

National Pain Strategy



National Pain Strategy

Pain Management for all Australians



National Pain Strategy



Purpose of this document

The intended audiences for the National Pain Strategy are state and federal governments, funders, clinicians, consumers, researchers and research funders.

The recommendations contained in this Strategy have been developed through an independent process, including discussion at the National Pain Summit in March 2010.

The process included health professionals, consumers, funders and industry. It was led by the Australian and New Zealand College of Anaesthetists, Faculty of Pain Medicine, Australian Pain Society, and Chronic Pain Australia in collaboration with inaugural supporters, the MBF Foundation and the University of Sydney Pain Management Research Institute.



Developed by the National Pain Summit initiative

Led by:

Australian and New Zealand College of Anaesthetists
Faculty of Pain Medicine
Australian Pain Society
Chronic Pain Australia



In collaboration with inaugural supporters:

MBF Foundation
University of Sydney Pain Management Research Institute



www.painaustralia.org.au

We wish to acknowledge the valuable role of GSB Consulting and Communications in the preparation of the Strategy



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Foreword and Acknowledgments

The National Pain Strategy is the first comprehensive initiative in Australia – and worldwide – which sets out to improve the assessment and treatment of all forms of pain.

The mission of the Strategy is:

To improve quality of life for people with pain and their families, and to minimise the burden of pain on individuals and the community.

Indeed the burden of pain is huge – in humanitarian, health care and financial terms. Pain is Australia's third most costly health problem and arguably the developed world's largest 'undiscovered' health priority.

It is unacceptable to have 50 per cent of cancer patients and patients following surgery or trauma unable to receive effective pain relief.¹ It is even more concerning that less than 10 per cent of people with chronic non-cancer pain gain access to effective care. Existing treatments have the potential to help 80 per cent of people with chronic pain, and 90 per cent of cancer patients and those following surgery or trauma, if only they were applied.

It has been a privilege to help bring together over 150 organisations to work towards better pain management.

On 11 March, 2010, 200 representatives of those organisations – health professionals, consumers, industry and funders – met at the National Pain Summit at Parliament House, Canberra. The Summit was opened by the Minister for Health, the Hon. Nicola Roxon MP.

In more than 46 years in health care, I have known no other health initiative to harness such a breadth and depth of experience on a single health problem. The most remarkable outcome has been the high level of agreement about what needs to be done – as set out in very specific and practical terms in this document.

The National Pain Strategy is the end result of 15 months of work involving the multidisciplinary Steering Committee, a series of Working Groups and Reference Groups, consultations with industry, a Leaders' Meeting at ANZCA House in September 2009, a fact-finding visit to Canada, USA and the UK,² and finally, the National Pain Summit itself.

Thanks are due to the Steering Committee, Working Groups and Reference Groups for their vital contribution to this Strategy, and to the many organisations and individuals that made submissions and gave feedback on earlier drafts.

I particularly thank the Summit Executive Director, Lesley Brydon, for her efforts, which extended far beyond the call of duty.

The lead organisations – Australian and New Zealand College of Anaesthetists, Faculty of Pain Medicine, Australian Pain Society and Chronic Pain Australia – played an essential role in spearheading the National Pain Summit initiative.

I also acknowledge the important role of the MBF Foundation as an inaugural supporter, and the organisations who provided unencumbered grants to assist in the costs of producing the Strategy.

Finally, I thank the Australian Government and the Department of Health and Ageing, as well as many officials of State Governments, who have provided valuable feedback on the National Pain Strategy. I look forward to their continued collaboration.

The Government's approval, in 2005, of the multidisciplinary Faculty of Pain Medicine and the Chapter of Palliative Medicine as independent medical specialties was a fundamental first step in improving pain management, achieved by no other country at present.

The High Price of Pain report estimated that applying evidence-based treatments could halve the cost of chronic pain to the Australian economy – a saving of \$17 billion per annum.³

This could represent one of the most major advances in health care since the introduction of antibiotics.

A handwritten signature in black ink, appearing to read 'Michael J. Cousins', followed by a period.

Michael J. Cousins AM
Chair, Steering Committee
National Pain Summit

Members of the Steering Committee

Prof Michael Cousins AM (Chair)	Director, University of Sydney Pain Management Research Institute, Royal North Shore Hospital, NSW
Dr Penny Briscoe (Deputy Chair)	Dean, Faculty of Pain Medicine, Australian and New Zealand College of Anaesthetists; Deputy Director, Pain Management Unit, Royal Adelaide Hospital, SA
Dr Carolyn Arnold	Director, Caulfield Pain Management & Research Centre, Alfred Health, Melbourne, VIC
Ms Diana Aspinall	Consumers Health Forum of Australia; Arthritis NSW
A/Prof Leigh Atkinson AO	Neurosurgeon; Board Member, Faculty of Pain Medicine
Prof Barry Baker	Director of Professional Affairs, Australian and New Zealand College of Anaesthetists
Dr Fiona Blyth	Epidemiologist, University of Sydney Pain Management Research Institute, Royal North Shore Hospital, NSW
Dr Roberta Chow	General Practitioner; Research Associate, Nerve Research Foundation, NSW
A/Prof Milton Cohen	Consultant in Pain Medicine and Rheumatology, St Vincent's Campus, Sydney, NSW
Mr Michael Deen	Occupational Therapist, Multidisciplinary Pain Centre, Royal Brisbane and Women's Hospital, QLD; Queensland Director, Australian Pain Society
Ms Denise Francis-King	Clinical Nurse Consultant, Multidisciplinary Pain Centre, Royal Brisbane and Women's Hospital, QLD; Member, Queensland Persistent Pain Advisory Group
Prof Stephen Gibson	Deputy Director, National Aging Research Institute, VIC; President, Australian Pain Society
Dr Stan Goldstein	Head of Clinical Advisory, Bupa Australia
Dr Roger Goucke	Head, Department of Pain Management, Sir Charles Gairdner Hospital, WA
Dr Michael Jennings	Psychiatrist, Pain Management Centre, Royal Prince Alfred Hospital, NSW
A/Prof Michael Nicholas	Director, ADAPT Program, University of Sydney Pain Management Research Institute, Royal North Shore Hospital, NSW
A/Prof David A. Scott	Director, Department of Anaesthesia, St Vincent's Hospital, Melbourne, VIC; Council Representative, Australian and New Zealand College of Anaesthetists
Dr Tim Semple	Senior Specialist, Royal Adelaide Hospital Pain Clinic, SA; Vice President, Australian Pain Society
Ms Coralie Wales	President, Chronic Pain Australia; Pain Educator and Counsellor, NSW

Members of the Working Groups and Reference Groups

Primary Care Working Group

Dr Stephen Leow (Chair)
Ms Diana Aspinall
Ms Sara Brentnall
Dr Roberta Chow
Mrs Karen Filocamo
Mrs Jennifer Faulkner
Dr Stan Goldstein
Ms Amal Helou
Ms Marie Kelly
Dr Lisa Nissen
Dr Ian Relf
Dr Tim Semple
Dr Jacqui Stanford
A/Prof Michele Sterling
Mr Steven Thomson
Dr Zhen Zheng

Analysis of Evidence Working Group

A/Prof Michael Nicholas (Chair)
Dr Fiona Blyth
Prof Julia Fleming
Prof Stephen Gibson
Prof Janet Hardy
Dr Mandy Nielsen

Models of Delivery Working Group

A/Prof Milton Cohen (Chair)
Dr Carolyn Arnold
A/Prof Leigh Atkinson
Mr Ross Colquhoun
Dr Stephanie Davies
Mr Michael Deen
Ms Denise Francis-King
Dr Roger Goucke
Dr Michael Jennings
Dr Michael McDonough
Dr Chris Hayes
A/Prof Ron Tomlins
Ms Coralie Wales

Consumer Advisers

Ms Coralie Wales (Chair)
Ms Renee Goossens

Cancer Pain and Palliative Care Reference Group

Dr Melanie Lovell (Chair)
Dr Melanie Benson
A/Prof Fran Boyle
Prof David Currow
Prof Janet Hardy
Dr Tanya Holt
Dr Rob Hitchens
Dr Geoff Mitchell
Prof Ian Olver
Dr Odette Spruyt
Ms Jennifer Tieman
Prof Patsy Yates

Acute Pain Reference Group

Dr Jane Trinca (Chair)
Ms Diana Aspinall
Dr Meredith Craigie
Dr Malcolm Hogg
Dr Pam Macintyre
Ms Trudy Maunsell
Dr Lindy Roberts
Dr Eric Visser

Paediatric Pain Reference Group

Dr Meredith Craigie (Chair)
Dr George Chalkiadis
Dr John Collins
Dr Matthew Crawford

Pain in Older Persons Reference Group

Dr Benny Katz (Chair)
Prof Stephen Gibson
Dr Roger Goucke
Prof Rob Helme
Dr Sam Scherer
Prof Barbara Workman

Executive Group

Ms Lesley Brydon
(Executive Director,
National Pain Summit)
Ms Helen Morris
Mr Nigel Henham
Mr John Biviano
Ms Mary Osborn
Ms Sonia Dixon

Executive summary

One in five Australians, including children and adolescents, will suffer chronic pain in their lifetime⁴ and up to 80 per cent of people living with chronic pain are missing out on treatment that could improve their health and quality of life. *The High Price of Pain* report, conducted by Access Economics in collaboration with the MBF Foundation and the University of Sydney Pain Management Research Institute, estimated that chronic pain costs the Australian economy \$34 billion per annum and is the nation's third most costly health problem.⁵

Yet a person with chronic pain — that is, constant daily pain for a period of three months or more in the past six months — faces the following:

- their condition is not officially recognised as a disease or a public health issue
- their family, friends, employers, schools and health professionals will often not believe they are in pain⁶
- many health professionals will have received little or no training in how to treat their condition⁷
- they may have to wait more than a year for an appointment at a service that can help them⁸
- they have little access to community-based support
- their productivity at work may be lowered, which frequently leads to unemployment and impoverishment⁹
- they are personally likely to carry more than half the total economic cost.¹⁰

People with chronic pain are at substantially increased risk of depression, anxiety, physical deconditioning, poor self-esteem, social isolation and relationship breakdown.¹¹ Their reduced physical function and mobility can lead to loss of independence, and they may not be diagnosed and treated for social anxieties that may have contributed to, or result from, their condition.

Children and adolescents with chronic pain are absent from school more often than their peers, and participate in fewer sporting activities. They may never reach their full academic or vocational potential.

People with cancer-related pain have their own particular needs which are often not well met, despite effective techniques being known to relieve their burden.¹²

Acute pain — a normal, time-limited response to trauma, surgery or other 'noxious' experience — also continues to be poorly managed.

The National Pain Strategy, aimed at acute, chronic and cancer-related pain, is the result of collaborative work of health professionals, consumers and funders, who agreed that an integrated approach was needed to improve care for all types of pain.

The National Pain Strategy and the National Pain Summit were led by the Australian and New Zealand College of Anaesthetists (ANZCA), the Faculty of Pain Medicine (FPM), the Australian Pain Society (APS) and the consumer group Chronic Pain Australia (CPA), in collaboration with inaugural supporters, MBF Foundation and the University of Sydney Pain Management Research Institute.

Unencumbered assistance was provided by Janssen-Cilag, Mundipharma, Pfizer Australia, CSL Biotherapies, Merck Sharp & Dohme, Medtronic, iNova Pharmaceuticals, Eli Lilly Australia, Boehringer-Ingelheim, University of Sydney School of Medicine, University of Sydney Northern Clinical School and Mr Alex Carmichael. These organisations and individuals were not involved in developing the Strategy.

A series of Working Groups developed the first draft of the National Pain Strategy, which was then brought to a Leaders' Meeting involving key stakeholders, and further developed by a series of Reference Groups. The groups comprised representatives of all primary health care disciplines, pain specialists, other relevant medical specialists and consumers. The subsequent draft was released for public and stakeholder consultation in October 2009 and revised prior to the National Pain Summit in March 2010.

The Summit's 200 delegates, representing health professionals, consumers, industry and funders, unanimously supported the National Pain Strategy and agreed on the priority objectives, as listed below.

The Strategy is offered at a time of national health reform, which, if implemented with the needs of people with pain in mind, could deliver many of the changes needed to improve outcomes. The Strategy is also aligned with the recommendations of the *Prescription Opioid Policy*, published in 2009 by the Royal Australasian College of Physicians.¹³

This is a remarkable opportunity to reduce the suffering, and the cost, of pain in Australia.

The case for change

Worldwide, governments are becoming aware of the huge impact chronic pain is having on their communities.

Ageing is associated with an increasing burden of painful pathology, the magnitude of which will rise with the ageing of Australia's population.

About one in five of the increasing number of cancer survivors experience chronic pain, further adding to the overall burden.

There are potentially vast gains to be made through prevention, community awareness, early intervention, and better access to pain management services. An important facilitator of this is the fact that chronic pain is increasingly recognised as a disease entity by the relevant international bodies. This will ease the incorporation of chronic pain into disease classification systems and allow its burden on health care systems to be measured on an ongoing basis.

Acute pain associated with surgery, trauma and other conditions can result in adverse outcomes, including the risk of progression from acute to chronic pain. Strategies for improved management of acute pain and early recognition of patients at risk of developing chronic pain offer important preventative options in decreasing the prevalence of chronic pain.¹⁴

In the case of cancer pain, less than 50 per cent of patients may receive effective relief,¹⁵ and acute pain is often similarly undertreated.¹⁶ This is despite the capability of current techniques to relieve more than 90 per cent of both types of pain. For chronic pain, less than 10 per cent of patients gain access to effective management, whereas up to 80 per cent could now be effectively cared for.¹⁷ In the first international study on chronic wounds, pain was identified as the worst symptom overall, with 40 per cent reporting that pain at dressing change was the worst part of living with an ulcer.¹⁸

Geographical issues are also of concern as people living in regional, rural and remote areas, especially Aboriginal and Torres Strait Islander people, generally have even less access to evidence-based pain services and community support.¹⁹

It is particularly difficult for people with chronic pain to obtain effective care and support because chronic pain is poorly understood by the general community, including many health professionals.

Acute pain is understood by all to arise in damaged tissues. However in chronic pain, the pain arises because of neuroplastic changes in the central nervous system. This is very different to acute pain, and represents a disease in its own right.²⁰ Chronic pain may *follow* an episode of acute pain, and thus may be triggered by tissue damage in the first instance, but the disease process is

fundamentally different in physiological terms. Moreover, chronic pain does not always originate in acute pain. It has many causes and sub-types.

Changes in the central nervous system may develop during a transition phase from acute to chronic pain. Encouragingly, we already have treatments that can prevent this transition. Some established cases of chronic pain may also be treated by targeting neuroplasticity in the central nervous system; in others, pain can be reduced, but not eliminated. Pain reduction may have general systemic benefits, for example, there is a relationship between pain, stress and delayed wound healing.²¹

Even when pain cannot be taken away, however, its effects on daily living can be minimised by means of a wide range of pain management methods. The real task is to increase access to such treatments, and to address the social and cultural determinants of the pain experience.

In children and adolescents, chronic pain and recurrent pain (such as recurrent abdominal pain and headache) may be a manifestation of social anxieties, learning problems and difficulties in coping with emotion. Early intervention can result in resilience, improved academic performance and self-esteem, increased vocational potential and reduced disability. Learning coping strategies early in life through effective pain management may be helpful when faced with adversity later in life.

Expert consensus and a growing body of research says that best-practice pain management often requires coordinated interdisciplinary assessment and management involving, at a minimum, physical, psychological, and environmental risk factors in each patient.²²

This is the model of care offered in specialist multidisciplinary pain clinics. But these clinics have unacceptably long waiting lists, and are poorly integrated with primary health care and community-based services.²³

At the same time, current reimbursement and insurance arrangements are such that outmoded treatments with limited evidence of efficacy, including some invasive procedures, are often favoured over less invasive treatments with evidence of efficacy.²⁴ Some treatments provided are not based on evidence, but funding. This risks overtreatment by inappropriate methods and therefore additional costs for sub-optimal outcomes.²⁵

In addition, while community-based self-management programs have been shown to be effective for other chronic conditions such as arthritis, there has been no infrastructural funding for such programs in relation to chronic pain.

Australia is, in many ways, a world leader in pain management. Pain Medicine and Palliative Medicine are established in Australia as independent medical specialties, and our research and education programs are internationally recognised.

The need is to translate what we know about what works into effective delivery of pain management across the health care system.

Mission, Goals, and Priority objectives as agreed by the National Pain Summit

Mission

To improve quality of life for people with pain and their families, and to minimise the burden of pain on individuals and the community.

Goal 1: People in pain as a national health priority

Recognition and optimal management for people in pain will be pursued as a national health priority. This includes people experiencing acute pain, sub-acute pain, chronic pain and pain associated with cancer.

The economic cost of sub-optimal management of pain will be reduced, for people with pain, carers, families and the community.

Priority objectives

- Establish a national body involving all stakeholder groups to identify partnerships, framework and resources required to build capacity and deliver the proposed outcomes of the National Pain Strategy
- De-stigmatise the predicament of people with pain, especially chronic non-cancer pain
- Achieve federal and state government recognition of chronic pain as a chronic disease in its own right

Goal 2: Knowledgeable, empowered and supported consumers

People with pain, their carers and other supporters will have the knowledge and confidence to seek appropriate advice, education and/or treatment to enable them to better understand and manage their pain.

The social, economic and regulatory environment (i.e. employers, legal systems, compensation systems, insurance bodies, and government agencies) will provide a compassionate, empathic and well-informed framework to support people in pain.

Educational and management initiatives for people with pain, carers and other supporters will be developed and evaluated in collaboration with consumers and carers.

Priority objectives

- Improve community understanding of the nature of chronic pain and best practice management
- Provide easily accessible information and support programs to assist people with pain, carers and other supporters, and practitioners to understand and be more proactively involved in managing pain

Goal 3: Skilled professionals and best-practice evidence-based care

People with pain will have timely access to best-practice, evidence-based assessment and care.

Comprehensive education and training in pain management will give medical, nursing and allied health professionals in the public and private sectors the knowledge and resources to deliver such care. Education in the biopsychosocial processes underpinning acute and chronic pain will give health professionals an accurate conceptualisation of pain and underpin care.

Consumer expertise will be included in the development of professional education materials.

At the end of their lives, all Australians will die with their preventable pain and other symptoms well managed, in the place of choice for them and their families.

Priority objectives

- Train and support health practitioners in best practice pain assessment and management
- Establish and promote systems and guidelines to ensure adequate management of acute, chronic and cancer pain

Goal 4: Access to interdisciplinary care at all levels

People with pain will have timely access to effectively coordinated care and support, as close as possible to where they live.

People with pain will have access to an interdisciplinary team of appropriately skilled practitioners, (virtual or actual), both in community and in hospital settings.

Health services for people with pain will be developed and evaluated in collaboration with consumers.

Priority objectives

- Develop and evaluate patient-centred service delivery and funding models for pain management in the community which provide interdisciplinary assessment, care and support as a part of comprehensive primary health care centres and services
- Ensure meaningful communication about pain management between practitioners and patients, and between practitioners

Goal 5: Quality improvement and evaluation

Outcomes in pain management will be enhanced through a quality improvement process using measurement of outcomes, evaluation and feedback.

The health care system will facilitate the judicious, appropriate, safe and effective use of pain medicines and technologies.

Quality improvement and evaluation initiatives for people with pain will be developed in collaboration with consumers.

Priority objectives

- Ensure quality use of medicines for pain management in the community and improve systems to detect and manage unsanctioned use
- Improve standards in pain management by developing national benchmarking of outcomes of pharmacological and non-pharmacological pain management interventions

Goal 6: Research

A research agenda for pain will be developed to identify and address the gaps in knowledge and practice.

Research into the clinical, social and economic aspects of pain will be supported by appropriate funding.

Translation and dissemination strategies will ensure implementation of research results into practice and policy.

Research findings will be communicated to consumers, with particular attention to health literacy issues.

Priority objectives

- Enable pain research at a national level
- Identify information gaps underpinning all National Pain Strategy objectives

Detailed strategies supporting these priority objectives and others are listed in the Strategic Action Plan.

Background to the National Pain Strategy

One in five Australians will suffer chronic pain in their lifetime and up to 80 per cent of people living with chronic pain are missing out on treatment that could improve their health and quality of life.

The MBF Foundation report *The High Price of Pain*, conducted by Access Economics using epidemiological data from the University of Sydney Pain Management Research Institute, estimated the cost of chronic pain in Australia in 2007 at \$34.3 billion, or \$10,847 for each person affected.²⁶

This did not include paediatric data about the high cost of medical care and investigations (including complementary medicine when the traditional medical approach does not, and was unlikely to, provide a resolution of the chronic pain symptoms). The missed opportunities in the young person's life are major additional costs both to the individual and to our society.

The MBF Foundation report highlighted the need for chronic pain to be elevated as a health priority and made a number of recommendations for addressing the impact of chronic pain in the community.

The National Pain Strategy has been developed as a first step in progressing these recommendations and responding to inadequacies in management of acute pain, chronic pain and cancer pain.

The National Pain Summit and the National Pain Strategy were overseen by a steering committee with health professional and consumer representation, under the leadership of the Australian and New Zealand College of Anaesthetists (ANZCA), the Faculty of Pain Medicine (FPM), the Australian Pain Society (APS) and consumer group Chronic Pain Australia (CPA), in collaboration with inaugural supporters, MBF Foundation and the University of Sydney Pain Management Research Institute.

The goals, objectives and strategic actions outlined in this document were initially developed by three working groups between June and September 2009. The groups comprised representatives of all primary health care disciplines, pain specialists, other relevant medical specialists and consumers.

The goals, objectives and strategic actions were further developed at a Leaders' Meeting involving the working groups and key stakeholder bodies, held at ANZCA House in Melbourne in September 2009, and subsequently by reference groups on cancer and palliative care patients, paediatric pain, pain in older people and acute pain.

The Draft National Pain Strategy was released for public and stakeholder consultation in October 2009 and revised prior to the National Pain Summit in March 2010.

The Summit's 200 delegates, representing 150 health professional, consumer, industry and funder organisations, unanimously supported the goals of the National Pain Strategy and agreed on the priority objectives, as listed below.

In addition to the emphasis on chronic pain, it must also be recognised that Australia has developed the leading resource on evidenced-based acute pain management, *Acute Pain Management: Scientific Evidence*, now in its third edition.²⁷

While this provides the evidence to support a high standard of acute pain management, this does not mean that hospitals have implemented the messages of the scientific evidence. There is much concern that the acute pain standards found in some hospitals – public and private, metropolitan and rural – are less than optimum, and safe and appropriate use of analgesics and analgesic techniques remain a great concern.

Acute pain management is therefore also an important part of the Strategy, particularly in respect to implementation of standards of care, documenting pain regularly and responding to all reports of acute pain in a timely manner.

Much, but not all, chronic pain starts as acute pain (for example, acute herpes zoster or pain after surgery or trauma). Severity of acute pain is a risk factor for progression to chronic pain. Thus effective management of acute pain may provide an important opportunity in prevention of chronic pain. The transition from acute to chronic pain (sometimes called the sub-acute phase) is a further opportunity to apply preventive treatments. This is further discussed under 'The nature of pain' later in this document.

A subgroup of those with chronic pain present frequently and inappropriately to emergency departments, and some are recipients of inappropriate operations and procedures. This results in a burden of avoidable admissions and high use of resources at acute care facilities.

Policy context

Historically, pain has been considered as a “symptom of something”²⁸ — a symptom to be alleviated in the short term while a diagnosis is pursued or a cure sought for the underlying disease.

Medical researchers now understand that pain may persist beyond the time it takes for damaged tissues to heal, altering the central nervous system in such a way that chronic pain is justifiably classified as a disease in its own right.

However, this new understanding of chronic pain has not yet been translated into standard practice across the health care system. Pain is costly, but under-recognised and under-treated.

Australia now has a remarkable opportunity to reduce the suffering, and the cost, associated with pain.

Why the time is right for a National Pain Strategy

The National Pain Strategy is offered at a time when:

- The disease burden and associated costs of chronic pain have been quantified in adults (indeed, chronic pain is Australia’s third most costly health problem). Chronic wounds are associated with under-treated wound-related pain in 270,000 Australians.²⁹
- Chronic pain in children and adolescents is being recognised as a significant problem – though it has not yet been quantified in Australia, data are available from several other countries³⁰
- Chronic pain is starting to be recognised as a disease entity by the relevant international bodies, which will ease its incorporation into disease classification systems
- Pain Medicine and Palliative Medicine are established in Australia as independent medical specialties
- The Royal Australasian College of Physicians has produced recommendations for preventing problems associated with the use of prescription opioids³¹
- The third edition of *Acute Pain Management: Scientific Evidence* has been released

And perhaps most importantly,

- There is a national program of health reform which could deliver many of the changes needed to improve outcomes for people with pain, if it is implemented with their needs in mind.

Pain in the context of the NHHRC recommendations

The National Pain Strategy fits well within the four major themes of the NHHRC reform agenda:

Theme 1: Taking responsibility

Currently, community knowledge about pain and its social and economic consequences is extremely limited, which means there is potential for initiatives in this area to make a big impact.

The National Pain Strategy proposes health literacy and self-management programs to improve knowledge among individuals, carers and families, communities, health professionals, employers and health funders. A central message of the strategy is that ‘pain is everybody’s problem’.

Theme 2: Connecting care

Pain care is currently fragmented, and chronic pain, in particular, lacks the coordinated approach that is evolving for other chronic conditions. The fragmentation is costly for both people with pain and the health care system, with many people receiving ineffective treatments, and many others under-treated.

The NHHRC’s recommendations for primary health care and chronic conditions could improve access to effective treatments for people with chronic pain, ***provided chronic pain is recognised as an eligible disease in itself***, and health professionals are upskilled in pain management.

Comprehensive primary health care centres, for example, could provide best-practice interdisciplinary and supportive care for people with chronic pain including medical care, physiotherapy, psychology, group education programs and medicines counselling. An advanced-skill or rural generalist GP trained in pain medicine and a pain educator could work in each comprehensive primary health care centre to start building capacity in the locale, working with other health professionals including pharmacists, complementary practitioners and specialists. The educator position could be connected to the proposed national health promotion and prevention agency and implement programs in early prevention of pain, prevention of progression, and workplace and community strategies for pain management. These positions could also coordinate an interdisciplinary clinical network for pain in the region. Importantly, this network could be linked into a specialist interdisciplinary pain clinic to underpin education, training, research, clinical development and quality assurance.

To underpin improved coordination of care, the National Pain Strategy supports the development of systems, including e-Health records, to ensure adequate communication between consumers and health professionals, between treating health professionals, and on transition from one care setting to another.

Theme 3: Facing inequities

Chronic pain is strongly associated with markers of social disadvantage (see ‘The burden of pain’, below) and access to interdisciplinary pain services is restricted for rural and remote residents, Aboriginal and Torres Strait Islander communities, and to some degree, other culturally and linguistically diverse (CALD) populations.

Some written materials on pain self-management have been translated into different languages, but this is very limited to date. Even assessing pain across cultural gaps can be challenging.³²

There is also inequity in access to treatment for acute pain and cancer pain, with considerable variation in services from hospital to hospital and community to community.³³

Older people with chronic pain may have mobility problems and cognitive impairment, and people with chronic pain generally are at risk of comorbid mental illness, social isolation, family breakdown and loss of income as a direct result of their pain. These factors further limit their access to care and their ability to advocate for their own care needs.

Provision of interdisciplinary pain management services in the community, linked to interdisciplinary pain clinics as proposed by the National Pain Strategy, would do much to improve access to care for lower-income groups. The Strategy proposes that the model of care should be flexible enough to enable delivery through locally available services where appropriate, and with triage criteria for

referral to interdisciplinary pain clinics. It further proposes that innovative models of service provision and evaluation be developed to meet the needs of people in rural and remote areas.

Theme 4: Driving quality performance

The National Pain Strategy proposes that a comprehensive quality improvement process be developed and implemented for pain management services across Australia. Such a process is particularly important in the area of pain management because:

- education and training in pain medicine for health professionals is currently patchy, and needs a competency-based framework across disciplines
- the evidence base for many chronic pain interventions is limited, creating a need to track patient outcomes and standardise treatment protocols
- patient satisfaction with chronic pain care varies greatly, and consumers have little access to rigorous information about care options and service quality.

The Strategy advocates the smart use of data to monitor, evaluate and improve patient outcomes and system performance.

Pain in the context of the Draft National Primary Health Care Strategy

A key objective of the National Pain Strategy is to reduce waiting times for specialist interdisciplinary pain clinics by improving access to effective interdisciplinary pain management in the primary health care sector, and use of triage criteria for referral to interdisciplinary pain clinics.

The following aspects of the Draft National Primary Health Care Strategy would advance this objective:

- A skilled workforce consisting of integrated interdisciplinary teams, with improved understanding of other practitioners' roles and infrastructure to support interdisciplinary care, group activities and co-location of services
- Strengthened regional primary health care partnerships and organisations
- Supplementary funding to target traditional areas of market failure (pain management is one such area)
- Standardised evidence-based approaches to chronic conditions with flexible tailored care, supported self-management and personalised shared care plans
- Information and technology infrastructure for decision support and outcomes measurement
- An increased focus on prevention and early intervention (see comments above on the effective treatment of acute pain as a prevention measure for the risk of development of chronic pain).

The nature of pain

The International Association for the Study of Pain (IASP) defines pain as:

“...an unpleasant sensory and emotional experience, associated with actual or potential tissue damage, or described in terms of such damage.”

This definition makes it clear that pain is a subjective *experience* rather than just a sensation in humans. Thus all pain is an individual human experience that is entirely subjective and that can only be truly appreciated by the individual experiencing the pain.

Over the last two decades epidemiological and ‘risk factor’ research has provided very strong support for a body of pain behavioural research which underpins the ‘bio-psycho-social’ model of pain.³⁴ This model comprises three components: physical, psychological and environmental, which can overlap. So to assess a person suffering from pain, it is important to assess the contribution of factors in these three areas to the pain experience of each patient.³⁵ This often means that more than one category of health professionals will be required to make a full assessment and to communicate with each other to weigh up the relative contributions, enabling selection of the most appropriate treatment or treatments in an **interdisciplinary** approach.

Supporting this approach, brain imaging has shown that diverse areas of the brain are activated in different ways in different people experiencing apparently the same physical pain stimulus.

There is a belief that pain is a mystery, but in fact much is known about the nature of pain and the changes in the central nervous system that lead to the debilitating and costly condition of chronic pain.

Acute pain is a normal part of life and it is important not to medicalise the everyday experience of sore muscles and joints, aches and hurt from minor bumps and bruises. However, it is equally important to recognise the seriousness of disabling chronic pain.

In broad terms, pain can be put into five categories:

- Acute pain, defined as a normal and time-limited response to trauma or other ‘noxious’ experience, including pain related to medical procedures and acute medical conditions (e.g. acute shingles)
- Pain that is progressing towards chronic pain, but this progression may be prevented (‘sub-acute’ pain). For example, acute wound pain may progress to chronic wound-associated pain.
- Recurrent pain, e.g. migraine
- Chronic non-cancer pain, defined as constant daily pain for a period of three months or more in the last six months (sometimes the term ‘persistent pain’ is also used)
- Cancer-related pain.

Acute pain

There are things which happen to people — or which are done to them — which cause acute pain, such as kidney stones, surgery or bone fractures. Tissue injury plays a key role in most acute pain. It includes procedure-related pain in adults and children.

There is evidence that acute pain in our hospitals could be better managed so that suffering is lessened. It is, however, still not a simple issue because even in acute pain situations following surgery or injury the person’s experience of pain will depend not only on the injury itself.

Professor Henry Beecher, of Harvard University, carried out pivotal research on injured soldiers in World War II. He noted that soldiers with severe injuries often reported no pain at all immediately after the injury. Thus clearly, there was not a 'one to one' relationship between the injury and pain. In many cases he found the soldiers regarded the injury in a positive light since they would shortly be decorated and repatriated from the front line. He made the very thoughtful statement, "it is not the injury per se that determines the pain, but also the meaning of the injury".

A more recent version of this situation is the injured sportsman who manages to play on, despite having a severe ligamentous injury or fracture.

Despite the complex factors that may underpin acute pain, 90 per cent of patients could obtain effective, safe relief of their pain with currently available treatments – and yet only 50 per cent gain access to such treatments. A major resource to help address this situation is the ANZCA document *Acute Pain Management: Scientific Evidence*.³⁶

Recurrent pain

Both adults and children can experience pain on a recurrent or cyclical basis, for example migraine or recurrent abdominal pain.

Transition from acute to chronic pain ('sub-acute' phase)

The transition from acute to chronic pain (sometimes called the 'sub-acute phase') is the time from tissue healing (approximately one to two months) to the six-month time point that currently defines the presence of chronic pain.

Thus there is a window of opportunity during this four-month transition phase (yet to be precisely defined) where it may be possible to apply appropriate diagnostic and treatment strategies to prevent the transition from acute to chronic pain. One example of such a strategy is transforaminal steroid injection for sub-acute sciatica.³⁷

Presumably neuroplastic changes in the nervous system are occurring during the transition phase but still may be favourably influenced to prevent the development of chronic pain. Pharmacologic, psychological and social strategies have been identified which can play a preventive role.

Chronic (non-cancer) pain

Ongoing nociception may play a role in some patients with chronic pain. An example is severe osteoarthritis of the hip joint. Obviously in such a patient hip joint replacement is an excellent treatment option, if indicated and tolerated by the patient. Even in such patients, central neuroplastic changes occur and contribute to the pain. Fortunately when the nociceptive source (the damaged hip joint) is replaced, mostly the central nervous system sensitisation subsides. However in about 10 per cent of patients this does not occur and chronic pain continues after surgery.

Treatment by rheumatologists of rheumatoid arthritis related pain with disease specific medicines can result in a dramatic reduction or abolition of pain.

Ongoing nociception such as facet joint related low back pain and neck pain, localised muscle-related pain and numerous other presentations may be amenable to short to medium term relief with treatments targeted at the nociceptive focus.³⁸

Muscle, tendon, ligament and cartilage injuries can heal slowly after acute injury and this is the subject of intensive research. However such injuries should not be underestimated as to their potential to cause severe pain and altered biomechanics. Again, early intervention with effective

pain relief and restoration of function is vital to limit the risk of progression to chronic pain, particularly in view of the risk of Complex Regional Pain Syndrome (CRPS) type 1 and the difficulty of treating CRPS.

Even when patients have developed chronic pain there are some treatment strategies, based on current understanding of biological processes, that may eliminate chronic pain. Such treatments include:

- microvascular decompression of the trigeminal ganglion in trigeminal neuralgia ('tic douloureux')³⁹
- dorsal root entry zone (DREZ) lesions for severe neuropathic pain associated with brachial plexus avulsion in motor vehicle and similar accidents.⁴⁰

With these treatments, pain relief may be complete and may last over 10 years. Both procedures appear to abolish the source of severe neuroplasticity changes in the central nervous system. On the other hand, both treatments can be associated with serious complications.

New knowledge of the role of neuroglia in the central nervous system, of brain neuroplasticity changes and of central nervous system inhibitory mechanisms is leading to pharmacological, psychological, physical and other strategies to directly treat the adverse central nervous system sensitisation associated with chronic pain.

Such treatments do not 'cure' pain but may reduce it, while helping to minimise the effects of pain on patients' daily lives. (For more information, see Appendix 1.)

Established chronic pain is debilitating, expensive and affects everyone around the person experiencing the pain. Children and adolescents with disabilities, often present from birth, are a special group who may suffer a lifetime of pain. Their pain is frequently ignored or underestimated as a result of communication difficulties and the presence of other medical problems that have higher priority.

Research has shown who is at risk of chronic pain and the range of predisposing factors, which are physical, psychological and social. This can be bidirectional in that not only do these factors cause pain, they can also result from chronic pain. Focussing on any one of these factors at the expense of the others is one of the commonest mistakes made in our health care system. It can aggravate and perpetuate the problem and unnecessarily stigmatise the person with the pain. Best-practice care for chronic pain is recognised to be interdisciplinary.

Much evidence now points to chronic pain becoming a disease in its own right. Chronic pain needs to be treated within the same framework as other chronic diseases, rather than regarding it as 'only a symptom'. A large body of basic research indicates that chronic pain may be associated with changes in the central nervous system so that it becomes sensitised and responds in an excessive way, not only to noxious stimuli, but also to non-noxious stimuli such as touch and light pressure. Regardless of the initiating cause, be it noxious stimulus, nerve damage or other factors, the more severe the pain and the longer the pain persists, the more likely that central sensitisation and other factors become more prominent. Thus the importance of early diagnosis of the relative contribution of physical, psychological and environmental factors cannot be over-emphasised.

As described above, there is also good evidence that the nervous system can be 'reprogrammed', which points to the desirability of early intervention.

In the psychological and environmental (social) domains, there is ample evidence that there are important changes in people with chronic pain that play a significant, and sometimes dominant, role in the ongoing experience of chronic pain and in the impact that the pain has on the individual's quality of life. For example, mood changes such as anxiety and depression share neurotransmitters with chronic pain. Fear-avoidance behaviour is frequently associated with chronic pain and leads to a downward spiral of reduced activity, deconditioning, postural changes, and loss of muscle support of various joints and also the spine.⁴¹

In the environmental area, key changes in the individual's relationship with family members and those in the workplace can be crucial. For example, the most important factors in determining whether acute low back pain progresses to a chronic phase are in the psychological and environmental domain rather than being in the physical area.

Changes in the central nervous system associated with chronic pain are maladaptive and represent a disease entity, irrespective of the primary disease or injury that may have triggered the chronic pain. In some patients, chronic pain appears to arise without preceding injury or disease – possibly as a result of triggering psychological and/or environmental factors.

If chronic pain continues to be treated as a symptom the following issues arise:

- There may be an overemphasis on treatment of primary tissue pathology, which may not succeed and this may result in a neglect of secondary and tertiary problems, as described below.
- Treatment of the primary pathology may be incorrect, for example
 - prescription of opioids long term in people with predominantly psychological factors contributing to the pain
 - removal of all of the teeth in a person with facial pain
 - an eighth back operation for neuropathic pain in a person who has failed to obtain relief from the prior seven operations.

In contrast, if chronic pain is regarded as a disease, the following approach is utilised:

- identify and treat any primary pathology (e.g. replacement of an osteoarthritic hip)
- identify and treat the secondary pathology (consequences of chronic pain, e.g. central nervous system sensitisation, depression, fear-avoidance behaviour)
- identify and treat tertiary pathology (contributors, e.g. environmental factors).

It will be clear from the above that it is often necessary to use a multi-modal approach to treatment. This will require a team approach utilising health care professionals from different disciplines.

Many patients with chronic pain initially have an acute episode of pain and/or have a chronic disease that triggers the chronic pain. Thus those with chronic diseases, e.g. multiple sclerosis, continue to have the primary disease as well as a *second* chronic disease, namely chronic pain. In other situations, an acute wound can become chronic with an associated chronic pain due to the wound per se and also due to the central nervous system changes associated with chronic pain.

There are a very large number of conditions that may be associated with chronic pain. The broad range of physical, psychological and environmental factors is present in each patient when chronic pain occurs. However each primary condition has particular features, which are described in the IASP document *Classification of chronic pain: descriptions of chronic pain syndromes and definitions of pain terms*.⁴² Among the more than 500 conditions described are some that are still quite neglected – for example, chronic pelvic pain in women, recurrent abdominal pain in children, oral/dental pain syndromes and many others.

One of the main messages in this strategy is that chronic pain needs to be recognised as a disease in its own right, recorded in hospital administrative datasets and reimbursable under the MBS items for chronic disease. Only then will it be measured and targeted as an outcome.

For more on the science of pain, see Appendix 1.

Cancer pain

Pain is one of the most feared aspects of cancer. It can occur in patients with both early stage and advanced disease, and in cancer survivors as a result of side effects of curative treatment. For

children, pain associated with intensive treatments and tests for monitoring treatment response is often the most distressing.

Cancer patients with persistent pain have major differences in treatment options and needs compared with people with non-cancer pain. Some may have limited life expectancy and the causes of pain may be more readily identified. Often, cancer pain is also associated with other burdensome symptoms so cannot be assessed in isolation.

Anti-cancer therapy is an important part of pain control, for example radiotherapy for bone pain and the dramatic impact of chemotherapy on pain control in sensitive tumours such as lymphoma, germ cell or small cell lung.

In cancer for which there is no active treatment, patients may have escalating pain, which will need management for the rest of their lives.⁴³

Despite the ready availability of effective pain control strategies and guidelines for controlling cancer pain, there is strong evidence that cancer pain is under-treated. Studies in three different countries all underline high levels of under-treatment of cancer pain: the United States (42 per cent),⁴⁴ France (51 per cent)⁴⁵ and China (59 per cent).⁴⁶ In view of the vastly different health systems, it appears that other factors such as lack of knowledge, training inadequacies, and attitudes of patients and health professionals are likely to be the basis of under-treatment rather than health system issues – as described in various reports.⁴⁷

Sadly, in Australia cancer pain has not been a high enough priority to warrant a major study in adults. However on the day of the National Pain Summit, an Australian study of pain in children at the end of life was published in the *Medical Journal of Australia*. In these children with cancer, 46 per cent of parents reported that their child suffered “a lot” or “a great deal” with pain. Treatment was successful in only 47 per cent of the children with pain.⁴⁸ The results of this study were very similar to those reported for children with cancer in a study carried out in Boston.⁴⁹

While the significant problem of pain and the issue of under-treatment of pain in cancer have been identified for some time, the gap between the improved knowledge about pain and the inadequate treatment of pain persists.⁵⁰

People with cancer pain need equitable, timely and coordinated access within all sections of the health service, in hospital, community and outpatient settings. Access should include medical oncologists, radiotherapy services, palliative care services, interventional pain specialists, allied health, nursing, psychological and social professionals – all highly skilled in cancer pain management.

Pain in older people

Ageing is associated with an increasing burden of painful pathology.⁵¹ The magnitude of this problem is expected to rise with the ageing of Australia’s population. Over the next 25 years the number of people aged over 65 years will increase to more than one in five of Australia’s population, surpassing the number of children under 15 years. The number of people aged over 80 years will rise by 73 per cent.⁵²

More than 20 per cent of people over 65 years living in the Australian community report persistent pain of various types, having a moderate or more severe impact on daily life in more than a half.⁵³ The prevalence of pain in residential care facilities is even higher, with rates of 50 to 80 per cent.⁵⁴ Chronic non-cancer pain is not the only problem. Cancer is the second most common cause of death in older people, with pain occurring in over 70 per cent.⁵⁵ Older individuals have higher rates of hospital admissions and medical procedures, many of which are associated with acute pain.

Pain is often under-reported by older people, under-recognised by health care professionals and undertreated. Inadequately treated painful conditions in older people may present as mood and

behavioural changes, reduced socialisation, impaired mobility, reduced function, and loss of independence.

The magnitude of the problem is even greater among individuals with dementia, other forms of cognitive impairment and communication disorders. There are currently over 200,000 people in Australia with dementia, with the prevalence doubling each five years beyond 65 years of age.⁵⁶ The inability of people with dementia or communication difficulties to report pain does not mean that pain is not having a major impact on quality of life or that they do not need relief.

In addition to the under-recognition of pain by health care professionals, older people face barriers to effective pain management related to lack of social support and access barriers brought about by mobility issues, living in residential care facilities with restricted access to specialist pain services, limited finances and age-related exclusion criteria to specialist pain services. Older people are under-represented in pain management clinics.⁵⁷

The presence of comorbid health problems and dementia often limit the therapeutic options. Age-associated psychological and social phenomena, such as loss of family and friends and loss of independence, may contribute to pain and suffering. Older people may not be able to advocate for themselves, and may be dependent on family or professionals to provide care and advocacy.

Despite high drug utilisation rates among older people there is a relative paucity of published evidence of their safety and efficacy. A multidisciplinary approach is often more effective than over-reliance on analgesic medications.⁵⁸ Medicines such as opioids, anti-inflammatory drugs and adjunctive agents (e.g. tricyclic antidepressants) are not as well tolerated in older people as they are in younger people.⁵⁹

The agenda for improving pain management in older persons must be assumed conjointly by educators of practitioners-in-training, health care professionals, funding organisations, policy makers and public health organisations. Access to physical and psychological modalities of pain management, pain specialists and multidisciplinary pain clinics must be improved for older persons troubled by pain.

We are all responsible

The responsibility for adequate pain assessment and management for older people cannot be delegated to those employed in the aged care sector. Most health care workers will come across older people on a daily basis. All health care practitioners and workers coming in contact with older people must accept that pain assessment and management is part of their responsibility.

Ageist attitudes

It is important to recognise that:

- There is more heterogeneity among older people in health status and functional ability than in all other stages of life
- Most older individuals live in their own home, not in aged care facilities
- At age 85 years, the remaining life expectancy is on average six to seven years – adequate time to benefit from appropriate interventions.

People should not be denied access to assessment or treatment on the basis of their chronological age or place of residence. The appropriateness of health care needs to be based on factors such as the health and functional status of the individual, prognosis, the impact that the condition is having on their life, potential risks and benefits of any intervention and individual preference. An individual or their carer cannot make an informed decision until they have been provided with the relevant information on which to base their decision. Information provided must take into consideration multiple age-related issues in addition to the issue of pain and its management. This may require a comprehensive geriatric assessment.

Integrating Comprehensive Geriatric Assessment with pain management

Comprehensive Geriatric Assessment (CGA) has been demonstrated to improve the outcome for older individuals in various settings.⁶⁰ In recent years the methodology has been successfully adopted to improve outcomes for older people attending cancer services and renal services.

The multidisciplinary approach employed in Comprehensive Geriatric Assessment services fits with the model of multidisciplinary pain management. It has been adapted for pain management clinics for older people. The model should be adopted by all multidisciplinary pain clinics managing older people. Alternatively, these clinics should have links to services that can undertake Comprehensive Geriatric Assessment on their behalf.⁶¹

Barriers to pain management for residents of aged care facilities

There are approximately 180,000 people in Australia's residential aged care facilities. These are some of the most frail and vulnerable people in our communities. Persistent pain affects 50 to 80 per cent⁶² and comorbidities, including dementia, are common. Residents of residential aged care facilities are often denied access to services available to other Australians.

The accreditation model in residential aged care facilities lacks the objective process and outcome measures⁶³ about multidisciplinary pain management through which quality of care could be systematically enhanced; and the funding instrument fails to nominate pain among those clinical issues that are targeted for specific funding supplements.⁶⁴ Staff in residential aged care facilities often lack the appropriate qualifications and skills for multidisciplinary management of people with high levels of complexity;⁶⁵ federal-state funding issues restrict access to services available to community living individuals such as Rehabilitation In The Home;⁶⁶ and Medicare-funded access to allied health is restricted relative to the level of complexity of this population.⁶⁷

Pain in children

Chronic pain in children and adolescents is not a rare event and is frequently undertreated.⁶⁸ Indeed international data indicate a prevalence that may be close to that for adults. The burden of pain in children is substantial and very concerning – including the high risk of transition to chronic pain in adulthood (see 'The burden of pain' section).

Acute pain in association with surgery, trauma and investigations is undertreated to a similar degree to the situation in adults.

Cancer pain is also a substantial issue in children, with the order of 50 per cent not receiving adequate pain control – even in the terminal phase of cancer.⁶⁹ Strategies for improving this lamentable situation are listed in the Strategic Action Plan.

The burden of pain

The MBF Foundation report *The High Price of Pain*, conducted by Access Economics using epidemiological data from the University of Sydney Pain Management Research Institute, estimated the cost of chronic pain in Australia in 2007 to be \$34.3 billion, or \$10,847 for each person affected.⁷⁰

Allocated health expenditure data placed chronic pain third only to cardiovascular disease and musculoskeletal conditions among the National Health Priority Areas, with expenditure on chronic pain estimated at around \$4.4 billion in 2000-2001 (the most recent year for which comparable disease health expenditure data were available).

The report found that:

- In 2007, around 3.1 million Australians (1.4 million males and 1.7 million females) were estimated to experience chronic pain. These figures do not include children and adolescents.
- The number was projected to increase to 5.0 million by 2050 as Australia's population ages.
- The high cost of chronic pain was a result of both high prevalence and high impact: that is, chronic pain is common, and it has a substantial effect on quality of life and productivity. Productivity costs comprised \$11.7 billion, or 34 per cent, of the annual total.
- Fifty-five per cent of the total cost of chronic pain was borne by individuals with chronic pain. The next largest share was borne by the Federal Government (22 per cent), and the remainder by State/Territory Governments (5 per cent), employers (5 per cent), family and friends (3 per cent), and society (10 per cent).

Similar information about Australian children is not available, but several international studies have highlighted the incidence and some of the costs of chronic pain in children and adolescents.⁷¹ These include:

- The costs of multiple and expensive investigations
- Impact on self-esteem, physical fitness and quality of life
- Impact on education and loss of vocational potential
- Persistence of pain with transition to adulthood in 30–45 per cent of cases
- Other family members providing additional care for the adolescent, over and above normal care
- Other family members requiring additional support services (psychologist, social worker, family GP, relaxation therapy) as a direct result of the adolescent's pain
- Lost parental employment time and opportunities.

Research has also shown that:

- Women are more likely to experience chronic pain than men. A telephone survey of adults in New South Wales found 17 per cent of males and 20 per cent of females experienced chronic pain in the six months prior to interview.⁷²
- Chronic pain is generally more common with increasing age. In the same study, prevalence peaked in the 65–69 year age group for males, and in the oldest age group (80–84 years) for females. However, younger adults were proportionately most likely to report interference with daily activities caused by their pain.
- Paediatric patients also represent an important group with poorly managed acute, chronic and cancer pain.

- The prevalence of pain in patients at all stages of cancer is 53 per cent.⁷³ Of those, one third graded their pain as moderate or severe. In cancer survivors after curative treatment, 13 to 60 per cent experience ongoing pain.
- Chronic pain is strongly associated with markers of social disadvantage, such as lower levels of completed education, not having private health insurance, receiving a disability benefit or unemployment benefit, and being unemployed for health reasons.⁷⁴
- Chronic pain lowers work performance through both absenteeism (absence from work due to pain) and 'presenteeism' (working less effectively due to pain). Though reduced effectiveness is difficult to quantify precisely, a study in Sydney which added lost work days and reduced-effectiveness work days found an average total of 16.4 lost work day equivalents over a six-month period, approximately three times the average number of lost work days.⁷⁵
- People with chronic pain, especially those with higher levels of pain-related disability, are higher users of health care services than people without pain.⁷⁶
- Fifty to 75 per cent of patients receive inadequate treatment for acute pain in hospital; for post-operative patients, the prevalence of pain is as high as 80 per cent.⁷⁷

The experience of pain

Dramatic though these figures may be, they cannot capture the full picture of people's lived experience of pain. Chronic pain is not just uncomfortable or inconvenient: it can destroy people's careers, relationships and mental health, and it sometimes ends in suicide.

The stories of people with pain have been collected by the *Pain is Not Invisible* Project, an initiative of Chronic Pain Australia. The interim report for the project identified the following themes:⁷⁸

- Stigma – being written off as 'psychologically defective'
- Loss of control of one's life; struggling with everyday life
- Frustration with the health care professions
- Lack of effective treatments
- Perceived lack of credibility – not being believed
- The end of happiness; depression
- The erosion or breakdown of relationships with partners, family, children and friends
- Disruption of careers; becoming impoverished
- Frustration with and inadequacy of compensation systems
- Tiredness; problems with sleep
- Perceived lack of empathy – frustration with other people not understanding the chronic pain experience.

People with pain often also experience a range of non-pain symptoms stemming from the pain or the use of pain medicines. For example, those with chronic wound-related pain have a marked reduction in quality of life associated with ongoing presence of, for example, leg ulcers; as well as acute pain during dressing and the anxiety of anticipating further acute pain at the next dressing.⁷⁹

Worldwide, governments are becoming aware of the huge impact chronic pain is having on their communities. The Chief Medical Officer of Great Britain in his 2008 Annual Report highlighted the extent of chronic pain in their community and the impact it has on people with pain, their families and the economy at large.⁸⁰ As he states, "A major initiative to widen access to high quality pain services would improve the lives of millions of people" (p. 38).

In Scotland, a lead clinician has been appointed by Parliament to oversee a comprehensive chronic pain program.

Meanwhile, although awareness of chronic pain in adults is growing, the impact of chronic pain in children and adolescents is not acknowledged by most sectors of the broader Australian community, including the health system, the education system and state and federal governments. International research has found that children and adolescents and their families report similar experiences to those reported above.⁸¹

The experience of cancer pain

Research with patients with pain and cancer has found the themes of:

- Concerns about the meaning of pain: fear that pain means disability, progression of cancer or impending death⁸²
- Barriers to communicating about pain: stoicism, fear of burdening relatives or doctors, the expectation that pain is part of cancer and therefore not telling the health care provider about it⁸³
- Fears about medication: fears about the side effects of opiates, such as dependence, and fears that if opiates are introduced too early they will run out of pain control options.

Much is not working: Delivery of care

Accumulating evidence from a range of sources, both in Australia and internationally, points to major shortcomings in the ways in which pain is addressed.

A report prepared for the Australian Heads of Workers Compensation Authorities noted that 82 per cent of injured workers who had not returned to work within six months of their injury attributed this to unresolved pain and injury.⁸⁴

These findings are consistent with recent US national data which indicate that certain symptoms, especially moderate pain, severe anxiety, moderate depressive symptoms, and low energy, are strongly associated with poor self-rated health status.⁸⁵

Among the elderly with chronic pain, there are recurring reports of under-treatment of pain in those with communication difficulties.⁸⁶ But even in the more functional elderly, who have an understandable desire to remain independent and active, pain treatments have generally been limited to medicines.⁸⁷ This approach carries its own risks of falls and adverse interactions with other medicines, as comorbidity is more common in this age group.

While the treatment of pain in children has improved significantly in recent years, it was only recognised as a problem in the early 1990s, so work in this area is coming off a very low baseline.

A major difficulty is management of acute-on-chronic pain, that is, acute pain in a person already experiencing chronic pain. The person may have controlled their pain well until they present with a new event and emergency departments and anaesthetists fail to take into account the background analgesia which was required in order for this person to function comfortably until the additional trauma came along.⁸⁸

Among those with cancer, pain treatments are typically limited to pharmacotherapy. Non-pharmacotherapy options, such as the cognitive-behavioural pain management methods commonly available at interdisciplinary pain clinics, are rarely accessible to these groups. Similarly, many seek alternative therapies to assist with pain control, and whilst there is evidence that these can be useful, they are not always offered to those with cancer pain.⁸⁹ Radiotherapy is an inexpensive, effective and under-utilised treatment for cancer pain. Underutilisation is in part due to access difficulties and this is particularly the case for patients living in remote and rural Australia.

These types of anomalies, along with issues in assessment and pharmacological management, have led to well-documented under-treatment of cancer pain. Access to non-pharmacological treatments is also limited among people with catastrophic injuries such as spinal cord injuries.⁹⁰

In palliative care, inadequate pain relief and symptom management are barriers to quality end-of-life care. While there are examples of good interdisciplinary end of life care provided in a seamless manner, the reality for many patients is one of fragmented service delivery where they or their loved ones are required to navigate the unnecessary complexities of the health care system.

Hospitalisation should be viewed as being inappropriate for many people at the end of life. The inability to manage preventable pain in the home or in residential aged care facilities, combined with difficulties in accessing medication and community care services, contribute to the current overloading of hospital services.

For people with recent onset musculoskeletal pain, treatment at the community level seems quite capricious, with wide variations in practice styles despite the existence of evidence-based guidelines.⁹¹

Challenges in the acute care setting include:

- data collection and computer program interface issues
- defining complexity in patients

- access block to acute care beds for patients
- excessive emergency department presentations and prolonged transit times for chronic pain frequent presenters
- lack of integrated care and continuity of care
- increased utilisation of health care resources (multiple teams, unnecessary investigations and interventions)
- lack of effective case management for chronic pain serial presenters
- inadequate pain management training for current medical, nursing and allied health staff across the hospital system.

In total, these outcomes can be seen as failures in pain management. They are happening despite substantial advances in our understanding of pain and new treatment modalities. Clearly, this knowledge is not being taken up by the health system generally. Whatever the reason, the net effect of these shortcomings is that Australians are suffering from pain more than necessary and this is having a significant impact on health services and society generally.

Current model of care

Many people with pain do not receive the best available care. There is an opportunity to substantially improve outcomes in pain management by translating existing knowledge into practice through a defined, evidence-based model of care.

Figure 1 broadly describes typical current care arrangements. The ‘fault lines’ (represented by dotted lines) show the points at which people with pain get ‘stuck’ in the system.

The circular ‘fault line’ illustrates a common pattern in which people with ongoing pain are referred to multiple practitioners, and for multiple investigations, in pursuit of a diagnosis of the non-existent site of tissue injury and/or pain relief.⁹² They may receive ongoing physical and pharmacological treatment, and may also be recommended for one or more procedures.

As well as general practitioners, many patients access allied health professionals and complementary practitioners in public and private settings. It is estimated that 50 to 80 per cent of patients who visit a complementary medicine practitioner are there for treatment of pain.⁹³

The cycle may continue for months or years, with some people receiving long-term and/or ineffective treatments, while others are unable to access treatments which are effective but not covered by Medicare.

The second major ‘fault line’ in the current model of care is the barrier to access to specialist pain clinics (shown as a vertical dotted line in Figure 1). Many of those who are referred to such a service will receive high-quality care, but wait times for an appointment are typically long and there is great variability in access and service models.

In the case of children and adolescents, specialist paediatric pain clinics simply do not exist in some states, and access to such services interstate would be prohibitively expensive.

Interim results from the Australian Pain Society’s *Waiting in Pain* study⁹⁴ estimated that more than a quarter of patients referred to chronic pain management services annually would remain on waiting lists for more than one year, though most services had a process to accommodate the most urgent referrals. The mean wait time for a publicly-funded chronic pain management service was 184.3 days. The range was large, with the shortest wait time at 34 days and the longest 575 days.

Wait times at private pain clinics were found to be shorter, with a mean wait time of 50.7 days, but these services were less likely to be classified as IASP Level 1 services (i.e. multidisciplinary pain management centre with several disciplines, education and research).

The *Waiting in Pain* study identified only three established paediatric chronic pain services nationally – two in New South Wales and one in Victoria. Paediatric pain services were in development in three other states.

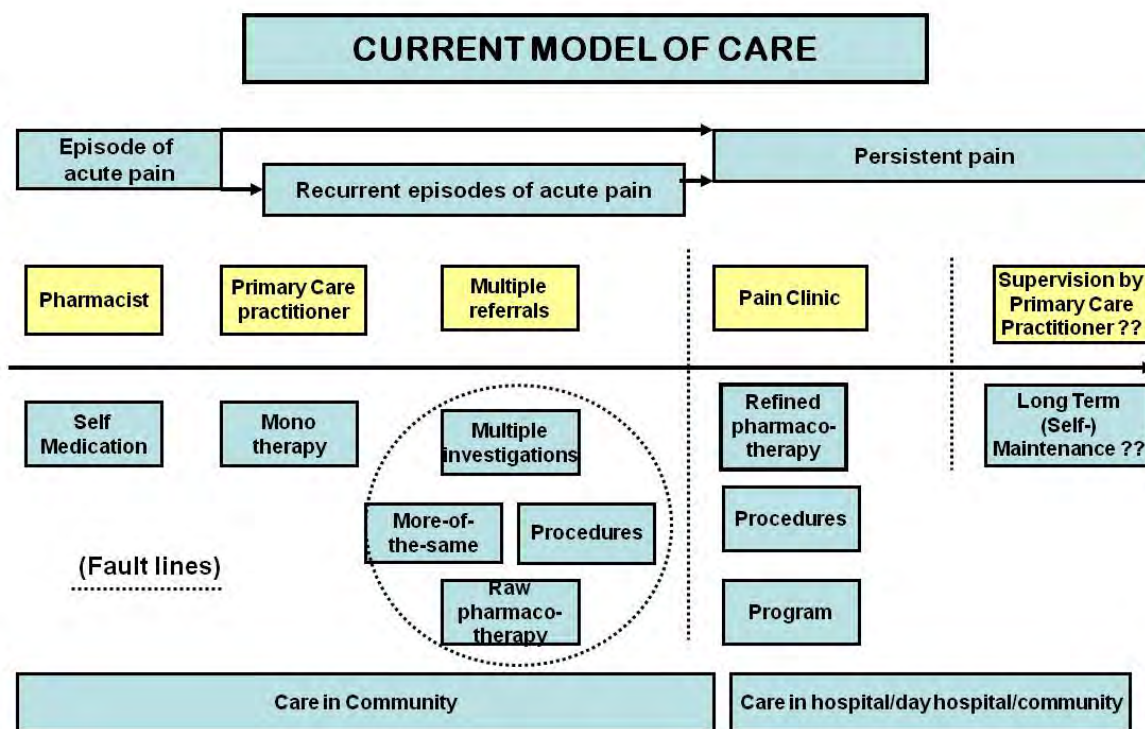


Figure 1: Current model of care

The first row of boxes shows a progression from acute through recurrent to chronic pain – however, it should be noted that chronic pain does not always begin with an acute episode and not all people with pain will follow a linear progression. The second row of boxes (above the line) identifies the practitioner or service delivering care at each stage. The third row of boxes shows the type of care usually delivered. The bottom row shows the care setting.

It is important to note that people with pain are not generally referred to a pain service of any kind until some time after the initial onset of symptoms. Thus, these wait times represent a delay in access to treatment *on top of* the months or years a person has already spent without effective care.

These long delays are a substantial barrier to successful treatment outcomes. Research has shown that wait times contribute to long-term disability, and the chances of return to work after approximately two years off work are close to zero.⁹⁵ Pain clinics are effectively being asked to work miracles.

As well as long wait times, an additional barrier to access to specialist pain services is that some people may not be referred to such services at all. This can occur because primary care practitioners may not know that pain clinics exist, or may not think it is worth referring to them.

The third 'fault line' in current delivery of care occurs on discharge from a pain clinic. There is a need to improve systems for patient transition, and communication between care providers, across care settings, and to develop an adequate relapse strategy. Improving care after discharge also needs to involve strengthening the capacity of community-based support organisations, which in other disease areas (such as arthritis, cancer and diabetes) tend to be vital supports for people struggling with their condition and navigating their health care options.

In many ways, Australia is a world leader in pain medicine. In 1999 a multidisciplinary Faculty of Pain Medicine was established, where specialists from five specialty colleges could go on to train in Pain Medicine. The Faculty's training, assessment and examination process is highly respected. In 2005 Pain Medicine was recognised by the Australian Government as an independent specialty.

However, with only 269 Fellows of the Faculty, pain specialists are unable to service 20 per cent of the population. Hence there is a need for a comprehensive model of care, which focuses on the primary health care sector and its integration with interdisciplinary pain clinics in the tertiary sector.

There is a key role for pharmacists in pain management, both in the hospital setting and in the community. Pharmacists support patients in getting the most out of their medicines. They are also ideally placed for monitoring chronic pain and triaging acute pain. Pharmacists monitor and advise on prescription medicines; they also assess and advise on supplementary use of non-prescription medicines, complementary medicines and potentially, non-pharmaceutical interventions. For chronic pain, the pharmacist plays an important role in supporting ongoing self-management.

From May 2010, people purchasing non-prescription analgesics containing codeine will need to speak to a pharmacist. This presents an opportunity to further utilise the accessibility of community pharmacy as a screening agency with appropriate 'referral' for patients with poorly controlled pain.

Proposed model of care: A 'pain management network'

A proposal for a new model of care is outlined in Figure 2, below. The model is intended to apply across both the public and private sectors.

At the **community care level**, many helpful initiatives can help people with pain, their carers and other supporters, including:

- provision of information to combat existing myths
- education about the nature of chronic pain, and the differences between acute, chronic and cancer pain
- provision of self-help programs, either face-to-face or via the web
- various support programs
- other initiatives as outlined in the Strategic Action Plan section of this document.

At the **primary care level**, many general practitioners (GPs) may choose not to be directly involved in the pain network. However, their knowledge of pain will still need to be upgraded to enable them to make appropriate referrals.

Other GPs will choose to develop a special interest in pain (GPwSI); they will undergo appropriate education and training and will become part of an interdisciplinary pain centre (IPC), which will include physiotherapists (PT), occupational therapists (OT), psychologists, nurses and/or nurse practitioners, and other allied health professionals such as social workers and rehabilitation counsellors – all with special training and education about pain.

Chronic pain problems will be triaged to primary care level if they are determined to be of a non-complex nature (a triage instrument will be used). Acute and sub-acute pain problems will also be triaged, with a focus on patients in need of treatment at primary care level or urgent referral to secondary or tertiary levels.

Since many people with pain see complementary practitioners, training for such practitioners should include pain management, and complementary practitioners are invited to play a role in improving the evidence base for pain management.

At the **secondary care level**, pain medicine specialists will work with an interdisciplinary team which is identical to the primary care level. However more complex patients will be triaged to be seen at this level. Patients may be referred from non-pain specialists, non-pain GPs or primary care

interdisciplinary pain centres. Secondary care interdisciplinary pain centres may be located in hospital outpatients, ambulatory/community care centre or in co-located consulting rooms.

At the **tertiary care level**, pain medicine specialists work in an interdisciplinary pain centre located in a major hospital. Such interdisciplinary pain centres deal with the most complex chronic non-cancer pain, cancer pain, acute pain and sub-acute pain. Tertiary interdisciplinary pain centres also play a key role in education, training and research.

At all levels: There will be strong linkages among primary, secondary and tertiary levels and among 'non-pain' practitioners and those with a special interest in pain. There will also be strong emphasis on identifying patients discharged from acute care settings who are identified as being at risk of progressing from acute post-operative or post-trauma pain to chronic pain. Patients may move stepwise from primary to secondary or tertiary care or vice versa. Patients may be referred from pain medicine specialists to non-pain specialists or vice versa.

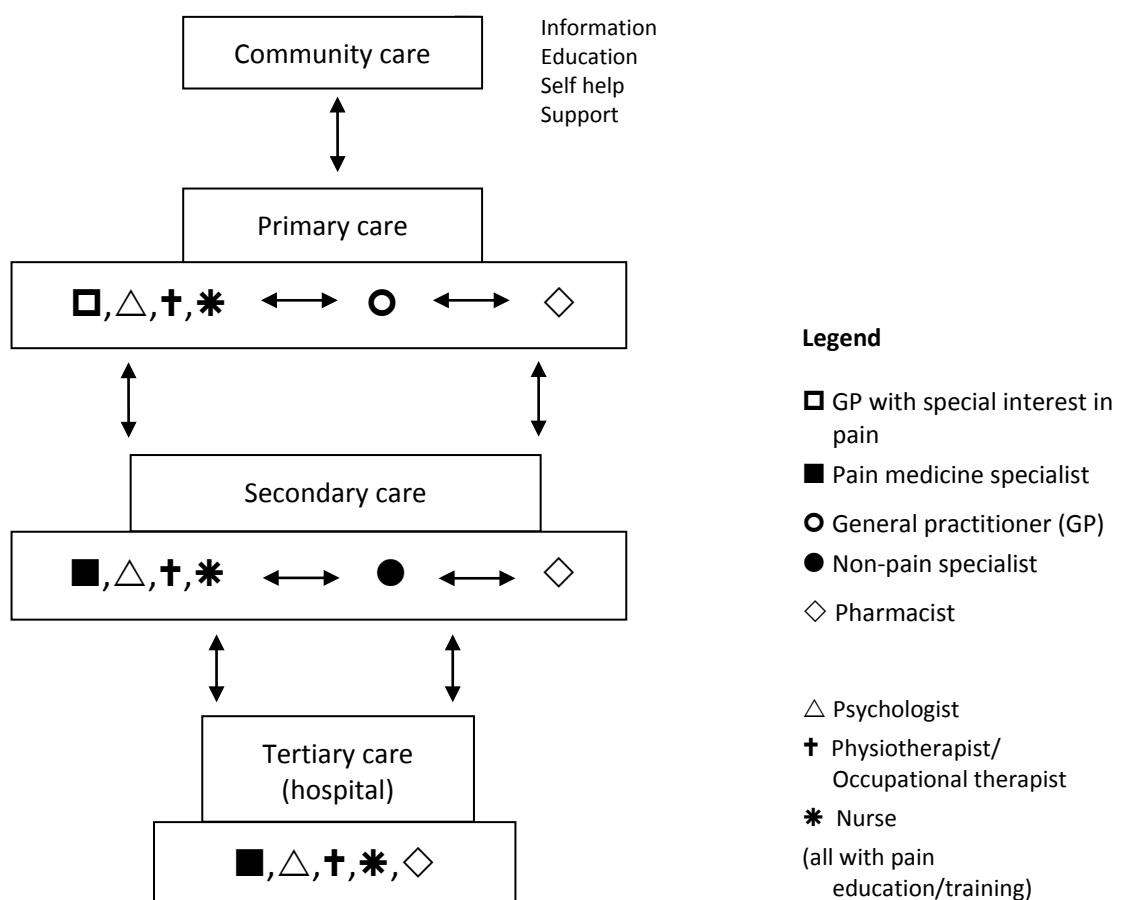


Figure 2: Pain management network

Interdisciplinary teams exist to varying degrees in numerous other fields, and such teams often have more overlap in personnel and knowledge, compared to Pain Medicine. Thus in appropriate patients, collaboration can be very beneficial in assessment and treatment of patients with chronic pain. Collaboration among Pain Medicine, Addiction Medicine, Psychiatry and General Practice services will be essential to optimal education, training, clinical care and research concerning patients with addiction who also have chronic pain, and patients with chronic pain where there is also concern about unsanctioned use of prescription opioids (see the RACP's *Prescription Opioid Policy*⁹⁶ on this subject).

There is still considerable debate about the nature and extent of benefits from use of opioids in chronic pain and ways of maximising these benefits. However there is also growing concern that increasing per capita consumption of prescription opioids in Australia could soon be accompanied by increasing overdose deaths and other serious adverse consequences. These adverse effects have already been readily apparent for a decade in the USA, where per capita opioid consumption is much higher and increasing more rapidly than in Australia.

Close collaboration between Pain Medicine and Palliative Medicine already exists, with a number of jointly qualified specialists, however further strengthening of links (as proposed in this Strategy) is needed.

Improved access to mental health resources is essential in view of the high level of depression and other mental health conditions in patients with chronic pain. Psychiatrists and psychologists are now strongly involved in Pain Medicine.

Patients with chronic pain frequently need access to the resources of Rehabilitation Medicine, which is facilitated by the involvement of such specialists in Pain Medicine.

What works? Review of existing evidence

There is evidence for a range of treatments for different pain conditions and different stages (acute, sub-acute and chronic). The implementation of such treatments in routine clinical practice requires timely access for those in pain, as well as health care providers who are skilled in the provision of appropriate treatment options. This is critical in the acute and sub-acute phase, in order to prevent transition to chronic pain.

It is important to recognise that patients need to be selected for the appropriate level of care. This can reduce wastage and maximise the impact of treatments.⁹⁷

In addition, in the case of patients with chronic pain where no treatable cause of the pain has been identified, support for the ongoing self-management of this pain is required from the community in general. This will require public health education strategies that emphasise:

- acceptance of the existence of chronic pain
- recognition that the source of chronic pain is in the central nervous system
- recognition that a healthy lifestyle is still possible despite chronic pain.

Another key theme that emerges from the literature is that the effective assessment and management of pain requires a continuum of care involving a range of health care disciplines working in collaborative partnerships with those in pain.

Models for a successful destigmatising health promotion approach can be found in the mental health area⁹⁸ – for example, the BeyondBlue campaign. The qualitative literature provides evidence of the stigma experienced by people with chronic pain.⁹⁹

Knowledgeable, empowered consumers and carers

There is good evidence, from both within the pain area and outside it, that having consumers, carers and other supporters armed with knowledge can reduce health care costs and the impact of illness. For example, there is solid evidence that the use of mass media to deliver health messages to the general community works as a preventative health strategy, and can be much more cost effective than strategies that focus on individual patients or health care professionals. The Victorian WorkCover Authority Back Pain mass media campaign is an example.¹⁰⁰

There is also evidence that:

- in adult education programs, carefully selected and presented information and advice about back pain can have a positive effect on patients' beliefs and clinical outcomes¹⁰¹
- pain support groups can play a valuable role for people in pain, carers and other supporters, assisting with support and rehabilitation and meeting needs that health professionals are often not appropriate or able to provide¹⁰²
- patients engaged in 'active' self-management programs suffer less disability than those receiving 'passive' treatments.¹⁰³ (Active treatments are those which involve the patient taking responsibility for carrying out the treatment. Passive treatments are those carried out by the health professional).

The self management approach encourages patients and their carers or other supporters to take an active part in the management of their conditions. This is necessary for all people with chronic pain, but some health systems (such as the National Health Service in the UK) have supported patient-led groups for those at the lower end of the disability continuum. The evidence for their effectiveness varies, but selection of suitable leaders and participants is crucial.¹⁰⁴

In Australia, the experience of the Arthritis Foundation also supports the self-management approach.

Cancer patients and carers

There is high-level evidence from multiple randomised controlled trials that patient education about pain management can improve outcomes in terms of pain, pain knowledge and attitudes, use of pain medicines and interference by pain in activities of daily living.¹⁰⁵

An Australian trial of a standardised intervention consisting of a booklet and DVD showed benefit in terms of pain.¹⁰⁶ Involvement of carers and other supporters is very important as the vast majority are involved with pain management and their involvement has been shown to improve outcomes.¹⁰⁷

There is also evidence that:

- Pain in cancer and other life-limiting illness is often associated with other symptoms, and the assessment of pain must take these and the natural history of the disease process into account.¹⁰⁸
- Some groups are known to be at higher risk of poor pain control. These include the elderly, paediatric patients, and those from culturally and linguistically diverse backgrounds.

Skilled professionals and evidence-based care

The following research and experience show that upskilling health professionals improves outcomes:

- systematic reviews of randomised controlled trials, especially multidisciplinary approaches¹⁰⁹
- evidence-based guidelines¹¹⁰
- recent experience with Medicare changes for psychological treatment of depression/anxiety.

At a recent back pain conference in Amsterdam, a workshop by leading researchers examined the variable results reported by different studies on low back pain in primary care. A key conclusion was that those wishing to do this work need a high level of training as the more effective outcomes had been achieved by more skilled providers.¹¹¹

Cancer pain

Pain assessment should be part of the routine assessment of all patients on admission to a cancer or palliative care unit, and patients should be screened for pain at each subsequent visit.

- Clinical Guidelines for the management of cancer pain exist and strongly recommend routine assessment of cancer pain.¹¹²
- Assessment with an appropriate tool is essential.¹¹³ All units should include a pain assessment chart with at least 4/24 pain assessments, as part of their routine observation charts.
- Referral to palliative care teams improves pain and other symptom management.¹¹⁴
- High-level evidence is available for efficacy of opioids, non-steroidal anti-inflammatory drugs, paracetamol, bisphosphonates and some non-pharmacological strategies.¹¹⁵ There are many other strategies for which evidence is lacking and the evidence base needs strengthening.
- Evidence-based guidelines are available for a palliative approach in aged care facilities.¹¹⁶
- Many complementary therapies are used but are unproven.

In relation to health professional education and institutional change:

- Benson showed that educational outreach was identified as an important intervention to overcome multiple barriers to improving resident medical officer behaviour.¹¹⁷
- Du Pen showed that a cancer pain algorithm can be implemented, resulting in reduction in usual pain for patients of trained providers.¹¹⁸

Interdisciplinary care at all levels

Interdisciplinary care has often been accused of being an act of faith. It is not. There is solid evidence of the benefits of this approach from experience internationally and in Australia (see Appendix 2).

In particular, studies support:

- interdisciplinary care in hospitals. As outlined in *Acute Pain Management: Scientific Evidence*, approved by the NHMRC,¹¹⁹ there is Level I evidence (from randomised systematic reviews) that interdisciplinary interventions including psychologists as part of the medical/nursing team can achieve improved pain outcomes postsurgery, increased activity postsurgery and reduced hospital stays.
- early, risk factor-based interventions for low back pain
- low-cost interdisciplinary rehabilitation in a group setting and non-clinical environment¹²⁰
- practice changes in community facilities
- workplace interventions¹²¹
- an educator role in the management of chronic conditions, to improve patient knowledge and satisfaction (e.g. in arthritis and diabetes care)
- multidisciplinary chronic pain management for children and adolescents¹²²
- psychological therapies for the management of chronic and recurrent pain in children and adolescents.¹²³

There is good evidence (in the form of controlled trials)¹²⁴ that integrated medical, physiotherapy and psychological interventions using cognitive-behavioural methods can be more effective than usual care in limiting the impact of recent onset back pain, especially in selected cases where psychological and social risk factors are present.

Evidence-based psychological care for pain, acute and chronic, involves cognitive and behavioural interventions targeted at three areas of need:¹²⁵

- psychosocial interventions to improve pain management and general functioning
- psychosocial treatment of comorbidities (especially in chronic pain), including drug dependence, depression, anxiety, fear, guilt and/or other adverse emotional or behavioural reactions
- psychosocial strategies for improved adherence to biomedical pain management regimens and to facilitate optimum quality of life.

The role of multidisciplinary pain clinics

Multidisciplinary pain clinics are essential for dealing with more complex and chronic cases for a short period only. Then care should be returned to the local community level (and the individual patient) for maintenance. Thus, these resources should be provided in a time-limited manner. As these clinics should have highly trained and skilled providers from a range of disciplines they can bring to bear resources that are not readily available in the community. But the critical point is how the resources are used – they should not become a de facto GP service. Rather they should provide comprehensive and expert assessment and initial new treatments. The evidence on intensive cognitive-behavioural pain management programs and implanted devices has all come from these centres.

Within Australia, the Fremantle Hospital Pain Medicine Unit has demonstrated how such a service can be re-organised to good effect. They introduced what they termed STEPS (Self-Training Educative Pain Sessions) in 2007 with funding from the Western Australian State Health Research Advisory Council (SHRAC). These sessions provide pre-clinic group education for selected patients.

Using the new model and significant system changes, a doubling of resources has resulted in:

- a four-fold increase in capacity
- a reduction in wait times from more than two years to less than two months
- a lowering in unit cost across the pain service.

However, some patients still require more intensive and comprehensive interventions that are typically found in a multidisciplinary pain service.¹²⁶

Quality improvement and evaluation

It is well recognised that implementing clinical guidelines can be a slow process. Quality assessment of health care services may provide incentives for implementation of pain guidelines, including patient and carer education.¹²⁷

A review of organisation models with integrated processes for the management of cancer pain¹²⁸ showed positive outcomes have been reported with institutional models, clinical pathways and pain consultation services.

Summary

Significant shortcomings have been identified in the management of pain in acute, cancer and chronic states. Many pain sufferers also experience significant associated disability and distress.

As described above, there is accumulating evidence that:

- we can predict many of these problems
- we can prevent them, and
- we can palliate them.

However, the evidence suggests a multi-level intervention is required.

Not reinventing the wheel: learning from others

A review of international experience¹²⁹ shows that specific areas of interest to the National Pain Strategy have been piloted on a regional basis, with initial success. For descriptions of some leading pain management services in Australia, Canada, the USA and UK, please see Appendix 2.

Interdisciplinary pain services in primary health care are underway in Calgary (Alberta), Nova Scotia, Ontario and Quebec in Canada, and have operated in Oregon, USA, for over five years. Such services have also been underway in the UK since 2004. Linkages between primary and tertiary interdisciplinary pain services are less well developed but are agreed to be crucial. Some centres are planning to use specially trained nurses to fill this role.

In the UK and Canada, Pain Medicine specialists working beside GPs and other health professionals have been crucial in initiating and sustaining properly integrated primary care pain services. Introduction of such services has markedly reduced waiting times, emergency department visits and hospitalisations, and has improved levels of patient satisfaction.

There is ample local and international experience to show that leading pain management services have many of the following features in common:¹³⁰

- acknowledgment of chronic pain as a disease in its own right
- stratified care according to complexity
- interdisciplinary care at all levels, with strong coordination between care providers and seamless transition from primary to tertiary care
- an active role for the person with pain
- community level group programs, including education programs for most patients and intensive cognitive-behavioural programs for appropriate candidates, with carers, partners or family members also able to attend
- Pain Medicine specialists working beside GPs and other health professionals, to initiate and support integrated primary care pain services (with the specialist service also providing its own clinical service)
- a triage system and service delivery model that enables timely access to levels of care to prevent chronicity or, when chronicity occurs, minimising morbidity through effective care (specially trained nurses, physiotherapists and occupational therapists are carrying out the triage role in several centres in Canada and the UK)
- ‘assist nurses’ – a coordination/advice role to field patient calls and track patient treatment pathways
- the use of templates for recording patient histories, examinations and decision making
- electronic medical records
- data collection and management to follow outcomes
- GP education and training.

Several Australian states have initiatives underway to reduce waiting lists for specialist pain clinics and improve the delivery of pain management services. These are also outlined in Appendix 2.

A National Pain Strategy would build on existing initiatives and provide a framework to ensure consistency and collaboration.

Strategic Action Plan

Mission

To improve quality of life for people with pain and their families, and to minimise the burden of pain on individuals and the community.

Goal 1: People in pain as a national health priority

Recognition and optimal management for people in pain will be pursued as a national health priority. This includes people experiencing acute pain, sub-acute pain, chronic pain and pain associated with cancer.

The economic cost of sub-optimal management of pain will be reduced, for people with pain, carers, families and the community.

Goal 1: Pain as a national health priority

Objectives	Strategic actions
1 Establish a national body involving all stakeholder groups to identify partnerships, framework and resources required to build capacity and deliver proposed outcomes High priority	1.1 Develop a charter/terms of reference, structure and funding model, and governance structures 1.2 Implement a strategy of charting pain as the 'fifth vital sign' in all health facilities in the nation, recorded at every consultation and in all communications between practitioners, along with appropriate monitoring for adverse effects (especially sedation), of pain medicines and other treatments ¹³¹ 1.3 Develop advocacy strategy to incorporate pain into all national health care policies and reform initiatives
2 De-stigmatise the predicament of people with pain, especially chronic non-cancer pain High priority	2.1 Develop a community awareness campaign (including professionals in health and education) to <ul style="list-style-type: none">– change attitudes towards people with pain– raise awareness of physical, psychological and environmental factors 2.2 Promote education and training for health professionals to improve understanding of the multifaceted nature of pain 2.3 Deliver tailored training in chronic pain management for employment and insurance organisations, and for teachers and counsellors in the education system managing paediatric and adolescent patients 2.4 Enable access to health records to facilitate appropriate management and reduce possible stigma for people presenting to pharmacy/ emergency department with flare-up of pain

Goal 1: Pain as a national health priority

Objectives	Strategic actions
	2.5 Develop education kits and training for those involved in aged care dealing with altered presentation of pain, assessment and management options
3 Achieve federal and state government recognition of chronic pain as a chronic disease in its own right <i>High priority</i>	3.1 Develop advocacy strategy
	3.2 Assess burden of chronic pain in children, adolescents and adults upon acute care system through changing coding focus to allocate a higher priority to collating chronic pain diagnoses in the inpatient population, using the Australian Coding Standards for disease and health intervention classification (ICD-10-AM and ACHI). In addition, develop a system for collating chronic pain diagnoses for outpatient populations
	3.3 Recognise the critical role of adequate management of acute pain, and early recognition of patients at risk of developing chronic pain, to minimise the risk of acute pain progressing to chronic pain
	3.4 Recognise the burden of pain in residential aged care facilities, and improve the quality of end-of-life care, by adjustments to the funding instrument
	3.5 Streamline provision of, and ensure uniform access to, medicines with evidence of benefit in ameliorating pain or preventing transition from acute to chronic pain, through appropriate funding of hospital pharmacies and the Pharmaceutical Benefits Scheme
	3.6 Recognise chronic pain as a disease category in the Employment Services System database of the Department of Education, Employment and Workplace Relations, to assess need for services in specific areas
4 Reduce the economic cost to people with pain, carers, families and the community of sub-optimal management of pain	4.1 Implement strategies to increase return to work rates for both work related and non-work related injuries
	4.2 Develop skills in health professionals to understand the management of pain in a work related environment

Goal 2: Knowledgeable, empowered and supported consumers

People with pain, their carers and other supporters will have the knowledge and confidence to seek appropriate advice, education and/or treatment to enable them to better understand and manage their pain.

The social, economic and regulatory environment (i.e. employers, legal systems, compensation systems, insurance bodies, and government agencies) will provide a compassionate, empathic and well-informed framework to support people in pain.

Educational and management initiatives for people with pain, carers and other supporters will be developed and evaluated in collaboration with consumers and carers.

Goal 2: Knowledgeable, empowered and supported consumers

Objectives

Strategic actions

5	Improve community understanding of the nature of chronic pain and best-practice management High priority	5.1	Improve the availability of education and information materials for consumers, carers and other supporters, health workforce, insurers/case managers, employers and employees (including multimedia materials and age-appropriate materials for children and adolescents), to improve understanding of <ul style="list-style-type: none">- management of acute pain and sub-acute pain- biological differences between acute and chronic pain, and implications for management- how to reduce the risk of chronic pain- best-practice management for chronic pain- management of pain medicines- where to go for appropriate health care services
		5.2	Establish community adult education programs
		5.3	Promote programs for children and adolescents that include school and parents
		5.4	In collaboration with appropriate experts and organisations, ensure specific programs and materials consider the special needs of infants, older adults, people with a history of substance abuse, people with disabilities (including learning disabilities), people of diverse cultural and linguistic backgrounds, Indigenous people, and carers and other supporters

- 6 Provide easily accessible information and support programs to assist people with pain, carers and other supporters, and practitioners to understand and be more proactively involved in managing pain
High priority
- 6.1 Put a submission to government for national, community-based, staff-led self-management education and support programs, available to people with pain, carers and other supporters and appropriate to life stage (international examples are the Pain Association Scotland, UK Expert Patients Programme and the Calgary ‘Living Well’ Program)¹³²
- 6.2 Provide toolkits and follow-up coaching for self-management support and reinforcement of skills/behaviour change
- 6.3 Provide evidence-based consumer information to assist treatment/management decisions
- 6.4 Provide practical support for people with pain in continuing their usual work, school and family activities and maintaining independence
- 6.5 Provide pain diaries and passports (multilingual) for patients with chronic pain, patients diagnosed with cancer, or when a palliative approach (for non-malignant disease) is adopted
- 6.6 Support key consumer groups to provide resources, advice and community-based support for people with chronic pain, carers and other supporters, in line with National Pain Summit aims and recommendations
- 6.7 Establish a national network of pain hotlines for consumers, carers and other supporters, and primary care practitioners
- 6.8 Conduct a survey/environment scan of accredited pain services, support organisations, websites and resources (including resources for pain in cancer and palliative care), and evaluate which provide evidence-based services
- 6.9 Establish a centralised website with links to quality services, information and resources as identified in 6.8 (An existing directory of medical pain services directory is on the website of the Australian Pain Society. Cancer pain and palliative care resources could also be made available via eviQ or Caresearch. Website should not be limited to medical services.)
- 6.10 Establish networks with consumer groups where pain issues are common, e.g. National Seniors, Carers Australia, Parkinson’s disease, Alzheimer’s disease and multiple sclerosis
- 6.11 Promote national distribution of standardised patient and carer education materials (e.g. *Overcoming Cancer Pain*, Cancer Council NSW)

- | | | | |
|---|--|-----|---|
| 7 | Support and empower people with pain, carers and other supporters in interactions with insurers | 7.1 | Establish ombudsman for personal injury insurance |
| | | 7.2 | Provide materials to inform people with pain, carers and other supporters in their interactions with insurers |
| 8 | Empower consumers to make choices about their end-of-life pain management and care through advance care planning | 8.1 | Promote uptake of advance care planning, in partnership with and supported by the health system |

Goal 3: Skilled professionals and best-practice evidence-based care

People with pain will have timely access to best-practice, evidence-based assessment and care.

Comprehensive education and training in pain management will give medical, nursing and allied health professionals in the public and private sectors the knowledge and resources to deliver such care. Education in the biological processes underpinning acute and chronic pain will give health professionals an accurate conceptualisation of pain and underpin care.

Consumer expertise will be included in the development of professional education materials.

At the end of their lives, all Australians will die with their preventable pain and other symptoms well managed, in the place of choice for them and their families.

Goal 3: Skilled professionals and evidence-based care

Objectives	Strategic actions
9 Train and support health practitioners in best-practice pain assessment and management High priority	<p>9.1 Validate and implement a brief universal standardised screening/assessment tool (or tools) for pain, including</p> <ul style="list-style-type: none"> – pain as 5th vital sign i.e. pain intensity charting – detailed pain history (site, radiation, intensity, character etc) – standardised instruments for pain type diagnosis and assessment of yellow and red flags¹³³ – effects of pain on societal level (e.g. blue and black flags)¹³⁴ – planning for pain management prior to surgery – pain assessment following surgery, injury or painful intervention and for appropriate medical patients (intensity and type of pain, and effects of pain on mental and physical function) – careful follow-up after surgery, injury or painful intervention – recording of severe uncontrolled pain above a designated duration as morbidity in hospital outcome data – recording of significant persisting pain as a hospital discharge category requiring a follow-up plan in discharge record – to apply to all patients, whether medical, surgical or cancer patients, regardless of age and language barriers – appropriate monitoring to enable safe titration of pain relief for individual patients – stratifying risk for abuse when initiating opiates <p>9.2 Survey and promote existing evidence-based decision support and information systems, and develop new systems where needed, such as:</p> <ul style="list-style-type: none"> – online tools e.g. MAP of Medicine – dose calculators – treatment protocols – advice (passive or active) e.g. professional hotline, GP liaison staff in pain clinics, acute pain services in hospitals for advice on acute pain management, prevention and early management of chronic pain

Goal 3: Skilled professionals and evidence-based care

Objectives

Strategic actions

-
- information about authority scripts and the palliative care section of the PBS
 - mechanisms to ensure decision support and information systems are updated as the evidence base changes
- 9.3 In collaboration with professional bodies and educators, designate pain management as a key competency in undergraduate and postgraduate education for medical, nursing and allied health workforce, and develop a national pain management curriculum, including teaching the scientific differences between acute, chronic and cancer pain (This could link with successful national educational initiatives e.g. palliative care curriculum for undergraduates and EdCaN (National Cancer Nursing Education Program))
- 9.4 Develop incentives and remove disincentives for upskilling and accreditation
- 9.5 Promote CPD in pain assessment and management across clinical groups, including:
- workers in the community, hospitals and residential care facilities, including those caring for patients with chronic wound-related pain
 - health care providers in cancer and palliative care settings
 - health care providers involved in post-surgical care
 - those caring for people with special needs including dementia
 - complementary practitioners
- Note the need for a comprehensive strategy with targeted messages for different groups of providers and different settings. Implementation ‘products’ should be sustainable and recognise that in some settings (such as aged care facilities), staff turnover may be high. Materials should be accessible through existing websites for health professionals e.g. Caresearch, Cancer Learning, eviQ.
- 9.6 Implement advanced-skill training and accreditation in pain management for health professionals, rehabilitation providers, aged care providers and Independent Medical Examiners of WorkCover and Third Party patients¹³⁵
- 9.7 Provide a toolkit for primary care practitioners, including template pain management plan
- 9.8 Provide a directory to inform health practitioners of existing resources, e.g. accredited pain providers in local area (see also 6.9)
- 9.9 Promote training in interdisciplinary/interprofessional practice and joint meetings of professional organisations
- 9.10 Develop equivalent education, training, tools and competencies for paediatric pain management

Goal 3: Skilled professionals and evidence-based care

Objectives	Strategic actions
10 Establish and promote systems and guidelines to ensure adequate management of acute, chronic and cancer pain High priority	<p>10.1 In collaboration with professional bodies and consumers, define core competencies in pain management required across clinical groups, care settings, and levels of professional practice</p> <p>10.2 In collaboration with professional bodies, government, educators and managers, establish and promote resources to support professional competencies, including</p> <ul style="list-style-type: none">– resources described in 9.1 and 9.2– relevant clinical guidelines <p>10.3 Define role of pharmacists in maximising effectiveness of medicines and minimising unwanted effects of pain medicines across care settings, evaluate benefits and resource pharmacist role</p> <p>10.4 Promote practitioner awareness and active use of <i>Acute Pain Management: Scientific Evidence</i>¹³⁶</p> <p>10.5 Promote use of existing clinical guidelines for chronic pain (including generic palliative care and cancer care), and establish and promote Australian pain management guidelines for aged care and palliative care in the community (including special guidelines where needed such as for people with dementia)¹³⁷</p> <p>10.6 Assess evidence base for comprehensive Australian clinical guidelines for chronic pain and cancer pain, and develop research agenda to fill gaps</p> <p>10.7 Support ‘Pain partnership in cancer and palliative care’ group for two years to:</p> <ul style="list-style-type: none">– identify and review available resources– create a series of implementation activities– utilise existing networks and organisation– focus on changing attitudes to pain– foster clinical, research and education relationships between pain medicine and palliative care services, including paediatric services
11 Increase the available workforce for pain management and palliative care	<p>11.1 Identify needs for increased workforce for pain management and palliative care</p> <p>11.2 Train additional health professionals in Pain Medicine and Palliative Care</p>

Goal 4: Access to interdisciplinary care at all levels

People with pain will have timely access to effectively coordinated care and support, as close as possible to where they live.

People with pain will have access to an interdisciplinary team of appropriately skilled practitioners, (virtual or actual), both in community and in hospital settings.

Health services for people with pain will be developed and evaluated in collaboration with consumers.

Goal 4: Access to interdisciplinary care at all levels

Objectives	Strategic actions
12 Develop and evaluate patient-centred service delivery and funding models for pain management in the community which provide interdisciplinary assessment, care and support as a part of comprehensive primary health care centres and services High priority	12.1 Bring together all stakeholders to conduct an environmental analysis, define components of an evidence-based model for the primary health care sector (including pain management for chronic pain and for cancer and palliative care patients), and identify funding gaps 12.2 Identify and advocate for appropriate funding sources, potentially including: <ul style="list-style-type: none"> – new Medicare item numbers (linked to accreditation) for interdisciplinary assessment and management of pain, allowing: <ul style="list-style-type: none"> > longer consultations where needed, especially for complex patients > group meetings to discuss management and agree management plan > preparation of written care plan (signoff by GP) > reimbursement of nursing and allied health care at a level adequate to achieve agreed outcomes > reimbursement for communication between practitioners > primary health care professionals conducting group self-management programs > reimbursement of evidence-based complementary interventions by accredited practitioners – public funding of community-based clinics – funding of accredited interdisciplinary cognitive behavioural therapy programs for appropriate candidates – funding of community/peer educators – systematic regional/statewide resourcing

Goal 4: Access to interdisciplinary care at all levels

Objectives

Strategic actions

- funding for practitioner training and rotations, including more training positions in specialist pain clinics across clinical groups
 - review of Medicare item numbers for comprehensive geriatric assessment to ensure pain is listed as an important component
- 12.3 Implement a triage procedure/tool to identify appropriate referral according to complexity and other factors
- 12.4 Provide access to acute pain services or advice at an appropriate level in community and hospital settings, to improve management of acute pain, help identify patients at risk of chronic pain, initiate measures to reduce the risk of development of chronic pain, and ensure early management of chronic pain
- 12.5 Establish interdisciplinary clinical networks to foster regional relationships and collaboration between primary care providers, relevant specialists (not just pain specialists), specialist pain units, palliative care services and aged care services, including:
- consumer involvement to ensure consumer-focused care
 - access for older people to attend multidisciplinary pain clinics when necessary
 - access for general practitioners to palliative care specialists, under agreed referral and access criteria
 - access to nurses who can administer opioids when necessary
- 12.6 Consider comorbidities and dovetail with other services where needed, including other chronic disease, cancer care, palliative care, aged care, rehab, mental health, drug and alcohol
- 12.7 Promote novel models of service provision and evaluation, such as video/teleconferencing and telehealth services in rural and remote areas (including services between primary health care providers and specialists)
- 12.8 Develop a new interdisciplinary role of accredited pain educator, which is upskilled in both physical and psychological domains (not a new discipline, but an accredited role that could be performed by any health professional with training, knowledge and skills)¹³⁸

Goal 4: Access to interdisciplinary care at all levels

Objectives

Strategic actions

		12.9	Facilitate co-location of practitioners where possible, for example by expanding the current model of the subsidised Mental Health Nurses Scheme to include an allied health professional to be employed on-site in general practices
13	Ensure meaningful communication about pain management between practitioners and patients, and between practitioners High priority	13.1	Develop systems, including e-Health records and care pathways, to facilitate <ul style="list-style-type: none">– improved communication between patients and health professionals– improved communication between multiple care providers– patient and carer-centred care– improved information sharing on transition from one care setting to another
		13.2	Establish communication channels, e.g. teleconference team meetings if at different sites
		13.3	Promote continuity of care for people with pain
		13.4	Promote communication with other specialists who deal with people in pain and among the broader community of health professionals
14	Expedite access to Tier 1 Multidisciplinary Pain Clinics (as defined by the Australian Pain Society) for people with more complex problems	14.1	Provide care in the community for the majority of people with pain (see objective 12) to free up specialist services
		14.2	Implement triage criteria for referral to multidisciplinary pain clinic, including a 'traffic light' approach to readily identify refractory cancer pain that needs early referral to pain clinic (or specialist palliative care unit)
		14.3	Develop discharge criteria for referral to care in the community following attendance at a multidisciplinary pain clinic
		14.4	Ensure adequate numbers of medical specialists, nurses and allied health professionals in multidisciplinary pain clinics
		14.5	For each major population centre (e.g. 0.5-1 million), designate at least one tier 1 pain medicine centre and one level 3 inpatient palliative care unit to be responsible for: <ul style="list-style-type: none">– complex pain assessments– training in patient selection and peri-procedure care of common interventional pain techniques applicable in cancer e.g. intrathecal catheters, cordotomy, coeliac plexus and other nerve blocks

Goal 4: Access to interdisciplinary care at all levels

Objectives	Strategic actions
15 Ensure tertiary specialist pain clinics have resources needed to support key strategies	15.1 Fund tertiary specialist pain clinics to: <ul style="list-style-type: none">– continue to care for people with complex needs– set standards for best-practice clinical care– evaluate and develop new treatment options– refine referral criteria for people needing high level treatment– provide support, education and training in assessment and management of people with chronic pain to primary care practitioners in all categories, and specialists across the spectrum of specialisations– provide pain education at undergraduate level and postgraduate level, including other specialist medical training schemes– develop and maintain basic and clinical research programs to provide new treatments for chronic pain– maintain links with primary and secondary care to sustain a cost-effective, comprehensive system for managing chronic cancer and non-cancer pain– enable access to specialist pain management via outreach programs for people who are unable to attend clinics
16 Develop equivalent strategies for access for interdisciplinary care for children and adolescents in all of the above domains	16.1 See above. In particular, note the need for planning of transitional care for children transferring ongoing care to adult care settings.

Goal 5: Quality improvement and evaluation

Outcomes in pain management will be enhanced through a quality improvement process using measurement of outcomes, evaluation and feedback.

The health care system will facilitate the judicious, appropriate, safe and effective use of pain medicines and technologies, and other pain management strategies.

Quality improvement and evaluation initiatives for people with pain will be developed in collaboration with consumers.

Goal 5: Quality improvement and evaluation

Objectives	Strategic actions
17	<p>Ensure quality use of medicines for pain management in the community and improve systems to detect and manage unsanctioned use</p> <p>High priority</p>
	<p>17.1 Develop and promote use of guidelines for quality use of pain medicines in the community, including for palliative and end of life care in the community¹³⁹</p> <p>17.2 Develop a national real-time monitoring and auditing system for opioid prescriptions and codeine containing products, to identify inappropriate prescription and unsanctioned use</p> <p>17.3 Provide joint review of identified patients by an advanced-skill pain practitioner in conjunction with the relevant practitioner</p> <p>17.4 Facilitate equity of access to appropriate pain medicines and treatments by</p> <ul style="list-style-type: none"> - improving access to pain medicines not currently listed on the PBS for which patients are paying substantial out-of-pocket costs, through - facilitating collaboration between consumer organisations, clinician groups, policymakers and pharmaceutical industry organisations to identify such medicines - facilitating research (especially research to establish safety and efficacy in children) and encouraging industry to apply for PBS listing if appropriate - facilitating access to Controlled Drugs for legitimate users across state borders - identifying and addressing barriers to access to pain medicines for aged care residents, palliative care patients and other groups with limited access

Goal 5: Quality improvement and evaluation

Objectives

Strategic actions

- 17.5 Improve consumer awareness about the safe use of over-the-counter, prescription and complementary medicines for pain by
- improving the availability of consumer information materials (see 5.1)
 - encouraging pharmacy organisations to facilitate consumer education in local area (e.g. community pharmacy pain information sessions)
- 17.6 Train and support prescribers in appropriate use of pain medicines by
- implementing prescriber education programs to improve skills and confidence in prescribing and screening for drug-seeking patients
 - integrate prescribing tools (e.g. dose calculators) into best practice
 - ensuring periodic monitoring and medicines review as part of pain management plans, including monitoring of adverse effects and improvement of function
 - promoting medicines counselling for pain management
 - educating prescribers in the acute pain setting in appropriate monitoring to enable safe titration of pain relief for individual patients
 - ensuring adequate computer-based recording of pain in hospitals including interventions and adverse events
- 17.7 Educate health professionals across clinical groups to identify patterns of medicine use and pain behaviours that indicate need for consultation with other appropriate health professional, by
- improving availability of education materials for health professionals across clinical groups, including pharmacists and pharmacy assistants
 - supporting the development and use of e-Health records to identify problems/ interactions
 - collaborating where indicated with specialists in addiction medicine
- 17.8 Facilitate communication between all practitioners and pharmacists about pharmacological management, by developing systems to
- ensure all practitioners are informed which medicines are being used
 - ensure reporting of adverse drug reactions and interactions back to the prescribing practitioner as well as centrally (ADRAC system)

Goal 5: Quality improvement and evaluation

Objectives	Strategic actions
18 Improve standards in pain management by developing national benchmarking of outcomes of pharmacological and non-pharmacological pain management interventions High priority	18.1 Establish a National Pain Outcome Initiative along the lines of the Australian Rehabilitation Outcomes Centre (AROC) and the Palliative Care Outcome Centre (PCOC) for ongoing data management and facilitation of quality improvement
19 Ensure equity of access and appropriate use of non-pharmaceutical interventions	19.1 Improve practitioners' awareness of evidence base for non-pharmaceutical interventions and the appropriate role for each type of intervention in pain management 19.2 Ensure early use of non-pharmaceutical interventions where appropriate 19.3 Identify and address barriers to access to evidence-based interventions for aged care residents, palliative care patients and other groups with limited access 19.4 Establish a register for all implantable devices
20 Improve standards in pain management services and residential aged care facilities by developing ongoing quality improvement systems	20.1 Establish a 'virtual' Centre of Excellence in pain medicine to provide clinical, research and education leadership for Australia, and to develop and maintain an accreditation and quality improvement framework for pain services in collaboration with consumers <ul style="list-style-type: none">– Government funding– Contact with policy-makers– National advisory body to provide stakeholder input 20.2 Establish standards for assessment of pain in residential aged care, specifically for individuals with dementia or impaired ability to report pain 20.3 Develop tools for measuring individual patient outcomes over time: <ul style="list-style-type: none">– Assess whether current tools capture outcomes important to people with pain, carers and other supporters and communities– Develop tools for people who cannot read or understand English– Allow for differences in outcomes at different points in the patient journey 20.4 Implement key performance indicators ¹⁴⁰ for evaluation to align with Commission on Safety and Quality in Health Care framework 20.5 Determine funding according to defined quality criteria

Goal 5: Quality improvement and evaluation

Objectives	Strategic actions
	20.6 Designate one person in each practice setting for cancer and palliative care patients who is responsible for pain management
	20.7 Implement a formal process to evaluate and improve the quality of cancer pain treatment throughout the disease trajectory and in the variety of settings cancer pain is managed (Palliative Care Outcome Collaboration exists nationally and has developed benchmarks for pain that can be used as indicators for reporting on the quality of pain management in an organisation) ¹⁴¹
	20.8 Develop audit and feedback systems for pain assessments, with results to Clinical Governances (as with falls and pressure ulcers)
	20.9 Incorporate pain assessment, reassessment and management principles into accreditation standards for hospitals, hospices, community nursing services and residential aged care facilities
	20.10 Strengthen requirements for multidisciplinary pain management within the Aged Care Accreditation System, and funding of multidisciplinary pain management within the Aged Care Funding Instrument (ACFI)
	20.11 Define clinical indicators for pain and palliative care
	20.12 Promote the development of organisational mission statements about pain ¹⁴²
21 Develop equivalent quality improvement and evaluation programs specifically for chronic pain management in children and adolescents	21.1 See above

Goal 6: Research

A research agenda for pain will be developed to identify and address the gaps in knowledge and practice.

Research into the clinical, social and economic aspects of pain will be supported by appropriate funding.

Translation and dissemination strategies will ensure implementation of research results into practice and policy.

Research findings will be communicated to consumers, with particular attention to health literacy issues.

Goal 6: Research

Objectives	Strategic actions
22 Enable pain research at a national level High priority	22.1 Designate pain as a discrete field in NHMRC/ARC funding streams and project grant applications
	22.2 Designate basic and clinical pain research as a priority area of research for NHMRC
	22.3 Provide infrastructure and new funding for research at a basic level and at all levels of the health care hierarchy and at all levels of evidence: including self-management and carer support, primary health care, hospitals, pain clinics, universities and government, and quality assurance through to meta-analysis
	22.4 Establish data linkage methodologies between Medicare, PBS and other relevant databases to assist evaluation of treatments and models of service delivery
	22.5 Promote policy-relevant research, including health services, health systems and/or cost-effectiveness research
	22.6 Promote collaboration between chronic pain researchers and cancer researchers around cancer survivors and pain
	22.7 Foster research collaborations such as PaCCSC (Palliative Care Clinical Studies Collaborative) and the peak palliative medicine bodies in each state (e. g. Palliative Medicine Committee of Victorian Cooperative Oncology Group)
	22.8 Develop a national paediatric pain research agenda with an appropriate funding stream to support it
23 Identify information gaps underpinning all objectives in this document High priority	23.1 Assess burden of chronic pain in acute care system through changing coding focus (see 3.2)
	23.2 In collaboration with people with pain, carers and other supporters, define consumer barriers for poor uptake of pain assessment and interventions, and examine ways to increase consumers' ability to request pain assessment and therapy

Goal 6: Research

Objectives

Strategic actions

Objectives	Strategic actions
	23.3 Undertake a comprehensive evaluation of community and clinical interventions for chronic pain management, including models of care, medicines, procedures, complementary interventions, and consumer education/self-management programs. Evaluation should include assessment of global functioning (e.g. return to work status, self rated disability, quality of life) and follow-up over longer time periods (12 months plus).
	23.4 Develop a research agenda, including qualitative, quantitative, health services and knowledge transfer research, in public and private settings, to identify gaps in the evidence base and gather the evidence necessary to improve outcomes for pain management
	23.5 Assess community attitudes towards pain and people with pain
	23.6 Collect data on chronic pain as a contributing factor to suicide and increased mortality ¹⁴³
	23.7 Assess impact of chronic pain in childhood on future educational achievement, social isolation, transition to adult chronic pain, and difficulties in transition to the workforce
	23.8 Assess impact of ageing population and workforce on incidence of pain
	23.9 Investigate cost-effectiveness of strategies that may reduce the future burden of pain (e.g. obesity management to reduce burden of osteoarthritis)
	23.10 Determine the organisational arrangements or care pathways that support best patient outcomes and cost-effectiveness
	23.11 Investigate which patient resources and psycho-educational strategies (e.g. pain diaries, medication sheets, patient education) improve outcomes for particular patient populations
	23.12 Evaluate the introduction of evidence-based complementary medicine by accredited practitioners in an inpatient setting
24 Ensure research is relevant to populations with special needs	24.1 Identify barriers to pain research in special needs groups (e.g. aged, Aboriginal and Torres Strait Islander, CALD, cognitively/intellectually impaired, infants, children and adolescents)
	24.2 Develop strategies and measurement tools to overcome barriers
	24.3 Seek evidence of safety and efficacy of pain treatments frequently used in older people, where there is lack of evidence in this population
	24.4 Improve the evidence base for analgesia based on differing needs: <ul style="list-style-type: none">– in the chronic non-cancer pain trajectory– in the cancer trajectory– in the palliative care trajectory, from ‘palliative approach’ to ‘end of life’ to ‘terminal care’– cultural and contextual differences

Acronyms

AChAM	Australasian Chapter of Addiction Medicine (Royal Australasian College of Physicians)
AChPM	Australasian Chapter of Palliative Medicine (Royal Australasian College of Physicians)
ACRRM	Australian College of Rural and Remote Medicine
AFRM	Australasian Faculty of Rehabilitation Medicine (Royal Australasian College of Physicians)
ANZCA	Australian and New Zealand College of Anaesthetists
APS	Australian Pain Society
CALD	culturally and linguistically diverse
CHF	Consumers Health Forum of Australia
CNC	Clinical Nurse Consultant
CNS	central nervous system
CPA	Chronic Pain Australia
CPD	Continuing Professional Development
DOHA	Department of Health and Ageing (federal)
ED	Emergency Department
FPM	Faculty of Pain Medicine
FTE	full time equivalent
GMCT	Greater Metropolitan Clinical Taskforce (NSW)
HIPS	Hunter Integrated Pain Service (Hunter New England Area Health Service)
IASP	International Association for the Study of Pain
ICD	International Classification of Diseases
MBS	Medicare Benefits Schedule
NHHRC	National Health and Hospitals Reform Commission
NHMRC	National Health and Medical Research Council
NICS	National Institute of Clinical Studies
NPS	National Prescribing Service
PBS	Pharmaceutical Benefits Scheme
PMU	Pain Management Unit
RACGP	Royal Australian College of General Practitioners
RACP	Royal Australasian College of Physicians
RACS	Royal Australasian College of Surgeons
RANZCP	Royal Australian and New Zealand College of Psychiatrists
RANZCR	Royal Australian and New Zealand College of Radiologists
STEPS	Self-Training Educative Pain Sessions

Glossary

Acute pain	A normal and time-limited response to trauma or other 'noxious' experience, including pain related to medical procedures and acute medical conditions.
Addiction	A disease or disorder with genetic, psychosocial and environmental factors, characterised by compulsive use of a substance and preoccupation with obtaining it, despite evidence that continued use results in physical, emotional or economic harm.
Allodynia	Pain due to a stimulus which does not normally provoke pain.
Analgesia	Absence of pain in response to stimulation which would normally be painful.
Carer	A person who provides unpaid care and support to a family member or friend who has a disability, mental illness, chronic condition, terminal illness or who is frail. ¹⁴⁴
Central nervous system	The part of the nervous system comprising the brain and spinal cord.
Central pain	Pain initiated or caused by a lesion in the central nervous system.
Chronic pain	Constant daily pain for a period of three months or more in the last six months (sometimes the term 'persistent pain' is also used).
Consumer	A consumer is someone who has in the past or expects in the future to interact with the health care system. The objective of a consumer is to maximise the safety, quality, access and effectiveness of the health care system.
Dysaesthesia	An unpleasant abnormal sensation, whether spontaneous or evoked.
End of life / End of life care	End of life is that part of life where a person is living with, and impaired by, an eventually fatal condition. Quality end of life care is realised when strong networks exist between specialist palliative care providers, primary generalist providers, primary specialists, and support care providers and the community - working together to meet the needs of the people requiring care. ¹⁴⁵
Hyperalgesia	An increased response to a stimulus that is normally painful.
Hyperaesthesia	Increased sensitivity to stimulation, excluding the special senses (i.e. the 'five senses')
Interdisciplinary	Clinicians work together in an interactive manner to assess and manage patients.
Multidisciplinary	A number of different health care disciplines available at one clinic.
Neuralgia	Pain in the distribution of a nerve or nerves.
Neuroglia	Also called glial cells or glia, these are non-neuronal cells which surround and support the neurons.
Neuron	Also called nerve cells, these are the core cells of the nervous system, which transmit information to other cells via connections called synapses.
Neuropathic pain	Pain initiated or caused by a primary lesion or dysfunction in the nervous system.
Neuroplasticity	The ability of the brain/central nervous system to change its function by

	forming new neural connections throughout life.
Nociceptor	A receptor preferentially sensitive to a noxious stimulus or to a stimulus that would become noxious if prolonged.
Noxious stimulus	A noxious stimulus is one that is damaging to normal tissues.
Opioids	Drugs with actions similar to those of morphine, including both substances derived from the opium poppy (morphine, heroin, codeine and thebaine) and synthetic and semi-synthetic medicines such as pethidine, hydromorphone, fentanyl, methadone, buprenorphine, oxycodone, dextropropoxyphene, dextromoramide, pentazocine, tramadol and others.
Pain	An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.
Palliative care	Palliative care is specialist care provided for all people living with, and dying from an eventually fatal condition and for whom the primary goal is quality of life. ¹⁴⁶
Patient	A person currently interacting with the health care system. The objective of a patient is to maximise their own health outcome.
Persistent pain	See chronic pain.
Physical dependence	Physiological adaptation to a substance whereby abrupt reduction in dose leads to withdrawal (abstinence) syndrome.
Primary health care	The term 'primary health care' is commonly used to refer to the first level of care or the entry point to the health care system for consumers. It includes (but is not limited to) services delivered by GPs, practice nurses, nurse practitioners, community nurses, allied health providers, Aboriginal health practitioners, pharmacists and dentists. ¹⁴⁷
Radiotherapy	The treatment of disease (particularly cancer) with ionising radiation- also called radiation therapy. In radiotherapy, high-energy rays are often used to damage cancer cells and stop them from growing and dividing. A specialist in the radiation treatment of cancer is called a radiation oncologist.
Recurrent pain	Pain that occurs on a recurrent or cyclical basis, for example migraine or recurrent abdominal pain.
Secondary health care	Services provided by practitioners who don't normally have first contact with a patient, such as specialist doctors, intermediate between primary health care and that available at a tertiary facility.
Sub-acute pain	Pain that is progressing towards chronic pain, but this progression may be prevented.
Synapse	The junction where a signal is transmitted from one nerve cell to another, usually by a neurotransmitter (chemical synapse) but sometimes electrically (electrical synapse).
Tertiary health care	Care provided in a centre that has the personnel and facilities required for specialist investigation and treatment, such as within a teaching hospital.
Withdrawal	Physical symptoms of discomfort and distress that occur when use of a substance is stopped or the dose is abruptly reduced.

Appendix 1: The science of pain

What is pain?

The 'Gate Control Theory of Pain', published in 1965 in the journal *Science*, began a revolution of basic and clinical research which changed the way we think about pain. Up until 1965, we had a 'hard wired' concept of pain as being like a telephone cable system with electrical impulses running from the skin surface to spinal cord and then to brain where a bell was rung 'when the pain arrived'. The Gate Control Theory proposed that pain could be 'tuned in or tuned out' at a spinal cord level as a result of locally released inhibitory transmitters or, more importantly, as a result of powerful modulatory pathways which descended from the brain to the spinal cord. Subsequent research extending up to the present day has confirmed these revolutionary ideas and built upon them, for example the finding that brain pathways and processes exist to inhibit and also to facilitate pain processing at a spinal cord level.

The research findings helped to explain some hitherto very puzzling observations in humans. For example, Professor Henry Beecher, Foundation Professor of Anaesthesia at Harvard, carried out pivotal research on injured soldiers in World War II. He noted that soldiers with severe injuries often reported no pain at all immediately after the injury. Thus clearly there was not a 'one to one' relationship between the injury and pain. In many cases he found the soldiers regarded the injury in a positive light since they would shortly be decorated and repatriated from the front line. He made the very thoughtful statement "it is not the injury per se that determines the pain, but also the meaning of the injury". Much more recent versions of this situation are the injured sportsman who manages to play on despite having a severe ligamentous injury or fracture. Thus even in so-called acute pain situations following surgery or injury, the person's experience of pain will depend not only on the injury itself. Crucial also are factors within the individual and externally that impinge upon the brain and spinal cord and thereby activate brain and spinal processes that 'modulate pain', in a manner similar to 'opening or closing a gate', making it easier or more difficult for noxious impulses to pass that gating process.

In order to make all health professionals aware of this profound change in thinking, the International Association for the Study of Pain (IASP) assembled an international multidisciplinary group charged with developing a definition of pain. The end result was as follows:

"Pain is an unpleasant sensory and emotional experience, associated with actual or potential tissue damage, or described in terms of such damage."

This definition makes it clear that pain is a subjective *experience* rather than just a sensation in humans. Thus all pain is an individual human experience that is entirely subjective and that can only be truly appreciated by the individual experiencing the pain. There are important limitations of the definition, most of which are encompassed in the footnotes provided with the *Classification of Chronic Pain* (IASP Press 2nd ed 1994).¹⁴⁸ For example, because of the subjective nature of pain in humans, it is difficult to apply this definition to neonates and to the elderly who have problems in communication and even more so to those with dementia. Nevertheless over the last two decades epidemiological and 'risk factor' research has provided very strong support for a 'bio-psycho-social' model of pain. This model proposes that human pain is multi-faceted by its very nature and can be broadly described as comprising three components, namely a physical ('biological') component which may involve nociceptive and/or neuropathic factors; psychological or even psychiatric factors; and environmental factors. This is an artificial separation since a significant number of such factors can operate across one or more of these areas. Thus in order to comprehensively assess any person suffering from any type of pain, it is important to assess the physical, psychological and

environmental factors that may be operating. This inevitably may mean that more than one category of health professional will be required to make a full assessment. Also it may be necessary and even desirable for such health professionals to communicate with each other directly, in order to weigh up the relative contributions of the different factors that may be operating, thereby enabling selection of the most appropriate treatment or treatments in an **interdisciplinary** approach. The advent of highly refined techniques for brain imaging has completely exploded older ideas about pain, with the demonstration that very diverse areas of the brain are activated in different ways in different people experiencing apparently the same physical pain stimulus, but obviously very different contributions of psychological and environmental factors.

Major pain categories

Some confusion has arisen as a result of the misuse of supposed Latin and Greek derivations of words used for pain. Thus depending upon one's ethnic origin, it would not be unreasonable to regard acute pain as being either severe pain or pain of relatively short duration. However throughout the world, there is now a convention of regarding **acute pain** as being 'pain immediately following surgery or injury which is expected to be of relatively short duration'. On the other hand **chronic pain** is conventionally regarded as being 'pain that continues to be present more than three months after surgery or an injury or from various disease or other causes'. **Cancer pain** is the other major category and which can result in acute episodes, may be chronic or may be characterised as acute episodes on top of a chronic pain condition. Finally there are certain episodic pain conditions which may be of limited occurrence or may be recurrent. An example in the non-cancer area would be migraine, and an example in cancer may be episodic pain associated with some of the cancer chemotherapy drugs. It should be emphasised once again that in all of these categories, factors may be operating to a varying extent in the physical, psychological and environmental domains.

Acute pain

Acute pain is usually initiated by tissue damage and modified by other factors (see above). Thus patients, and many doctors, view the pain as 'coming from' the damaged tissues. In the large majority of cases the pain will gradually resolve as the person recovers from the injury or surgery. However in recent years it has become apparent that even in the case of minor peripheral surgery such as inguinal hernia repair, at least 10 per cent of people will continue to have pain one year after the surgery which appears to be of a nerve injury type. In this situation, the pain is clearly not serving a useful purpose. Thus one could regard acute pain as acting as a **warning system**. When the pain continues past the time of healing, or by convention for more than three months, it no longer serves this purpose. A great deal of basic research, and more limited clinical research, has now provided pivotal new evidence of the processes that are involved at the periphery, spinal cord and brain which underpin the transition from acute pain to chronic pain. Also clinical studies have revealed risk factors that operate during this transition, thus providing the important opportunity for preventive strategies. The transition phase is also known as **sub-acute pain**. (See also page 12, section entitled "Transition from Acute to Chronic Pain (sub-acute phase)"

Chronic pain as a disease entity

As discussed on pages 12-13, ongoing nociception may play a key role in some patients with chronic pain and may be amenable to direct treatment, for example, hip joint replacement for severe osteoarthritis of the hip, shoulder replacement for a severely diseased shoulder joint etc. However even in such patients it is likely that multiple factors contribute to the pain. Such factors include neuroplastic changes in the central nervous system, psychological and environmental changes. In chronic non-cancer pain and chronic cancer pain in cancer survivors, much evidence now points to chronic pain becoming a 'disease in its own right'.¹⁴⁹ In this concept, regardless of the underlying disease, injury or other event that triggers chronic pain, the pain itself is associated with physical, psychological and environmental changes that represent a distinct disease process. This is an

important concept since it draws attention to the fact that persistent (chronic) pain needs to be treated within the same framework as other chronic diseases, rather than regarding it as 'only a symptom'. A large body of basic research indicates that chronic pain may be associated with neuroplastic changes in the nervous system at spinal cord and brain levels. One result of such changes is that the nervous system becomes sensitised and responds in an excessive way, not only to noxious stimuli, but also to non-noxious stimuli such as touch and light pressure. This situation may be exacerbated by a relative deficit in the descending modulation system, due to excessive release of nitric oxide which can be toxic to neurons involved with the key inhibitory neurotransmitter gamma- amino-butyric acid (GABA).

Neuroglia have now become major 'culprits' in 'what goes wrong in chronic pain'. Glial cells are the non-neuronal cells in the spinal cord and brain. They deliver the energy to sustain nerve cells and generally maintain the chemical environment of neurons. They also monitor and regulate by mopping up the transmitters released by neurons, and when required, by releasing glial factors such as interleukins (Tumour Necrosis Factor (TNF α)) and Brain Derived Neurotrophic Factor (BDNF), which aim to restore balance and aid healing, e.g. in the case of nerve injury. Also, neurons become hypersensitive as a result of glial factor release, in three key steps:

1. After nerve injury intense signals are transmitted along peripheral sensory neurons to the first synapse in the dorsal horn of the spinal cord. Neurotransmitters cross the synapse to activate spinal neurons. These transmitters are also conveyed to microglia and to astrocytes as 'distress signals'.
2. Glial cells usually 'mop up' excess neurotransmitters. However in the presence of nerve injury glia become 'reactive', reducing uptake of neurotransmitters and producing 'glial factors' which either reduce usual inhibitory processes acting on neurons, or **stimulate** neurons to become hypersensitive.
3. Neural distress signals also active glial cells to release inflammatory cytokines which induce inflammation, a healing process, but also resulting in neuronal sensitisation.

These three processes can become prolonged, past the time of healing, resulting in chronic neuronal hypersensitivity and persisting (chronic) pain.

Thus new treatments for chronic neuropathic pain could focus on the cause of the ongoing pain – overactive glia. At least nine anti-glial drugs are currently being evaluated. A side benefit of these drugs may be the slowing of development of tolerance to opioids – glia appear to play a key role in opioid tolerance and withdrawal.

In the case of nerve injury at periphery, spinal cord or brain levels, the sensitisation process and loss of inhibition may be even more severe, with additional mechanisms playing a part. For example, at the periphery, there may be spontaneous firing at the point of injury of damaged neurons and additionally at the level of the dorsal root ganglion. The neurotransmitters and growth factors associated with injury (the 'inflammatory soup') are responsible for sensitising the damaged tissue and markedly increasing spontaneous firing. This situation is associated with spontaneous episodes of neuropathic pain (paroxysms). If the peripheral process continues, there are progressive neuroplastic changes at spinal cord and brain levels. Thus a person with continuing compression of a spinal nerve by a ruptured disc with leakage of disc material causing inflammation, may initially have neuropathic pain based solely on peripheral events but progressively neuroplastic changes occur in the spinal cord and then at brain level. This is referred to as '**centralisation**' of neuropathic pain. This points to the desirability of early intervention if there are signs that a very localised neuropathic pain has begun to spread more diffusely in a lower limb or beyond that territory, indicating that central nervous system neuroplastic changes are occurring.

Centralisation can be detected clinically by showing that sensitisation in response to a noxious stimulus which corresponds to the territory of the injured nerve (primary hyperalgesia) has spread to a more diffuse location in a limb (secondary hyperalgesia). There may also be the development of a painful response to a non-noxious stimulus such as touch (allodynia). In humans it has proved

difficult to document the extensive neuroplasticity changes which have been reported in animal models, however the availability of sophisticated brain imaging techniques have now confirmed that such changes do indeed occur in humans and are associated strongly with the pain that people experience. For example Flor et al reported that following amputation of the upper limb, the area in the primary somatosensory cortex representing the lip expanded to take up some of the space previously occupied by the upper limb.¹⁵⁰ There also appeared to be some relationship between the degree of pain present and the neuroplastic changes. Furthermore fitting a bio-electrical prosthesis resulted in a reduction in pain and neuroplasticity. In people with spinal cord injury and neuropathic pain, Wrigley et al¹⁵¹ demonstrated neuroplastic changes in the sensory cortex which were not present in people with spinal cord injury who were free from neuropathic pain, or in control patients with no spinal cord injury. There was a strong correlation between the amount of pain experienced and the degree of neuroplastic change. Maihofner et al¹⁵² studied people with complex regional pain syndrome and found a positive correlation between changes in the motor cortex and the abnormalities in motor function which are an important part of this complex painful condition.

In the psychological and environmental domains, there is ample evidence that there are important changes in people with chronic pain that play a significant, and sometimes dominant, role in the ongoing experience of chronic pain and in the impact that the pain has on the individual's quality of life. For example mood changes such as anxiety and depression share neurotransmitters with chronic pain. Fear-avoidance behaviour is frequently associated with chronic pain and leads to a downward spiral of reduced activity, deconditioning, postural changes and loss of muscle support of various joints and also the spine. In the environmental area, key changes in the individual's relationship with key family members and those in the workplace can be crucial. For example the most important factors in determining whether acute low back pain progresses to a chronic phase are in the psychological and environmental domain rather than being in the physical area.

In summary, people with chronic pain may have a very wide range of 'pain pathology' which includes

- persistent, altered peripheral inputs
- persistent dorsal root ganglion and spinal cord neuroplasticity changes which are: pathophysiological, neuroanatomical, pathological and genetic.
- persistent thalamic, limbic system and cortical neuroplastic changes
- persistent psychological and environmental changes.

It is likely that in longstanding chronic pain, the pain now largely derives from the central nervous system. All of the above are maladaptive and represent a disease entity, irrespective of the primary disease that may have triggered the chronic pain. Quite recently it has become apparent that genetic factors ('internal environment') can determine responses of the individual to nociceptive and neuropathic stimuli. In a key study in humans, Tegeder et al reported that progression to chronic sciatica was determined by an enzyme controlling the release of nitric oxide.¹⁵³ In laboratory experiments it has been found that excessive amounts of nitric oxide can inhibit the production of the inhibitory neurotransmitter GABA. Also a single gene which controls the sodium channel sub type NaV1.7 has been identified, which is responsible for the painful neuropathic pain condition in the limbs called erythromelalgia.

Treatment implications of chronic pain as a disease entity

If chronic pain continues to be treated as a symptom the following issues arise:

- There may be an overemphasis on treatment of primary tissue pathology, which may likely not succeed and this may result in a neglect of secondary and tertiary problems.
- Treatment of the primary pathology may be inappropriate, for example:
 - prescription of opioids long term in people with predominantly psychological factors contributing to the pain
 - removal of all of the teeth in a person with facial pain

- an eighth back operation for neuropathic pain in a person who has failed to obtain relief from the prior seven operations.

In contrast if chronic pain is regarded as a disease, the following approach is utilised:

- Identify and treat any treatable primary pathology (e.g. replacement of an osteoarthritic hip)
- Identify and treat the secondary pathology (consequences of chronic pain e.g. CNS sensitisation, depression, fear avoidance behaviour)
- Identify and treat tertiary pathology (contributors e.g. environmental factors).

It will be clear from the above that it is often necessary to use a multi-modal approach to treatment. This will often require a team approach utilising health care professionals from different disciplines. It is rarely possible to completely abolish chronic pain although this can occur in the case of damage to non-neural tissue, with hip replacement being perhaps the best example. Also, in the sub-acute phase, some preventive strategies can prevent transition from acute to chronic pain. On the other hand various types of nerve damage appear to be capable of generating extensive central neuroplasticity changes as described above, which are very difficult to completely reverse with existing treatments, although improvements can be made.

Nevertheless, regardless of the initiating event, be it nociceptive or neuropathic, a large majority of people with chronic pain develop additional psychological and environmental changes which they are incapable of overcoming even if the pain does improve. In order to emerge from this downward spiral, these people will need multi-modal treatment which addresses physical, psychological and environmental factors. This important insight was gained by the Founding Father of Pain Medicine, Professor John J Bonica, who was charged with treating injured soldiers after World War II and recognised that he was incapable of achieving satisfactory outcomes unless he used a multi-modal approach, drawing upon a number of different health disciplines. This insight led Bonica to establish the first multidisciplinary pain centre. It also stimulated Bonica to found the International Association for the Study of Pain in 1974, which emphasised the vital importance of communication among health professionals and between basic scientists and clinicians. Such interaction has resulted in an explosion of new knowledge at a basic science and clinical level and laid the ground work for interdisciplinary treatment of chronic pain.

Appendix 2: What kinds of services work: International and local experience

International

Kaiser Permanente – Oregon and Washington, USA

A recognised international leader, the Kaiser Permanente Northwest Health Maintenance Organization's Integrated Pain Management Program operates within northwest Oregon and southwest Washington. It began in 1995, with 14 sites initially developed at the primary care level (attached to Kaiser-owned GP group offices). A pain management team consisted of a social worker (with training in mental health), physiotherapist, pharmacist and nurse. Triage was generally carried out by a specially trained nurse, and a decision was made whether to obtain medical input, refer the patient to a tertiary pain centre or treat at a primary care level.¹⁵⁴

The model also featured:

- pain management groups offered in each primary care service area
- a central multidisciplinary pain clinic providing
 - specialist care
 - peer consultation and mentoring through the electronic medical record and telephone
- a website providing community information.

By the year 2000:

- the number of patients seen had increased
- patient outcomes had improved (reduced suffering, enhanced quality of life and increased satisfaction)
- there was a reduction of 43 per cent in emergency department visits for people in the pain program.¹⁵⁵

Currently services have been retracted largely into a central site due to funding cuts. Initially the standard waiting time was 14 days. This has now blown out to 100 days.¹⁵⁶ The same triage process operates and often a social worker will sit in with the nurse. 'Advice nurses' are used to take calls from patients, and a web-based educational program is made available to all patients (or can be taken in person).

Calgary Health Region Chronic Pain Program – Alberta, Canada

The Calgary Health Region Chronic Pain Program is a regionally coordinated hub and spoke model (though it has recently been announced that the organisation will be changed to a province-wide one). Its key features are as follows:

- The Chronic Pain Center, which is located in an ambulatory care centre and provides a tertiary chronic pain consultation service to three hospitals in Calgary. The Center also acts as a driving force in educational programs and in developing practice guidelines. Doctors are paid under a separate funding agreement that pays for clinical and non-clinical time, unlike others in Alberta who are paid on a fee-for-service basis.¹⁵⁷
- The recent introduction of a primary care based component at the Calgary Foothills Primary Care Network, opened in September 2009. (Other primary care sites are underway). The

chronic pain lead in this program is a nurse; the team also includes a pharmacist, GP, physiotherapist and behavioural health consultant (there is a shortage of appropriately trained psychologists).¹⁵⁸

- A time limit is set on the amount of time a patient will spend in the primary care centre, usually two to six months. If progress is not made by this time, consideration is given to referring the patient to the Chronic Pain Center.
- Education for all GPs in the area concerning the fundamentals of chronic pain.
- An educational program for the community called 'Living Well', available online or in person, with generic self-management and exercise modules as well as pain-specific material¹⁵⁹.
- Evidence based clinical practice guidelines for headache and lower back pain.
- A clinical nurse specialist acts as an interface between the Chronic Pain Center and community level activities, e.g. working with GP practices.

Nova Scotia, Canada

Chronic pain became a priority in Nova Scotia after many complaints from patients and referring doctors about waiting times. The government committed funds to roll out a province-wide network, with funding focused on:

- enhancing existing pain centres to enable them to fulfil clinical, education and research responsibilities
- funding new multidisciplinary pain centres
- enhancing pain management resources at a primary care level, with linkage to secondary and tertiary services
- enhancing educational activities at all levels. After commencing the program in 2004 there are now primary, secondary and tertiary units across the province. General practitioners are rotated through the pain centres, with 16 new GPs undergoing the program each year. A mentorship network attaches 6-10 GPs to one pain specialist, and is based on presentation of patients whom the GPs have found particularly difficult. Communication is carried out by fax, phone or email and documented on a proforma.

This program has achieved marked reductions in waiting times at the tertiary level and a major increase in the confidence of GPs in managing patients with chronic pain.¹⁶⁰

British Columbia Pain Initiative – Canada

Until recently pain services in British Columbia had been concentrated in major hospitals. This new strategic initiative crosses disciplines, health regions, and health sectors and has been developed in response to unmet need for pain services.¹⁶¹

Key features of the initiative include:

- alignment with integrated primary care networks in BC
- supporting the development of regional hub and spoke pain management services
- development of a partnership with chronic disease/pain self management programs (peer to peer and expert led)
- stratified needs
- an organised referral system
- a central telephone pain 'hotline' for peer-to-peer support
- a shared website
- a chronic pain registry
- optimal pain care in residential and acute care facilities

- advocacy.

British Columbia also has a real-time opiate monitoring system.

PACE initiative – UK

PACE stands for the Pain Collaboration and Exchange initiative, operating in the UK since 2004. It is a primary care based strategy. Through a series of regional and national meetings, a resource pack was developed to facilitate improvements in pain services. The resource pack includes:

- a network contact directory of health professionals, managers and professional and consumer organisations
- the Good Practice Guide, which outlines the achievements of particular services
- a business toolkit, with templates for developing pain management services
- a policy guide
- a report on the impact of pain in the UK.

Of the services that have evolved out of the PACE initiative, the best known is Southampton Pain Services, which features:¹⁶²

- primary care pain services, with referral pathways for general practitioners to access specialist services for complex patients, developed through group meetings and emails
- treatment guidelines for general practitioners to manage most people with pain, with backup support from visiting consultants
- a triage strategy which utilised non-medical members of the pain management team to stratify patients according to their level of need and thus enable earlier assessment and treatment
- self management through patient held records
- a patient toolkit
- increased access to patient and carer education and community support services
- a strong partnership between health professionals and managers.

A clinical pathway for chronic pain has also been developed in the UK as part of the 18 Weeks initiative, which aims to ensure all patients receive clinically appropriate specialist-led care within 18 weeks from the point of initial referral.¹⁶³

Australian programs

The Faculty of Pain Medicine's *Guidelines for Units Offering Training in Multidisciplinary Pain Medicine*¹⁶⁴ specify that a multidisciplinary pain medicine unit must, among other things:

- include practitioners from at least three relevant medical specialties and from relevant allied health professions. These health professionals should specialise in diagnosis and management of patients with pain, and should have experience working together in an interdisciplinary context.
- have access to rehabilitation services, cancer/palliative care services, psychological and psychiatric services and an Acute Pain Service. Coordination between these services is highly desirable.
- have a Director who is a Fellow of the Faculty of Pain Medicine
- have available the disciplines of nursing, psychology, and physiotherapy. Clinical input is desirable from occupational therapy, social work, and other allied health disciplines such as rehabilitation counselling and dietetics.

- have regularly scheduled educational sessions for all staff
- have regularly scheduled quality improvement and peer review activities
- have a comprehensive patient record system
- document treatment protocols and procedures for patients, and a statement of patient rights and responsibilities.

Leading Australian treatment programs, some of which are internationally recognised, are described below.

Example 1

As well as a multidisciplinary pain clinic, this model of care (based in a metropolitan hospital) offers two group education programs for people with pain, partners and carers.

The first program involves eight hours of self-training educative pain sessions over two days. It runs most weeks in alternating locations, and requires only a referral and a patient-completed survey prior to attendance. The sessions cover pacing and activity, exercise, pain approach behaviours, medicines, procedures, and 'sense making' in pain.

The second, longer program is focused on understanding and managing pain. It runs every weekday morning over three to four weeks. Attendance requires referral and pre-entry assessment by a physiotherapist and psychologist. It is an intensive cognitive-behavioural therapy program which addresses the physical deconditioning and mood complications caused by chronic pain.

People meeting certain criteria (persistent pain, no red flags,¹⁶⁵ opioids less than 100mg morphine equivalents per day) with adequate English language skills — about 45 per cent of all referrals) are triaged first to the shorter self-training educative pain sessions. These people are invited to book individual clinic appointments after completing the sessions.

Those people triaged first to clinic appointments may attend either of the two programs post-clinic.

The program of self-training educative pain sessions is a new model. It was introduced in 2007 with state funding. Using the new model, a doubling of resources has resulted in:

- a four-fold increase in capacity
- a reduction in wait times from more than two years to less than two months
- a lowering in unit cost across the pain service from \$1,158.48 (historical 2006-07) to \$839.61 (2007-08), with the self-training educative pain sessions costing \$556.40 per patient booked.

These changes reflect significant system changes as well as the introduction of the pre-clinic group adult learning program.

So far, follow-up data are available for 99 out of the 204 people who attended the self-training educative pain sessions in the first nine months (October 2007–June 2008). Postal surveys were sent to attendees three months and six months after attendance. Those who did not return questionnaires at three month results were contacted by telephone. The results show:

- Patient satisfaction: Of those returning postal surveys, 78 per cent were partially satisfied (or better); 74 per cent of those contacted by phone were partially satisfied (or better).
- Health outcomes: Clinical outcomes for those who returned questionnaires are positive. The Global Perceived Impression of Change (GPIC) scores showed a statistically significant improvement at three-month follow-up.
- Self-management: The number of active self-management strategies used by people with pain rose over the three-month period. No change was demonstrated on use of cognitive, passive or conventional medical strategies.
- Patient-initiated follow-up (phone survey only): 89.13 per cent were happy to contact the pain medicine unit again in the future, while 88 per cent had re-discussed options with their

general practitioner, and 33 per cent of those with back pain had seen a community physiotherapist.

- Six-month follow-up: Analysis of six-month follow-up results is not yet complete, but early results are consistent with three-month follow-up results.

Of this initial nine-month cohort, 52 per cent of people attending at least one or more self-training educative pain sessions did not go on to make a follow-up clinic appointment at the pain medicine unit. Of people booked to attend group sessions, 31 per cent did not attend and 90 per cent of these people did go on to make a follow-up clinic appointment.

Example 2

Example 2 is an interdisciplinary pain management service based in the public hospital system in a regional city. It includes an inpatient pain service which manages acute post-operative and post-trauma pain, as well as an outpatient service. The pain service works collaboratively with a palliative care service for those with cancer pain. The service model is represented in Figure 3, below.

Following referral and triage, people with pain complete a patient screening questionnaire. Most are then invited to attend a 90-minute group information session called 'Understanding Pain' (urgent cases bypass this step).

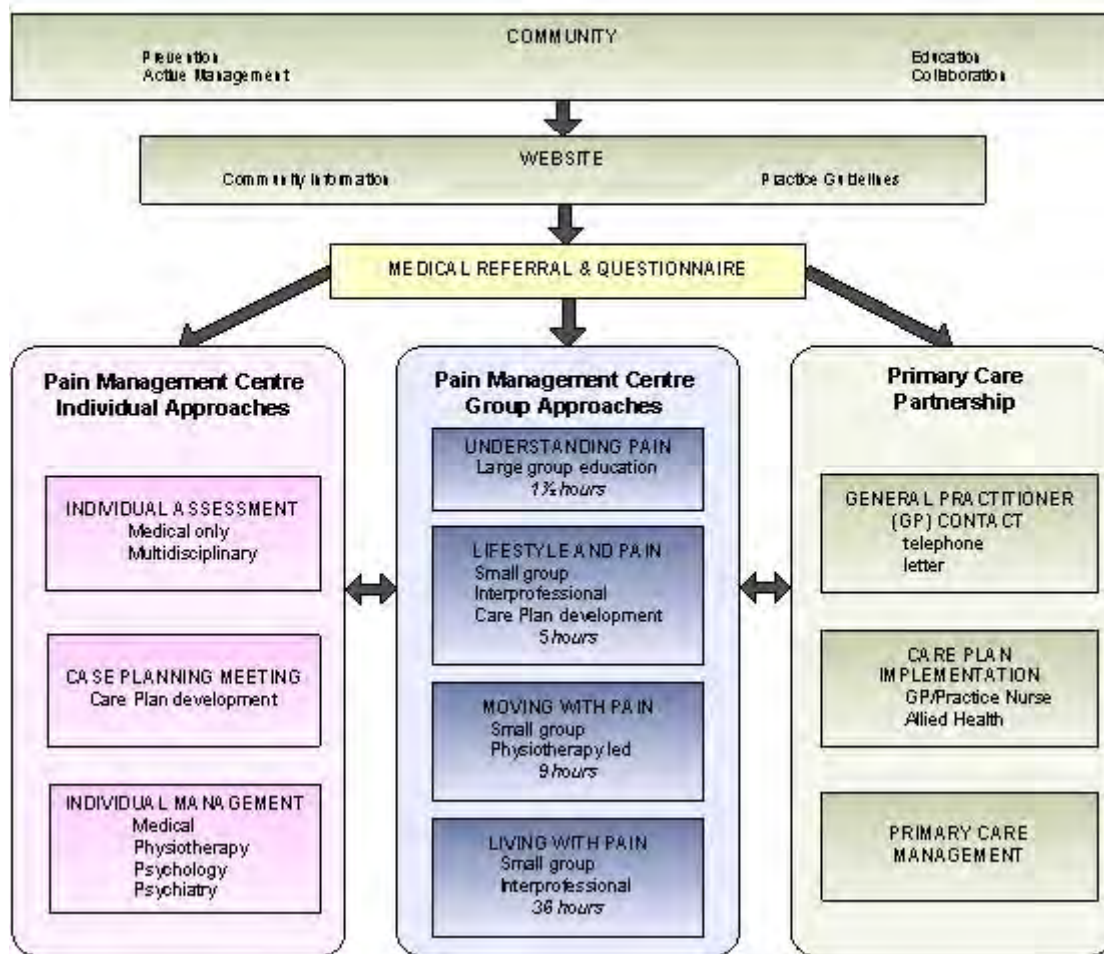
The session introduces concepts about causation of persistent pain and summarises the scientific evidence relating to current treatment approaches. It emphasises an active management approach and people are encouraged to bring a partner or support person.

At the end of the session patients choose between an early community link (a letter to their GP with generic management recommendations) or individual clinic assessment (interdisciplinary or medical only).

Additional group programs are:

- Moving with Pain, which is focused on gradual physical reactivation and is designed to cater for those who have very low activity levels as a result of their pain (four weekly two-hour sessions). This is also able to be delivered in the local community with interdisciplinary supervision of an electronically available program.
- Living with Pain, which integrates educational, physical and psychological components and includes building fitness, relaxation techniques and problem solving (six 6-hour days over three weeks). Timeframe and reviews at 6 and 12 months.
- Lifestyle and Pain is a new group currently in the design phase, with a planned commencement date of early 2010. It is anticipated that patients with an early interest in self-management will go from Understanding Pain to this short group (five hours) which will help them to develop their own Pain Management Action Plan. A cohort of patients will thus be able to return to community care with a chronic care plan in place without the resource intensive requirement for individual clinic assessment.

Figure 3: Service model (Example 2)



©

Due to high demand, the pain service has increased its commitment to health promotion and collaboration with health professionals in the community. Its website includes information and resources for consumers and health professionals.

A project is now underway to develop an Integrated Persistent Pain Model for the region which incorporates a lifespan approach to pain management including prevention, assessment and management of complexity from the primary to tertiary sector.

The intent is to provide group pain education and/or enhanced primary care (psychology and/or physiotherapy) in the community for most people with pain, with the option of referral to tertiary level being reserved for higher complexity cases.

Other ideas being explored by the development project are:

- development of a Pain Complexity Score for use by clinicians in primary care
- incorporating pain under the umbrella of other chronic diseases
- providing a pain resource toolkit for primary health care professionals
- providing a chronic pain care plan template
- online education resources.

Example 3

Example 3 is an intensive cognitive-behavioural therapy program based in a large metropolitan hospital.

The program is derived from a similar program established at St Thomas' Hospital in London that demonstrated significant benefit in a randomised controlled trial over standard medical care.¹⁶⁶ It runs full-time over three weeks, with a structured four-week 'home or work' phase after the program and individual follow-up as required. It is offered to people with pain who are more seriously disabled, distressed, or medication-reliant, generally more than six months post-injury.

The program features:

- education about pain
- gradual withdrawal from unhelpful medicines (under medical/nurse supervision)
- setting achievable, functional goals and specifying steps towards those goals (negotiated with patient)
- goal-related, graduated exercises
- help with mood and sleep disturbances
- family/partner involvement
- teaching of skills for dealing with obstacles, such as problem-solving and coping strategies
- rehabilitation planning for return-to-work steps (linked to local doctor and rehabilitation provider/employer as appropriate).

Data based on short and long-term (3-4 years) follow-up of attendees, who had an average of 5.2 years in pain before the program, show the following outcomes:

- 80 per cent of people are on no medicines after the program, and medicine use is much reduced in the rest (compared to 92 per cent taking medication before the program)
- one month after the program, 70 per cent of people have normal mood levels, compared to 55 per cent of people depressed before (most maintain this improvement over the following 3-4 years)
- in people of working age who had worked before their injury, 63 per cent were in some form of work within six months of completing the program (compared to 30 per cent before), and 66 per cent were working in some capacity 3-4 years later.

The affiliated pain clinic also has a broad program of interdisciplinary assessment and treatment of patients with chronic pain. Patients undergoing procedures (such as radiofrequency lesioning, spinal cord or peripheral nerve stimulation and others), will invariably also be offered treatment in the cognitive-behavioural therapy program. Results with this combined approach have been published.¹⁶⁷

Example 4

This is an interdisciplinary ambulatory pain service within a public hospital in metropolitan area. In many ways, it is a conventional state-of-the-art multidisciplinary pain centre, a model originally established by Bonica in the early 1970s¹⁶⁸) and subsequently adopted and refined by the International Association for the Study of Pain taskforce on multidisciplinary treatment services.

The centre operates in a public hospital, with government funding, in an ambulatory service stream. Eighty-seven per cent of patients attending are public patients. Some travel from outer metropolitan areas and country areas to access the service, due to scarcity of skilled pain management resources closer to their homes.

The centre offers:

- expert multidisciplinary assessment, including a comprehensive psychometric assessment taken pre and post treatment as well as long-term follow-up
- group programs
- individualised treatment programs
- medical review and management.

A feature of the programs is the ability to individualise treatment according to the needs assessed. Disciplines involved include rehabilitation medicine, pain medicine, psychiatry, anaesthesia, general practice, nursing, physiotherapy, occupational therapy, psychology, feldenkrais, tai chi and hypnotherapy. Total staff is 6.03 EFT, with 20 part-time staff.

The model of care is flexible. New emerging therapies are able to be taken into treatment programs and evaluated. A recent example of this is the novel therapies such as mirror box therapy for phantom limb pain and complex regional pain syndromes.

The centre is actively involved in teaching and training of undergraduates and junior medical and allied health staff from disciplines of psychology, occupational therapy, physiotherapy, psychiatry, rehabilitation medicine, pain medicine and anaesthesia. The centre is accredited by the Faculty of Pain Medicine and the Faculty of Rehabilitation Medicine for postgraduate training. It has close links with regional ambulatory and inpatient rehabilitation, acute pain services and palliative care services, promoting early referral for multidisciplinary management of developing and challenging pain conditions.

The centre has active research into age related variation in pain, psychological factors and outcomes, post amputation pain, pain interventions, acupuncture, novel therapies, and physical outcome measures.

The clinic is able to refer for procedures but aims to integrate selected procedures into a comprehensive interdisciplinary approach to chronic pain

The focus of treatment is to better understand the individual's experience of pain, optimise medical management, address psychological distress and improve function and self management.

Onsite multidisciplinary case conferencing to discuss patient treatment plans is an essential part of the centre's practice and enhances the proven interdisciplinary model of management for chronic pain.

In the 2008/2009 financial year the centre saw 437 new patients and provided 2603 occasions of service (this included group attendances over three hours as well as individual therapy sessions and medical appointments).

Therapy programs included:

- Pain introduction days – education about pain management for patients and families
- CBT program (cognitive behavioural therapy) – including exercise and stretching, feldenkrais or tai chi, practical activity approaches, education, relaxation and stress management, run for patient interaction and discussion. These groups run one or two days per week for five hours (nine sessions)
- 'OT PT groups' – run by the occupational therapists and physiotherapists together on a 'trickle feed'. Patients attend between four and 12 sessions on a weekly basis. It is run in a large gym as a circuit. Activities are individualised and structured for some discussion of ergonomics and education about pacing, and interaction between pain sufferers. These groups are suited to physically unfit patients who wish to start moving and work well for patients from culturally and linguistically diverse backgrounds. Groups can be matched with some individual treatments in any discipline for specific needs, and also match well with targeted CBT (cognitive behavioural therapy) delivered on a one to one basis. The sessions

assist people who are working, or travelling some distance, to access the centre's programs conveniently.

Outcome data are collected from patients completing a group or individual treatment program. There is a high incidence of depression in patients attending the centre. A recent review of 199 cases showed average levels of depression was in the moderate to severe range before treatment, and fell to mild levels at completion of treatment,

The centre contributed expertise and data to a recent review of chronic pain services in Victoria and is now looking to future developments, with ideas including:

- partnership with a rural centre for purposes of training and development of local expertise through teleconferencing, web based communication and education, travelling clinics and exchanges
- linking with chronic disease management programs
- health screening of chronic pain sufferers, in particular the impact of long-term opioid therapy, incidence of sleep problems and prevalence of obesity in chronic pain sufferers
- comparative studies of pain in the elderly.

Example 5 – Paediatric pain clinic

This pain clinic in a major metropolitan children's hospital sees 10 to 12 patients every fortnight, with three of these being new patients. All are referred from specialists in the first instance. Most children have had extended absences from school. The clinic has no outreach clinics, but communicates extensively with schools and other community support services, as well as regional paediatricians.

Staffing for the clinic does not have secure long-term funding, but currently includes:

- pain medicine consultant (~ 0.4 FTE)
- paediatrician (~0.1 FTE)
- pain fellow (1 FTE)
- two psychologists (total 1 FTE)
- social worker (0.5 FTE)
- occupational therapist (0.5 FTE)
- physiotherapist (0.5 FTE)
- play therapist (0.5 FTE)
- acute pain CNC
- chronic pain CNC
- two research psychologists (total one FTE)
- research director (~ 0.3 FTE)
- psychiatric support and advice as required
- support from anaesthesia registrars on almost a daily basis for acute pain, as well as on weekends
- anaesthesia consultant support for acute pain (0.4 FTE)
- palliative care physician (0.6 FTE)
- palliative care CNC (1 FTE)
- limited secretarial support (0.5 FTE total for anaesthesia, pain and palliative care combined).

The clinic plans in the medium term to provide educational sessions to other centres in the health area, to help them better manage these patients. It also hopes to develop an internet based program for children in more remote communities.

Acute pain services

There is a diversity of structures for acute pain services, and no clear consensus as to the best model. The degree of medical input varies widely. In training hospitals in Australia, it has been reported that 91 per cent of hospitals accredited for anaesthetic training had an acute pain service run from the department of anaesthesia with daily input from medical staff.¹⁶⁹ However, consultant anaesthetist sessions (one session is a half day) varied from zero in 27 per cent of services, just one or two a week in a further 22 per cent, four to six per week in 22 per cent, and 10 sessions per week in 15 per cent of services.

According to *Acute Pain Management: Scientific Evidence*, a review of publications (primarily audits) looking at the effectiveness of acute pain services (77 per cent were physician-based, 23 per cent nurse-based) concluded that the implementation of an acute pain service is associated with a significant improvement in postoperative pain and a possible reduction in postoperative nausea and vomiting, but that it was not possible to determine which model was superior.¹⁷⁰

Most 'low-cost' nurse-based services are primarily postoperative pain services. More comprehensive services – often led by anaesthetists – can be needed to manage more complex pain problems (such as acute-on-chronic pain, acute pain after spinal cord injury and other major trauma, and acute pain resulting from a multitude of medical illnesses) and more complex patients (such as opioid-tolerant patients and older patients).¹⁷¹

Comprehensive acute pain services, as well as managing individual patients, can also optimise methods and institute preventive pain measures so that all patients in that institution benefit.

Comprehensive services can also provide early management of chronic pain in institutions without (or even with) chronic pain services, and work on an interdisciplinary basis with other medical specialists, general practitioners and other health professionals.

Self-management initiatives in the non-government sector

In addition to the clinical services and programs described above, there are a variety of support services and resources offered by the community sector. Some such services include:

- a pain management tool (in the form of a booklet in English and Chinese), which people can take along to their doctor to discuss their pain management — developed by Arthritis NSW with funding from the National Prescribing Service
- a pilot national phone support and information line for people with chronic pain, staffed by trained volunteers and operated by Chronic Pain Australia
- the Pain World website, offering support, information, contact details for pain clinics and links to other resources — established by Steve Thomson, a person with chronic pain
- information, support and chronic disease self-management education offered by Fibromyalgia South Australia.

A comprehensive survey or environment scan is needed to identify the full range of community initiatives and create an accessible resource to help consumers make contact with such services.

State government initiatives in pain management

Several Australian states have initiatives underway to reduce waiting lists for specialist pain clinics and improve the delivery of pain management services.

A National Pain Strategy would build on existing initiatives and provide a framework to ensure consistency and collaboration.

South Australia - Suggested Central Northern Integrated Chronic Pain Service

The proposed Central Northern Integrated Chronic Pain Service is a model for a regional chronic (non-cancer) pain service being developed by the Central Northern Adelaide Health Service.¹⁷²

The first stage will include a six-month trial of a pain assessment clinic based on two GPs with specific interest in pain and a supervising specialist, with referrals to allied health care providers with skills in pain management. The specialist Pain Management Unit at Royal Adelaide Hospital will provide continuing professional education, support and mentoring of pain professionals. Patient and carer education programs at two or three levels will also be part of the service.

The model integrates:

- the acute care sector and community health
- the specialist Pain Management Unit with primary health care (GPs with specific interest in pain and community GPs)
- medicine, allied health and nursing care
- education, assessment, treatment and self-management.

Stage 2 of the project will involve the establishment of a permanent pain assessment clinic at a GP Plus centre. Stage 3 will duplicate pain assessment clinics at other GP Plus/Superclinics as required, and will include the development of a full regionalised pain service, not limited to chronic non-cancer pain.

Victoria – Review of Chronic Pain Management Services

Victoria has recently conducted a review of chronic pain management services within the sub-acute ambulatory care services program, in order to identify an appropriate model of care.

A partial report on this review has been released.¹⁷³ Its proposed service model for specialist, publicly funded chronic pain management services encompasses the following:

- a focus on enabling people to improve their ability to self-manage their condition
- development of strong links with primary carers to support continuing management following discharge
- core clinical team comprising, at a minimum, a medical practitioner, a physiotherapist or occupational therapist, and a psychologist (Note: most Victorian public and private pain centres have dedicated nurses involved in pain management; nursing staff also need to be factored in to funding models)
- in higher-level services, provision for clinical placements and supervision of trainees and a role in training and support for lower-level services
- screening criteria to ensure that patient referrals are consistent with the level of service
- development of a care plan for each patient, in consultation with patients and their GP or specialist
- referrals for complex acute interventions to be based on a multidisciplinary assessment within higher-level services
- to manage demand, diversion/substitution strategies to facilitate interim pain management in the community pending admission
- single disciplinary medical or allied health treatment on a time-limited basis where the patient's treatment goals are best achieved on a uni-modal basis
- an interdisciplinary pain management program including the following program elements:

- goal-setting, aimed at realistic achievement of specific goals relevant to functioning
- cognitive strategies, including problem-solving and ways of accepting the presence of pain
- graded exercise programs, including muscle-strengthening and activity-pacing strategies in a group setting
- rationalising medicine use
- self-management, including relaxation and education sessions to enable people to deal with pain flare-ups
- program goals, developed with consumer input and with monitoring of outcomes and regular team reviews
- proactive management of discharge planning to transition people to self-management with primary care support
- consultation and liaison with other specialist pain management services and other relevant health care services including drug and alcohol, mental health, acute and sub-acute care.

Though the Victorian review concentrated on specialist, publicly funded chronic pain management services, it pointed out that to be effective, the service model must operate across the continuum of care, including:

- prevention of chronic pain through effective screening of at-risk groups, including multiple trauma, post-surgical, and people with cancer
- capacity-building of the primary health care sector to include enhanced primary care.

Western Australia – Spinal Pain Model of Care

The WA Spinal Pain Model of Care¹⁷⁴ was developed by a working party jointly convened by the Musculoskeletal Health Network and the Neurosciences and Senses Health Network.

Its key recommendations were:

1. Increase knowledge of active pain management strategies for spinal pain in the community, including a targeted mass media campaign regarding positive outcomes associated with active pain management strategies
2. Develop workforce capacity through interprofessional education, including integrated interprofessional practice by assessment of alternative service delivery models
3. Support initiatives which improve earlier access to positive outcome-based services, including:
 - timely access to specialist multidisciplinary care through clear referral guidelines and criteria, alternative wait list pilot projects, and alternative service delivery models
 - expansion of ambulatory care services, e.g. through community-based chronic disease management teams, rehabilitation in the home, and telehealth
 - integrated care pathways with primary health care providers
 - research to track patients across the health continuum
4. Promote best practice for spinal pain management, including integrated care pathways across sectors, through:
 - ongoing interprofessional education
 - a network of excellence
 - an interactive web portal
 - statewide clinical guidelines
 - ongoing research opportunities

5. Promote consumer self management across the continuum of health, e.g.by:
 - increased access to self-management programs in the community
 - targeting private and community-based physiotherapy services to engage patients in early self-management activities
 - increased capacity for specialist facilities to provide early interprofessional care
 - partnerships between non-governmental organisations and State and Commonwealth sectors and services
6. Develop information and communication technology tools and support systems for management of spinal pain, such as:
 - a web-map of statewide services with service information such as inclusion/exclusion criteria, group programs and individual services
 - telehealth development for group education and individual consultations
 - population registry with outcome data collection
 - direct access web-based triage facility.

New South Wales – Agency for Clinical Innovation

The new Agency for Clinical Innovation in New South Wales will build on the work of the Greater Metropolitan Clinical Taskforce (GMCT) – an organisation of clinical networks chaired by clinicians and involving doctors, nurses, allied health professionals, scientists, managers, and consumers.¹⁷⁵ The model aims to improve planning and health service delivery in specific areas of clinical need. Pain has been identified as a priority area and work has begun, using the National Pain Strategy as a key resource. A clinical network for pain is proposed to be established in New South Wales in the near future.

Existing GMCT clinical networks have undertaken a variety of activities, including:

- working groups to develop consensus documents to guide next steps
- development of collaborative approaches such as standardised assessment and treatment protocols, models of care, and benchmarks for services
- sharing of staff and resources across facilities to improve patient access
- staff training
- introduction of uniform data collection systems to guide changes in practice
- development of consumer information resources
- the development of statewide services to improve delivery of services to rural and remote areas.

Appendix 3: List of submissions received

The following 48 organisations (or their members) and individuals provided feedback on the National Pain Strategy during the consultation phase:

Arthritis NSW

Australasian Faculty of Musculoskeletal Medicine, Australian Association of Musculoskeletal Medicine and Australian College of Physical Medicine

Australian Acupuncture and Chinese Medicine Association

Australian and New Zealand Society of Palliative Medicine

Australian College of Rural and Remote Medicine

Australian Feldenkrais Guild

Australian General Practice Network

Australian Industry Group

Australian Osteopathic Association

Australian Pain Management Association

Australian Pain Society

Australian Physiotherapy Association

Australian Psychological Society

Australian Rheumatology Association

Australian Wound Management Association

Bridges and Pathways Institute

Cancer Council Australia

Cancer Voices Australia

Carers Australia

Chronic Pain Australia

Clinical Oncological Society of Australia

Consumers Health Forum of Australia

CRS Australia

Fibromyalgia Australia (SA Northern Support Network)

Health Consumers' Council WA

Hunter Integrated Pain Service

Janssen–Cilag

Mundipharma

National Health and Medical Research Council

Noarlunga Fibromyalgia Course Alumni Group

NSW Health

Palliative Care Australia

Paragon Pain Program

Pharmacy Guild of Australia

Royal Australasian College of Physicians

Royal Australian College of General Practitioners

Royal College of Nursing, Australia

Seaford Fibromyalgia Wellness Network

Special Interest Groups (SIGs) of the Australasian Faculty of Rehabilitation Medicine (AFRM)

Sydney Children's Hospital – Chronic Pain Clinic

Transport Accident Commission VIC

WorkCover SA

Dr Peter Buchanan, Interventional Nuclear Radiologist

Dr Stephanie Davies, Fremantle Hospital Health Service

Pam Garton, Abilita Services Pty Ltd

Dr Pam Macintyre, Royal Adelaide Hospital

Dr Lorimer Moseley, Prince of Wales Medical Research Institute

Appendix 4: Grants

The National Pain Summit initiative has received unencumbered grants from:

- University of Sydney, School of Medicine
- University of Sydney, Northern Clinical School
- Mr Alex Carmichael
- Boehringer-Ingelheim
- CSL Biotherapies
- Eli Lilly Australia
- iNova Pharmaceuticals
- Janssen-Cilag
- Medtronic Australia
- Merck Sharp & Dohme
- Mundipharma
- Pfizer Australia

These organisations have had no influence on the recommendations contained in this Strategy, which have been developed through an independent process involving health professionals and consumers.

Appendix 5: List of organisations represented at the National Pain Summit

Abilita Services Pty Ltd
Alzheimer's Australia
ANZCA Foundation
Arthritis NSW
Australasian Faculty of Musculoskeletal Medicine
Australasian Faculty of Rehabilitation Medicine
Australian Acupuncture and Chinese Medicine Association
Australian and New Zealand College of Anaesthetists
Australian and New Zealand Society for Geriatric Medicine
Australian and New Zealand Society of Palliative Medicine
Australian Association of Musculoskeletal Medicine
Australian Association of Social Workers
Australian College of Ambulance Professionals
Australian College of Rural and Remote Medicine
Australian Council of Trade Unions
Australian Dental Association
Australian General Practice Network
Australian General Practice Network ACT
Australian Industry Group
Australian Medical Acupuncture College
Australian Medical Association
Australian Osteopathic Association
Australian Pain Management Association
Australian Pain Society
Australian Physiotherapy Association
Australian Psychological Society
Australian Psychological Society: College of Health Psychologists
Australian Rehabilitation Providers Association
Australian Rheumatology Association
Australian Self Medication Industry
Australian Society of Anaesthetists
Australian Society of Rehabilitation Counsellors
Barbara Walker Centre for Pain Management
British Pain Society – Chronic Pain Policy Coalition
Bundaberg Hospital
Bupa Australia
Canberra Endometriosis Centre, ACT Health
Cancer Council Australia
Cancer Voices Australia
Carers Australia
Centre for National Research on Disability and Rehabilitation Medicine
CGU Workers Compensation

Chiropractors Association of Australia
Chronic Pain Australia
Chronic Pain Australia Qld
Chronic Pain Australia WA
Clinical Oncological Society of Australia
College of Nursing
Comcare
Consumers Health Forum of Australia
CSL Ltd
Department of Health and Ageing Canberra
Department of Veterans Affairs
Diabetes Australia
Eli Lilly Australia Pty Ltd
Endometriosis Association (Qld) Inc
Executive – National Pain Summit
Exercise & Sport Science Australia
Faculty of Pain Medicine
Faculty of Pain Medicine, Qld Regional Committee
Faculty of Rehabilitation Medicine
Fibromyalgia Australia SA
Freemasons Medical Centre
Geriatric Medicine Monash University
GSB Consulting and Communications
Healthways Australia Pty Ltd
Hope Healthcare
Hunter Integrated Pain Service
iNova Pharmaceuticals
Janssen-Cilag Australia
La Trobe University
Lifeline Australia
Macquarie University
Medibank Health Solutions
Medical Oncology Group of Australia
Medicines Australia
Medtronic Australasia
MidCentral Health – New Zealand Pain Society
Monash University, Department of Psychological Medicine
Motor Accidents Authority
Motor Accidents Insurance Board Tasmania
MS Australia – ACT/NSW/Vic
Mundipharma
National Federation of Parents Families and Carers
National Health & Medical Research Council
National Pain Initiative, Canada
National Prescribing Service
Nerve Research Foundation
Neuro Orthopaedic Institute Australasia
NSW Department of Health

NSW Department of Health, Chronic Disease Management Office
Osborne General Practice Network
Pain Association of Scotland
Pain Management Research Centre, Royal North Shore Hospital
Pain Medicine Unit, Fremantle Hospital
Pain World
Palliative Care Australia
Palliative Care Nurses Australia
Pfizer Australia
Pharmaceutical Society of Australia
Prince of Wales Medical Research Institute
PushPull Medical
Rehabilitation Counselling Association of Australasia
Rheumatology Health Professionals Association
Royal Adelaide Hospital
Royal Australasian Chapter of Palliative Medicine
Royal Australasian College of Physicians
Royal Australasian College of Surgeons: Faculty of Pain Medicine
Royal Australian and New Zealand College of Obstetricians and Gynaecologists
Royal Australian and New Zealand College of Psychiatrists
Royal Australian and New Zealand College of Radiologists
Royal Australian College of General Practitioners
Royal Australian College of General Practitioners, SA/NT Faculty
Royal Brisbane and Women's Hospital
Royal Brisbane and Women's Hospital Multi Disciplinary Pain Clinic
Royal College of Nursing Australia
Royal Hobart Hospital Pain Management Unit
Royal Hospital for Women – Prince of Wales Hospital
Royal Prince Alfred Hospital
Scenar Therapist Association of Australasia
Sir Charles Gairdner Hospital
Southern Cross University
St Vincent's Hospital
Surrey Memorial Hospital, Canada
Sydney Children's Hospital
Tasmanian Department of Health, Alcohol and Drug Services
The Australian
The Pharmacy Guild of Australia
University of NSW
University of Sydney, Pain Management Research Institute
WA Department of Health
WorkCover NSW
WorkCover SA

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Endnotes

- ¹ Deandrea et al 2008; Heading et al 2008; National Institute of Clinical Studies 2008.
- ² Cousins 2009, 'Australian National Pain Summit: Fact finding visits to USA, Canada, UK – Report on key findings and associated resource materials', available at <www.painsummit.org.au/news>.
- ³ MBF Foundation 2007.
- ⁴ Blyth et al 2001. This study was based on the 1997-1998 NSW Health Survey, and has been widely used internationally (cited more than 170 times). The NSW Health Survey is a large and rigorous survey that is representative of the NSW adult population. The questions on chronic pain were directly based on the IASP's definition of chronic pain. Self-report remains the accepted means of diagnosing chronic pain. Using the same questions to define chronic pain, similar prevalence estimates have been found by three subsequent Australian studies: Blyth et al 2003a, Australian Institute of Health and Welfare (AIHW) 2003, and Currow et al, accepted for publication. Data for AIHW 2003 was collected by general practitioners in face-to-face interviews Australia-wide, and data for Currow et al was collected by trained interviewers. The prevalence of chronic pain has therefore been shown to be remarkably consistent across time and populations within Australia using standardised questions and when asked in different modes (telephone vs face-to-face).
- ⁵ MBF Foundation 2007. Cost estimates in *The High Price of Pain* report are based on rigorous epidemiological data (Blyth et al 2001, see note 2 above), and are supported by international findings: see for example Phillips et al 2008. Health expenditure data are based on 2000–01 (the most recent year for which comparable data were available) contained in AIHW 2005.
- ⁶ Wilsey et al 2008; Walsh et al 2008; Glenton 2003; Joachim & Acorn 2000; May, Doyle & Chew-Graham 1999; May, Rose & Johnstone 1999; Marbach et al 1990; Haugli and et al 2004; Chibnall et al 2000; Chibnall & Tait 1999; Chibnall & Tait 2001; Chibnall et al, 1997; Tait & Chibnall 1997; Tait & Chibnall 2001; Tait & Chibnall 2005. Tait, Chibnall and colleagues have made the repeated finding that clinical judgements are influenced by the presence or absence of identifiable physical pathology; pain and disability of patients with strong organic findings were judged to be more legitimate than those without, and pain syndromes were judged to be more severe when patients had strong medical evidence to support their symptoms (Chibnall & Tait, 1999:726). In a study of nursing students by Gillmore and Hill (1981), patients without a definitive diagnosis were rated by the students as having less severe pain and as being less trustworthy and dependable than patients with a definitive diagnosis. Furthermore, a study of Texas physicians by Weinstein et al (2000) found physician attitudes can inhibit pain treatment by interfering with appropriate pain medication prescription: while 67 per cent of the sample (N = 386) believed that almost all chronic pain could be relieved with treatment, 23 per cent believed chronic pain of unknown cause should *not* be treated with narcotics, even if this was the only way to obtain pain relief. In a comparative study of chronic pain patients with and without medically explained symptoms, Kouyanou et al found that people with medically unexplained pain reported "a significantly higher disconfirmation of their pain by the doctors" (1998:421). These authors also suggested that iatrogenesis was more likely in this sub-group, hypothesising that those who felt doctors had not accepted the legitimacy of their pain were more likely to seek further medical investigations, "thus setting in motion further iatrogenic cycles" (1998:422). People with chronic pain without obvious physical pathology can therefore be considered a particular sub-group within the chronic pain population that may be subject to social disadvantage.
- ⁷ Cole 2009; Anema et al 2002; Australasian Faculty of Occupational Medicine, Royal Australasian College of Physicians 2001; Royal Australasian College of Physicians 2009; Salmon 2000; Parsons et al 2007; Loisel et al 2005; Devo et al 2009.

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- ⁸ Interim results from the Australian Pain Society's *Waiting in Pain* study (Hogg et al 2010). Nationally, it was estimated that more than a quarter of patients referred each year would remain on waiting lists for more than one year, though most services had a process to accommodate the most urgent referrals. The mean wait time for a publicly-funded chronic pain management service was 184.3 days. The range was large with the shortest wait time at 34 days and the longest 575 days. These wait times represent a delay on top of the time the person has spent with symptoms before being referred to a chronic pain management service.
- ⁹ Campbell Research and Consulting (2008) noted that 82 per cent of injured workers who had not returned to work within six months of their injury attributed this to unresolved pain and injury. See also Blyth et al 2003; Van Leeuwen et al 2006.
- ¹⁰ MBF Foundation 2007.
- ¹¹ Bair et al 2008; Demyttenaere et al 2007; Stewart et al 2008; Kerr et al 2004; Cielito et al 2002.
- ¹² A recent review of published literature (Deandrea et al 2008) revealed that the pain of close to 50 per cent of patients with cancer pain is undertreated. See also Heading et al 2008; National Institute of Clinical Studies 2008. For more on cancer pain, see 'The nature of pain' section.
- ¹³ Royal Australasian College of Physicians 2009.
- ¹⁴ Breivik & Stubhaug 2008; Popping et al 2008; De Kock 2009; Linton & Andersson 2000; Loisel et al 2002; van den Hout et al 2003; Gatchel et al 2003; Schiltenswolf et al 2006; Linton et al 2005; Hinrichs-Rocker et al 2009; and Macintyre et al 2010, citing Senturk et al 2002; Bong et al 2005; Lavand'homme et al 2005; Brandsborg et al 2007; Blumenthal et al 2005; Batoz et al 2009; Kairaluoma et al 2006; Fassoulaki et al 2002; Fassoulaki et al 2000 and Fassoulaki et al 2005.
- ¹⁵ Deandrea et al 2008; Heading et al 2008; National Institute of Clinical Studies 2008.
- ¹⁶ Breivik & Stubhaug 2008; Popping et al 2008; De Kock 2009.
- ¹⁷ These figures can be calculated from different studies, as well as from epidemiological data estimating number of people with chronic pain and current services available. Evidence of undertreatment (and importantly, overtreatment) of chronic pain can be found in Walsh et al 2008; Weiner et al 2006; Deyo et al 2009 and Henry 2008.
- ¹⁸ Price et al 2008.
- ¹⁹ McGrath 2006; Sanderson 2000; Cheffins et al 2007.
- ²⁰ Siddall and Cousins 2004; Loeser 2005; Tracey & Bushnell 2009; Flor et al 1995; Wrigley et al 2009; Maihöfner et al 2007. For further explanation of the science of chronic pain, see Appendix 1.
- ²¹ Soon and Acton 2006.
- ²² Most randomised controlled trials compare usual care (primarily by GPs and/or physiotherapists) as the control condition to integrated interdisciplinary care. These studies have repeatedly demonstrated the superiority of interdisciplinary care in appropriate patients. It is important to recognise that the patients need to be selected for the appropriate level of care. This can reduce wastage and maximise the impact of treatments. See Haldorsen, Grasdal & Skouen 2002; Vlaeyen & Morley 2005; Williams et al 1999.
- ²³ Evidence of this problem was highlighted in at least two Australian reports. A report undertaken by the Committee of Presidents of Medical Colleges, through the participation of the Australasian Faculty of Occupational Medicine of the Royal Australasian College of Physicians (*Compensable Injuries and Health Outcomes*, 2001), highlighted the need for better integration of services. The lack of access and integration of services was also identified by the 2009 Royal Australasian College of Physicians report on the problems associated with the use of prescribed opiates in Australia. The report described a rapid escalation in people dependent on these drugs in the past ten years (*Prescription Opioid Policy: Improving management of chronic non-malignant pain and prevention of problems associated with prescription opioid use*). The large majority of cases involved prescriptions for pain relief but this has led to a host of other problems as well as poor pain control. Patently, the medical practitioners prescribing these drugs are unaware of other, more effective options, or they feel unable to access them.

24 The irrational reimbursement arrangements for low back pain are highlighted in the Report accompanying the Draft National Primary Health Care Strategy (Commonwealth of Australia 2009a: Box 5, p. 130). It points out that public funding is available for medical assessment and treatment including a range of diagnostic tests, operations, pharmaceutical and other therapies while non-invasive therapies, including physical therapies, are not publicly-funded in many cases. This is in spite of treatment guidelines supporting evidence-based non-invasive therapies before consideration of interventional therapies or surgery. See also Airaksinen et al 2006; Deyo et al 2009 and McQuay et al 1997.

25 Deyo et al 2009.

26 MBF Foundation 2007.

27 Macintyre et al 2010, available at <<http://www.anzca.edu.au/resources/books-and-publications/>>.

28 Croft et al, in press.

29 Australian Wound Management Association 2010.

30 Perquin et al 2000; Roth-Isigkeit et al 2004; Roth-Isigkeit et al 2005; Sleded et al 2005; van Dijk et al 2006.

31 Royal Australasian College of Physicians 2009.

32 Fenwick 2006.

33 Macintyre et al 2010, citing McGrath et al 2006; National Palliative Care Program 2006a; Fenwick & Stevens 2004; and Howe et al 1998.

34 Eccleston 2001; Flor & Hermann 2004; Turk 2002. Multiple systematic reviews have supported the bio-psycho-social model of pain, including Mallen et al 2007; Melloh et al 2009; Linton et al 2005 and Crook et al 2002.

35 A number of psychologists have received specialist training in pain management and rehabilitation and more would seek it in response to increased opportunities to work in this field. These psychologists may be health, clinical, or counseling psychologists or from one of the other areas of specialisation but the key identifier is competence to provide evidence-based treatment, including assessment, of pain. It is an ethical obligation on registered psychologists to practise within their established competencies.

36 Macintyre et al 2010, available at <<http://www.anzca.edu.au/resources/books-and-publications/>>.

37 Thomas et al 2003.

38 Australian Acute Musculoskeletal Pain Guidelines Group 2003.

39 Jannetta 1977.

40 Thomas & Jones 1984; Nashold & Ost Dahl 1979.

41 Leeuw et al 2007; Eccleston 2001; Flor & Hermann 2004; Turk 2002; Mallen et al 2007; Melloh et al 2009; Linton et al 2005; Crook et al 2002.

42 Merskey & Bogduk 1994.

43 Cleeland 1984, Grossman 1993.

44 Cleeland et al 1994.

45 Larue et al 1995.

46 Wang et al 1999.

47 Potter 2003.

48 Heath et al 2010.

49 Wolfe et al 2000.

50 Cousins et al 2004; National Institute of Clinical Studies 2008.

51 Davies & Higginson 2004, Jones & Macfarlane 2005.

52 Australian Bureau of Statistics 2009.

53 Blyth et al 2001.

54 Parmelee et al 1993.

55 Bernabei et al 1998; Davies & Higginson 2004; van den Beuken-van Everdingen et al 2007.

56 Jorm & Jolley 1998.

57 Harkins & Price 1992; Kee et al 1998.

58 Katz et al 2005.

59 Ahmad & Goucke 2002; Herrick et al 1996; Fine 2004.

60 Stuck et al 1993.

61 Katz et al 2005.

62 Parmelee et al 1993.

63 Australian National Audit Office 2003.

64 Department of Health and Ageing 2009a.

65 Senate Standing Committee on Finance and Public Administration 2009.

66 Alfred Health 2009.

67 Department of Health and Ageing 2009b.

68 Varni 2007; Vetter 2008.

69 Wolfe et al 2000.

70 MBF Foundation 2007.

71 Perquin et al 2000; Perquin et al 2003; Roth-Isigkeit et al 2004; Slead et al 2005; Mulvaney et al 2006; van Dijk et al 2006.

72 Blyth et al 2001.

73 van den Beuken-van Everdingen et al 2007; confidence interval 43 per cent–63 per cent.

74 Blyth et al 2001.

75 Blyth et al 2003b.

76 Blyth et al 2004.

77 Breivik & Stubhaug 2008; Popping et al 2008; De Kock 2009; Apfelbaum et al 2003, Dix et al 2004, Dolin et al 2002, Rocci et al 2002; Warfield 1995.

78 Chronic Pain Australia 2009.

79 Price and Harding 1996; Woo 2008; Woo et al 2008.

80 UK Chief Medical Officer 2008.

81 Varni 2007; Vetter 2008.

82 Lovell 2009.

83 Lovell 2009; Yates et al 2002.

84 Campbell Research and Consulting 2008.

85 Stewart et al 2008.

86 Cohen-Mansfield 2006.

87 Weiner et al 2006; Mossey & Gallagher 2004. Most studies of chronic pain exclude the elderly (or those >65 years of age), but a randomised controlled trial of pain self-management in those in this age group has been funded by the Australian Health Ministers Advisory Council (AHMAC) (2006–09) and is being completed by A/Prof Michael Nicholas and colleagues at the Royal North Shore Hospital and University of Sydney. This study will provide important information on the applicability of self-management in older Australians. The results will be reported in 2010.

88 Macintyre et al 2010.

89 Robb et al 2009, Cassileth et al 2007.

90 The main focus of interventions is physical and pharmacological, but there is clearly a need, and some preliminary results, for more non-pharmacological interventions (Nicholson Perry, Nicholas & Middleton, in press; Siddall & Middleton 2006).

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- ⁹¹ Australian Acute Musculoskeletal Pain Guidelines Group 2003. Some of the evidence for this variation in practice is outlined in a report undertaken by the Committee of Presidents of Medical Colleges, through the participation of the Australasian Faculty of Occupational Medicine of the Royal Australasian College of Physicians, *Compensable Injuries and Health Outcomes* (2001). Other evidence includes Crawford et al 2007; Buchbinder 2001 and Buchbinder 2008.
- ⁹² Australasian Faculty of Occupational Medicine, Royal Australasian College of Physicians 2001.
- ⁹³ Meier & Rogers 2006; Xing & Long 2006; Mootz et al 2005; Orrock 2005.
- ⁹⁴ Hogg et al 2010.
- ⁹⁵ A comprehensive systematic review of 45 studies found that higher pain severity at baseline, longer pain duration, multiple-site pain, previous pain episodes, anxiety and/or depression, higher somatic perceptions and/or distress, adverse coping strategies, low social support, older age, higher baseline disability, and greater movement restriction were significant prognostic indicators for poor outcomes (Mallen et al 2007). See also Waddell, Burton & Main 2003; Lynch et al 2008.
- ⁹⁶ Royal Australasian College of Physicians 2009.
- ⁹⁷ Haldorsen, Grasdal & Skouen 2002; Vlaeyen & Morley 2005; Williams et al 1999.
- ⁹⁸ Commonwealth of Australia 2003.
- ⁹⁹ Glenton 2003; Holloway, Sofaer-Bennett & Walker 2007; Kenny 2004.
- ¹⁰⁰ Buchbinder 2001; Buchbinder 2008.
- ¹⁰¹ Burton et al 1999.
- ¹⁰² Subramaniam et al 1999; Welsh Assembly Government 2008.
- ¹⁰³ Blyth et al 2005.
- ¹⁰⁴ Foster et al 2007; Griffiths et al 2007; O'Brien et al 2009; Ables et al 2006. O'Brien et al 2009 shows the importance of assessing the chronic pain patients' success criteria and treatment expectations to successful outcomes.
- ¹⁰⁵ Miaskowski et al 2004; Yates et al 2004; Rimer et al 1987; Oliver et al 2001; de Wit & van Dam 2001; Lin et al 2006; Bennett et al 2009.
- ¹⁰⁶ Lovell 2009.
- ¹⁰⁷ Miaskowski et al 2004; Yates et al 2004; Rimer et al 1987; Oliver et al 2001; de Wit & van Dam 2001; Lin et al 2006; Bennett et al 2009; Lovell 2009; Aranda et al 2004.
- ¹⁰⁸ Solano et al 2006; Cherny et al 1994.
- ¹⁰⁹ E.g. Koes et al 2006.
- ¹¹⁰ British Pain Society 2008; Airaksinen et al 2006.
- ¹¹¹ van der Windt et al 2008.
- ¹¹² Qaseem et al 2008; Miaskowski et al 2005; Scottish Intercollegiate Guidelines Network 2000; National Comprehensive Cancer Network 2008; Apolone et al 2009.
- ¹¹³ Knudsen et al 2009; Zwakhalen et al 2006.
- ¹¹⁴ Higginson et al 2003.
- ¹¹⁵ Quigley 2008.
- ¹¹⁶ National Palliative Care Program 2006b; Edith Cowan University 2006.
- ¹¹⁷ Benson 2008.
- ¹¹⁸ Du Pen et al 1999.
- ¹¹⁹ Macintyre et al 2010.
- ¹²⁰ In people with chronic widespread pain, often known as fibromyalgia, low-cost multidisciplinary rehabilitation in a group setting and nonclinical environment has been shown to be effective in increasing health status and in reducing a number of other health-related indicators (Garcia-Campayo et al 2008; Lemstra & Olszynski 2005; Turk et al 2008).
- ¹²¹ Franche et al 2005.

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- 122 Australian reports: Chalkiadis 2001; Kozłowska et al 2008.
- 123 Eccleston et al 2009.
- 124 Gatchel et al 2003; Linton & Andersson 2000; Loisel et al 2002; Schultz et al 2008; Sullivan et al 2006; Dobscha et al 2009.
- 125 A number of psychologists have received specialist training in pain management and rehabilitation (see note 32 above).
- 126 Gatchel & Okifuji 2006; Haldorsen et al 2002; Williams et al 1999.
- 127 Mularski et al 2006.
- 128 Lenfant 2003; Gordon et al 2005.
- 129 Cousins 2009, 'Australian National Pain Summit: Fact finding visits to USA, Canada, UK – Report on key findings and associated resource materials', available at <www.painsummit.org.au/news>.
- 130 Lau 2007; Henry 2008; Price 2006; Spanswick 2008; UK Chief Medical Officer 2008; Phillips et al 2008.
- 131 The JCAHO initiative in the United States, 'Pain as the 5th Vital Sign' (Phillips 2000) resulted in increased patient satisfaction and decreased pain. However there was no accompanying recommendation to monitor sedation. Not surprisingly, opioid side effects increased. In Australia, the document *Acute Pain Management: Scientific Evidence* (Macintyre et al 2010) emphasises the need to monitor sedation score to provide early detection of respiratory depression (see also Vila et al 2005; Mularski et al 2006; Lorenz et al 2009; Stevenson et al 2006; Gould 1992). Regarding patients' rights to have pain measured, see Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine 2001. Regarding recording of pain and sedation as a routine in pain management, see Macintyre & Scott 2009.
- 132 For more information on the Expert Patients Programme in the UK, see <www.expertpatients.co.uk>. For the Calgary Pain Program's self management program, go to <www.calgaryhealthregion.ca/programs/rpp/resources/lectures.htm>.
- 133 'Red flags' are clinical features that suggest serious underlying condition. 'Yellow flags' are psychosocial factors that predict ongoing disability (not necessarily pain).
- 134 'Blue flags' are conditions in the workplace that may inhibit recovery, such as high work demands or low control. 'Black flags' are organisation-level issues that may inhibit recovery, such as workers' compensation issues or employer attitudes.
- 135 The most recent *Australia and New Zealand Return to Work Monitor* (Campbell Research and Consulting 2009) found that six months after a workers' compensation claim, 81 per cent of Australian injured workers reported the reason for not feeling ready to return to work was that they were "still injured" or "in pain".
- 136 Macintyre et al 2010.
- 137 The World Health Organization is developing guidelines for chronic pain in children and adults.
- 138 Kendall et al 2009.
- 139 In September 2009, the National Prescribing Service Ltd and Palliative Care Australia released a consultation report, *Achieving quality use of medicines in the community for palliative and end of life care*, which identifies issues, makes findings, and suggests a number of ways forward towards achieving enhanced access to palliative medicines in the community within a QUM environment (National Prescribing Service Ltd and Palliative Care Australia, 2009), available via <www.palliativecare.org.au/Default.aspx?tabid=1943>. The Palliative Care Medicines Working Group has agreed on strategies to advance the issues raised.
- 140 Lorenz et al 2006.
- 141 Miaskowski et al 2005.
- 142 Joint Commission on Accreditation of Healthcare Organizations 2000.
- 143 Andersson 2009.
- 144 As defined by Carers Australia <www.carersaustralia.com.au>.
- 145 Palliative Care Australia 2008.
- 146 Palliative Care Australia 2008.

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- 147 Department of Health and Ageing 2009c.
148 Merskey & Bogduk 1994.
149 Siddall & Cousins 2004.
150 Flor et al 1995.
151 Wrigley et al 2009.
152 Maihofner et al 2007.
153 Tegeder et al 2006.
154 Cousins 2009.
155 Lau 2007.
156 Cousins 2009.
157 Lau 2007.
158 Cousins 2009.
159 Available at <www.calgaryhealthregion.ca/programs/rpp/resources/lectures.htm>.
160 Cousins 2009.
161 Lau 2007.
162 Cousins 2009; Lau 2007.
163 See <www.18weeks.nhs.uk/Content.aspx?path=/achieve-and-sustain/Specialty-focussed-areas/Cross-specialty/chronic-pain/>.
164 Faculty of Pain Medicine 2005.
165 'Red flags' are clinical features that suggest serious underlying condition.
166 Williams et al 1999.
167 Molloy et al 2006.
168 Loeser et al 2001.
169 Macintyre et al 2010, citing Roberts 2008.
170 Macintyre et al 2010, citing Werner et al 2002.
171 Acute pain services are increasingly called upon to deal with much more complex pain management issues and patients: Macintyre et al 2010, citing Counsell et al 2008.
172 Westhorp 2009.
173 Department of Human Services Victoria 2009.
174 Department of Health Western Australia 2009.
175 Greater Metropolitan Clinical Taskforce 2009.