guidelines relating to the early diagnosis of IA, such as those developed by the Royal Australasian College of General Practitioners and the Australian Rheumatology Association.^{4, 22, 23, 31} **Referral documentation (eg Clinical Priority Access Criteria, CPAC)³¹ should be reviewed, developed and made available at the point of care to facilitate early referral** [Recommendation 2].⁴

Other decision support tools should also be considered and trialled, particularly where they are consistently utilised across primary, secondary and



tertiary care (e.g. Map of Medicine). **Where rapid access is not already available, Early Synovitis Clinics should be established in the metropolitan area to expedite referrals, diagnose IA, initiate treatment early in the course of disease and prevent long-term morbidity** [Recommendation 3]. Such clinics should not assume responsibility for long-term, on-going care if they are to function effectively.

Consumer Comment

“Average initial appointment waiting time was anything from 5 weeks to 4 months with a private rheumatologist.”

“Diagnosis is anywhere from 1 month to 8 years, depending on the GP.”

3.3 Providing evidence-based continuing care

Patients with IA should have access to safe, effective and evidence-based care with appropriate monitoring.^{4, 24} **Inflammatory Arthritis should be 'treated to target' on the basis of disease activity or valid surrogate markers and those responsible for such services should conduct audits to measure their performance against relevant, agreed criteria** [Recommendation 7].^{21,}

²⁵ Disease-modifying anti-rheumatic drugs (DMARDs) are integral to the comprehensive treatment of IAs, yet they are not without hazard and still contribute to iatrogenic morbidity and preventable hospital admissions. Patients with rheumatoid arthritis should be offered DMARD therapy as soon as possible after diagnosis. There is scope to reduce drug-related toxicity by improving monitoring and surveillance. **Systems should be in place to monitor the effectiveness and toxicity of DMARD treatments** [Recommendation 8].^{4, 30}

Biological agents such as TNF blockers have an important place in the management of Inflammatory Arthritis and will probably be used earlier in the course of the disease. **Systems should be in place to identify patients who may be eligible for biological treatments** [Recommendation 9]^{4, 30} and patients on biological treatments should be registered with ARAD.³⁰

Example of good practice and suggested pilot project

Rheumatologists in the South Western Sydney Area Health Service have developed an award-winning drug monitoring and surveillance system for DMARD therapy. Patients' results are reviewed by a nurse and dose adjustments communicated to the patients and their health providers.

The Albany Rheumatology Clinic is supervised by an up-skilled nurse who triages referrals, monitors disease activity and would be well placed to assist in monitoring DMARD therapy through the software system used to communicate with GPs and local pathology providers, MMEx, which was developed through the University of WA.



Patients with stable, controlled disease should be offered at least an annual specialist and (ideally) multi-disciplinary team review; patients whose disease is not well controlled should be offered more regular review; and patients experiencing a 'flare' should have access to urgent advice [Recommendation 10].^{4, 24, 25, 30, 32}

Annual reviews should include assessments of disease activity, damage, functional outcomes and co-morbidities (eg cardiovascular disease, osteoporosis, depression).^{4, 32}

Innovative service delivery models should be developed to support continuing care, particularly in remote and rural areas where phone coaching, for example, might have a role.^{22, 23}

Rheumatology nurse specialists/practitioners or extended scope allied health practitioners should be trained with skills in patient education, care coordination, clinical metrology and chronic disease management [Recommendation 15].^{4, 21, 24, 30, 32-34} They could:

- provide education and telephone advice,
- provide information on relevant local services,
- assist in developing and maintaining care plans,
- monitor disease activity and drug toxicity,
- liaise with medical and allied health workers,
- triage patients to clinics, and
- promote and facilitate telehealth assessments where appropriate.

There are opportunities for enhancing the care of IA in private practice through public-private partnerships, including patient-centred models of 'shared care' which provide access to MDTs and nurse specialists. In locations where there is insufficient demand for a specialised rheumatology nurse, that role could be filled by an appropriately trained member of a chronic disease management team.

Example of good practice and suggested pilot project

The Albany Rheumatology Clinic is attended by private rheumatologists whose expenses and support staff are funded by the public health system. These include a clerk/typist and a nurse who triages referrals, monitors disease activity and ensures management plans are followed (including allied health assessments).

A similar system could be trialled in an under-served outer suburban area, such as Rockingham (SMAHS) or Midland (NMAHS).

Joint destruction due to poorly controlled inflammation should become less common as current and future treatments are applied effectively. Unfortunately there remains a significant group of patients with 'end-stage disease' for whom there is no other alternative but joint replacement.⁴ In these patients there is an opportunity to substantially improve quality of life through equitable and timely access to joint replacement surgery, which is still one of the most cost-beneficial medical interventions available. **Patients who require specialist surgical advice should be seen within 3 months of referral** [Recommendation 11].^{24, 25, 30}



Their subsequent management should be consistent with the Model of Care for Elective Joint Replacement, which is under development. **Rehabilitation services should be available to help patients regain and retain independence** [Recommendation 12].^{4, 24, 32}

3.4 Assessing needs, planning care and facilitating self management

Chronic disease management adopts a person-centred approach and promotes self-management. The concept of self management, whereby individuals increase their “ability to manage symptoms, treatment, physical and psychological consequences and lifestyle changes inherent in living with a chronic condition”,³⁵ underpins the management of inflammatory arthritis. This requires a reorientation of the health system away from centralised tertiary care towards ambulatory care and services closer to the client’s home. To achieve this, better integration between the State and Commonwealth providers and non-government organisations is required.

Example of good practice and suggested pilot project

In WA, one example of cooperation between the State and Federal health systems is the Australian Better Health Initiatives (ABHI) which is currently developing chronic disease self-management programs in the NMAHS, SMAHS and WACHS. An excellent example of an effective self- management program is the Rheumatoid Arthritis self management program developed by ArthritisWA which is designed and led by health professionals. This program has been highly rated by participants and recognised internationally. Chronic musculoskeletal conditions like IA should qualify for inclusion under the Commonwealth definition of “chronic disease”.

Strategies should be developed and implemented to promote continuity of care across sectors.⁴ One method of achieving clear communication is via a Medicare-funded Team Care Arrangement (TCA) with the client, GP, and other health service providers (Enhanced Primary Care). There is provision for up to 5 interventions per annum from a range of AH professionals. GPs can also refer to psychological services for up to 12 visits per annum under the federal Better Health Outcomes Initiative. Other Medicare options include Better Outcomes in Mental Health, home medication reviews (HMRs) and practice nurse or Aboriginal health worker supported chronic disease management.

A number of community-based ambulatory care programs are offered in the metropolitan area: Community Physiotherapy Services (predominantly for the over 65s), Independent Living Centres (ILC) and AFWA for group exercise, hydrotherapy programs, self management education programs and access to equipment via the Community Aids and Equipment Program (CAEP). Under the CAEP scheme clients do not presently have sufficient, timely and equitable access to orthotics and specialised footwear, splints, braces, motorised wheelchairs and scooters as well as other aids and assistive devices. An improved understanding of the opportunities for utilisation, greater understanding of the important respective roles of referring practitioners (specifiers) and the CAEP providers together with more appropriate resourcing are required to improve service provision under this scheme. Podiatry is an



essential aspect of managing IA and patients should have access to this service. However, currently patients only have limited access to community-based podiatry services. There appears to be little coordination of publicly-funded services.

Services available to an individual depend on: the client's eligibility according to service criteria, ease of access, availability of suitably skilled private providers, willingness of the private provider to be involved in TCAs, and the client's ability to meet potential gap payments. A combination of private and public practitioners is used, often at great cost to the client. There are currently high out of pocket expenses for many private allied health services as well as for over the counter pharmaceuticals, alternative medicines and some prescriptions. Clients that have private health insurance can refer themselves to Allied Health services such as physiotherapy, occupational therapy and podiatry. All of these are already utilised by some patients with IA, however it is likely that many more patients could benefit from them.

Inflammatory Arthritis should be included in the scope of Chronic Disease Management Teams [Recommendation 16]. These currently manage predominantly clients with heart failure, diabetes and chronic lung disease. Members of the team would have to be up-skilled in the management of Inflammatory Arthritis and would work in collaboration with rheumatology nurses where available. The development of Integrated Health Care Clinics (IHCC) offering services from multi-disciplinary professionals may provide appropriate, new environments for outreach clinics in outer metropolitan areas which are poorly served at present.

Patients and the parents of children with inflammatory arthritis should be educated about their condition and given advice on self-management [Recommendation 4].^{21-25, 30, 32} Opportunities to promote self-management include:

- prioritising client participation in care planning.
- tailoring self-management approaches to individual and community needs.
- ensuring patients and carers receive information and support that is responsive to their needs.
- supporting multiple points of access to care and support (although this may be facilitated by a single point of triage).
- improving the capacity of the peer, disability, and care support sectors
- providing information on services, providers, treatments and facilities.^{24, 32}
- improving access to care and support through access to the skills and knowledge available in a multidisciplinary team.

Arthritis self-management courses are currently available and delivered by Arthritis Foundation of WA (AFWA) and the GP Divisions to help decrease distress and increase self-efficacy in patients with IA, including children and young adults.



Consumer comment

“Doctors do not use Support Groups to their full advantage. Knowing that you are not alone, especially when you are a young person with what is usually perceived to be an old person’s disease, can be of great emotional value.”

“Self management courses are not utilised to their full advantage. Understanding how to deal with the emotions and associated effects of a chronic illness are the start of coping and controlling the illness better.”

“There are not enough self-management courses for people with arthritis”

Adults and children with IA should have access to a multidisciplinary team (MDT) close to home to assess their needs and provide equitable access to appropriate intervention [Recommendation 5].^{4, 21, 24, 25, 30} The MDT should comprise (at least) a physiotherapist, occupational therapist, nurse specialist, and social worker.³⁰ The effectiveness of the ‘team’ depends on close cooperation and communication between its members.

Consumer Comment

“Allied Health is not being used adequately by most private patients. They find it difficult to find someone who has experience of or knowledge about arthritis and cost is a major factor.”

Over the past 20 years, rheumatology has been at the forefront of the move from in-patient to ambulatory care. In the past admitted patients received thorough multidisciplinary assessment, individualised treatment and education. The move to out-patient management has not been accompanied by the establishment of a comprehensive rheumatology ambulatory care service. Thus although people with IA may in theory access the multidisciplinary team and other ambulatory services, in practice it is ad hoc and very limited.

There should be an audit of current resources and the development of an ‘Information Portal,’ a web-based resource for those seeking information on arthritis and its management in Western Australia [Recommendation 22].^{4, 21, 33, 34} This could include a virtual library with links to on-line training and education, discussion forums, links to health services in local areas and non-government agencies and related resources. This might be ‘hosted’ by the Arthritis Foundation of WA, which has already made significant progress. Information currently available on the internet may be misleading.

Juvenile Consumer comment

“As treatments have improved for JIA, my child looks just the same as all other children. This causes significant problems with explaining to peers and teachers when times are tough.”



Provision should be made for the smooth transition of adolescents from paediatric to adult rheumatology services [Recommendation 6].^{4, 21, 30} The current state-wide service in paediatric rheumatology based at Princess Margaret Hospital should liaise with and provide relevant education to GPs, paediatricians, adult rheumatologists, AHPs and nurses. The WA Child and Youth Health Network has developed the Paediatric Chronic Diseases Transition Framework which sets out best practice for transition from paediatric to adult services.³⁶

Example of good practice

The Rheumatology Department at SCGH appointed a paediatric rheumatologist to collaborate in establishing a transition clinic, where the care of adolescents is handed over in a coordinated manner.

3.5 Improving access to services

Access to an early specialist opinion and appropriate allied health services is particularly difficult in remote and rural regions. Recognising this need, rheumatologists in WA have conducted regular public and privately-funded clinics throughout the State for over 40 years, supported in various ways by the Arthritis Foundation, WACHS and more recently the federally funded Medical Specialists Outreach Access Program (MSOAP). Although the source of funding may differ, the principles of this Model of Care still apply and systems need to be developed to reduce waiting times, initiate DMARDs early in patients with IA, monitor treatment and provide access to biological agents if appropriate. The emphasis on sharing care with local GPs or physicians is even more important in this context. **Support should be provided for visiting specialists to up-skill local health professionals in country areas** [Recommendation 17].^{22, 23}

The continuity of this service to country WA is dependent on rheumatologists-in-training recognising its importance and wishing to contribute. Advanced Trainees in Aged Care now provide services to rural locations. **Supervised experience in country clinics should be incorporated into the training program of Advanced Trainees in Rheumatology** [Recommendation 18]²¹⁻²³ and funding should be sought to resource this initiative. The development of country rheumatology services has not been systematically planned, resources are not necessarily matched with areas of greatest need and clinics are not coordinated to minimise waiting times for new or review appointments. **The needs of remote and rural populations for musculoskeletal services should be identified and prioritised by a collaborative including WACHS, the Musculoskeletal Health Network, the Australian Rheumatology Association, the Rheumatology Health Professionals Association, and the Arthritis Foundation with consumer representation** [Recommendation 23].²¹⁻²³

The rapid turnover of the workforce in remote and rural locations provides an additional challenge, increasing the reliance on agreed protocols and information technology. A rheumatology nurse or other suitably qualified AHP (e.g. extended scope physiotherapist or occupational therapist) with clerical support is required to facilitate an efficient service: prioritising clinic



appointments and recalling patients, processing complex application forms for biological DMARDs, following up action plans and collecting data. In 2008 there are only five part time rheumatology nurses (compared with 12 in 1974) who are deployed in 16 different clinic locations where they co-ordinate around 150 clinic days servicing approximately 2500 rheumatology clients (in 2006/7) including approximately 550 new patients. All clinics are full. There has been a significant decrease in the number of clinics and patients can wait many months to be seen. Where there is no nurse, clinics run with the visiting specialist and clerical staff only. The quality of client care and data collection has been directly affected. **Appropriately qualified members of staff should be identified, and trained to support rural rheumatology clinics and telehealth consultations** [Recommendation 19].²¹⁻²³ In time, local or visiting rheumatology nurse specialists/practitioners may be running their own clinics, reducing the reliance on visiting specialists. This already happens in the United Kingdom.

Consumer Comment

“Most people with chronic arthritis are prepared to pay a co-payment for the use of the services; they just want to be looked after by people who have experience treating arthritis. Patients prefer a clinic with all allied health services available in one location, as fatigue is a big factor in arthritis and having to travel to different appointments, in different locations, is sometimes very difficult, especially if they do not or can not drive.”

Telehealth is already available in many WACHS locations. Increasingly it is planned that visiting rheumatologists will review appropriate clients from Perth utilising Telehealth. The uptake will depend on funding, training and convenience. **The WA Health Department (through the Telehealth Development Group) and the Australian Rheumatology Association (through its Professional Affairs Committee) should lobby the Commonwealth Government to provide Medicare funding for Telehealth** [Recommendation 24].²¹⁻²³ These initiatives are more convenient for patients, may reduce hospital admissions and should measurably reduce WACHS expenditure on the Patient Assisted Transport Scheme (PATS).

Example of good practice and suggested expansion

A Telehealth Clinic has been running between SCGH and Albany for ~4 years. This ensures that routine review appointments are minimised and there is more opportunity to deal with new referrals during visits. A trained nurse can monitor disease activity and coordinate biological DMARD therapy.

Clinics have begun in the Kimberley and there are opportunities to expand the service to other remote and regional areas such as Kalgoorlie and the Gascoyne.

Even within the metropolitan area there are difficulties accessing specific services relevant to patients with inflammatory arthritis.



Another option to consider is referral to other existing community service providers (such as community-based private hydrotherapy programmes) or private practitioners for clients with private health insurance cover with the back up and advice of the core “triage” specialist health professionals. Clients may also access the Medicare rebate for five treatments if they have been referred by their GP and had the GPMP and TCA initiated. One option to assist with management of waitlists, is for Allied Health Professionals (AHP) with expertise in Inflammatory Arthritis to be placed in hospitals and in the community to assess waitlist priorities and triage clients to appropriate services. This could reduce admissions via ED and improve waitlist/flow/early mobilisation by referring to ambulatory care services (such as HITH and RITH) and community-based services (such as Community Physiotherapy Service).

Example of good practice

The Orthopaedic Wait List (OWL) Project in Victoria and South Australia has used skilled physiotherapists and nurses to triage patients and initiate conservative management where appropriate resulting in significant reductions in waiting times. Similar systems have now been implemented in metropolitan Perth.

The Model of Care, summarised in Figure 3, highlights the consumer focus across the continuum of health. Consumer focus is central to the Model's development and implementation.

3.6 Building workforce capacity

In order to provide timely, coordinated and efficient care for people living with Inflammatory Arthritis, the Model of Care recommends strategies for building the capacity of the workforce including:

- education and training
- multi-skilling
- shared care models
- re-distribution

There are workforce shortages across all specialties involved in the care of patients with arthritis and they are predicted to worsen. The workforce needs to be trained in client-centred care, self management principles and chronic disease management. These are not prominent components of undergraduate and vocational training courses within the health sector at present.^{22, 23}

Medical undergraduates need to be exposed to musculoskeletal medicine throughout their training, particularly since these conditions present so frequently to primary care. There is a growing consensus about what such courses should include and training is being standardised.

There are insufficient general practitioners, particularly in outer metropolitan and country areas, and patients have difficulty seeing them promptly. There are also outer metropolitan and regional shortages in specialist cover. Even where specialists visit, poor access to GPs and the requirement for a referral from primary care conspire to make it difficult for patients to access their expertise. This results in WA patients under-utilising Commonwealth health funding. Market forces can not be relied on to address this and various



incentives, or links with central sites, may have to be developed, most appropriately in partnership with the Commonwealth Department of Health.

Physicians in training may prefer 'procedural specialties' which are perceived to offer better remuneration and lifestyle choices. Recent changes to Medicare items have attempted to address the relatively poor remuneration of 'cognitive work' but may be insufficient to attract more trainees. The development of sub-specialisation within nursing and AHPs, including the specialist nurses and educators, may detract from the pool available for general in-patient care, but more likely would provide a rewarding career path to promote workforce retention.

Consumer comments

"Urgent appointments seemed to be a very big issue with everyone I spoke to. They weren't able to get appointments while 'flaring'; (they) usually had to wait about 2-3 weeks and quite often by this time the 'flare' was over.

"My GP's practice in Broome closed down the other day. All the other GPs are full and won't take on new patients. I can't get blood tests unless I go to the Emergency Department."

One strategy to meet the needs of people with chronic disease in the community is to increase the number of Health Professional Assistants working under AHPs and introduce Physician Assistants. Health Professional Assistants would be able to deliver prescribed interventions appropriate to their competencies after clients are assessed by AHPs. The Skills Industry Council is scoping competencies in community rehabilitation and Physician Assistants trained in the US are being trialled in Queensland following recommendations from Queensland's Australian Health Workforce Institute respectively. Chronic Disease Management Teams and Multi-Disciplinary Teams should perhaps include Health Professional Assistants.

In 2007 a National Nursing Committee was established by the Australian Rheumatology Association and the Rheumatology Health Professionals Association, to establish rheumatology nursing courses including a Certificate, Diploma and Masters of Rheumatology. **Suitably qualified nurses with an interest in musculoskeletal conditions should be supported to take courses in rheumatology nursing when they are established** [Recommendation 20].^{22, 23}



3.7 Monitoring performance and building the evidence base

Investment in ICT may mitigate some of the effects of workforce shortages and facilitate communication between providers and patients over large distances. Rheumatic diseases are predominantly treated in an ambulatory setting where information is particularly poor; in the public system due to inadequate systems and in the private system due to (often misplaced) confidentiality concerns. For the WA Model of Care to be fully realised and implemented across the State **it is necessary to develop information technology infrastructure that supports the delivery of integrated services** [Recommendation 21].^{4, 21, 30, 33, 34}

This would include shared medical records across the state, with access in rural and remote areas. Although the majority of the workload in rheumatology is undertaken in the ambulatory setting, little meaningful data is captured from this source. A database would improve client management by monitoring disease activity and drug toxicity, recalling patients (particularly under a model of shared care with infrequent specialist monitoring) and auditing practice. It would support clinical trials by facilitating the recruitment of eligible participants and provide a rich source of research data in its own right.

Teaching and research are intrinsic components of clinical care. In addition to the current program of clinical trials through the Goatcher Clinical Research Unit, there will be new opportunities for investigator-initiated studies which take advantage of proposed new research facilities. **A research strategy needs to be developed for musculoskeletal medicine** [Recommendation 27] and the Network would be well placed to facilitate this.

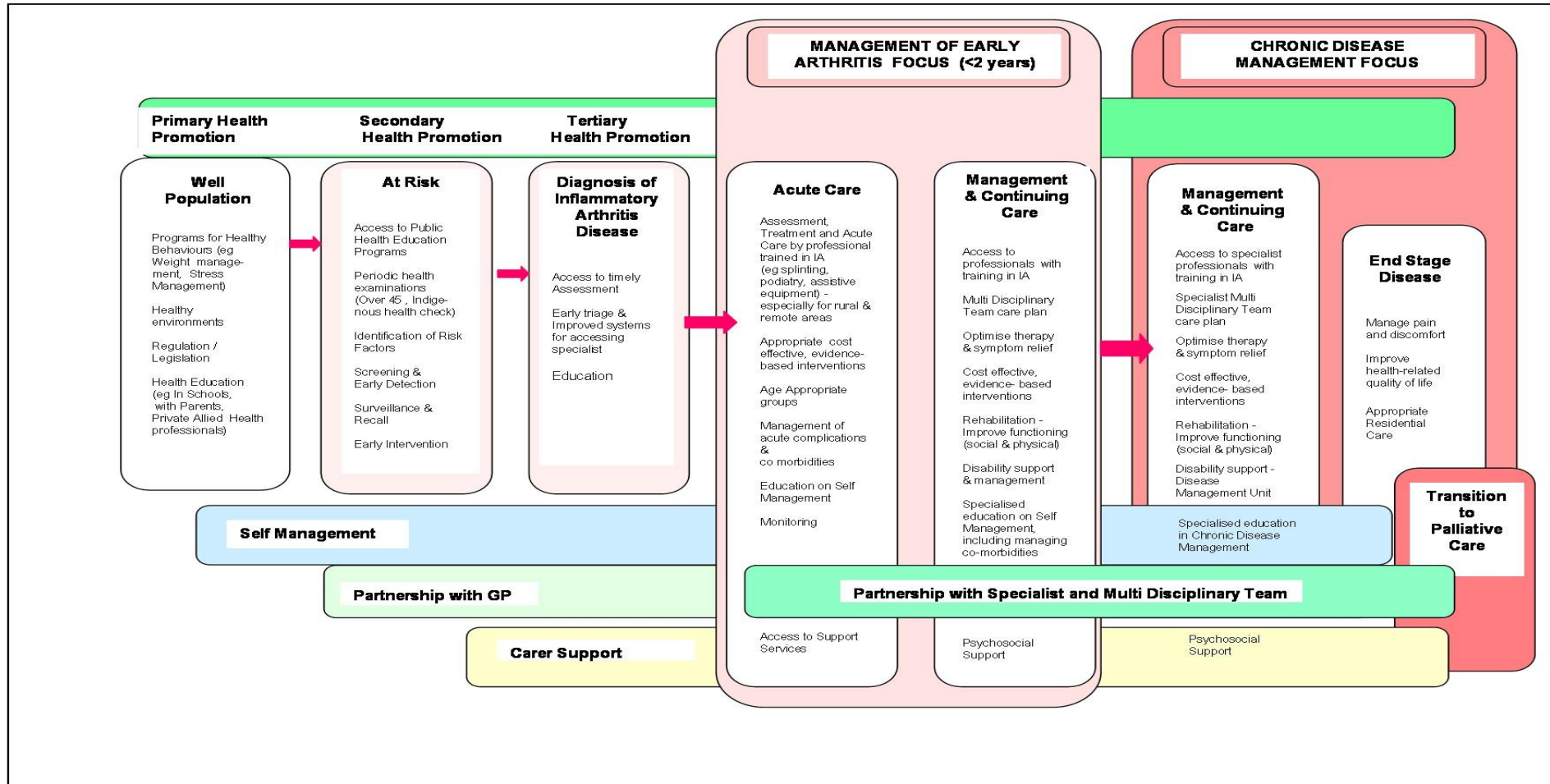
Despite previous attempts to establish a formal academic unit by the health services, Arthritis Foundation and University of WA, Western Australia is still the only State not to have a Professor of Rheumatology or Musculoskeletal Medicine; most have several. Arthritis is a national health priority and WA could attract considerably more research funding in this area. The teaching of medical students and postgraduates requires that an academic infrastructure be established. As a matter of priority, **a Chair of Musculoskeletal Medicine should be established with an attractive level of initial funding and research support** [Recommendation 26].

Consumer Comment

“Australian Council for Rehabilitation of People with Disabilities (ACROD) parking is also an issue for people with arthritis. They find it very difficult to obtain a permit and when younger people use their permits they are often abused for doing so. Permits should be valid for use Australia wide, not just in a person’s home state. Most of the hospitals do not have enough ACROD parking.”



Figure 3. Consumer focus across the continuum of health





4. Horizon Scan

Major advances have been made in the treatment of inflammatory arthritis in the past 20 years. Patients with adequately treated chronic disease less commonly develop the severe deformities previously seen. The downward trend in use of multi-day hospital beds is expected to continue, however the use of parenteral biologic therapies may result in an increased usage of same-day units or infusion centres, because only some agents are suitable for self-administration.

4.1 Drugs

Further therapeutic developments impacting the management of all the inflammatory arthritides are expected within the next 5 years. It is likely that the number of agents available for rheumatoid arthritis, for instance, may double. Tocilizumab is expected to be marketed in 2009. Ocrelizumab may succeed Mabthera for RA, SLE and possibly other rheumatic diseases. Agents such as Golimumab and one or more IL-17/IL-23 antagonists, such as Ustekinumab should follow shortly thereafter with probable use in ankylosing spondylitis and psoriatic arthritis respectively. IL-6 antagonists show promise in JIA and are likely to add to the growing number of biologics used to treat IA in children.

It is expected that the availability of an increased range of these safer and more effective treatments will increase consumer and physician demand and place yet more pressure on existing resources, particularly within routine service clinics and infusion centres or same-day units. Increasingly it is expected that the expertise of rheumatology nurses will be required to co-ordinate and conduct assessments, maintain high safety standards, monitor toxicity, schedule timely reviews, perform audits and ensure continuity of PBS funded therapy for appropriate clients.

The Western Australian Drug Evaluation Panel (WADEP) should continue to assess new pharmaceuticals for use within the public hospital system
[Recommendation 13].

4.2 Imaging

There will be an increasing need for more sensitive and specific diagnostic investigations as the benefits of early treatment are clear, whether standard DMARDs or biological DMARDs. Their sensitivity to change will be important in judging response to treatment. Several modalities in current use, including ultrasound and MRI, are likely to find more widespread application within the next 5 years. In some centres ultrasound (Power Doppler) is already used routinely in the clinic for the diagnosis of synovitis and accurate placement of injections. It may become a standard technique used routinely by all rheumatologists. MRI is also used in the diagnosis of many musculoskeletal conditions, including synovitis, sacro-iliitis and enthesitis (inflammation of tendon insertions).

4.3 Stem cells and vaccines

Although this area holds considerable promise, it is unlikely to provide treatments for routine clinical practice within the 5 year scope of this horizon scan.

The Western Australian Policy Advisory Committee on Technology (WAPACT) should conduct technology appraisals on the use of expensive, new modalities
[Recommendation 14].



5. Recommendations

EARLY DIAGNOSIS AND INTERVENTION

To facilitate the early diagnosis of Inflammatory Arthritis and timely intervention:

Recommendation 1

Adults and children with suspected IA should be referred promptly for specialist advice.^{4, 24, 25, 30}

Recommendation 2

Referral documentation should be reviewed, developed and made available at the point of care to facilitate early referral.⁴

Recommendation 3

Where rapid access is not already available, Early Synovitis Clinics should be established in the metropolitan area to expedite referrals, diagnose IA, initiate treatment early in the course of disease and prevent long-term morbidity.

MANAGEMENT OF INFLAMMATORY ARTHRITIS

To improve health outcomes across the continuum of care for children and adults with Inflammatory Arthritis clinical services will include:

Recommendation 4

Consumer education and advice and access to self management tools for all patients and the parents of children with inflammatory arthritis.^{21-25, 30, 32}

Recommendation 5

Access for adults and children with IA to a multidisciplinary team (MDT) close to home to assess their needs and provide equitable access to appropriate intervention.^{4, 21, 24, 25, 30}

Recommendation 6

Transition pathways and protocols for adolescents from paediatric to adult rheumatology services.^{4, 21, 30}

Recommendation 7

'Treatment to target' on the basis of disease activity or valid surrogate markers and audits to measure the performance of service providers against relevant, agreed criteria.^{21, 25}

Recommendation 8

Systems to monitor the effectiveness and toxicity of disease-modifying anti-rheumatic drug (DMARD) treatments.^{4, 30}

Recommendation 9

Systems to identify patients who may be eligible for biological therapies (b-DMARDS).^{4, 30}

Recommendation 10

An annual specialist and (ideally) multi-disciplinary team review for all patients, and more regular review for those whose disease is not well controlled.

Access to urgent advice for patients experiencing a 'flare'.^{4, 24, 25, 30, 32}

**Recommendation 11**

Access to specialist surgical advice within 3 months of referral.^{24, 25, 30}

Recommendation 12

Rehabilitation services to ensure patients regain and retain independence.^{4, 24, 32}

Recommendation 13

The Western Australian Drug Evaluation Panel (WADEP) will continue to assess new pharmaceuticals for use within the public hospital system.

Recommendation 14

The Western Australian Policy Advisory Committee on Technology (WAPACT) will conduct technology appraisals on the use of expensive, new modalities.

WORKFORCE, PROFESSIONAL DEVELOPMENT & EDUCATION

To improve service delivery, changes are required in the current workforce, professional development and education:

Recommendation 15

Rheumatology nurse specialists/practitioners or extended scope allied health practitioners should be trained with skills in patient education, care coordination, clinical metrology and chronic disease management.^{4, 21, 24, 30, 32-34}

Recommendation 16

Chronic Disease Management Teams will need to provide services to people with Inflammatory Arthritis.

Recommendation 17

Visiting specialists should be supported to up-skill local health professionals in country areas.^{22, 23}

Recommendation 18

The educational program for Advanced Trainees in Rheumatology should include supervised experience in country clinics.²¹⁻²³

Recommendation 19

Appropriately qualified members of staff are identified and trained to support rural rheumatology clinics and telehealth consultations.

Recommendation 20

Access to rheumatology nursing courses should be made available to nurses with an interest in musculoskeletal conditions.^{22, 23}

INFORMATION COMMUNICATION AND TECHNOLOGY CLINICAL, DIAGNOSTIC AND REPORTING SYSTEMS

The long term management of chronic diseases, such as IA requires:

Recommendation 21

Information technology infrastructure that supports the delivery of integrated services.^{4, 21}



30, 33, 34

Recommendation 22

An audit of current resources and the development of an 'Information Portal,' a web-based resource for those seeking information on arthritis and its management in Western Australia.^{4, 21, 33, 34}

Recommendation 8

Systems, equipment and training to monitor the effectiveness and toxicity of disease-modifying anti-rheumatic drug (DMARD) treatments.^{4, 30}

Recommendation 9

Systems, equipment and training to identify patients who may be eligible for biological treatments.^{4, 30}

SERVICE DELIVERY IN RURAL AREAS

Recommendation 23

A collaborative to identify and prioritise the musculoskeletal service needs of remote and rural populations will be established with representation from WACHS, the Musculoskeletal Health Network, the Australian Rheumatology Association, the Rheumatology Health Professionals Association, and the Arthritis Foundation WA with consumer representation.

Recommendation 24

The WA Health Department (through the Telehealth Development Group) and the Australian Rheumatology Association (through its Professional Affairs Committee) should lobby the Commonwealth Government to provide Medicare funding for Telehealth.²¹⁻²³

PROMOTION OF MUSCULOSKELETAL HEALTH

Through health promotion campaigns:

Recommendation 25

People, including those with inflammatory arthritis, should be given general advice on lifestyle such as smoking cessation, alcohol consumption and weight control.²¹⁻²⁵

TEACHING AND RESEARCH

To improve the profile of WA in the field of musculoskeletal research and facilitate teaching:

Recommendation 26

A Chair of Rheumatology or Musculoskeletal Medicine should be established with an attractive level of initial funding and research support.

Recommendation 27

A research strategy, which identifies possible funding opportunities, should be developed for musculoskeletal medicine.



6 A Strategy for Implementation of the Model of Care

The Inflammatory Arthritis Working Party understands these recommendations require different resource and time allocations for implementation. Given this, a strategy for the phased implementation of recommendations is proposed below:

- **Phase 1:** Achievable within existing resources and current service provision.
- **Phase 2:** Require further planning and development (some interim project support).
- **Phase 3:** Require additional human resources, funding and endorsement (require significant additional recurrent expenditure).

To demonstrate how the proposed recommendations could be implemented over time, they have been grouped under the three phases (with recommendation shown in brackets) for consideration, as follows:-

Phase 1: Achievable within existing resources and current service provision.

People, including those with inflammatory arthritis, should be given general advice on lifestyle such as smoking cessation, alcohol consumption and weight control.²¹⁻²⁵ **(25)**

Patients and the parents of children with inflammatory arthritis should be educated about their condition and given advice on self-management.^{21-25, 30, 32} **(4)**

Adults and children with suspected inflammatory arthritis should be referred promptly for specialist advice.^{4, 24, 25, 30} **(1)**

Patients with stable, controlled disease should be offered at least an annual specialist and (ideally) multi-disciplinary team review; patients whose disease is not well controlled should be offered more regular review; and patients experiencing a 'flare' should have access to urgent advice.^{4, 24, 25, 30, 32} **(10)**

Rehabilitation services should be available to help patients regain and retain independence.^{4, 24, 32} **(12)**

Provision should be made for the smooth transition of adolescents from paediatric to adult rheumatology services.^{4, 21, 30} **(6)**

Supervised experience in country clinics should be incorporated into the training program of Advanced Trainees in Rheumatology.²¹⁻²³ **(18)**

The needs of remote and rural populations for musculoskeletal services should be identified and prioritised by a collaborative including WACHS, the Musculoskeletal Health Network, the Australian Rheumatology Association, the Rheumatology Health Professionals Association, and the Arthritis Foundation with consumer representation. **(23)**

The WA Health Department (through the Telehealth Development Group) and the Australian Rheumatology Association (through its Professional Affairs Committee) should lobby the Commonwealth Government to provide Medicare funding for Telehealth.²¹⁻²³ **(24)**

A research strategy needs to be developed for musculoskeletal medicine. **(27)**

The Western Australian Drug Evaluation Panel (WADEP) should continue to assess new pharmaceuticals for use within the public hospital system. **(13)**



The Western Australian Policy Advisory Committee on Technology (WAPACT) should conduct technology appraisals on the use of expensive, new modalities. **(14)**

Phase 2: Require further planning and development.

Referral documentation should be reviewed, developed and made available at the point of care to facilitate early referral.⁴ **(2)**

Patients with Inflammatory Arthritis who require specialist surgical advice should be seen within 3 months of referral.^{24, 25, 30} **(11)**

Inflammatory arthritis should be 'treated to target' on the basis of disease activity or valid surrogate markers and those responsible for such services should conduct audits to measure their performance against relevant, agreed criteria.^{21, 25} **(7)**

Inflammatory arthritis should be included in the scope of Chronic Disease Management Teams. **(16)**

Systems should be in place to monitor the effectiveness and toxicity of disease-modifying anti-rheumatic drug (DMARD) treatments.^{4, 30} **(8)**

Systems should be in place to identify patients who may be eligible for biological treatments.^{4, 30} **(9)**

There should be an audit of current resources and the development of an 'Information Portal,' a web-based resource for those seeking information on arthritis and its management in Western Australia.^{4, 21, 33, 34} **(22)**

Phase 3: Require additional human resources, funding and endorsement.

Adults and children with inflammatory arthritis should have access to a multidisciplinary team close to home to assess their needs and provide equitable access to appropriate intervention.^{4, 21, 24, 25, 30} **(5)**

Where rapid access is not already available, Early Synovitis Clinics should be established in the metropolitan area to expedite referrals, diagnose inflammatory arthritis, initiate treatment early in the course of disease and prevent long-term morbidity. **(3)**

Rheumatology nurse specialists/practitioners or extended scope allied health practitioners should be trained with skills in patient education, care coordination, clinical metrology and chronic disease management.^{4, 21, 24, 30, 32-34} **(15)**

Support should be provided for visiting specialists to up-skill local health professionals in country areas.^{22, 23} **(17)**

Appropriately qualified members of staff should be identified, and trained to support rural rheumatology clinics and telehealth consultations. **(19)**

Suitably qualified nurses with an interest in musculoskeletal conditions should be supported to take courses in rheumatology nursing when they are established.^{22, 23} **(20)**

It is necessary to develop information technology infrastructure that supports the delivery of integrated services.^{4, 21, 30, 33, 34} **(21)**

A Chair of Rheumatology of Musculoskeletal Medicine should be established with an attractive level of initial funding and research support. **(26)**



7. Evaluation

After the Model of Care for Inflammatory Arthritis is endorsed by the State Health Executive Forum, the next step in the process is to have a set of agreed guidelines to assist with implementation. The Models of Care Implementation Review Group has been established with representation from Area Health services, Health Reform Implementation Taskforce, Health Finance and Health Networks, to act as a conduit for facilitating, monitoring and reporting on implementation of models of care.

At this point in time, the working group further considers that a reasonable timeframe for the evidence base supporting this Model of Care to be reviewed would be a minimum of three years, given the horizon scan and current research. As mentioned above, stakeholders involved with implementation, particularly the Area Health Services, would develop local performance indicators for measuring implementation projects. This may be done in collaboration with the Musculoskeletal Health Network, via the Model of Care Review Implementation Committee.

The IA Working Party considers that establishing a Chair in Rheumatology within 12 months after endorsement of the Inflammatory Arthritis Model of Care by the State Health Executive Forum would be a key indicator that the IA Model of Care is being used as intended, to facilitate improved care and services for people living with Inflammatory Arthritis in Western Australia.

The IA Model of Care is a dynamic living strategy and the Musculoskeletal Health Network will play a collaborative and important role in overseeing the implementation of policy developed by members of the health network.



Glossary

ABHI	Australian Better Health Initiative
ACROD	Australian Council for Rehabilitation of People with Disabilities
AFWA	Arthritis Foundation of Western Australia
AHP	Allied Health Professional
ARA	Australian Rheumatology Association
ARAD	Australian Rheumatology Association Database
AS	Ankylosing Spondylitis
ARMA	Arthritis and Musculoskeletal Alliance, UK
bDMARDS	Biological Disease Modifying Anti-Rheumatic Drugs
BSR	British Society of Rheumatologists
CDMT	Chronic Disease Management Team
CAEP	Community Aids and Equipment Program
CPAC	Clinical Priority Access Criteria
DALYs	Disability Adjusted Life Years
DMARDS	Disease Modifying Anti-Rheumatic Drugs
ED	Emergency Department
EULAR	European League Against Rheumatism
GP	General Practitioner
GPMP	GP Management Plan
HITH	Hospital in the Home
HMRs	Home Medicine Reviews
HRIT	Health Reform and Implementation Taskforce
IA	Inflammatory Arthritis
ICT	Information and Communication Technology
IHCC	Integrated Health Care Clinic
ILC	Independent Living Centre
JCA	Juvenile Chronic Arthritis
MDTs	Multi-disciplinary Teams
MMEx	Medical Messaging Exchange
MOC	Model of Care
MRI	Magnetic Resonance Imaging
MSOAP	Medical Specialists Outreach Access Program
NICE	National Institute for Clinical Excellence
NMAHS	North Metropolitan Area Health Service
OWL Project	Orthopaedic Wait List Project
PATS	Patient Assisted Transport Scheme



PsA	Psoriatic Arthritis
RA	Rheumatoid Arthritis
RACGP	Royal Australian College of General Practitioners
RITH	Rehabilitation in the Home
SCGH	Sir Charles Gairdner Hospital
SHEF	State Health Executive Forum
SIGN	Scottish Intercollegiate Guidelines Network
SLE	Systemic Lupus Erythematosus
SMAHS	South Metropolitan Area Health Service
TCA	Team Care Arrangement
TNF blockers	Tumor Necrosis Factor Blocker
WACHS	Western Australia Country Health Service
WADEP	Western Australian Drug Evaluation Panel
WAGPN	Western Australian General Practice Network
WAPACT	Western Australian Policy Advisory Committee on Technology



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