CHRONIC PAIN

The Australian Prevention Partnership Centre
Systems and solutions for better health

Secondary prevention of chronic pain

Rapid review and mapping of options for Primary Health Networks

October 2019

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Suggested citation: De Morgan S, Blyth F, Marks L, Sanders D, Mittinty M, Nicholas M. Secondary prevention of chronic pain: rapid review and mapping of options for Primary Health Networks. The Australian Prevention Partnership Centre and the University of Sydney, October 2019.

Australian Government
Department of Health

Funding for this research has been provided from the Australian Government's Medical Research Future Fund (MRFF). The MRFF provides funding to support health and medical research and innovation, with the objective of improving the health and wellbeing of Australians. MRFF funding has been provided to The Australian Prevention Partnership Centre under the MRFF Boosting Preventive Health Research Program. Further information on the MRFF is available at www.health.gov.au/mrff

Disclaimer: This evidence review is not a comprehensive review of all literature relating to the topic area. It was current at the time of production (but not necessarily at the time of publication) and is based on sources believed to be reliable.

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Executive summary

Chronic Pain Project

The overall objectives of the Chronic Pain Project[1] are to:

1. Synthesise knowledge about the secondary prevention and management of chronic pain; and
2. Improve knowledge, knowledge-sharing and knowledge use among Primary Health Networks (PHNs) about options to address the secondary prevention and management of chronic pain in primary care.

Definitions

- **Pain** is defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.
- **Chronic pain** is defined as pain that lasts or recurs for more than three months. Chronic pain has recently been classified as a disease in itself by the World Health Organization, International Classification of Diseases (WHO-ICD-11).
- **Acute pain** is defined as pain that occurs immediately post-trauma or post-surgery. It is often self-limiting and usually resolves with healing within 3 months.
- **Subacute pain** is defined as the phase that lasts between six to twelve weeks post onset of acute pain.
- **Secondary prevention** of chronic pain is the early intervention of acute and subacute pain [herein referred to as (sub)acute] to prevent the progression to chronic pain and associated disability.

A framework of the types of chronic pain initiatives implemented in PHNs

In Phase 1 of the Chronic Pain Project, a framework of the different types of initiatives that PHNs were implementing related to the secondary prevention and management of chronic pain was developed. The framework is based on three goals adapted from the goals of the National Pain Strategy (Painaustralia) and aligned with PHNs' remit**:**

Goal 1: Access to multidisciplinary care and improving consumer health literacy and care navigation

Goal 2: Ensuring health professionals are skilled and provide best-practice evidence-based care

Goal 3: Quality improvement and health system support

Results of the consultation with PHNs in Phase 1 of the project

The mapping of PHN chronic pain initiatives in Phase 1 of the project found a gap related to the secondary prevention of chronic pain with most initiatives currently being implemented by PHNs relating to the management of chronic pain.

As a result of the gap highlighted in Phase 1, the opportunities for PHNs to improve the secondary prevention of chronic pain is the primary focus of Phase 2 of the Chronic Pain Project.

[1] The Australian Prevention Partnership Centre: Strategies and models for preventing or reducing the risk of the development of chronic pain in primary care (2018–2020)

Purpose and scope of the rapid review

The purpose of the rapid review is to inform a deliberative dialogue with PHNs about the secondary prevention of chronic pain. A deliberative dialogue is an evidence-based method used to support policy making by discussing and contextualising research evidence in the light of the real-world experiences of policymakers.

The deliberative dialogue will provide an opportunity for PHNs to discuss implementation considerations, organisational change/behaviour change and funding requirements for a range of policy options related to the secondary prevention of chronic pain. The dialogue will help PHNs to identify the option(s) that may be appropriate for their PHN to implement considering their local context, needs and resources.

Aims of the rapid review

The rapid review will seek to answer the following questions:

i. What are the key principles related to the secondary prevention of chronic pain highlighted in the evidence?

ii. What strategies related to Goal 1 (consumer and community strategies) have been shown to be effective for the secondary prevention of chronic pain with a focus on six key areas: i) multifocal or not condition specific; ii) surgery; iii) (sub)acute whiplash; iv) (sub)acute low back pain; v) return to work and work-related injuries; and vi) opioid consumer initiatives? Systematic and narrative reviews, case study examples, initiatives 'in the pipeline' and consumer resources will be identified.

iii. What strategies related to Goal 2 (health professional capacity building) have been shown to be effective for the secondary prevention of chronic pain? Systematic and narrative reviews, case study examples, initiatives 'in the pipeline' and health professional education and training opportunities will be identified.

iv. What strategies related to Goal 3 (health system support) have been shown to be effective for the secondary prevention of chronic pain? Systematic and narrative reviews, case study examples and initiatives 'in the pipeline' will be identified.

The rapid review will include strategies implemented in the primary care setting as well as strategies implemented in hospital and compensable settings that have the potential to be adapted to the primary care setting.

Evidence sources include the following:

- Peer review literature including clinical practice guidelines, systematic and narrative reviews, randomised controlled trials and protocols, and observational studies (Australia, UK, Europe, USA, Canada and New Zealand)
- Grey literature from key agencies in Australia and internationally
- Consultation with PHNs conducted in Phase 1 of the Chronic Pain Project
- Evidence identified by key stakeholders

The rapid review does not aim to systematically or comprehensively search for, or synthesise, all the relevant evidence related to the secondary prevention of chronic pain.

The rapid review is a narrative synthesis of the evidence in the selected bodies of evidence and will highlight case study examples. The evidence informs the development of the *Principles for the secondary prevention of chronic pain* and the mapping of policy options for PHNs to address the secondary prevention of chronic pain.

Rationale for the secondary prevention of chronic pain

Chronic pain

- Chronic pain is a substantial public health issue and chronic pain is increasing due to the ageing population.
- One in five Australians live with chronic pain with 68.3% of people with chronic pain of working age.[2]
- A recent report commissioned by Painaustralia estimated that 3.24 million Australians live with chronic pain and this number is projected to increase to 5.23 million by 2050.[2]
- The cost of pain in Australia is estimated to be $73.2 billion each year including health system costs, productivity losses, other costs (e.g. informal care, aids/modifications).[2]
- Chronic pain for most suffers has a major impact on individuals, their families, workplaces and the community.
- For the individual, chronic pain can lead to poorer quality of life, depression and anxiety, disability, loss of income and unemployment, impact on education, and feeling of stigmatisation and exclusion.

Surgery

- Chronic postsurgical pain (CPSP) is common and can lead to significant disability.
- The one-year incidence of moderate to severe CPSP is approximately 12% for adults and approximately 22% for children.
- CPSP is a growing public health problem with 312 million major surgeries performed annually worldwide.

(Sub)acute whiplash

- Whiplash is a major health problem in Australia.
- It is the most common and costly injury following road traffic crashes with up to 50% of those injured still having pain or disability a year later.
- Most recovery, if it occurs, takes place in the first 2-3 months postinjury.

(Sub)acute low back pain

- Low back pain is now the number one cause of disability globally.
- In 2015, the global point prevalence of activity-limiting low back pain was 7·3%, implying that 540 million people were affected at any one time.
- Disability from low back pain is highest in working age groups worldwide.
- Rarely can a specific cause of low back pain be identified; thus, most low back pain is termed non-specific. Non-specific low back pain is estimated to be 90–95% of cases in primary care.
- Most episodes of low back pain improve substantially within 6 weeks, and by 12 months average pain levels are low. However, approximately two-thirds of patients still report some pain at 3 months and 12 months.
- Recurrences of low back pain are common with approximately 33% of people having a recurrence within 1 year of recovering from a previous episode.

Return to work and work-related injuries

- Soft tissue (musculoskeletal) injuries are the most common work-related injuries.
- While little time is lost from work for most cases, a small proportion have delayed recovery and delayed return to work. If a worker is absent from work for 3 months or more following injury, the outlook towards recovery becomes significantly more negative. The longer an injured worker is absent from work the

[2] Deloitte Access Economics. The cost of pain in Australia. Painaustralia March 2018.

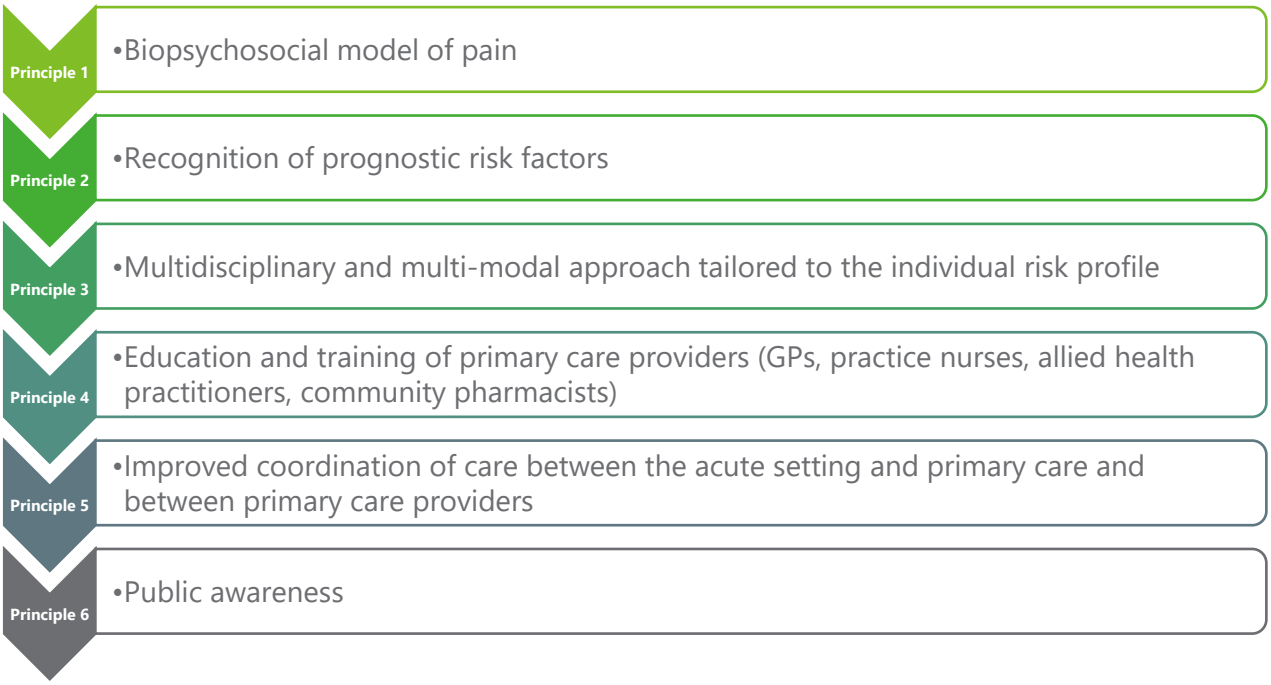
higher is their risk of never returning to work; longer term ill-health and financial insecurity; and costs to the community.
- Getting back to work-related activities is good for injured workers' long-term health and well-being.

Opioids

- Opioids are not recommended for chronic pain and have led to harm such as addiction, overdose and death.
- Current practices for the prescription of opioids at discharge after surgery are highly variable and often excessive, elevating the risk of opioid dependence.
- Many surgical procedures are associated with increased risk of chronic opioid use.
- High postsurgical opioid consumption is a risk factor for chronic postsurgical pain.
- After surgery and injury, short-term opioid therapy may lead to long-term opioid use.
- Continued use of opioids after work-related injuries delays recovery and poorer return to work outcomes.

Principles for the secondary prevention of chronic pain

The principles for the secondary prevention of chronic pain were derived from a synthesis of relevant Australian and international guidelines and systematic and narrative reviews. The *Principles for the secondary prevention of chronic pain* are outlined as follows:



See **Section 4** of the main report for the key elements of the *Principles for the secondary prevention of chronic pain*.

Prognostic risk factors for the progression from acute to chronic pain

The biopsychosocial model has been applied as a framework for understanding the complexity of progression of acute pain to chronic pain. Identifying people at risk of developing chronic pain is crucial. Risk factors for poor recovery are well documented and include psychological and social factors.

Risk factors can be identified early, and treatment can be tailored to the individual's risk profile to help prevent the progression to chronic pain.

However, there is a paucity of research related to the implementation of screening tools and risk-based interventions in the primary care setting. Education and training of primary care providers is needed so that clinicians understand the purpose of using a specific screening tool, how to use the screening tool *in the context of their own clinical reasoning* and how to communicate the results to patients.

Screening tools that have been used most widely include:

- The **STarT Back tool** has been used in primary care in the UK to identify low, medium or high risk of persistent disability in patients with low back pain and the Keele research group have developed online training to use the tool in routine care.
- The 10-item Swedish scale (the **Orebro Musculoskeletal Pain Screening Questionnaire** - Short-Form - OMPSQ-SF) has been used with injured workers in Australia with pain at any site, and training (online and face to face) is available for its use.
- A **clinical prediction rule** (CPR) has been used in the research setting in Australia to identify people who are at high risk of poor recovery in the early post injury stage for people with whiplash-associated disorder.

Screening tools in the postoperative setting are usually surgery-type specific and implemented in the hospital setting. One generic tool assesses the effect of 14 biomedical and psychosocial items that were derived from a systematic review of the CPSP risk factor literature.

For more information about risk factors, 'yellow flags' and screening tools see *Section 6.1 Supporting evidence* in the main report.

Mapping of the options for Primary Health Networks

A range of policy options for the secondary prevention of chronic pain have been developed based on the rapid review of the evidence and the consultations with PHNs conducted in Phase 1 of the project. The policy options have been stratified by the three goals of chronic pain initiatives implemented by PHNs, developed in Phase 1 of the project.

The options are suggestions only and have been mapped to promote discussion in the dialogue. Each option will require different implementation considerations, organisational change/behaviour change and funding requirements and each option will need to be adapted to the local PHN context.

After the dialogue, the mapping of the options will be updated to incorporate relevant initiatives that PHN representatives know of, or have implemented, or are implementing or plan to implement that are not represented in this version of the mapping of the options.

Goal 1: Access to multidisciplinary care and improving consumer health literacy and care navigation

a	**Face-to-face multidisciplinary[3] consumer pain program**	• Implementation of a face-to-face multidisciplinary consumer pain program for consumers with (sub)acute pain at risk of developing chronic pain with referrals by GP, specialist or allied health practitioners (with GP final sign-off) • A consumer pain program could also be tailored to specific (sub)acute consumer pain populations [e.g. post-surgery, post-injury, (sub)acute back pain]

[3] Multidisciplinary treatments are treatments that target physical as well as psychological or social aspects of pain and involve a team of healthcare providers with different professional backgrounds and training (Martin et al 2017 Cochrane Database of Systematic Reviews)

		• A consumer pain program could also be tailored to specific groups including Aboriginal and Torres Strait Islander peoples, people from culturally and linguistically diverse backgrounds, people from rural and remote areas, older Australians, people with dementia, children and young people and other relevant groups. • *For a summary of the enablers to implementing consumer pain programs identified in the consultation with PHNs in Phase 1 of the Chronic Pain Project see* **Appendix 5**.
b	**Psychologically informed physical therapy program**	• Implementation of a psychologically informed physical therapy program for consumers with (sub)acute pain at risk of developing chronic pain with referrals by GP or specialist to a physiotherapist with psychologically informed practice training (e.g. graded exercise and goal setting, cognitive and behavioural strategies, promotion of self-management) • Provide additional psychologically informed physical therapy training for physiotherapists e.g. 3-step training approach: a treatment manual, an experiential workshop, and ongoing supervision with consultation and feedback (or promote education and training offered by other agencies)
c	**Consumer initiative related to safe & effective use of medications & tapering of opioids**	• Implementation of a consumer initiative about simple analgesics, safe and effective use of medications and tapering of opioids • A consumer initiative could be embedded in a face-to-face multidisciplinary consumer pain program; or as a separate consumer workshop/education session(s) • A consumer initiative could provide individual sessions with a primary care provider (implementing education and behavioural strategies e.g. identifying practical and psychological barriers to tapering opioids and problem-solving solutions, non-pharmacological options, cognitive and behavioural strategies and goal setting)
d	**Telehealth assisted allied health services (individual/group sessions)**	• Implementation of telehealth (telemedicine) for consumers with (sub)acute pain at risk of developing chronic pain • Telehealth could be used to provide individual sessions with an allied health practitioner such as a physiotherapist or clinical psychologist e.g. Telehealth in Murrumbidgee Local Health District, connecting a senior physiotherapist in Griffith (base site) to the patient and an allied health assistant in Hay (recipient site) • Telehealth could be used to provide a multidisciplinary consumer pain program including group-based activities (e.g. education, exercise) and individual sessions • *Information and support to implement telehealth* includes: o NHMRC Centre for Research Excellence in Telehealth Policy Digest o A Practical Guide to Knowledge Translation in Telehealth (2016) NHMRC Centre for Research Excellence o NSW Agency for Clinical Innovation (ACI) Chronic Pain Telehealth Toolkit (2015) o NSW Agency for Clinical Innovation (ACI) Telehealth in practice guide (2019) o NSW Agency for Clinical Innovation runs a Virtual forum of the Telehealth Capability Interest Group o NSW Agency for Clinical Innovation. Improving physiotherapy access using telehealth. Murrumbidgee Local Health District, Report, 2018 o NSW Agency for Clinical Innovation. Chronic Pain-Telehealth Pilot Project Evaluation Report, 2016

		○ The Allied Health Telehealth Capacity Building Scoping Project 2015 (Queensland Health) ○ The Allied Health Telehealth education package including an online, on demand training package (Queensland Health) ○ Evaluation Resource Guide: Allied Health Telehealth Capacity Building Project 2016 (Queensland Health) ○ The Allied Health Telehealth Network providing email group, intranet and scheduled videoconference presentations (Queensland Health) • *For more information see* **Appendix 10**.
e	**Community awareness campaign**	• Implementation of a community awareness campaign to improve the community's understanding of pain; risk factors for progression of (sub)acute pain to chronic pain; promote self-management and non-pharmacological approaches to (sub)acute pain; and promote safe and effective use of medicines. • A community awareness campaign could be delivered via social media, television, radio, print media or community events • A community awareness campaign could also be tailored to specific (sub)acute pain populations [e.g. post-surgery, post-injury, (sub)acute back pain]; or tailored to specific groups (see above)
f	**Peer support group/network**	• Implementation of a peer support group/network for consumers with (sub)acute pain at risk of developing chronic pain • A peer support group/network could be delivered face-to-face, online or via social media • A peer support group/network could also be tailored to specific (sub)acute pain populations [e.g. post-surgery, post-injury, (sub)acute back pain]; or tailored to specific groups (see above)
g	**Online consumer pain program**	• Implementation of an online consumer pain program for consumers with (sub)acute pain at risk of developing chronic pain with varying levels of support from a primary care provider (e.g. psychologist, physiotherapist training in psychological strategies) • An online consumer pain program could also be tailored to specific (sub)acute pain populations [e.g. post-surgery, post-injury, (sub)acute back pain]; or tailored to specific groups (see above) • An online consumer pain program could provide information about pain, self-management and non-pharmacological approaches (e.g. keeping active, pacing, challenging unhelpful thoughts, simple coping strategies, relaxation and stress management, sleep, return to work); help consumers set goals and undertake graded exercise; and provide information about simple analgesics and tapering of opioids
h	**Mobile app for the post-surgery or post-injury phase or (sub)acute back pain**	• Development and implementation of a mobile app for consumers with (sub)acute pain at risk of developing chronic pain • A mobile app could also be tailored to specific (sub)acute pain populations [e.g. post-surgery, post-injury, (sub)acute back pain]; or tailored to specific groups (see above) • A mobile app could provide information and strategies similar to an online consumer pain program (see above)

i	**Promotion of relevant consumer resources**	• Promotion of relevant consumer resources via consumer and health professional networks (events and newsletters), HealthPathways and online consumer distribution platforms and information portals.
		• *Examples of consumer resources:*
		  ○ NSW Agency for Clinical Innovation (ACI) - Best practice care for people with acute low back pain
		  ○ painHEALTH
		  ○ PAIN-ED
		  ○ Painaustralia
		  ○ Brainman brief educational videos
		  ○ Keele group - the IMPaCT Back study - online training (UK)
		  ○ NPS MedicineWise consumer information
		  ○ Whiplash Injury Recovery - a Self Help Guide to aid the recovery of people with a whiplash injury - Motor Accident Insurance Commission
		• *For more information about the above consumer resources and for additional consumer resources see* **Appendix 9.**

j	**Other consumer or community initiative**	• Other consumer or community initiative related to the secondary prevention of chronic pain

Goal 2: Ensuring health professionals are skilled and provide best-practice evidence-based care

a	**Face-to-face and/or online education and training**	• Implementation of face-to-face and/or online education and training for primary care providers relevant to patients with (sub)acute pain and specific (sub)acute pain populations [e.g. post-surgery, post-injury, (sub)acute back pain]
		• Education and training should involve a range of primary care providers including practice nurses, allied health practitioners and community pharmacists as well as GPs (or provide education and training for different disciplines)
		• Face-to-face and/or online education and training should address the following issues (see *Principles for the secondary prevention of chronic pain*):
		  ○ How to explain pain to patients and language to avoid/use
		  ○ When to use imaging and how to explain imaging results to patients
		  ○ What are the risk factors for the progression of acute pain to chronic pain
		  ○ How to assess patients for risk factors for poor recovery to inform type of treatment ('yellow flags')
		  ○ How to use specific screening tools in the context of clinician's own clinical reasoning
		  ○ How to help patients set goals and promote self-management, pacing and other non-pharmacological approaches
		  ○ How to apply simple coping methods and behavioural strategies
		  ○ Referring to allied health practitioners (e.g. physiotherapists, psychologists)
		  ○ Safe and effective use of medications: appropriate opioid prescribing, non-initiation and deprescribing of opioids and non-opioid pain analgesic medicines
		  ○ Scheduling times for follow-up review to monitor patient progress (e.g. at 2, 6 and 12 weeks)

		○ Communicating with hospital services and other primary care providers ○ Timely referral to specialist services (e.g. at 12 weeks) if appropriate ○ Return to work approaches, capacity certification and the compensable environment • Additional education and training could be provided for physiotherapists about psychologically informed physical therapy e.g. 3-step training approach: a treatment manual, an experiential workshop, and ongoing supervision with consultation and feedback (or promote education and training offered by other agencies) • Education and training could also be provided for working with relevant population groups including Aboriginal and Torres Strait Islander peoples, people from culturally and linguistically diverse backgrounds, people from rural and remote areas, older Australians, people with dementia, children and young people and other relevant groups • *For a summary of the enablers to implementing education and training initiatives identified in the consultation with PHNs in Phase 1 of the Chronic Pain Project see* **Appendix 6**.
b	**Initiative about opioids**	• Implementation of an initiative for primary care providers about opioids including prescribing, non-initiation and deprescribing of opioids • Involve education and/or behavioural strategies (e.g. clinical reminder system)
c	**Interdisciplinary community of practice**	• Implementation of a face-to-face and/or online interdisciplinary community of practice related to the secondary prevention of chronic pain; or as part of a chronic pain, mental health, Alcohol and Other Drugs (AOD) and/or chronic disease community of practice • To improve clinical practice, build relationships, promote knowledge-sharing and referral pathways
d	**Network for primary care providers involved in a specific face-to-face consumer pain program**	• Implementation of a network for primary care providers involved in a *specific* face-to-face consumer pain program • A primary care provider network could be developed alongside a consumer pain program for people with (sub)acute pain at risk of developing chronic pain
e	**Promotion of relevant education and training and resources offered by other agencies**	• Promotion of relevant education and training and resources for primary care providers offered by other agencies via health professional networks (events and newsletters) and HealthPathways • *Examples include:* ○ NSW Agency for Clinical Innovation (ACI) Management of people with acute low back pain (2016) ○ NPS Medicine Wise clinical resources about acute non-specific low back pain; Taking Action for Acute Low Back Pain - Online Case Study - 2018 – 2019 ○ Better Pain Management online program - Faculty of Pain Medicine (FPM) and the Australian and New Zealand College of Anaesthetists (ANZCA)

		○ Pain Management Research Institute, University of Sydney: Webinar skills training in pain management: putting cognitive behavioural therapy skills into practice ○ Annual Multidisciplinary Pain Management Workshop (1 week) by the Pain Management Research Institute, University of Sydney (PAINRefresh) ○ Keele group - IMPaCT Back study (STarT Back tool)- online training (UK) ○ The Australian Physiotherapy Association Level 1 course specifically targeting screening in the acute pain phase and how to prevent chronic pain ○ Pain Revolution ○ Curtin University School of Physiotherapy and Exercise Science ○ The University of Sydney Master of Medicine (Pain Management) ○ Royal Australian and New Zealand College of Radiologists (RANZCR) Educational modules (EMs) have been developed to improve the appropriateness of referrals for medical imaging ○ Royal Australian College of General Practitioners (RACGP): ▪ Webinar to equips GPs with the knowledge to help patients re-establish their health through active self-management and managing common complicating aspects of chronic pain ▪ Active learning modules: Cognitive behavioural therapy skills for general practice (not pain specific) ▪ Active learning modules: Psychological strategies skills training (not pain specific) ▪ Assessment and Management of Acute Pain - Interactive Online Module • *For more information about the above and for additional education and training opportunities and resources offered by other agencies see* **Appendix 10**.
f	**Other health professional capacity building initiative**	• Other health professional capacity building initiative related to the secondary prevention of chronic pain

Goal 3: Quality improvement and health system support

a	**Implementation of HealthPathways**	• Implementation of HealthPathways to assist general practitioners (GPs) with the management of patients and the referral of patients to specialists and allied health professionals. • Develop relevant referral pathways to assess and manage patients with (sub)acute pain (including post-surgery, post-injury and (sub)acute low back pain populations) including referral pathways to allied health practitioners and specialist services (if required at 12 weeks) • Provide information about risk factors and screening tools; self-management, goal-setting, pacing and non-pharmacological approaches; simple coping methods and behavioural strategies; opioid deprescribing; and follow-up (see *Principle 4: Education and training of primary care providers*) • Provide clinicians with links to relevant education and training and other health professional resources

		• Enablers highlighted in recent research include: establishing workgroups (with GPs, specialists, allied health professionals) to create a sense of community and momentum, a forum for identifying system and service level issues and key insights and as a way of disseminating information; involving a range of clinicians in implementation to enable 'buy-in' including senior clinicians and executive staff; focusing on GPs that are new to the district (including visits and training); utilising existing PHN training events; and thinking about how to engage clinicians that are outside the normal engagement channels. • Researchers also highlight that patients and clinicians do not think in terms of PHN boundaries and there is a need to create access to different pathways outside PHN boundaries. • *For a summary of the enablers to implementing Healthpathways identified in the consultation with PHNs in Phase 1 of the Chronic Pain Project see* **Appendix 7**.
b	**Transitional care/discharge planning initiative**	• Implementation of a transitional care initiative to improve discharge planning, and communication between hospital and primary care providers about pharmacological and non-pharmacological pain management and tapering of opioids. • Examples from the research of transitional care initiatives include medication reconciliation (medicines the patient should be prescribed match those that are prescribed) with active patient counselling and a clinical medication review by GP (or possibly community pharmacist); electronic tools to facilitate quick, clear, and structured summary generation; discharge planning; shared involvement in follow-up by hospital and community care providers; use of electronic discharge notifications; and Web-based access to discharge information for general practitioners.
c	**ePPOC**	• Electronic Persistent Pain Outcomes Collaboration (ePPOC), a national benchmarking system for the pain sector, could support the evaluation of a consumer pain program for consumers with (sub)acute pain at risk of developing chronic pain.
d	**Prescription drug monitoring systems**	• Support for the implementation of prescription drug monitoring systems e.g. SafeScript
e	**Other health system support initiative**	• Other health system support initiative related to the secondary prevention of chronic pain

Supporting evidence

Although risk factors can identify individuals that are likely to develop chronic pain, there is a paucity of research about interventions to prevent chronic pain. Furthermore, there is limited research about health professional capacity building and health system support initiatives relevant to the secondary prevention of chronic pain.

In addition, very few initiatives identified in this rapid review were implemented in the primary care setting.

See **Section 6** for a narrative synthesis of the evidence related to the secondary prevention of chronic pain and case study examples including:

- Consumer and community initiatives in six key areas: i) multifocal or not condition specific ii) surgery iii) (sub)acute whiplash iv) (sub)acute low back pain v) return to work and work-related injuries vi) opioid consumer initiatives
- Health professional capacity building initiatives
- Health system support initiatives.

Examples of relevant research currently being conducted

- (Australia) The Opioid Early Intervention Pilot Project. Western Victoria PHN has contracted La Trobe University to undertake this pilot project in three pharmacies. For more information *see Section 6: Supporting evidence, PHN initiatives related to Goal 1 (consumer and community initiatives)*.
- (Australia) Implementation of a clinical PAthway of CarE to improve patient health outcomes and reduce costs for common musculoskeletal disorders (low back pain, neck pain or whiplash, knee osteoarthritis) in primary care (PACE study). Patients are identified within four weeks of seeking care. For more information *see Section 6: Supporting evidence, Focus area 1- multi-modal or not condition specific.*
- (Australia) multi-centre, randomised controlled trial (Whiplash ImPaCT) of people within six weeks of their whiplash injury and their primary care providers (including general practitioners, physiotherapists, chiropractors, or osteopaths). For more information *see Section 6: Supporting evidence, Focus area 3- (sub)acute whiplash.*
- (US) Targeted interventions to prevent chronic low back pain in high-risk patients in primary care: A multi-site pragmatic cluster randomized controlled trial (TARGET Trial). For more information *see Section 6: Supporting evidence, Focus area 4- (sub)acute low back pain.*

Examples of initiatives 'in the pipeline'

- A potential prototype has been developed for adapting the *Turning Pain Into Gain* consumer pain program for consumers with (sub)acute pain at risk of developing chronic pain. For more information see **Appendix 8**.
- The Pain Prescribing on Discharge Working Group including the Top End Health Service (TEHS) and the NT PHN, funded by the NT Department of Health. The PHN role will be to support the development of health literacy tools that are appropriate for the Indigenous population (patients will be provided with information on discharge); and to support integration of care between hospitals and primary care.

Conclusion

The biopsychosocial model is widely accepted as the best approach to the assessment, secondary prevention and treatment of chronic pain. Although the research related to secondary prevention of chronic pain is limited, there are opportunities for PHNs to improve the secondary prevention of chronic pain as outlined in the mapping of the options for PHNs presented in this review.

1. Chronic Pain Project

The Chronic Pain Project[4] at The Australian Prevention Partnership Centre is funded by the Medical Research Future Fund Boosting Preventive Health Research Program. Additional funding to support this project has been provided by the Sydney Medical School Foundation, University of Sydney.

The overall objectives of the Chronic Pain Project are to:

1. Synthesise knowledge about the secondary prevention and management of chronic pain; and
2. Improve knowledge, knowledge-sharing and knowledge use among Primary Health Networks (PHNs) about options to address the secondary prevention and management of chronic pain in primary care.

Definitions

- **Pain** is defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.
- **Chronic pain** is defined as pain that lasts or recurs for more than three months. Chronic pain has recently been classified as a disease in itself by the World Health Organization, International Classification of Diseases (WHO-ICD-11).
- **Acute pain** is defined as pain that occurs immediately post-trauma or post-surgery. It is often self-limiting and usually resolves with healing within 3 months.
- **Subacute pain** is defined as the phase that lasts between six to twelve weeks post onset of acute pain.
- **Secondary prevention** of chronic pain is the early intervention of acute and subacute pain [herein referred to as (sub)acute] to prevent the progression to chronic pain and associated disability.

Project steering group

A small, time-limited project steering group involving lead clinicians, consumers, PHN and Local Health Network representatives and key researchers in the field was identified with Painaustralia (the peak national body for pain advocacy and policy) to provide rapid guidance and input across the course of the project. Steering group members are listed in **Appendix 1**.

Role of the Primary Health Networks (PHNs)

The Primary Health Networks Program (PHN Program) commenced in 2015 with the establishment of 31 Primary Health Networks (PHNs). PHNs replaced the previous Medicare Local system of 61 regions.

Individual PHNs are responsible for identifying and addressing the primary health needs in their region through strategic planning, commissioning services, supporting general practices and other health care providers and supporting the integration of local health care services. PHNs are expected to respond to the health needs of their region while being guided by the priority areas for targeted work and National priorities as decided by the Government.[5]

PHNs conduct annual Needs Assessments to understand their health and service needs. The Needs Assessments are informed by local, state and national data and consultations with community, health professionals and other

[4] The Australian Prevention Partnership Centre: Strategies and models for preventing or reducing the risk of the development of chronic pain in primary care (2018–2020)

[5] PHN Program Performance and Quality Framework Australian Government September 2018

stakeholders. In the context of commissioning, the annual Needs Assessments is part of the cycle of evidence-based planning, priority setting, commissioning, decommissioning and outcome appraisal.[6,7]

Methodology of the Chronic Pain Project

Phase 1

1. **A scoping literature review** to identify the evidence related to the prevention and management of chronic pain in primary care in Australia.[8]
2. **Review of PHN recent Needs Assessments** to assess whether chronic pain has been identified by PHNs as a health or service need and the key issues identified by PHNs related to chronic pain. For more information see the *Review of the Primary Health Networks Needs Assessments*.[9]
3. **Consultation (interviews and a survey) with key representatives from PHNs,**[10]including executive level staff and program managers. Twenty-five PHNs and one state PHN alliance (WA Primary Health Alliance[11]) participated in the consultation. The consultation with PHNs aimed to understand the extent that chronic pain has been identified by PHNs as a health and/or service need and/or priority and the scope of work currently being delivered and commissioned by PHNs related to the prevention and management of chronic pain in primary care and to identify gaps.
4. **Workshop with PHNs**[12] to translate the findings from the consultations and to foster collaboration between PHNs with a focus on chronic pain and implementation of initiatives

Phase 2

1. **Deliberative dialogue with PHNs** about the secondary prevention of chronic pain
2. Other strategies implemented in Phase 2 of the project are yet to be determined. This is consistent with an **emergent methodology** where the specific implementation strategies are selected in response to emerging findings in the project.

A framework of the types of chronic pain initiatives implemented in PHNs

In Phase 1 of the Chronic Pain Project, a framework of the different types of initiatives that PHNs were implementing related to the secondary prevention and management of chronic pain was developed. The framework is based on three goals adapted from the goals of the National Pain Strategy (Painaustralia)[13] and aligned with PHNs' remit**:**

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[6] Department of Health. PHN needs assessment guide. 2015. Available at: http://www.health.gov.au/internet/main/publishing.nsf/Content/PHNNeeds_Assessment_Guide [June 2016].

[7] Anstey M, Burgess P, Angus L. Realising the potential of health needs assessments. Australian Health Review. 2018 Aug 17;42(4):370-3.

[8] Walker P, De Morgan S and Blyth FM. (Draft) Scoping review of Australian pain initiatives in primary care. The Australian Prevention Partnership Centre and the University of Sydney. 2019.

[9] De Morgan S, Blyth F and Walker P. Review of the Primary Health Networks Needs Assessments. The Australian Prevention Partnership Centre and the University of Sydney, September 2018.

[10] De Morgan S, Walker P and Blyth F. Review of Primary Health Network Chronic Pain Initiatives: Summary of findings from the consultation with Primary Health Networks. The Australian Prevention Partnership Centre and the University of Sydney, June 2019.

[11] WA Primary Health Alliance oversees the strategic commissioning functions of the three Western Australian Primary Health Networks: Perth North, Perth South and Country WA.

[12] Walker P, De Morgan S, Blyth FM, Wilson A, Sanders D and Nicholas M. PHN Chronic Pain Workshop Summary. The Australian Prevention Partnership Centre and the University of Sydney, March 2019.

[13] Pain Australia. National Pain Strategy 2010. Available at: www.painaustralia.org.au/the-national-pain-strategy/national-painstrategy.html

Goal 1: Access to multidisciplinary care and improving consumer health literacy and care navigation

Goal 2: Ensuring health professionals are skilled and provide best-practice evidence-based care

Goal 3: Quality improvement and health system support

Figure 1: Goals of the chronic pain initiatives implemented by Primary Health Networks (PHNs)

The goals align with PHNs' remit to commission health services to meet local service needs; to support primary care providers; and to improve health systems to enable better coordination of care.

See **Figure 2** for the framework of the types of chronic pain initiatives implemented by PHNs. The definitions of the types of chronic pain initiatives outlined in the framework are provided in **Appendix 2**.

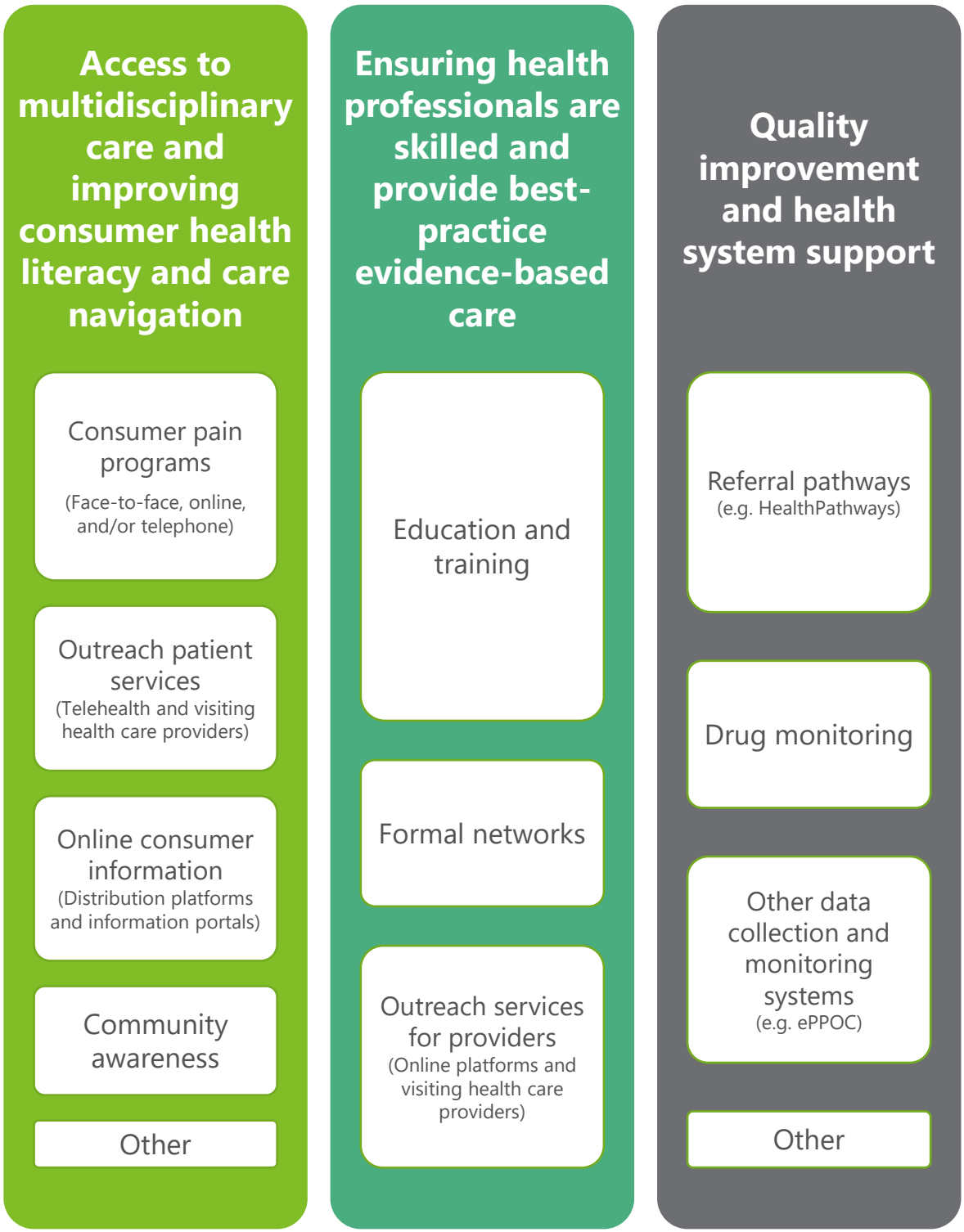

Figure 2: A framework of the types of chronic pain initiatives implemented by Primary Health Networks (PHNs)

2. Deliberative dialogue with PHNs

The purpose of the rapid review is to inform a deliberative dialogue with Primary Health Networks (PHNs) about the secondary prevention of chronic pain.

A deliberative dialogue is an evidence-based method used to support policy making by discussing and contextualising research evidence in the light of the real-world experiences of policymakers.(1-3)

The deliberative dialogue will provide an opportunity for PHNs to discuss implementation considerations, organisational change/behaviour change and funding requirements for a range of policy options related to the secondary prevention of chronic pain. The dialogue will help PHNs to identify the option(s) that may be appropriate for their PHN to implement considering their local context, needs and resources.

Key features of the deliberative dialogue

The key features of the deliberative dialogue are informed by the evidence.(1-5)

The dialogue:

- Addresses a key problem currently being faced in Australia (and internationally)
- Is informed by the peer-review and grey literature (rapid review pre-circulated to participants)
- Engages a wide range of PHNs (including different states and territories, metropolitan and regional PHNs)
- Focuses on options for PHNs to help address the problem and implementation considerations
- Recognises the similarities and differences between PHNs and does not aim for consensus or 'one solution fits all model'. It recognises that there are a range of options and the importance of the local context and differences in resources and capacity.
- Recognises that participants' views, experience and knowledge are key inputs to the dialogue
- Allows for frank off the record discussion
- Engages two facilitators to assist with the discussion
- Is designed to increase participants' knowledge of the problem and options to address the problem
- Aims to spark insights which occur when those involving in addressing a problem are brought together
- Aims to generate action while recognising the resource limitations faced by PHNs

Aims of the deliberative dialogue

The purpose of the deliberative dialogue is to:

1. Provide context to PHNs about the problem
2. Provide a map of the options to improve the secondary prevention of chronic pain identified in the peer-review and the grey literature including initiatives currently implemented by PHNs (identified by the consultation with PHNs in Phase 1 of the Chronic Pain Project)
3. Provide PHNs with the opportunity to share their knowledge about relevant initiatives that they know of, or have implemented, are implementing or plan to implement
4. Provide PHNs with the opportunity to discuss the options and problem-solve what type(s) of initiatives would be most suitable to their PHN considering their needs and resources
5. Provide PHNs with the opportunity to discuss implementation and resource and capacity requirements

Outcomes of the deliberative dialogue

The dialogue aims to:

1. Improve PHNs' knowledge of the options for the secondary prevention of chronic pain
2. Help PHNs to identify initiatives that may be feasible for their PHN to implement and improve their knowledge about implementation considerations
3. Foster collaboration between PHNs with similar interests
4. Increase the number of initiatives implemented by PHNs related to the secondary prevention of chronic pain

Format of the deliberative dialogue

- The format of the deliberative dialogue is outlined in the agenda in **Appendix 3**
- Participants are encouraged to form ongoing networks after the dialogue with other PHNs who are interested in implementing or currently implementing similar types of initiatives: A participant list will be circulated before the end of the dialogue and participants are given the opportunity to record the type(s) of initiative(s) that they are most interested in discussing with other PHNs and whether they would like to take on a co-ordination role
- Dialogue summary to be sent to participants after the dialogue

Evaluation of the deliberative dialogue

1. Evaluation survey completed by participants on the day of the deliberative dialogue
2. A brief telephone interview with participants five months after the deliberative dialogue

Update of the rapid review

This version of the rapid review will be updated after the deliberative dialogue to incorporate initiatives that participants know of, have implemented, are implementing, plan to implement or think would be beneficial that are not currently included in the review.

3. Scope of the rapid review

Aims

The rapid review aims to identify the evidence related to the secondary prevention of chronic pain (that is, the early intervention of (sub)acute pain to prevent the progression to chronic pain).

The rapid review will seek to answer the following questions:

i. What are the key principles related to the secondary prevention of chronic pain highlighted in the evidence?

ii. What strategies related to Goal 1 (consumer and community strategies) have been shown to be effective for the secondary prevention of chronic pain with a focus on six key areas: i) multifocal or not condition specific; ii) surgery; iii) (sub) acute whiplash; iv) (sub)acute low back pain; v) return to work and work-related injuries; and vi) opioid consumer initiatives? Systematic and narrative reviews, case study examples, initiatives 'in the pipeline' and consumer resources will be identified.

iii. What strategies related to Goal 2 (health professional capacity building) have been shown to be effective for the secondary prevention of chronic pain? Systematic and narrative reviews, case study examples, initiatives 'in the pipeline' and health professional education and training opportunities will be identified.

iv. What strategies related to Goal 3 (health system support) have been shown to be effective for the secondary prevention of chronic pain? Systematic and narrative reviews, case study examples and initiatives 'in the pipeline' will be identified.

The rapid review will include strategies implemented in the primary care setting as well as strategies implemented in hospital and compensable settings that have the potential to be adapted to the primary care setting.

Evidence sources include the following:

- Peer review literature including clinical practice guidelines, systematic and narrative reviews, randomised controlled trials and protocols, and observational studies (Australia, UK, Europe, USA, Canada and New Zealand)
- Grey literature from key agencies in Australia and internationally (see **Appendix 4**)
- Consultation with PHNs conducted in Phase 1 of the Chronic Pain Project [14]
- Evidence identified by key stakeholders

The rapid review does not aim to systematically or comprehensively search for, or synthesise, all the relevant evidence related to the secondary prevention of chronic pain.

The rapid review is a narrative synthesis of the evidence in the selected bodies of evidence and will highlight case study examples. The evidence informs the development of the *Principles for the secondary prevention of chronic pain* and the mapping of the policy options for PHNs to address the secondary prevention of chronic pain.

Search strategy

The following search strategy was used in the rapid review:

[14] De Morgan S, Walker P and Blyth F. Secondary prevention of chronic pain: Summary of findings from the consultation with Primary Health Networks. The Australian Prevention Partnership Centre and the University of Sydney, June 2019.

1. Medline, PsychINFO, Cochrane Database of Systematic Reviews, Joanna Briggs Institute EBP Database and PEDro database search
2. Google and Google Scholar
3. Hand searching of references from relevant papers
4. Grey literature search of key agencies to identify evaluation reports, initiatives (without evaluations) and health professional and consumer resources
5. Relevant literature, evaluation reports and initiatives (without evaluations) identified in the consultation with PHNs in Phase 1 of the Chronic Pain Project [15]
6. Key stakeholders[16] were asked to identify relevant literature, evaluation reports, initiatives (without evaluations), health professional and consumer resources, and research studies and initiatives 'in the pipeline'. Key stakeholders were also asked their expert opinion of the initiatives they thought may be most relevant to PHNs.

For more information about the search strategy see **Appendix 4**.

Inclusion criteria

1. Peer-review publications; evaluation reports; clinical practice guidelines; PHN initiatives (with or without an evaluation report); initiatives identified by PHNs and key stakeholders as 'in the pipeline'; consumer resources; and health professional education and training and other supporting health professional resources
2. Peer-review publications and evaluation reports from Australia or internationally (2005 to the present in the English language)
3. The study design for peer-review publication and evaluation reports includes:
    a. Narrative reviews and scoping reviews
    b. Systematic reviews
    c. Experimental or quasi-experimental study or peer-review protocol
    d. Pre-post-test study, post-test study (observational studies)
4. The evidence relates to consumer and community strategies for the secondary prevention of chronic pain in six key areas: i) multifocal or not condition specific; ii) surgery; iii) (sub)acute whiplash/neck pain; iv) (sub)acute low back pain; v) return to work and work-related injuries; and vi) opioid consumer initiatives
5. The evidence relates to health professional capacity building strategies for the secondary prevention of chronic pain
6. The evidence relates to health system support strategies for the secondary prevention of chronic pain

Exclusion criteria

1. The evidence relates to cancer pain

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[15] De Morgan S, Walker P and Blyth F. Secondary prevention of chronic pain: Summary of findings from the consultation with Primary Health Networks. The Australian Prevention Partnership Centre and the University of Sydney, June 2019.
[16] Professor Helen Slater, Dr Duncan Sanders, Ms Fiona Hodson, Professor Michael Nicholas, Dr Simon Holliday, Ms Joyce McSwan, Dr Stephanie Mathieson

2. The evidence relates to consumer initiatives about pharmacotherapy; or surgical techniques; or physical therapy techniques

Selection of the case study examples

Case studies examples have been selected to demonstrate recent interventions related to the secondary prevention of chronic pain and include a range of healthcare providers and modes (e.g. face-to-face, online). Case study examples from the primary care setting have been prioritised in this review. Case study examples from hospital and compensable settings have been included in the review in areas where there is a lack of evidence relating to interventions in the primary care setting.

4. Principles for the secondary prevention of chronic pain

The *Principles for the secondary prevention of chronic pain* were derived from a synthesis of relevant Australian and international guidelines(6-11) and systematic and narrative reviews.(12-29) The *Principles for the secondary prevention of chronic pain* are outlined as follows:

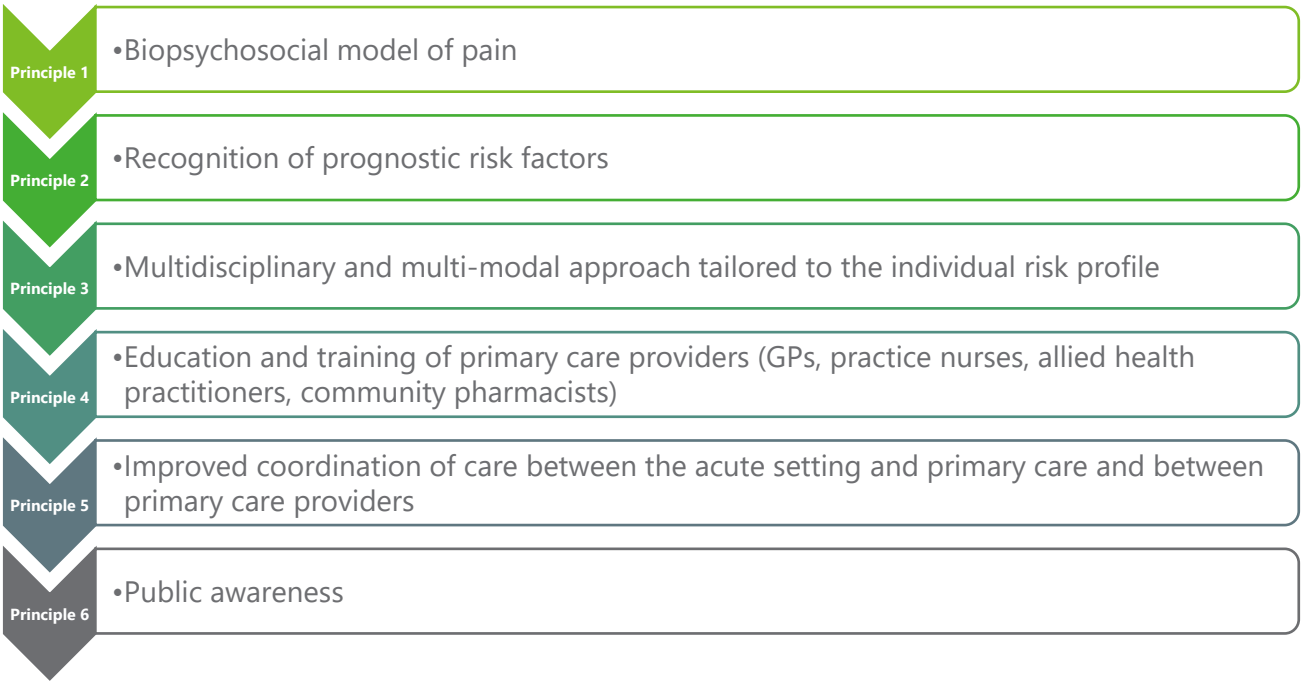

Figure 3: Principles for the secondary prevention of chronic pain

Key elements

The key elements of the *Principles for the secondary prevention of chronic pain* include the following:

Principle 1: Biopsychosocial model of pain

- Pain is highly personal and subjective experience
- Biomedical- what's happening in your body
- Psycho- what's happening to you as a person
- Socio- what's happening in your world

Principle 2: Recognition of prognostic risk factors

- Recognition of risk factors for the progression of (sub)acute pain to chronic pain including demographic, lifestyle, genetic, clinical, surgery related and psychological factors

- Preoperative, perioperative and transitional phase patient assessment and screening
- Consider using a screening tool (e.g. Orebro, STarT Back, surgery-type specific screening tool or generic tool)

Principle 3: Multidisciplinary and multi-modal approach tailored to the individual risk profile

- Tailoring treatment to individual's risk profile
- Encouraging self-management and non-pharmacological options
- Multidisciplinary and multimodal (using one or more treatment modalities) including:
    - Patient education and reassurance
    - Movement/staying active and pacing
    - Physical therapies (e.g. manual therapy, exercise programs)
    - Mind-based therapies to understand the relationship between beliefs and behaviours and develop goal-orientated plans (e.g. cognitive behavioural therapy, psychologically informed physiotherapy, stress management)
    - Pharmacological: safe and effective use of medications; opioid education for consumers including tapering; and use of simple analgesic medicines
- Surgery: preoperative and perioperative education about pain management including coping methods and behavioural strategies, opioid use and goal setting for postoperative phase
- Increase access to care by telehealth and digitally delivered treatments

Principle 4: Education and training of primary care providers (GPs, practice nurses, allied health practitioners, community pharmacists)

- How to explain pain to patients and language to avoid/use
- When to use imaging and how to explain imaging results to patients
- What are the risk factors for the progression of acute pain to chronic pain
- How to assess patients for risk factors for poor recovery to inform type of treatment ('yellow flags')
- How to use specific screening tools in the context of clinician's own clinical reasoning
- How to help patients set goals and promote self-management, pacing and other non-pharmacological approaches
- How to apply simple coping methods and behavioural strategies
- Referring to allied health practitioners (e.g. physiotherapists, psychologists)
- Safe and effective use of medications: appropriate opioid prescribing, non-initiation and deprescribing of opioids and non-opioid pain analgesic medicines
- Scheduling times for follow-up review to monitor patient progress (e.g. at 2, 6 and 12 weeks)
- Communicating with hospital services and other primary care providers
- Timely referral to specialist services (e.g. at 12 weeks) if appropriate
- Return to work approaches, capacity certification and the compensable environment
- Additional training for physiotherapists (e.g. cognitive behavioural therapy, cognitive functional therapy, stress-inoculation)

Principle 5: Improved coordination of care between the acute setting and primary care and between primary care providers

- Greater communication between hospital services and general practice (e.g. discharge/transitional phase planning)
- Greater communication between primary care providers (e.g. GPs and allied health practitioners, practice nurses, community pharmacists)

Principle 6: Public awareness

- Explaining pain
- Risk factors for progression of (sub)acute pain to chronic pain
- Promoting self-management and non-pharmacological approaches
- Safe and effective use of medicines (e.g. opioid education)

Principles for the secondary prevention of chronic pain

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- Biomedical- what's happening in your body
- Psycho- what's happening to you as a person
- Socio- what's happening in your world

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Principles 3: Multidisciplinary and multi-modal approach tailored to the individual

- Tailoring treatment to individual's risk profile
- Encouraging self-management and non-pharmacological options
- Multimodal including:
  - Patient education and reassurance
  - Movement/staying active and pacing
  - Physical therapies (e.g. manual therapy, exercise programs)
  - Mind-based therapies to understand the relationship between beliefs and behaviours and develop goal-orientated plans (e.g. cognitive behavioural therapy, psychologically informed physiotherapy, stress-management)
  - Pharmacological: safe and effective use of medications; opioid education for consumers including tapering; and use of simple analgesic medicines
- Surgery: preoperative and perioperative education about pain management including coping methods and behavioural strategies, opioid use and goal setting for postoperative phase
- Increase access to care by telehealth and digitally delivered treatments

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- Additional training for physiotherapists (e.g. cognitive behavioural approaches)

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- Greater communication between hospital services and general practice (e.g discharge/transitional phase planning)
- Greater communication between primary care providers (e.g. GPs and allied health practitioners, practice nurses, community pharmacists)

Principles 6: Public awareness

- Explaining pain
- Risk factors for progression of (sub)acute pain to chronic pain
- Promoting self-management and non-pharmacological approaches
- Safe and effective use of medicines (e.g. opioid education)

Figure 4: Key elements of the principles for the secondary prevention of chronic

Recognition of prognostic risk factors

The biopsychosocial model has been applied as a framework for understanding the complexity of progression of acute pain to chronic pain. Identifying people at risk of developing chronic pain is crucial. Risk factors for poor recovery are well documented and include psychological and social factors.

Risk factors can be identified early, and treatment can be tailored to the individual's risk profile to help prevent the progression to chronic pain.(26)

Chronic postsurgical pain

Chronic postsurgical pain (CPSP) is defined as pain developing or increasing in intensity after a surgical procedure, in the area of the surgery, persisting beyond the healing process (i.e. at least 3 months) and not better explained by another cause such as infection, malignancy, or a pre-existing pain condition (World Health Organization, International Classification of Diseases WHO-ICD-11).

A recent Lancet series describes postoperative pain management and risk factors for transition from acute to chronic pain after surgery.(13) Risk factors for the development of CPSP are well documented (7, 13, 18, 30, 31) and include the severity of presurgical chronic pain and postsurgical acute pain, intraoperative nerve injury and psychological factors such as anxiety, pain catastrophising depression, psychological vulnerability and stress.

Five core risk factor domains have been identified by the Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials (IMMPACT): demographic, genetic, clinical, surgery related, and psychological.(32, 33) Risk factors for CPSP are not independent of each other, but interlinked and include the following:

1. **Demographics and lifestyle**
    - Age
    - Gender
    - Marital status or living arrangements
    - Education level
    - Employment status
    - Compensation status
    - Obesity
    - Smoking
2. **Genetic**
    - Candidate gene mutations associated with increased pain
3. **Clinical**
    - Surgical factors, including type of surgery, surgical technique (open vs laparoscopic), duration of surgery, type of anaesthesia (general vs regional), and perioperative
    - Analgesic regimen (systemic vs spinal and pre-emptive); surgical complications and re-operating
    - Medical comorbidities
    - Previous disability or pain interference
4. **Preoperative pain (area of operation or elsewhere)**
5. **Postoperative pain (intensity and duration)**
6. **Psychological**
    - Fear or anxiety
    - Depression
    - Pain catastrophising
    - Other psychological issues (e.g. vulnerability factors)

Figure 5 outlines the risk factors for the development of chronic postsurgical pain.

Screening tools are usually surgery-type specific.(13) One generic tool assesses the effect of 14 biomedical and psychosocial items that were derived from a systematic review of the CPSP risk factor literature.(13, 34)

Figure 5: Risk factors for the development of chronic postsurgical pain

Low back pain

A recent Lancet series (28, 29, 35, 36) describes low back pain as a major global challenge requiring urgent action. The series describes the epidemiology of low back pain, the complexity of the condition, risk factors for progression of acute to chronic pain and the evidence to support interventions to improve the prevention and management of low back pain.

The biopsychosocial model has been applied as a framework for understanding the complexity of low back pain disability. Low back pain is a complex condition with multiple contributors to both the pain and associated disability, including psychological factors (e.g. depression, catastrophising, fear avoidance beliefs, social factors (e.g. physical work-loads, education, compensation, work satisfaction), biophysical factors (e.g. previous episodes, back pain intensity and presence of leg pain), comorbidities, and pain-processing mechanisms. Lifestyle factors, such as smoking, obesity, and low levels of physical activity, that relate to poorer general health, are also associated with occurrence of low back pain episodes.(29)

Figure 6 outlines the risk factors for low back pain and associated disability.

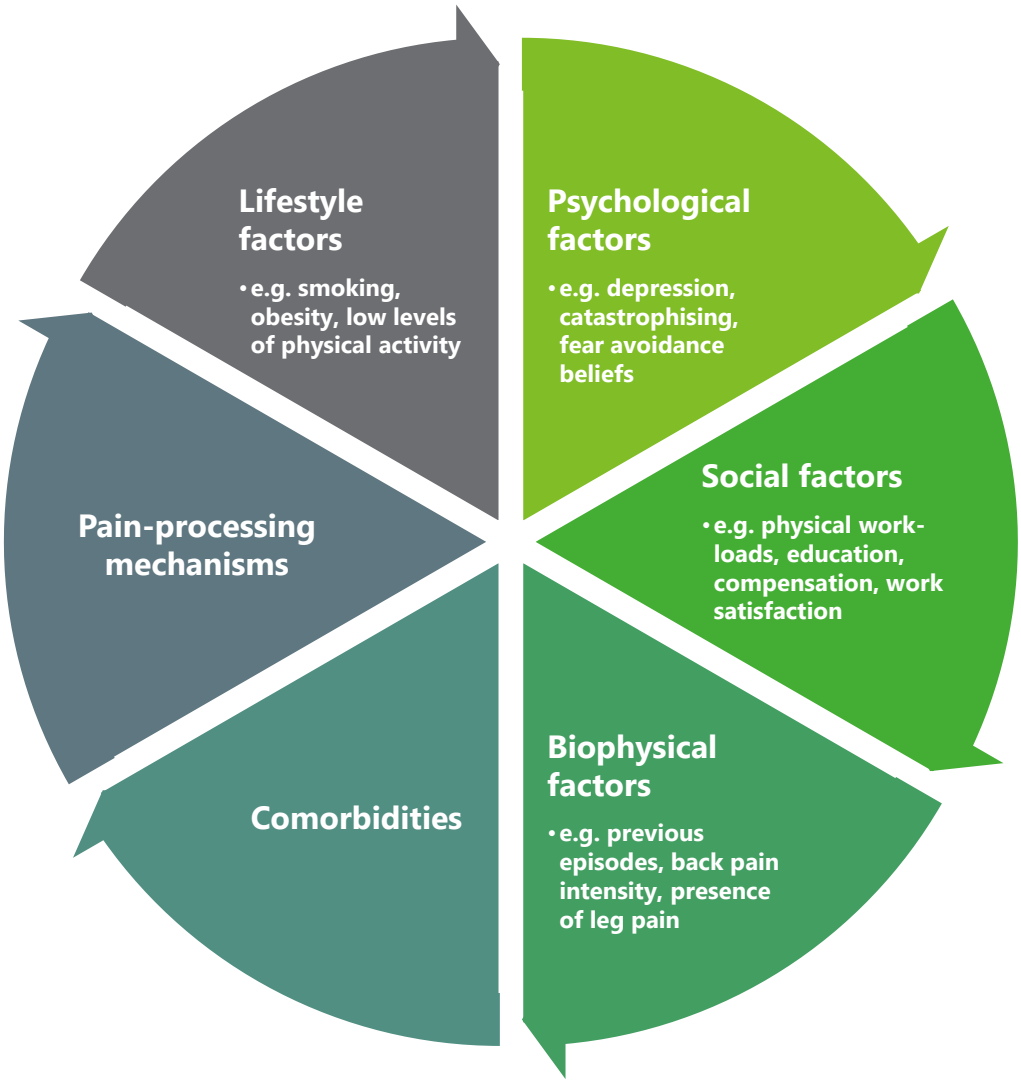

Figure 6: Risk factors for low back pain and associated disability

The NSW Agency for Clinical Innovation (ACI) has recently developed a model of care (MOC) for acute low back pain (2016) that can be applied to primary care and emergency department settings.(10) The MOC supports the identification of 'yellow flags' (26) (see **Figure 7**) to guide the level and type of treatment recommendation and prevent the progression to chronic pain. The MOC recommends using screening tools such as:

- The STarT Back tool (37, 38) has been used in primary care in the UK to identify low, medium or high risk of persistent disability in patients with low back pain and the Keele group have developed online training to use the tool in routine care. For more information see *Section 6.1 Supporting evidence Focus area 4- (sub)acute low back pain*.
- The 10-item Swedish scale (the Orebro Musculoskeletal Pain Screening Questionnaire – Short-Form – OMPSQ-SF) (39, 40) has been used in injured workers in Australia with pain at any site. Training (online and face to face) is available for its use.
- For more information see *Section 6.1 Supporting evidence Focus area 5- Return to work and work-related injuries*.

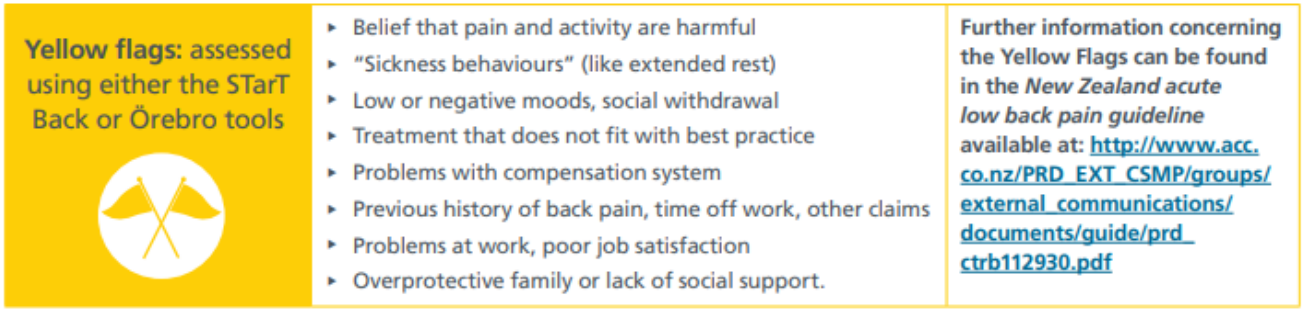

Figure 7: Yellow flags

Whiplash-associated disorder

Current research for acute whiplash-associated disorder is investigating a risk stratification approach to care similar to the approach used in low back pain. The physiotherapist (the most commonly used practitioner delivering care to patients with acute whiplash-associated disorder) provides care that addresses the physical and psychological factors identified in a detailed assessment of the patient.

A clinical prediction rule (CPR) has been validated which can identify patients from the early acute post injury stage who are at high risk of poor recovery at 12 months. The tool can also identify those who are likely to fully recover and a third medium risk group who could either recover or develop chronic pain and disability.(41) However, a qualitative study evaluating the perceptions of physiotherapists, chiropractors and osteopaths of adopting the clinical prediction rule found that clinicians' understanding and use of the tool was mixed. The authors suggest that further education is needed so that clinicians understand the purpose of the tool, how to use the tool in the context of their own clinical reasoning and how to communicate the results to patients.(42)

For more information see *Section 6.1 Supporting evidence Focus area 4- (sub)acute whiplash-associated disorder*.

Return to work and work-related injuries

Psychological and social/environmental factors are predictors for delayed recovery and disability associated with chronic pain for injured workers.(39) Legal involvement in an injury and an associated compensation claim following an injury are also associated with worse physical and psychological functional outcomes.(43)

A validation study of Örebro Musculoskeletal Pain Screening Questionnaire-short version (ÖMPSQ-SF) to predict time to return to pre-injury work duties following a work-related soft tissue injury (regardless of body location) provides strong support for the use of the ÖMPSQ-SF in an applied setting for identifying those injured workers likely to have delayed return to work when administered within 15 days of the injury.(40)

For more information see *Section 6.1 Supporting evidence Focus area 5- Return to work and work-related injuries*.

Overall comments

Identifying people at risk of developing chronic pain is crucial. Risk factors for poor recovery are well documented and include psychological and social factors. Risk factors can be identified early, and treatment can be tailored to the individual's risk profile to help prevent the progression to chronic pain. However, there is a paucity of research related to the implementation of screening tools in the primary care setting. Education and training of primary care providers is needed so that clinicians understand the purpose of using a specific screening tool, how to use the screening tool *in the context of their own clinical reasoning* and how to communicate the results to patients.

5. Mapping of the options for Primary Health Networks

A range of policy options for the secondary prevention of chronic pain have been developed based on the rapid review of the evidence and the consultations with PHNs conducted in Phase 1 of the project. The policy options have been stratified by the three goals of chronic pain initiatives implemented by PHNs, developed in Phase 1 of the project.

The options are suggestions only and have been mapped to promote discussion in the dialogue. Each option will require different implementation considerations, organisational change/behaviour change and funding requirements and each option will need to be adapted to the local PHN context.

After the dialogue, the mapping of the options will be updated to incorporate relevant initiatives that PHN representatives know of, or have implemented, or are implementing or plan to implement that are not represented in this version of the mapping of the options.

Figures 8-10 provide an outline of the options related to the three goals and **Table 1-3** provide an outline of the evidence informing the options.

Options related to Goal 1 (consumer and community initiatives)

Goal 1: Access to multidisciplinary care and improving consumer health literacy and care navigation

Face-to-face multidisciplinary consumer pain program

- A face-to-face multidisciplinary consumer pain program for **consumers with (sub)acute pain at risk of developing chronic pain**
- With **referrals** by GP, specialist or allied health practitioners (with GP final sign-off)
- Pain program could also be **tailored to specific (sub)acute consumer pain** populations [e.g. post-surgery, post-injury, (sub)acute back pain]
- Pain program could also **be tailored to specific groups** including Aboriginal and Torres Strait Islander peoples, people from culturally and linguistically diverse backgrounds, people from rural and remote areas, older Australians, people with dementia, children and young people and other relevant groups.

Psychologically informed physical therapy program

- Psychologically informed physical therapy program **for consumers with (sub)acute pain at risk of developing chronic pain**
- With **referrals** by GP or specialist to a physiotherapist with psychologically informed practice training (e.g. graded exercise and goal setting, cognitive and behavioural strategies, promotion of self-management)
- Provide **additional psychologically informed physical therapy training** for physiotherapists e.g. 3-step training approach: a treatment manual, an experiential workshop, and ongoing supervision with consultation and feedback
- or **promote education and training offered by other agencies**

Consumer initiative about opioids

- Consumer initiative about **simple analgesics, safe and effective use of medications and tapering of opioids**
- Could be embedded in a face-to-face multidisciplinary consumer pain program; or as a separate consumer workshop/education session(s)
- Could provide individual sessions with a primary care provider (implementing **education and behavioural strategies** e.g. identifying practical and psychological barriers to tapering opioids and problem-solving solutions, non-pharmacological options, cognitive and behavioural strategies and goal setting)

Telehealth assisted allied health services

- Telehealth (telemedicine) for **consumers with (sub)acute pain at risk of developing chronic pain**
- Telehealth could be used to provide i**ndividual sessions with an allied health practitioner** such as a physiotherapist or clinical psychologist e.g. Telehealth in Murrumbidgee Local Health District, connecting a senior physiotherapist in Griffith (base site) to the patient and an allied health assistant in Hay (recipient site)
- Telehealth could be used to provide a multidisciplinary consumer pain program including **group-based activities** (e.g. education, exercise) and individual sessions

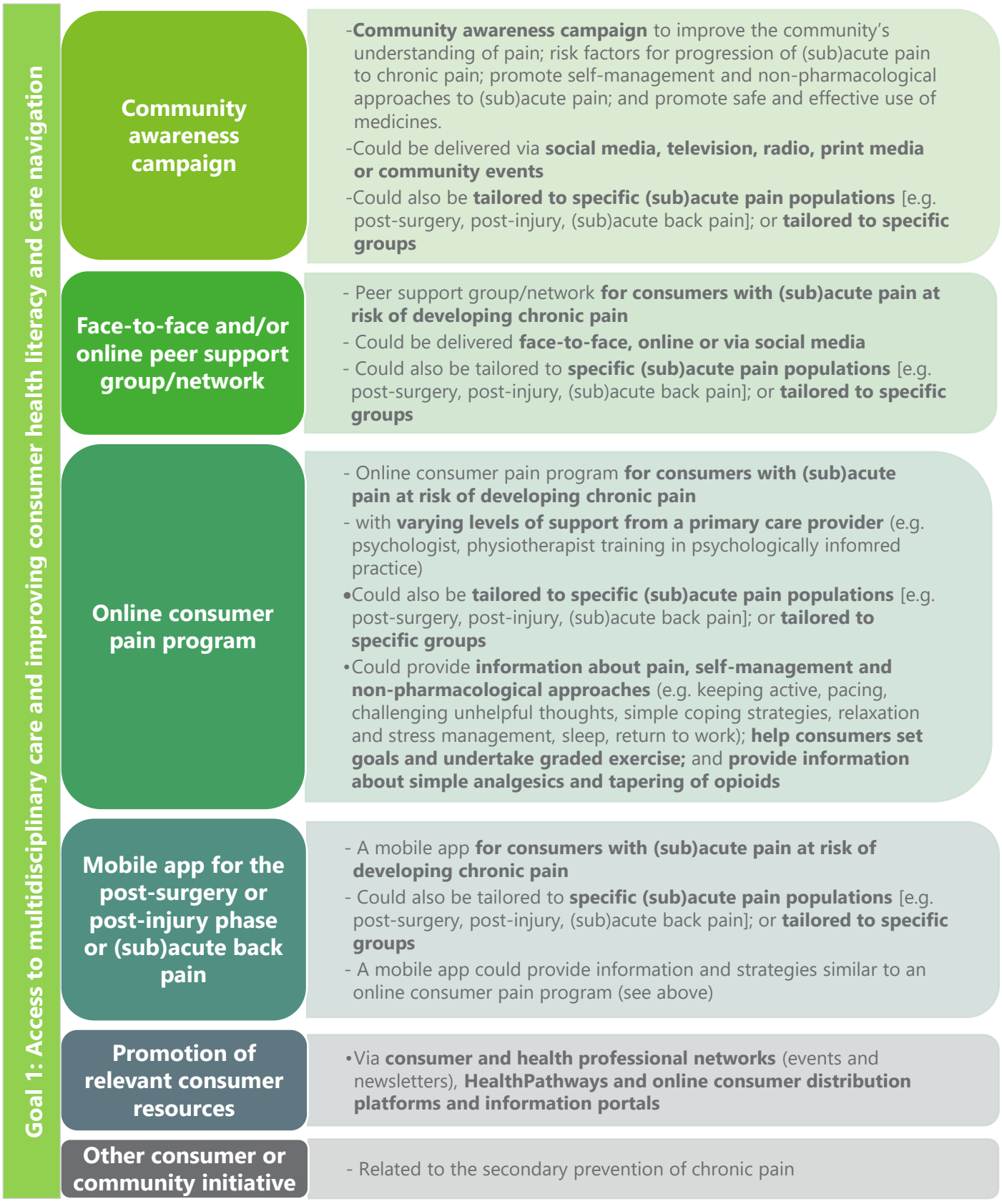

Figure 8: Options related to Goal 1 (consumer and community initiatives)

5.1 Evidence map of the options related to Goal 1

Table 1: Evidence map of the options related to Goal 1

Goal 1: Access to multidisciplinary care and improving consumer health literacy and care navigation							
	Reviews and examples of initiatives from the peer-review literature related to the secondary prevention of chronic pain	**Reviews and examples of initiatives from the peer-review literature related to the management of chronic pain**	**PHN initiatives related to the secondary prevention of chronic pain (PHN consultation Phase 1)**	**PHN initiatives related to the management of chronic pain (PHN consultation Phase 1)**	**Examples of initiatives from the grey literature (evaluation reports) related to the secondary prevention of chronic pain**	**Examples of initiatives from the grey literature (evaluation reports) related to the management of chronic pain**	**Initiatives 'in the pipeline' related to the secondary prevention of chronic pain**
Face-to-face multidisciplinary consumer pain program - for consumers at risk of developing chronic pain	Meyer 2018 systematic review- secondary prevention of (sub)acute pain(20) Marin 2017 systematic review - Multidisciplinary biopsychosocial rehabilitation - subacute low back pain(19) Katz 2015- Toronto Transitional Pain Service - post surgery(44)	Joypaul 2018 - chronic pain)(45)		Face-to-face multidisciplinary consumer pain programs currently implemented in six PHNs and WAPHA.			Potential prototype of a consumer pain program for people with (sub)acute pain who are at risk of developing chronic pain, based on the Turning Pain Into Gain program (see **Appendix 8**)

Goal 1: Access to multidisciplinary care and improving consumer health literacy and care navigation							
	Reviews and examples of initiatives from the peer-review literature related to the secondary prevention of chronic pain	**Reviews and examples of initiatives from the peer-review literature related to the management of chronic pain**	**PHN initiatives related to the secondary prevention of chronic pain (PHN consultation Phase 1)**	**PHN initiatives related to the management of chronic pain (PHN consultation Phase 1)**	**Examples of initiatives from the grey literature (evaluation reports) related to the secondary prevention of chronic pain**	**Examples of initiatives from the grey literature (evaluation reports) related to the management of chronic pain**	**Initiatives 'in the pipeline' related to the secondary prevention of chronic pain**
Psychologically informed physical therapy program provided by a physiotherapist - for consumers at risk of developing chronic pain	Brunner 2013 systematic review- cognitive behaviour therapy-based treatments - (sub)acute low back pain(46) Hall 2018 systematic review - physiotherapist-led cognitive-behavioural interventions - low back pain(47) Nicholls 2018 systematic review – perioperative cognitive behavioural therapy(22) Foster 2014 (IMPaCT BacK) --- stratified care-psychologically informed physical therapy - (sub)acute and chronic pain(37) Sterling 2019 (StressModex) - physiotherapist-led intervention of stress inoculation training	Foster (IMPaCT BacK) 2014 – (sub)acute and chronic(37)					

Goal 1: Access to multidisciplinary care and improving consumer health literacy and care navigation							
	Reviews and examples of initiatives from the peer-review literature related to the secondary prevention of chronic pain	**Reviews and examples of initiatives from the peer-review literature related to the management of chronic pain**	**PHN initiatives related to the secondary prevention of chronic pain (PHN consultation Phase 1)**	**PHN initiatives related to the management of chronic pain (PHN consultation Phase 1)**	**Examples of initiatives from the grey literature (evaluation reports) related to the secondary prevention of chronic pain**	**Examples of initiatives from the grey literature (evaluation reports) related to the management of chronic pain**	**Initiatives 'in the pipeline' related to the secondary prevention of chronic pain**
Continued….. **Psychologically informed physical therapy program provided by a physiotherapist - for consumers at risk of developing chronic pain**	and exercise - acute whiplash(48) Sullivan 2006 -psychological intervention and physical therapy in whiplash(49) Archer 2016 - cognitive-behavioural based physical therapy – post-surgery(50) Nicholas 2019 -early intervention for injured workers- compensation environment(39)						
A consumer education and/or behavioural initiative about safe and effective use of	Zang 2019- systematic review post surgery (hospital setting)(25)	Mathieson 2019 systematic review -primary care setting (under review)(51) Sullivan 2017(52)	Opioid Early Intervention Pilot Project (West Vic PHN)				

Goal 1: Access to multidisciplinary care and improving consumer health literacy and care navigation							
	Reviews and examples of initiatives from the peer-review literature related to the secondary prevention of chronic pain	**Reviews and examples of initiatives from the peer-review literature related to the management of chronic pain**	**PHN initiatives related to the secondary prevention of chronic pain (PHN consultation Phase 1)**	**PHN initiatives related to the management of chronic pain (PHN consultation Phase 1)**	**Examples of initiatives from the grey literature (evaluation reports) related to the secondary prevention of chronic pain**	**Examples of initiatives from the grey literature (evaluation reports) related to the management of chronic pain**	**Initiatives 'in the pipeline' related to the secondary prevention of chronic pain**
medications and how to taper opioids		Holliday 2017 (53)					
Telehealth assisted allied health services (individual/group sessions)	Egmond 2018 systematic review – physiotherapy with telerehabilitation(16) Gentry 2019- telehealth group-based programs (range of conditions)(54)	Mariano 2019- group based program- chronic pain(55)		Outreach services (telehealth and visiting health care providers) connecting people in pain with pain specialists and other health providers		The NSW ACI. Improving physiotherapy access using telehealth. Murrumbidgee Local Health District, Report, 2018(56) NSW ACI. Chronic Pain -Telehealth Pilot Project Evaluation Report 2016(57)	

Goal 1: Access to multidisciplinary care and improving consumer health literacy and care navigation							
	Reviews and examples of initiatives from the peer-review literature related to the secondary prevention of chronic pain	**Reviews and examples of initiatives from the peer-review literature related to the management of chronic pain**	**PHN initiatives related to the secondary prevention of chronic pain (PHN consultation Phase 1)**	**PHN initiatives related to the management of chronic pain (PHN consultation Phase 1)**	**Examples of initiatives from the grey literature (evaluation reports) related to the secondary prevention of chronic pain**	**Examples of initiatives from the grey literature (evaluation reports) related to the management of chronic pain**	**Initiatives 'in the pipeline' related to the secondary prevention of chronic pain**
Community awareness campaign		White 2016- Brainman video series(58)	Support for Pain Revolution Brainman video series (could be further adapted)				
Face-to-face and/or online peer support group (network)				Face-to-face peer support network - Adelaide PHN			
Online consumer pain program		Dear 2018, 2015 - The Pain Course (59, 60) Schultz 2018 - This Way Up (61)					
Mobile app for the post-surgery or post-injury phase or (sub)acute back pain		Machado 2016- systematic review- low back pain (62) Reynoldson 2014 review – pain					

Goal 1: Access to multidisciplinary care and improving consumer health literacy and care navigation							
	Reviews and examples of initiatives from the peer-review literature related to the secondary prevention of chronic pain	**Reviews and examples of initiatives from the peer-review literature related to the management of chronic pain**	**PHN initiatives related to the secondary prevention of chronic pain (PHN consultation Phase 1)**	**PHN initiatives related to the management of chronic pain (PHN consultation Phase 1)**	**Examples of initiatives from the grey literature (evaluation reports) related to the secondary prevention of chronic pain**	**Examples of initiatives from the grey literature (evaluation reports) related to the management of chronic pain**	**Initiatives 'in the pipeline' related to the secondary prevention of chronic pain**
Continued… **Mobile app**		self-management (63) McKay 2018 systematic review - health behaviour change (range of conditions) (64)					
Promotion of relevant consumer resources **(see Appendix 9 for relevant consumer resources)**	N/A	N/A	Promotion of consumer resources: ➢ Via consumer and health professional networks (events and newsletters), ➢ Via HealthPathways ➢ Via online consumer distribution platforms & information portals implemented in four PHNs (e.g.		N/A	N/A	

Goal 1: Access to multidisciplinary care and improving consumer health literacy and care navigation							
	Reviews and examples of initiatives from the peer-review literature related to the secondary prevention of chronic pain	**Reviews and examples of initiatives from the peer-review literature related to the management of chronic pain**	**PHN initiatives related to the secondary prevention of chronic pain (PHN consultation Phase 1)**	**PHN initiatives related to the management of chronic pain (PHN consultation Phase 1)**	**Examples of initiatives from the grey literature (evaluation reports) related to the secondary prevention of chronic pain**	**Examples of initiatives from the grey literature (evaluation reports) related to the management of chronic pain**	**Initiatives 'in the pipeline' related to the secondary prevention of chronic pain**
			GoShare, Health Resource Directory, Patient Info)				
Other consumer or community initiative			To be confirmed at PHN dialogue				

See **Section 6: Supporting Evidence** for more information about the supporting evidence.

Options related to Goal 2 (health professional capacity building)

Figure 9: Options related to Goal 2 (health professional capacity building)

5.2 Evidence map of the options related to Goal 2

Table 2: Evidence map of the options related to Goal 2

Goal 2: Ensuring health professionals are skilled and provide best-practice evidence-based care							
	Reviews and examples of initiatives from the peer-review literature related to the secondary prevention of chronic pain	**Reviews and examples of initiatives from the peer-review literature related to the management of chronic pain**	**PHN initiatives related to the secondary prevention of chronic pain (PHN consultation Phase 1)**	**PHN initiatives related to the management of chronic pain (PHN consultation Phase 1)**	**Examples of initiatives from the grey literature (evaluation reports) related to the secondary prevention of chronic pain**	**Examples of initiatives from the grey literature (evaluation reports) related to the management of chronic pain**	**Initiatives 'in the pipeline' related to the secondary prevention of chronic pain**
Face-to-face and/or online education and training for primary care providers (GPs, practice nurses, allied health practitioners, community pharmacists)	Sowden 2012 (IMPaCT Back Pain) training programme(65) Kelly 2018 (StressModex) – acute whiplash-stress inoculation training(66) Brunner 2013 Systematic review (sub)acute low back pain(46) Beales 2019- implementation of screening tool –	Sowden 2012 (IMPaCT Back Pain) training programme(65) Keefe 2018 systematic review - psychologically informed practice for pain management(69) Cowell 2019 – cognitive functional therapy(70)		• Most PHNs provide chronic pain management education events • As part of the consumer pain program in South Eastern NSW PHN, ACI supported facilitators to access webinar skills training in pain management (PMRI)			

Goal 2: Ensuring health professionals are skilled and provide best-practice evidence-based care							
	Reviews and examples of initiatives from the peer-review literature related to the secondary prevention of chronic pain	**Reviews and examples of initiatives from the peer-review literature related to the management of chronic pain**	**PHN initiatives related to the secondary prevention of chronic pain (PHN consultation Phase 1)**	**PHN initiatives related to the management of chronic pain (PHN consultation Phase 1)**	**Examples of initiatives from the grey literature (evaluation reports) related to the secondary prevention of chronic pain**	**Examples of initiatives from the grey literature (evaluation reports) related to the management of chronic pain**	**Initiatives 'in the pipeline' related to the secondary prevention of chronic pain**
Continued… **Face-to-face and/or online education and training for primary care providers (GPs, practice nurses, allied health practitioners, community pharmacists)**	physiotherapy clinics -return to work(67) Papapagorus 2018 - Return to work-flowchart for certification – primary care(68) Kelly 2017 – clinical prediction rule – acute whiplash(42) Hall 2018- Physiotherapist-delivered cognitive-behavioural interventions- low back pain(47)						
Initiative about opioids	Zhang 2019 systematic review Behavioural	Holliday -GPs trainees(53)		*Prescribed Drugs of Dependence Active Learning Modules -*			

Goal 2: Ensuring health professionals are skilled and provide best-practice evidence-based care							
	Reviews and examples of initiatives from the peer-review literature related to the secondary prevention of chronic pain	**Reviews and examples of initiatives from the peer-review literature related to the management of chronic pain**	**PHN initiatives related to the secondary prevention of chronic pain (PHN consultation Phase 1)**	**PHN initiatives related to the management of chronic pain (PHN consultation Phase 1)**	**Examples of initiatives from the grey literature (evaluation reports) related to the secondary prevention of chronic pain**	**Examples of initiatives from the grey literature (evaluation reports) related to the management of chronic pain**	**Initiatives 'in the pipeline' related to the secondary prevention of chronic pain**
Continued… **Initiative about opioids**	Interventions to Decrease Opioid Prescribing After Surgery(25) Stanley 2019 - Australian hospital opioid prescribing initiative(71)	Mathieson 2019 systematic review - primary care setting (under review)		Western Victoria PHN Some PHNs provide education and training events about opioids or embedded in chronic pain management events			
Face-to-face and/or online interdisciplinary community of practice				One PHN (Gold Coast) and WAPHA provide a network for primary care providers involved in a face-to-face consumer pain			
Promotion of relevant education and training and other health professional	N/A	N/A	Some PHNs promote Better Pain Management online education program; webinar skills training in pain management- putting cognitive behavioural therapy skills into practice		N/A	N/A	

Goal 2: Ensuring health professionals are skilled and provide best-practice evidence-based care							
	Reviews and examples of initiatives from the peer-review literature related to the secondary prevention of chronic pain	**Reviews and examples of initiatives from the peer-review literature related to the management of chronic pain**	**PHN initiatives related to the secondary prevention of chronic pain (PHN consultation Phase 1)**	**PHN initiatives related to the management of chronic pain (PHN consultation Phase 1)**	**Examples of initiatives from the grey literature (evaluation reports) related to the secondary prevention of chronic pain**	**Examples of initiatives from the grey literature (evaluation reports) related to the management of chronic pain**	**Initiatives 'in the pipeline' related to the secondary prevention of chronic pain**
resources offered by other agencies **(see Appendix 10)**			(Pain Management Research Institute) NPS MedicineWise educational visits; and Pain Revolution Local Pain Education (LPE) Program				
Other health professional capacity building initiative			To be confirmed at dialogue				

See **Section 6: Supporting Evidence** for more information about the supporting evidence.

Options related to Goal 3 (health systems support)

Figure 10: Options related to Goal 3 (health system support)

5.3 Evidence map of the options related to Goal 3

Table 3: Evidence map of the options related to Goal 3

Goal 3: Quality improvement and health system support							
	Reviews and examples of initiatives from the peer-review literature related to the secondary prevention of chronic pain	**Reviews and examples of initiatives from the peer-review literature related to the management of chronic pain**	**PHN initiatives related to the secondary prevention of chronic pain (PHN consultation Phase 1)**	**PHN initiatives related to the management of chronic pain (PHN consultation Phase 1)**	**Examples of initiatives from the grey literature (evaluation reports) related to the secondary prevention of chronic pain**	**Examples of initiatives from the grey literature (evaluation reports) related to the management of chronic pain**	**Initiatives 'in the pipeline' related to the secondary prevention of chronic pain**
HealthPathways (or other referral pathway system)	Gill 2019- South-West Victoria HealthPathways (not pain specific)(72) Stokes 2018 - New Zealand HealthPathways (not pain specific)(73) Gray 2018 Hunter and New England HealthPathways (not pain specific)(74)		HealthPathways - Most PHNs have implemented HealthPathways Some PHNs have developed relevant referral pathways to assess and manage patients with (sub)acute pain (including post-surgery, post-injury and (sub)acute low back pain populations)		Norris 2018 Sydney HealthPathways (not pain specific)(75)		
Transitional care/discharge planning initiative	Hesselink 2012 - systematic review- to improve patient handovers from hospital to primary care(76)		The Pain Prescribing on Discharge Working Group including the Top End Health Service (TEHS) and the NT PHN, funded by the				

Goal 3: Quality improvement and health system support							
	Reviews and examples of initiatives from the peer-review literature related to the secondary prevention of chronic pain	**Reviews and examples of initiatives from the peer-review literature related to the management of chronic pain**	**PHN initiatives related to the secondary prevention of chronic pain (PHN consultation Phase 1)**	**PHN initiatives related to the management of chronic pain (PHN consultation Phase 1)**	**Examples of initiatives from the grey literature (evaluation reports) related to the secondary prevention of chronic pain**	**Examples of initiatives from the grey literature (evaluation reports) related to the management of chronic pain**	**Initiatives 'in the pipeline' related to the secondary prevention of chronic pain**
Continued… **Transitional care/discharge planning initiative**	Ensing 2015 systematic review- community pharmacists(77) Bethishou 2019 systematic review- community pharmacists(78)		NT Department of Health.				
Electronic Persistent Pain Outcomes Collaboration (ePPOC)		Tardiff 2016 (79)				**ePPOC reports for individual PHNs and pain services**	
Prescription drug monitoring systems, e.g. SafeScript			The Victoria PHNs led by Western Victoria PHN have been commissioned to provide education and training (in partnership with NPS MedicineWise) for GPs and pharmacists to support the implementation of SafeScript.				

Goal 3: Quality improvement and health system support							
	Reviews and examples of initiatives from the peer-review literature related to the secondary prevention of chronic pain	**Reviews and examples of initiatives from the peer-review literature related to the management of chronic pain**	**PHN initiatives related to the secondary prevention of chronic pain (PHN consultation Phase 1)**	**PHN initiatives related to the management of chronic pain (PHN consultation Phase 1)**	**Examples of initiatives from the grey literature (evaluation reports) related to the secondary prevention of chronic pain**	**Examples of initiatives from the grey literature (evaluation reports) related to the management of chronic pain**	**Initiatives 'in the pipeline' related to the secondary prevention of chronic pain**
Other health system support initiative			To be confirmed at dialogue				

See **Section 6: Supporting Evidence** for more information about the supporting evidence.

5.4 Selecting initiatives for your PHN

The following are suggestions for selecting initiatives in your PHN considering your local context, needs and resources:

1. Adapt an initiative currently implemented **in your PHN** related to the management of chronic pain
2. Adapt an initiative currently implemented **in your PHN** related to another area such as another chronic disease, chronic disease more broadly, mental health, Alcohol and Other Drugs (look for synergies and the potential for cross-sectoral initiatives)
3. Implement an initiative currently implemented **in another PHN** related to the secondary prevention of chronic pain or adapt an initiative currently in another PHN related to the management of chronic pain
4. Implement an initiative identified in the **peer-review literature** related to the secondary prevention of chronic pain or adapt an initiative identified in the peer-review literature related to the management of chronic pain
5. Implement an initiative identified in the **grey literature** related to the secondary prevention of chronic pain or adapt an initiative identified in the grey literature related to the management of chronic pain
6. Implement an **initiative 'in the pipeline'** related to the secondary prevention of chronic pain
7. Implement an initiative that PHN representatives know of, or have implemented, or are implementing or plan to implement that is **highlighted in the deliberative dialogue** that is not represented in this version of the mapping of the options
8. Implement a **new idea/innovation** (note, this may require more resources for development and testing)

6. Supporting evidence

Overall, there is a paucity of peer-review and grey literature relating to consumer and community initiatives, health professional capacity building and health system support initiatives relevant to the secondary prevention of chronic pain with very few initiatives implemented in the primary care setting.

The mapping of PHN chronic pain initiatives in Phase 1 of the Chronic Pain Project also found a gap related to the secondary prevention of chronic pain with most initiatives currently being implemented by PHNs relating to the management of chronic pain.

See below for for a narrative synthesis of the evidence related to the secondary prevention of chronic pain and case study examples including:

- Consumer and community initiatives in six key areas: i) multifocal or not condition specific ii) surgery iii) (sub)acute whiplash iv) (sub)acute low back pain v) return to work and work-related injuries vi) opioid consumer initiatives
- Health professional capacity building initiatives
- Health system support initiatives.

6.1 Supporting evidence related to Goal 1: *Access to multidisciplinary care and improving consumer health literacy and care navigation*

Focus area 1: multifocal or not condition specific

Key points

- The **biopsychosocial model** is widely accepted as the best approach to the assessment, prevention and treatment of chronic pain.(80, 81)

Risk factors and screening

- **Identifying people at risk of developing chronic pain is crucial.** Risk factors for the development of chronic pain are well documented and include psychological and social factors. **Many risk factors are modifiable.**
- Risk factors can be identified early, and **treatment can be tailored to the individual's risk profile** to help prevent the progression to chronic pain.
- Overall, there is a paucity of research related to the **implementation of screening tools and risk-based interventions in primary care**.(67)

See Focus areas 2-4 for more information about risk factors and screening tools.

Management

- Although risk factors can identify individuals that are likely to develop chronic pain, there is a **lack of research about interventions to prevent chronic pain**.(32)
- **Face-to-face multidisciplinary consumer pain programs** that incorporate physical and psychological strategies are effective for people with chronic pain.(45, 82) However, there is limited research about face-to-face multidisciplinary consumer pain programs for people with (sub)acute pain (not-condition specific) at risk of developing chronic pain. A potential prototype has been developed for adapting the *Turning Pain Into Gain* consumer pain program for consumers with (sub)acute pain at risk of developing chronic pain. *For more information see* **Appendix 8**.
- A multidisciplinary pain management service for people at risk of developing chronic pain after surgery (as part of **a transitional pain service in Canada**) has been shown to be effective (see *Focus area 2: Surgery*).
- There has been growing interest in **psychologically oriented pain management** over the past three to four decades.(69) Primary care physicians and physical therapists have delivered psychologically informed practice as part of a stratified care approach involving screening and targeting of treatment for people at high risk for pain-associated disability (see *Focus area 4: (Sub)acute low back pain*).
- A recent systemic review(20) about the secondary prevention of chronic musculoskeletal pain identified nine studies. Most studies included patients with (sub)acute low back pain. Most interventions included physical and psychological strategies provided by physiotherapists with mind-based training. **Stratified programs** showed significant improvements compared with a "one-size-fits-all" treatment in several domains of the International Classification of Functioning, Disability and Health. The authors concluded that simple educational messages seemed sufficient for low-risk patients; medium- and high-risk patients benefited from a physical reactivation programme combined with education; and in high-risk patients, an additional cognitive-behavioural intervention further improved the outcome.
- **Pain neuroscience education** has been found, in a recent systematic review (24), to facilitate the ability of chronic musculoskeletal pain patients to cope with their condition but it does not produce clinically significant decreases in pain, disability, kinesiophobia or catastrophizing. A recent clinical trial also found that intensive patient education (information on pain and biopsychosocial contributors plus self-management techniques, such as remaining active and pacing) in patients receiving first-line care for acute back pain (advice, reassurance, and simple analgesia, if necessary) may be no better than active listening in improving pain outcomes.(83)

Relevant research currently being conducted

- (Australia) Implementation of a clinical PAthway of CarE to improve patient health outcomes and reduce costs for common musculoskeletal disorders (low back pain, neck pain or whiplash, knee osteoarthritis) in primary care (**PACE study**). The PACE intervention aims to identify patients at risk of poor prognosis to improve their management in primary health care settings using a stratified care model. Patients are identified within four weeks of seeking care. The 10-item Orebro Musculoskeletal pain questionnaire will be used as the generic measure to assess risk of poor prognosis for all conditions. Validated condition-specific tools where available (e.g. STarT Back for low back pain; prognostic prediction tool for whiplash) will be used to cross reference and ensure appropriate stratification. The team is also currently working on an additional prognostic screening tool for all musculoskeletal conditions that may also be used for cross validation.

Telehealth

- **Access to care can be increased by telehealth**.(11, 15, 56, 57)
- An **example of a telehealth service related to physiotherapy** is the telehealth service in Murrumbidgee Local Health District which connects a senior physiotherapist in Griffith (base site) to the patient and an allied health assistant in Hay (recipient site). An evaluation (56) of the **physiotherapy telehealth intervention** in Murrumbidgee Local Health District reported: a) improved access to physiotherapy services in Hay from 60% to 80% of the time (over 12 months from March 2015– March 2016); b) reduced travel time for patients as well as out-of-pocket costs from an estimated $445 per to $10 per physiotherapy consultation; and c) strengthened capacity of the local care teams, particularly the competencies of the allied health assistants to support best practice care.
- An **example of telehealth services related to chronic pain** are the telehealth services at the Children's Hospital Westmead and Orange Hospital at the chronic pain clinics, established as part of a pilot study (2016).(57) This project was a collaboration between ACI, LHDs and specialty networks, Healthdirect Australia (HDA), and the Ministry of Health. A variety of models were used by both sites during the pilot, for example 1:1 patient support with GP in attendance for initial assessment; 1:1 patient support with GP in attendance for follow up ; 1:1 multi-disciplinary assessment or treatment in the patient's home with usual correspondence back to the GP after the consultation; follow up by individual disciplines e.g. telecounselling, physio in home with local physiotherapist in attendance; and upskilling local allied health and medical practitioners. Telehealth was found to be a feasible and effective model to deliver chronic pain services into primary care and patients' homes.
- A recent systematic review(54) showed that **group-based telehealth** (video teleconference groups) for a range of conditions is feasible and produces treatment outcomes similar to in-person treatment, with high participant satisfaction despite technical challenges. Preliminary findings suggest that online group cognitive behavioural therapy may be as effective in improving coping among persons with chronic pain as in-person groups.(55) Additional research is needed to identify optimal methods of video teleconference group delivery to maximise clinical benefit and treatment outcomes.
- The NSW Agency for Clinical Innovation (ACI) has recently developed a **telehealth in practice guide** (2019 which describes the range of models for telehealth services; enablers and barriers to implementation; and a **readiness assessment checklist** to support clinicians and clinic administrators to consider the key features to successful implementation of telehealth.(84)
- **Further information and support to implement telehealth** includes:
    - NHMRC Centre for Research Excellence in Telehealth Policy Digest
    - A Practical Guide to Knowledge Translation in Telehealth (2016) NHMRC Centre for Research Excellence
    - NSW Agency for Clinical Innovation (ACI) Chronic Pain Telehealth Toolkit (2015)
    - NSW Agency for Clinical Innovation runs a Virtual forum of the Telehealth Capability Interest Group
    - NSW Agency for Clinical Innovation report *Improving physiotherapy access using telehealth. Murrumbidgee Local Health District, 2018*
    - NSW Agency for Clinical Innovation. *Chronic Pain -Telehealth Pilot Project Evaluation Report* 2016
    - The Allied Health Telehealth Capacity Building Scoping Project 2015 (Queensland Health)
    - The Allied Health Telehealth education package including an online, on demand training package (Queensland Health)
    - Evaluation Resource Guide: Allied Health Telehealth Capacity Building Project 2016 (Queensland Health)
    - The Allied Health Telehealth Network providing email group, intranet and scheduled videoconference presentations (Queensland Health)

For more information about the above see **Appendix 10**.

Digitally delivered care

- Access to care can also be increased by **digitally delivered health care** e.g. online intervention, mobile apps.(15)
- **Internet-delivered pain management programs** are usually based on the same principles as face-to-face programs and use online modules to teach pain management information and support patients to develop their self-management skills. These programs can be offered in clinician guided formats, where patients are provided weekly support throughout the program via telephone or email, or in more self-guided formats with little or no clinician contact.(59)
    - For example, The Pain Course, a free internet-delivered pain management program managed by Macquarie University (NSW) for people with chronic pain, aims to provide information that helps participants understand chronic pain and their symptoms, and teach cognitive and behavioural self-management skills to help reduce pain-related disability, anxiety and depression.(15, 59, 60) https://ecentreclinic.org/?q=PainCourse https://mindspot.org.au/pain-course
    - Another example is an online multidisciplinary pain management program for people with chronic pain, This Way Up, managed by St Vincent's Hospital in Sydney (NSW) and requires a referral from a clinician (GP, pain physician, GP, nurse or allied health practitioner) https://thiswayup.org.au/how-we-can-help/courses/chronic-pain/.(61)
    - However, there is limited research about internet-delivered pain management programs specifically for people with (sub)acute pain (post-surgery, post-injury, (sub)acute low back pain).
- **Mobile apps** have been used for pain self-management for people with chronic pain.(62-64)
    - However, a study of mobile apps for pain self-management reported variation in app quality and a lack of user and clinician engagement in development of these mobile apps.(63)
    - There is also limited research about mobile apps that relate to the (sub)acute pain phase (post-surgery and post-injury). See *Focus area 4: (sub)acute low back pain* for a description of a recent systematic review of mobile apps for the self-management of low back pain.

Community awareness

- **Greater community awareness** is needed to improve understanding of pain; risk factors for progression of (sub)acute pain to chronic pain; promote self-management and non-pharmacological approaches to (sub)acute pain; and promote safe and effective use of medicines.
- The **National Strategic Action Plan for Pain Management** developed by Painaustralia (2019)(85) recommends community awareness campaigns as a key priority.
- An **example of a community awareness campaign using social media (YouTube)** to show evidence-informed key messages about pain is the Brainman video series developed by The Hunter Integrated Pain Service, Hunter New England Local Health District and Hunter New England and South Coast PHN.(58) Although the Brainman video series is applicable to (sub)acute pain, it primarily focuses on the management of chronic pain.
- There is limited research about community campaigns related to the secondary prevention of chronic pain.

Specific population groups

- The National Strategic Action Plan for Pain Management developed by PainAustralia (85) recommends that prevention and early intervention strategies include initiatives **relevant to specific groups** including Aboriginal and Torres Strait Islander peoples, people from culturally and linguistically diverse backgrounds, people from rural and remote areas, older Australians, people with dementia, children and young people and other relevant groups.
- The review did not identify any research related to the secondary prevention of chronic pain relevant to specific groups.

Consumer resources

- *See **Appendix 9** for consumer resources related to the secondary prevention of chronic pain.*

Focus area 2 - surgery

Key points

- The 11th revision of the International Classification of Diseases defines **Chronic postsurgical pain** as pain developing or increasing in intensity after a surgical procedure, in the area of the surgery, persisting beyond the healing process (that is, at least 3 months) and not better explained by another cause such as infection, malignancy, or a pre-existing pain condition.(13)
- **Chronic postsurgical pain (CPSP) is common and may lead to significant disability**.(7) The one year incidence of moderate to severe CPSP is approximately 12% for adults(18, 86) and approximately 22% for children.(18, 87)
- CPSP is a **growing public health problem** with 312 million major surgeries performed annually worldwide.(18, 88)

Risk factors and screening

- **Identifying people at risk of developing chronic pain is crucial.** Risk factors for the development of CPSP are well documented (7, 13, 18, 30, 31) and include the severity of presurgical chronic pain and postsurgical acute pain, intraoperative nerve injury and psychological factors such as anxiety, pain catastrophising depression, psychological vulnerability and stress. Five core risk factor domains have been identified: demographic, genetic, clinical, surgery related, and psychological.(13)
- **Screening tools** are usually surgery-type specific.(13) One generic tool assesses the effect of 14 biomedical and psychosocial items that were derived from a systematic review of the CPSP risk factor literature.(13, 34)

Management

- **Optimal management of postoperative pain begins in the preoperative period.**
    - The US clinical practice guidelines related to the management of postoperative pain, 2016, recommend that optimal management begin in the preoperative period with an assessment of the patient and development of a plan of care tailored to the individual and the surgical procedure involved.(8)
- **Pre-operative and peri-operative psychological-interventions have the potential to reduce CPSP.**

- *Acute Pain Management: Scientific Evidence (2015)* by the Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine highlights that training in coping methods or behavioural instruction prior to surgery reduces pain, negative affect and analgesic use.(7)
- A recent systematic review(22) found preliminary evidence to support perioperative cognitive behavioural therapy-based interventions to reduce post-surgery pain intensity and disability.
- A digital perioperative behavioural pain medicine intervention in breast cancer surgery has been found to be acceptable and feasible and significantly accelerate opioid cessation after surgery.(89)
- Another recent trial found that a cognitive-behavioural based physical therapy (CBPT) program delivered six weeks after lumbar spine surgery to patients with preoperative high fear of movement improved outcomes. Patient who had CBPT had significantly greater decreases in pain and disability and increases in general health and physical performance compared to the education group.(50) The CBPT program was delivered face-to-face and by telephone and focused on self-management, problem solving, cognitive restructuring and relaxation training (see www.spine-surgery-recovery.com for more information).

- **Preoperative patient education is recommended**, although there is limited evidence to support the mode and content of the education.(7, 8)
  - *Acute Pain Management: Scientific Evidence (2015)* by the Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine highlights that the benefit of preoperative patient education on pain outcomes is inconsistent, however, specific pain education in specific surgical settings may result in decreased pain, opioid use and less healthcare utilisation.(7) The working group suggests that structured preoperative education may be better than routine information.
  - The US clinical practice guidelines related to the management of postoperative pain, 2016, recommends preoperative education. However, the guidelines report that there is insufficient evidence to determine the comparative effectiveness of different type of patient education which can range from single episodes of face-to-face instruction or provision of written materials, videos, audiotapes, or Web-based educational information to more intensive, multicomponent preoperative interventions including individualized and supervised exercise, education, and telephone calls.(8)
- **Early postoperative exercise training and rehabilitation** is recommended for better functional outcomes and enhanced recovery.(16, 90)
- **There is a potential role for a transitional pain clinic** which aims to overcome the disconnect between ward-based acute postoperative pain management and outpatient chronic pain management with a comprehensive and integrated pain service that identifies patients at risk of chronic pain (13).
  - The Toronto General Hospital Transitional Pain Service (TPS) is an example of this model. Patients are identified early through screening for physical and mental health problems e.g. anxiety, depression, pain catastrophizing, chronic opioid use, pre-existing chronic pain, severe postsurgical pain, high postsurgical opioid consumption. Patients are provided comprehensive care by a multidisciplinary team consisting of pain physicians, advanced practice nurses, psychologists, and physical therapists. Clinical services at the TPS include multimodal medication optimisation by anaesthesiologists, postsurgical physical therapy and acupuncture, and a pain psychology intervention consisting of pain education, mindfulness training, brief hypnosis, and a form of cognitive behavioural treatment called acceptance and commitment therapy (ACT). Preliminary evidence indicates that the TPS effectively reduces pain intensity,

pain-related interference, pain catastrophizing, symptoms of anxiety and depression, and opioid use.(18, 44)

Transitions of care

- **Effective discharge planning, communication between hospital and primary care providers and follow-up of patients is crucial** for effective pharmacological and non-pharmacological pain management and tapering of opioids.

For more information about transitions of care *see Section 6.5: Supporting evidence related to Goal 3*.

Telehealth

- **Access to care can be increased by telehealth**(11, 15, 56, 57)
    - A recent systematic review of **physiotherapy with telerehabilitation after surgery** found that physiotherapy with telerehabilitation is feasible and improves Quality of Life in surgery populations, although the overall effectiveness on functional outcomes could not be determined.(16)

For more information about telehealth see *Focus area 1: multimodal or not condition specific;* and **Appendix 10**.

Focus area 3 – (sub)acute whiplash

Key points

- Whiplash is a major health problem in Australia as well as other Western societies. It is the most **common and costly injury following road traffic crashes** with up to 50% of those injured still having pain or disability a year later.(91)
- Most recovery, if it occurs, takes place in the **first 2-3 months postinjury**, indicating that how people with whiplash are managed in the early stages will be critical to long-term outcome.(91, 92)
- Chronic whiplash affects peoples' quality of life, their family and social relationships, and impairs their ability to work. Consequently, whiplash has a huge economic impact.(48)

Risk screening and stratified care

- Clinical guidelines for the management of acute whiplash-associated disorders(9) recommend exercise and activity, but systematic reviews have concluded that exercise/activity alone provides only a small benefit.(48, 93)
- Current research for acute whiplash-associated disorder is investigating **a risk stratification approach to care** similar to the approach used in low back pain. The physiotherapist (the most commonly used practitioner delivering care to patients with acute whiplash-associated disorder) provides care that addresses the physical and psychological factors identified in a detailed assessment of the patient.
- An example of this approach is a recent trial (StressModex) of a **physiotherapist-led intervention of stress inoculation training** (teaching strategies to assist participants in managing acute stress responses) **and exercise** for patients with acute whiplash-associated disorder at risk of poor recovery (moderate pain-related disability and hyperarousal symptoms).(48) The intervention resulted in clinically relevant improvements in pain-related disability, stress, depressive symptoms, pain self-efficacy and perceived recovery compared with exercise alone, the most commonly recommended treatment for acute WAD. The treatment benefit was maintained at 12-month follow-up. The authors conclude that physiotherapists with some additional training, could apply stress inoculation training for whiplash-

injured patients at risk of poor recovery. *See Section 6.3: Supporting evidence related to Goal 2* for more information about the training of physiotherapists to implement stress-inoculation.

- A **clinical prediction rule (CPR)** has been validated which can identify patients from the early acute post injury stage who are at high risk of poor recovery at 12 months. The tool can also identify those who are likely to fully recover and a third medium risk group who could either recover or develop chronic pain and disability.(41) However, a qualitative study evaluating the perceptions of physiotherapists, chiropractors and osteopaths of adopting clinical prediction rule found that clinicians' understanding and use of the tool was mixed. The authors suggest that further education is needed so that clinicians understand the purpose of the tool, how to use the tool in the context of their own clinical reasoning and how to communicate the results to patients.(42)

Research currently being conducted

- An Australian multi-centre, randomised controlled trial (**Whiplash ImPaCT**) involves people within six weeks of their whiplash injury and their primary care providers (including general practitioners, physiotherapists, chiropractors, or osteopaths).(92) Participants are screened for risk of poor recovery using the clinical prediction rule for ongoing pain and disability and provided with care to match their predicted risk. Participants at low risk of ongoing pain and disability (hence, predicted to fully recover) will receive up to three sessions of guideline-based advice and exercise with their primary healthcare provider. Participants at medium/high risk of developing ongoing pain and disability will be referred to a specialist (defined as a practitioner with expertise in whiplash) who will conduct a more in-depth physical and psychological assessment. As a result, the specialist will liaise with the original primary healthcare provider and determine one of three further pathways of care: 1) continue current care; 2) exercise-based physical therapy with psychologically informed therapy; or 3) referral to a psychological or pain management specialist. Participants in the intervention group will additionally have access to an interactive website that provides information about whiplash and recovery relative to their risk category. *For more information* https://www.mywhiplash.com.au/node/6

Focus area 4 - (sub)acute low back pain

Key points

- A recent Lancet series (28, 29, 35, 36) describes **low back pain as a major global challenge** requiring urgent action.
- Low back pain is an extremely common symptom in populations worldwide and **occurs in all age groups**, from children to the elderly population. Most adults will have low back pain at some point.(29)
- **Low back pain is now the number one cause of disability globally.**(94) In 2015, the global point prevalence of activity-limiting low back pain was 7·3%, implying that 540 million people were affected at any one time. Disability from low back pain is highest in working age groups worldwide.
- The **global burden of low back pain is projected to increase** even further in coming decades, particularly in low-income and middle-income countries which is straining health-care and social systems that are already overburdened.(29)
- Rarely can a specific cause of low back pain be identified; thus, most low back pain is termed non-specific.(29) **Non-specific low back pain** is estimated to be 90–95% of cases in primary care.
- **Specific and serious causes** of low back pain include vertebral fracture, inflammatory disorders such as axial spondyloarthritis, infection or malignancy.(29)

- **Most episodes of low back pain improve substantially within 6 weeks**, and by 12 months average pain levels are low.(95) However, approximately two-thirds of patients still report some pain at 3 months and 12 months.
- **Recurrences of low back pain** are common with approximately 33% of people having a recurrence within 1 year of recovering from a previous episode.(29)

Risk factors for progression of acute to chronic low back pain

- The recent Lancet series describes the complexity of the condition and the risk factors for progression of acute to chronic pain.
    - The **biopsychosocial model** has been applied as a framework for understanding the complexity of low back pain disability.
    - Low back pain is a complex condition with multiple contributors to both the pain and associated disability, including **psychological factors** (e.g. depression, catastrophising, fear avoidance beliefs), **social factors** (e.g. physical work-loads, education, compensation, work satisfaction), **biophysical factors** (e.g. previous episodes, back pain intensity and presence of leg pain), **comorbidities**, and **pain-processing mechanisms**.(29)
    - **Lifestyle factors**, such as smoking, obesity, and low levels of physical activity, that relate to poorer general health, are also associated with occurrence of low back pain episodes.(29)

Imaging for low back pain

- Many imaging (radiography, CT scan, and MRI) findings identified in people with low back pain are also common in people without such pain, and therefore their importance in diagnosis is uncertain.(12, 29)
- **No evidence exists that imaging improves patient outcomes** and guidelines consistently recommend against the routine use of imaging for people with low back pain.(12, 29) Clinicians need to consider whether the **overall clinical picture** might indicate a serious cause for the pain onset, or the course, of low back pain ('red flags').(29)

Management approaches

- International guidelines(12, 96-98) for patients with non-specific LBP recommend **simple first line care** (advice, reassurance and self-management) and a review at 1–2 weeks. If patients need second line care, non-pharmacological treatments (eg, physical and psychological therapies) are recommended before pharmacological therapies. If pharmacological therapies are used, the guidelines recommend the lowest effective dose and for the shortest period of time possible. Exercise and/or cognitive behavioural therapy, with multidisciplinary treatment for more complex presentations, are recommended for patients with chronic low back pain. Electrotherapy, traction, orthoses, bed rest, surgery, injections and denervation procedures are not recommended for patients with non-specific low back pain.
- The recent Lancet series describes the evidence to support interventions to improve the prevention and management of low back pain.(28)
    - The authors identified **a gap related to secondary prevention**.
    - The authors identified that there is evidence to support education and advice to remain active as the first-line of treatment for people with acute low back pain
    - The authors identified evidence to support NSAIDS, superficial heat, massage, spinal manipulation or acupuncture as the second-line or adjuvant treatment for people with acute low back pain; and exercise therapy and cognitive behavioural therapy in selected patients.

    - The authors acknowledge the lack of evidence for sub(acute) low back pain but suggest a reasonable approach is to use therapies for chronic back pain (multidisciplinary treatment)
- The **stepped approach** to the management of people with low back pain begins with more simple care that is progressed if the patient does not respond.
- **Other approaches** involve the early identification and management of psychosocial risk factors ('yellow flags') for progression to chronic, disabling pain. Two approaches include:
    - A stratified care approach whereby patients are stratified according to risk level (high, medium and low), and assigned treatment appropriate to the risk level.
    - A matched care approach, which is conceptually similar to the stratified approach, but tries to match the treatment to the specific risks.
- The **relative effectiveness of the stepped, stratified and matched care approaches** have not been evaluated.(14)
- A recent narrative review acknowledges that while the "wait and see" (stepped) approach is attractive given the limited time and resources available in primary care, it misses the opportunity for early intervention based on known risk factors of poor prognosis.(14) **For more information** about the advantages and disadvantages of the stepped, stratified and matched care approaches see this recent narrative review by Linton et al (2018).
- Another recent narrative review also highlights **the importance of identifying patients based on their specific characteristics** and suggests that combining patient's psychosocial profile with the activity-related behavioural style may be of added value in tailoring the patient's treatment to his/her specific needs.(99)
- A recent systemic review about the secondary prevention of chronic musculoskeletal pain (that included mainly low back pain patients) reported that compared with a "one-size-fits-all" treatment, **stratified programs** showed significant improvements in several domains of the International Classification of Functioning, Disability and Health.(20) *See Focus area 1: multi-modal, not condition specific*.
- Multidisciplinary biopsychosocial rehabilitation for subacute low back pain has been reported in a recent Cochrane systematic review to be no better than a brief clinical intervention including education and advice about exercise **in interventions not targeted to high risk patients**.(19)
- **One example of a trial that implements risk-stratified care** for low back pain in family practices in the UK is the **IMPaCT Back study**.(37, 65) The study reported significant improvements in patient disability outcomes and a halving in time off work, without increasing health care costs. The STarT Back tool is specifically designed for primary care settings and is used in the study as the subgrouping tool that allocates patients into low-, medium- or high-risk subgroups in order to guide decision making about treatment and referral. In the study, the tool is offered to GPs in both a computer-based format and a paper-based format completed by the GP and patient in the consultation. The targeted treatments include a minimal intervention delivered by GPs (for those patients at low risk of poor outcome) or referral to primary care physiotherapists who can apply physiotherapy approaches to addressing pain and disability (for those at medium risk) and additional cognitive-behavioural approaches to help address psychological and social obstacles to recovery (for those at high risk). *For information about the key content covered in the training packages for primary care providers see* **Appendix 11**.

- There is growing interest in the stratified care approach with two multi-site trials currently being conducted using a stratified care approach to prevent the progression to chronic pain in high-risk patients. *For more information see below: relevant research currently being conducted*.
- **One example of the matched care approach is the recent Australian trial (WISE study)**.(39) For more information see *Focus area 5: work-related injuries.*

Screening tools

- The STarT Back tool (UK)(37, 38) (see above); and the 10-item Swedish scale (the Orebro Musculoskeletal Pain Screening Questionnaire - Short-Form- OMPSQ-SF) has been used in injured workers in Australia with pain at any site.(39, 40)(See *Focus area 5: work-related injuries*)
- However, as noted above, there is a paucity of research related to the **implementation of screening tools and risk-based interventions** in primary care.(67)

ACI model of care for acute low back pain

- The **NSW Agency for Clinical Innovation (ACI) has recently developed a model of care (MOC) for acute low back pain (2016)** that can be applied to primary care and emergency department settings.(10) The ACI model of care was developed in collaboration with policy-makers, clinicians, consumers and researchers.
    - The model provides different care pathways according to a classification based on a diagnostic triage (acute or chronic non-specific low back pain, low back pain with leg pain and suspected serious spinal conditions).
    - Risk stratification is recommended (using tools such as the STarT Back or Orebro) to guide the amount and type of treatment provided
    - Follow-up reviews are recommended to monitor individuals' progress.
    - The key principles of the ACI model of care for acute low back pain include: *Principle 1- Assessment: history and examination (*red flags); *Principle 2 - Risk stratification (*yellow flags); *Principle 3 - Patient education; Principle 4 - Active physical therapy encouraged; Principle 5 - Begin with simple analgesic medicines; Principle 6 - Judicious use of complex medicines; Principle 7- Cognitive behavioural approach; Principle 8 - Only image those with suspected serious spinal pathology; Principle 9 - Predetermined times for review; and Principle 10 - Timely referral and access to specialist services.*
    - Psychologically informed practice(69) is recommended including teaching patients simple coping methods, helping patients to understand the relationship between beliefs and behaviours, and developing goal-orientated plans.
    - Referral of patients for more complex psychological intervention (e.g. clinical psychologist, physiotherapist trained in psychologically informed physiotherapy) is recommended for patients with 'yellow flags' or patients who develop chronic pain.
    - The MOC also includes language to avoid and language to use when speaking with patients about pain.
    - A consumer resource has been developed by the ACI based on this MOC.

Digitally delivered care

- In the recent Lancet series, the authors suggest that rural and remote regions rehabilitation advice and support given **online**, combined with self-management, might be an option where internet access is

available.(35) For more information about telehealth and internet-delivered pain management programs see *Focus area 1: multimodal or not condition specific*.

- A recent systematic review of **mobile apps** for the self-management of low back pain found that generally app developers are selecting interventions that are endorsed by guidelines, although their quality is low.(62) The authors reported that there are many apps available for the self-management of low back pain, but their effectiveness in improving patient outcomes has not been rigorously assessed. The authors suggest that app developers need to work closely with healthcare professionals, researchers, and patients to ensure app content is accurate and evidence-based and the app is user-friendly and useful.

Relevant research currently being conducted

- (US) Targeted interventions to prevent chronic low back pain in high-risk patients: A multi-site pragmatic cluster randomized controlled trial (**TARGET Trial**) http://www.targettrial.pitt.edu/ This trial compares treatment for preventing transition to chronic low back pain via guideline-based primary care versus primary care plus timely referral to physical therapists trained in psychologically informed practice (PIP). Acute low back pain patients at all clinics are risk stratified (high, medium, low) using the STarT Back Tool.
- (Australia) Implementation of a clinical PAthway of CarE to improve patient health outcomes and reduce costs for common musculoskeletal disorders (low back pain, neck pain or whiplash, knee osteoarthritis) in primary care (**PACE study**). For more information *see Focus area 1- multi-modal or not condition specific.*

Focus area 5 – Return to work and work-related injuries

Key points

- **Soft tissue (musculoskeletal) injuries are the most common work-related injuries**, estimated at 57.1% of all work-related injury/illness in Australia in 2018.(100)
- The **vast majority** (92.7%) of all workers surveyed in 2018 reported having **returned to work** at any time since their work-related injury or illness. However, there was a significant increase in the **proportion of unsuccessful return to work attempts** (those who had to take additional time off since returning to work, due to their work-related injury or illness), at 19.6%.(100)
- Around three-in-eight (37.6%) workers who had returned to work reported that they **worked reduced hours** upon their return. Those who experienced mental illness were the most likely to work reduced hours upon returning to work (53.7%). Around three-in-eight (38.4%) workers who had returned to work reported that they were **performing slightly different/modified duties** upon their return to work, while 19.0% reported performing **completely different duties**.(100)
- In general, **work is good for long-term health and well-being**.(27, 68)
- While little time is lost from work for most cases, a small proportion have delayed recovery and delayed return to work. If a worker is absent from work for 3 months or more following injury, the outlook becomes significantly more negative.(27) The **longer an injured worker remains absent from work the greater is their risk of never returning to work**; longer term ill-health and financial insecurity; and costs to the community.(39, 40)

Risk factors and management

- Identification of **risk factors for poor recovery and early intervention** for managing injured workers is crucial.
- **Psychological and social/environmental factors** are predictors for delayed recovery and disability associated with chronic pain.(39) **Legal involvement in an injury and an associated compensation claim** following an injury are also associated with worse physical and psychological functional outcomes.(43)
- Models of care for injured workers in the compensation environment recommend the adoption of **biopsychosocial management approaches**. Compensation Models of Care following musculoskeletal workplace injuries consistently recommend early diagnostic triage, identification of potential psychosocial obstacles to recovery, provision of education about pain biology, encouragement to keep active and encouragement to remain at work or an early return to work even when symptoms persist.(27)
- A recent systematic review highlighted that **multidisciplinary and multi-factorial interventions that seek to address a range of individual and societal factors** that influence return to work for workers with musculoskeletal and pain-related conditions are more likely to be effective.(101)
    - The review reported that graded activity programs need to be supplemented by workplace modifications (e.g. modified duties, modified working hours, supernumerary replacements, ergonomic adjustments) and/or service coordination (communication within the workplace or communication between healthcare providers and the workplace) to be effective in reducing lost time associated with work disability. These multi-component interventions also have a positive effect on improving work functioning after return to work and reduce costs associated with work disability.
- Psychologically-informed treatments provided for injured workers without psychological risk factors, are no better than usual treatment.(102)
- A recent Australian trial (WISE study) evaluated whether **an early intervention for high risk injured workers** was associated with fewer lost work days over two years compared to the usual (stepped) care.(39) Workers in the intervention were screened within 1–3 weeks of injury as being at high risk of delayed returned to work using the Örebro Musculoskeletal Pain Screening Questionnaire-short version (ÖMPSQ-SF) and were offered psychological assessment and a comprehensive protocol implemented by a range of stakeholders (including psychologists, physiotherapists, GPs, insurance case managers and return to work coordinators) working in collaboration, as needed, to address the identified psychological and workplace obstacles for return to work. The study found that at the two-year follow-up, the mean lost work-days for the intervention group was less than half of the usual care group, their claim costs were 30% lower, as was the growth trajectory of their costs after 11 months.

Screening tools

- A **validation study of Örebro Musculoskeletal Pain Screening Questionnaire-short version (ÖMPSQ-SF)** to predict time to return to pre-injury work duties following a work-related soft tissue injury (regardless of body location) provides strong support for the use of the ÖMPSQ-SF in an applied setting for identifying those injured workers likely to have delayed return to work when administered within 15 days of the injury.(40)
- A recent pre-post study in Western Australia described the **implementation of the 10-item Örebro Musculoskeletal Pain Screening Questionnaire (ÖMPSQ-10) in private physiotherapy clinics in patients with a compensable musculoskeletal problem**.(67)

- The authors described the key barriers to the use of screening questionnaires (from their experience) as: lack of time as perceived by clinicians; lack of clinician knowledge on the utility of screening questionnaires; and lack of clinician knowledge on how to use screening questionnaires to inform clinical decision making.
- The study implemented clinician-focused strategies (group education, additional individual education if needed and supplementary written material) and organisation-focused strategies (paperwork/front office procedure for questionnaire completion and familiarisation of new employees). Education of physiotherapists emphasised that the questionnaire should be used to assist, rather than being the sole indicator used, in developing the individual client's management pathway.
- The study reported a significant positive shift in behaviour to more frequent use of the OMPSQ-10 for new compensable patients.

Primary care providers

- 'Helpful' perspectives **for primary care providers to support recovery and return to work** are highlighted in a recent narrative review of the management of musculoskeletal pain in a compensable environment(27) and include understanding that work is critical for good health and a therapeutic intervention rather than solely an outcome and that many workers return to work before they have recovered 100%. The authors also highlight the need for **education for healthcare practitioners** about compensation-based system issues.
- A recent review provides a systematic approach for Australian primary care providers (including general practitioners and physiotherapists) **to support return to work through appropriate certification**.(68)
  - The paper provides a return to work flowchart to support systematised and appropriate certification of capacity developed by the Transport Accident Commission and WorkSafe Victoria.
  - The authors suggest the following practice point: *Certification should relate to the injured worker's capacity to safely undertake tasks at work as it relates to the injury, rather than other workplace issues. Notably, certifying 'unfit' may not necessarily resolve the incorrect assumption or the situation limiting return to work. For example, if a clinician deems that the injured worker is 'unfit' and has no capacity to work, then consider what they would be doing at home. For example, if they are bed-bound, then it is likely that certifying 'unfit' is medically necessary, whereas outside this circumstance then there are various levels of capacity that could facilitate return to work. Asking 'What would the person reasonably be doing at home?' is a key question in determining someone's functional capacity and whether certifying 'unfit' is medically necessary.*
  - The authors suggest a more systematised approach to certification coupled with professional education and support may reduce variations and inaccuracies in certification, improve return to work rates and reduce the increasing burden of disease related to workplace injuries.
- The negative impact of long-term work absence, work disability and unemployment on the individual and their family following injury is acknowledged in a recent editorial.(103) The editorial suggests that **physiotherapists promote a positive relationship between work, rehabilitation and health** to patients to reduce progression to "worklessness" following injury by following strategies such as:
  - a) Ask your patient about their work before they were injured or unable to work and document the tasks they were doing; b) Start a conversation early about work, including setting a date with the injured person about when you expect s/he will be able to be back at work; c) Create an expectation that work is part of rehabilitation, not the end result; d) Dispel the myth that a

person needs to be back to normal or pain free to work; e) Communicate clearly with all stakeholders about your role, scope and limitations; you can't find someone a job, but you can remove some barriers; f) Acknowledge and promote your expertise in physical health and functioning, liaise with the workplace and the medical practitioner to facilitate return to pre-injury or modified work duties; g) If you work in a jurisdiction where physiotherapists have the legal authority to certify physical capacity, consider doing so; h) Reflect on your words and avoid catastrophic language so that you do not create fear and avoidance in your patients around movement, activity and work; and i) Avoid becoming embroiled in system bashing or clinician criticism, which creates further anger, distrust and perceptions of injustice in your patients.

Focus area 6 - Opioid consumer initiatives

Key points

- Current practices for the prescription of opioids **at discharge after surgery are highly variable and often excessive**.(25)
- Many surgical procedures are associated with **increased risk of chronic opioid use** (in people that have not used an opioid in the year prior to surgery).(104)
- **High postsurgical opioid consumption** is also a risk factor for chronic postsurgical pain.(18, 44)
- *Acute Pain Management: Scientific Evidence (2015)* by the Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine highlights that **short-term opioid therapy may lead to long-term opioid use** (7) and suggests a "universal precaution" approach for opioid prescribing after surgery in the setting of prescribing discharge medications.
- *US Clinical Practice Guidelines for Pain Management in Acute Musculoskeletal Injury* (2019) recommend prescribing the lowest effective immediate-release opioid for the shortest period possible and connecting patients to psychosocial interventions as indicated.(6) The guidelines also recommend **opioid education for prescribers and patients**.

Consumer initiatives about opioids

- Research about consumer initiatives related to opioid use, non-initiation and tapering in people with acute and subacute pain in the post-surgery, post-injury and (sub)acute back pain setting, **particularly in the primary care setting is limited**.(6)
- A recent systematic review identified **strategies implemented in the hospital setting to reduce postsurgical opioid prescribing at discharge** including two patient interventions.(25)
    - One of the patient interventions examined the impact of preoperative patient education about opioids. The study found that only 10% of patients who had education sessions requested opioids after surgery compared with 100% in the control group and patients also experienced a lower intensity and duration of pain postoperatively.
    - The other patient intervention in this review examined the impact of a shared-decision making model. The study used a computer-based decision aid to help patients determine the amount of opioid they would be prescribed after caesarean delivery. The shared decision-making session resulted in a significant decrease in the amount of opioid prescribed. Postintervention, 8% of patients obtained a refill prescription and 90% of patients were satisfied or very satisfied with their pain management.

- A recent systematic review identified interventions **in the primary care setting related to opioid deprescribing involving patients with chronic pain.** The review found only a small number of trials related to opioid deprescribing that involved patients with chronic pain in the primary care setting.(51)
    - A consumer intervention identified in this systematic review is provided as **an example** of an initiative about tapering opioids:
        - The pilot RCT explored the effects of a tapering opioid intervention with patients recruited from specialist pain clinics and primary care clinics. The intervention included firstly, a Motivational Interviewing-based session with the patient concerning opioid tapering including: 1) eliciting the patient's history related to pain, opioid therapy, and related difficulties; 2) eliciting change talk related to tapering; 3) education about dose-related health risks; 4) identifying practical and psychological barriers to tapering opioid dose and problem-solving ways to overcome these; and 5) developing a commitment to change with respect to opioid therapy. Patients were also shown a short video of interviews with the same patients who were in the first video concerning coping with challenges of tapering off opioids.
        - The taper support intervention protocol included an additional 17 weekly 30-minute individual sessions.
        - Patients were provided with an opioid medication prescription for the week at each visit.
        - Patients were encouraged to attend all sessions in person but were offered to complete up to every other session by telephone.
        - At the sessions, patients reported on pain, withdrawal, and mood/anxiety symptoms.
        - Each session included pain self-management training modelled after empirically supported cognitive-behavioural therapy (CBT) interventions for chronic pain. The sessions included: (1) rationale for pain self-management and education about the neurophysiology of pain and the role of cognitive and behavioural variables in chronic pain and adjustment to it; (2) behavioural goal setting; (3) education about, training in, and practice of various relaxation techniques (diaphragmatic breathing, progressive muscle relaxation, body scans, applied relaxation); (4) behavioural activation techniques, activity scheduling, and instruction in activity pacing; (5) education regarding the role of cognitions in negative affective responses to pain and instruction in positive pain coping self-statements and distraction techniques; (6) sleep hygiene education; and (7) education about and training in ways to maintain gains, reduce the risk of pain flare-ups, and cope with pain flare-ups if they do occur.
        - Motivational Interviewing was used periodically to address ambivalence about tapering as needed.
        - Patients completed "personal action plans" at each session for home activities to perform between sessions (e.g., practice of relaxation techniques, personal goal-related activities).
        - The group that had taper support improved significantly more than usual care in self-reported pain interference, pain self-efficacy, and prescription opioid problems at 22 weeks. The authors concluded that this taper support intervention is feasible and shows promise in reducing opioid dose while not increasing pain severity or interference.(52)

6.2 PHN initiatives related to Goal 1 (consumer and community initiatives)

Key points

- The mapping of PHN chronic pain initiatives in Phase 1 of the Chronic Pain Project found **a gap related to the secondary prevention of chronic pain** with most initiatives currently being implemented by PHNs relating to the management of chronic pain.

PHN initiatives related to the secondary prevention of chronic pain

- Two PHNs support the **Pain Revolution** (https://www.painrevolution.org) which runs community awareness and health professional education events in rural and regional areas of Australia. The initiative aims to increase knowledge, skills and local support to prevent and manage chronic pain.
- The **Opioid Early Intervention Pilot Project** is funded through the Pharmacotherapy Area-Based Network for 18 months and involves providing pharmacies with additional funding to consult with a patient when they are initially prescribed an opioid. The intervention provides education on expectations for pain management and options other than opioids to manage their pain. Patients will be followed up at one, three and six months. Western Victoria PHN has contracted La Trobe University to undertake this pilot project in three pharmacies.

PHN initiatives that could be adapted to the secondary prevention of chronic pain

- **Face-to-face multidisciplinary consumer pain programs for consumer with chronic pain** are currently implemented in six PHNs and WAPHA.
    - A consumer pain program could be developed for consumers with (sub)acute pain at risk of developing chronic pain; or for specific (sub)acute consumer pain populations [e.g. post-surgery, post-injury, (sub)acute back pain].
    - Referrals into the program could include the GP, specialist or allied health practitioners (with GP final sign-off). See **Appendix 8** for a potential prototype of adapting the *Turning Pain Into Gain* consumer pain program.
    - For a summary of the enablers to implementing consumer pain programs identified in the consultation with PHNs in Phase 1 of the Chronic Pain Project see **Appendix 5**.
- **Outreach services** (telehealth and visiting health care providers) connecting people in pain with pain specialists and other health providers are currently implemented in four regional PHNs.
    - Telehealth services could also be used to support the assessment and management of consumers with (sub)acute pain at risk of developing chronic pain by providing, for example,
        - Individual sessions with an allied health practitioner (e.g. telerehabilitation with physiotherapist, telehealth with a psychologist)
        - A multidisciplinary consumer pain program via telehealth including group-based activities (e.g. education, exercise) and individual sessions with an allied health practitioner
- **Online consumer distribution platforms and information portals** are currently implemented in four PHNs (e.g. GoShare, Health Resource Directory, PatientInfo)

- The distribution platforms and information portals could also include consumer resources about the secondary prevention of chronic pain (e.g. for people post-surgery, post-injury and (sub)acute back pain) in addition to consumer resources for the management of chronic pain.

- Adelaide PHN is currently implementing a face-to-face **peer support network** with visiting health professionals from a range of disciplines
  - A peer support network could be developed for consumers with (sub)acute pain at risk of developing chronic pain; or for specific (sub)acute consumer pain populations [e.g. post-surgery, post-injury, (sub)acute back pain].
  - A peer support network could be implemented face-to-face, online or via social media
- The community awareness initiative, **Brainman video series**, developed by the Hunter Integrated Pain Service, Hunter New England Local Health District and Hunter New England and South Coast PHN https://www.aci.health.nsw.gov.au/ie/projects/brainman could include other videos relevant to the post-surgery, post-injury and (sub)acute back pain population.

For more information about these initiatives see the report of the consultation[17] or the information resource disseminated to PHN at the PHN workshop in Phase 1 of the project and available on the Australian Prevention Partnership Centre website https://preventioncentre.org.au/our-work/research-projects/preventing-the-development-of-chronic-pain/

[17] De Morgan S, Walker P and Blyth F. Review of Primary Health Network Chronic Pain Initiatives: Summary of findings from the consultation with Primary Health Networks. The Australian Prevention Partnership Centre and the University of Sydney, June 2019.

6.3 Supporting evidence related to Goal 2: *Ensuring health professionals are skilled and provide best-practice evidence-based care*

Key points

- A recent systematic review about the secondary prevention of chronic pain highlights the need for **adequate education of health professionals** to screen patients for risk factors and integrate a biopsychosocial perspective into their care.(20)
- The *Principles for the secondary prevention of chronic pain* highlighted in this rapid review include **education and training of primary care providers** to address issues such as risk factors and screening; self-management, goal-setting, pacing and non-pharmacological approaches; simple coping methods and behavioural strategies; opioid deprescribing; referring to allied health practitioners; follow-up; and return to work approaches, capacity certification and the compensable environment (See *Principles for the secondary prevention of chronic pain*).
- However, **education and training related to the secondary prevention of chronic pain** (as part of professional development or more formal undergraduate and postgraduate courses for GPs, physiotherapists, practice nurses and other primary care providers) is limited, although education and training related to the secondary prevention of chronic pain may be embedded in chronic pain management education and training.
- There is also **limited research** about the acceptability, feasibility or effectiveness of education and training **related to the secondary prevention of chronic pain**
- Furthermore, trials of interventions with people with acute and chronic pain often provide **insufficient details about the training** involved to implement the intervention (e.g. treatment manuals, patient materials and provider training outlines).(47)

Screening tools and risk stratification

- As noted in the previous section, there is a paucity of research related to the **implementation of screening tools** in primary care.(67) One example of a trial that describes the training of primary care providers (GPs and physiotherapists) is the **IMPaCT Back study**.(37, 65) *For information about the key content covered in the training packages see* **Appendix 11**. The Keele group also provides online training and useful resources https://startback.hfac.keele.ac.uk/training/
- A recent pre-post study in Western Australia described the implementation of a screening tool (10-item Orebro Musculoskeletal Pain Screening Questionnaire, OMPSQ-10) in private **physiotherapy clinics in patients with a compensable musculoskeletal problem**.(67) (See *Focus area 5: work-related injuries*)
- A recent Australian trial (WISE study) evaluated **an early intervention for high risk injured workers.**(39) Workers in the intervention were screened within 1–3 weeks of injury as being at high risk of delayed returned to work using the Örebro. (See *Focus area 5: work-related injuries*)

Return to work

- A recent systematic review found that graded activity programs need to be supplemented by service coordination (communication within the workplace or **communication between healthcare providers and the workplace**) and/or workplace modifications to effectively reduce lost time associated with work disability for workers with musculoskeletal and pain-related conditions.(101) (See *Focus area 5: return to work and work-related injuries*)
- **Appropriate certification** by Australian primary care providers (including general practitioners and physiotherapists) is needed to support return to work.(68) (See *Focus area 5: return to work and work-related injuries*)
- A recent editorial suggests that **physiotherapists promote a positive relationship between work, rehabilitation and health** to patients to reduce progression to "worklessness" following injury.(103) (See *Focus area 5: return to work and work-related injuries*).
- Similarly, a recent narrative review of the management of musculoskeletal pain in a compensable environment(27) suggests that health professionals understand **that work is critical for good health** and should be seen as a therapeutic intervention rather than solely an outcome and that many workers return to work before they have recovered 100%. The authors also highlight **the need for education for healthcare practitioners about compensation-based system issues**. (See *Focus area 5: return to work and work-related injuries*)

Psychologically informed practice

- There is a growing interest in **psychologically informed practice for pain management** and primary care physicians and physical therapists have delivered psychologically informed practice as part of a stratified care approach involving screening and targeting of treatment for people at high risk for pain-associated disability.(69)
- In a recent narrative review of psychologically informed practice, the authors describe **the major types of psychological interventions** as: a) educational (threat reduction and activation); b) behavioural change (explicit focus on incorporating adaptive behaviours in response to pain); c) cognitive-behavioural (principal focus on cognition and coping strategies); d) psychophysiological focus (variants of stress reduction and mindfulness); and e) contextual cognitive-behavioural therapy (acceptance and commitment therapy).(69)
- A recent systematic review reported that **physiotherapist-led cognitive-behavioural interventions** (that included techniques designed to reduce fear of movement and pain-related disability such as pacing, goal setting, problem-solving, relaxation, and challenging unhelpful thoughts relevant to low back pain) were effective for low back pain.(47)
    - The review highlighted that using a cognitive-behavioural approach, including a variety of techniques that could be easily adopted in a physical therapy setting, provides greater benefits for patient outcomes compared to brief education, exercise or physical techniques (such as manual therapy) alone.
    - The review found that with additional training, physiotherapists can deliver effective cognitive-behavioural interventions.
    - However, the authors report that without training or resources, successful translation and implementation remains unlikely. The authors suggest that researchers improve reporting of procedural information, provide relevant materials, and offer accessible provider training.

- However, a recent systematic review found that **physiotherapists lack confidence** in their ability to identify, communicate and manage cognitive, psychological and social dimensions of chronic low back pain in practice.(105)
    - Physiotherapists report feeling that neither their initial training nor currently available professional development equipped them to successfully deal with these factors in practice and **emphasised a need for training** on integrating these factors into patient management.(70, 105)
    - The authors of a recent narrative review of psychologically informed practice suggest the following 3-step training approach: a treatment manual, an experiential workshop, and ongoing supervision with consultation and feedback.(69)
- **Cognitive functional therapy** (CFT) is a behaviourally oriented intervention that targets patients' individual biopsychosocial profiles.(70, 106)
    - A recent qualitative study of a 10-month formal CFT training programme, which included a combination of didactic learning, problem-based learning, communication training, video reviews and direct feedback on clinical practice, has the capacity to enhance physiotherapists' self-reported confidence and competence in managing the biopsychosocial dimensions of nonspecific chronic low back pain.(70) The authors suggest that to achieve an enduring change in clinical behaviour, biopsychosocial training should include clinical integration and ongoing support.
- **Stress inoculation training and exercise** has been recently implemented in a trial for patients with acute whiplash-associated disorder at risk of poor recovery.(48)
    - In the study, a physiotherapist provided six sessions (one per week) to patients of stress inoculation training, teaching strategies to assist participants in managing acute stress responses. It consisted of three phases: (1) identify and understanding stress-identifying specific stressors and how these affect pain, behaviour, emotions, physical performance and thoughts; (2) developing skills for managing stress, such as relaxation, problem solving and helpful coping self-statements; and (3) applying skills in various stressful situations to develop tolerance and confidence. Participants were encouraged to practise these skills on a weekly basis with home practice.
    - The training for physiotherapists to conduct stress inoculation training with patients included a two-day training workshop conducted by a clinical psychologist, rehabilitation physician and musculoskeletal physiotherapist.
    - Physiotherapists reported that the training developed their confidence to deliver the program and supported using at least components of the program in routine practice.(66) The authors conclude that physiotherapists with some additional training, could apply stress inoculation training for whiplash-injured patients at risk of poor recovery.

Research currently being conducted

- A US multi-site pragmatic cluster randomized controlled trial (**TARGET Trial**) is currently being conducted to compare treatment for preventing transition to chronic low back pain via guideline-based primary care versus primary care plus timely referral to physical therapists trained in psychologically informed practice. For more information *see Section 6: Supporting evidence, Focus area 4- (sub)acute low back pain*.

Opioid initiatives for clinicians

- **Research about health professional initiatives related to opioid use, non-initiation and tapering** in people with acute and subacute pain in the post-surgery, post-injury and (sub)acute back pain setting, particularly in the primary care setting, **is limited.**
- A recent systematic review identified **strategies to reduce postsurgical opioid prescribing at discharge**, implemented in the hospital setting.(25) Six types of behavioural interventions were identified: local consensus-based processes (18 studies), patient-mediated interventions (2 studies), clinical practice guidelines (1 study), educational meetings (1 study), interprofessional education (1 study), and clinician reminder (1 study). All but one study reported a statistically significant decrease in the amount of opioid prescribed at discharge after surgery, and only 2 studies reported evidence of increased pain intensity.
- A recent systematic review identified interventions **in the primary care setting related to opioid deprescribing involving patients with chronic pain**.(51) The review found only two trials that focused on interventions for clinicians, one trial evaluated training sessions and decision tools; and the other trial evaluated online education of patient simulation plus case-based learning.
- **An example** of opioid deprescribing intervention in an Australian hospital:
    - A recent Australian study implemented in an orthopaedic specialty unit in St Vincent's Hospital, Melbourne examined the impact of an intervention comprising (i) an Expert Advisory Group oversight of opioid prescribing, (ii) development of a prescription opioid guideline for various hospital contexts and (iii) a series of education sessions.
    - The pre-post study found a significant reduction in the number of patients discharged on combination opioids from 71.4% to 45.7%, a significant reduction in the provision of full pharmaceutical quantities of opioid on discharge from 29.4% to 6.1% and a significant increase in opioid weaning plans included in discharge summaries from 6.9% to 87.4%.(71)
- **An example** of an education intervention about opioids for Australian general practitioner trainees:
    - A recent Australian study investigated the impact of an educational intervention for general practitioner trainees emphasising limitations, risk mitigation, and deprescribing of opioids with transition to active self-care. This educational intervention incorporated pre-readings, a resource kit, and a 90-minute interactional video case-based workshop incorporated into an education day.
    - The pre-post study found that the education intervention produced significant changes to trainees' judgments about, and intentions toward, long-term opioid analgesia maintained at two.(53)
    - *For more information about the content of the education initiative see* **Appendix 12**.

Health professional education and training and other resources

- See **Appendix 10** for relevant health professional education and training and other resources related to the secondary prevention of chronic pain.

6.4 PHN initiatives related to Goal 2 (health professional capacity building initiatives)

Key points

- The mapping of PHN chronic pain initiatives in Phase 1 of the Chronic Pain Project found **a gap related to the secondary prevention of chronic pain** with most education and training events currently implemented by PHNs relating to the management of chronic pain.

PHN initiatives related to the secondary prevention of chronic pain

- One PHN has implemented an education and training initiative related to opioid use. The **Prescribed Drugs of Dependence Active Learning Modules** aims to improve risk management and treatment pathways for patients being prescribed drugs of dependence in general practice. The program supports practices to embed a consistent approach to quality and safer prescribing of drugs of dependence. The program consists of three face-to-face workshop sessions for GPs, practice nurses, pharmacists and allied health and practice support to improve opioid prescribing and pain management in primary care. The sessions are accredited for the Royal Australian College of General Practitioners CPD points. The role of the PHN is to coordinate speakers and running of these events. *Enablers:* practice visits to promote the program resulted in program enrolments; and incentives funded by the Pharmacotherapy area-based network (Ballarat region – Western Victoria PHN) whereby GPs receive $1000 if they can demonstrate (using a template to collect information) that they have improved their opioid prescribing

PHN initiatives that could be adapted to the secondary prevention of chronic pain

- Most PHNs currently implement **education and training for primary care providers** related to chronic pain management.
    - Education and training could also be implemented about (sub)acute pain and specific (sub)acute pain populations [e.g. post-surgery, post-injury, (sub)acute back pain] including face-to-face and/or online education and training
    - Education and training should involve a range of primary care providers including practice nurses, allied health practitioners and community pharmacists as well as GPs (or provide education and training for different disciplines)
    - Education and training should address the issues outlined in the *Principles for the secondary prevention of chronic pain (Principle 4)*
    - Additional education and training could be provided for physiotherapists about psychologically informed physical therapy e.g. 3-step training approach: a treatment manual, an experiential workshop, and ongoing supervision with consultation and feedback (or promote education and training offered by other agencies)
    - Education and training could also be provided about opioid prescribing, non-initiation and deprescribing of opioids or embedded in other education and training
    - Education and training could also be provided for working with relevant population groups including Aboriginal and Torres Strait Islander peoples, people from culturally and linguistically diverse backgrounds, people from rural and remote areas, older Australians, people with dementia, children and young people and other relevant groups

- As part of the Chronic Pain Management Program (consumer pain program) in South Eastern NSW PHN, the NSW Agency for Clinical Innovation (ACI) supported consumer pain program facilitators to access webinar skills training in pain management. Pain Management Research Institute, University of Sydney: **Webinar Skills Training in Pain Management**: Putting Cognitive Behavioural Therapy Skills into Practice: Online, interactive webinars training in CGT skills for pain: seven sessions over 2-3 months https://sydney.edu.au/medicine-health/our-research/research-centres/pain-management-research-institute/postgraduate-and-short-courses-in-pain-management/putting-cognitive-behavioural-therapy-skills-into-practice.html
- Two PHNs currently provide a **network for primary care providers involved in a face-to-face consumer pain program.** A primary care provider network could be developed alongside a consumer pain program for people with (sub)acute pain at risk of developing chronic pain)
- **PHNs promote education and training and other resources for primary care providers offered by other agencies** via health professional networks (events and newsletters).

  For information about education and training and other resources related to the secondary prevention of chronic pain see **Appendix 10**.

For more information about these initiatives see the report of the consultation[18] or the information resource disseminated to PHN at the PHN workshop in Phase 1 of the project and available on the Australian Prevention Partnership Centre website https://preventioncentre.org.au/our-work/research-projects/preventing-the-development-of-chronic-pain/

For a summary of the enablers to implementing education and training initiatives identified in the consultation with PHNs in Phase 1 of the Chronic Pain Project see **Appendix 6**.

[18] De Morgan S, Walker P and Blyth F. Review of Primary Health Network Chronic Pain Initiatives: Summary of findings from the consultation with Primary Health Networks. The Australian Prevention Partnership Centre and the University of Sydney, June 2019.

6.5 Supporting evidence related to Goal 3: *Quality improvement and health system support*

Key points

Co-ordination and continuity of care

HealthPathways

- HealthPathways is a password-protected website that contains information designed to assist general practitioners (GPs) with the management of patients and the referral of patients to specialists and allied health professionals (74, 75). The overarching objective of HealthPathways is to ensure that the right patient is referred to the right place at the right time and with the right information.
- A recent evaluation of the **Hunter and New England HealthPathways** identified that the critical elements for acceptability, growth and sustainability are the strong relationships between primary care and specialist clinicians, as well as formal partnerships that are built from the processes used to develop HealthPathways.(74) The authors recommend an approach to pathway development that engages GPs and specialists using a team-based process to build relationships and gain acceptance and endorsement of the pathways. Implementation that is accompanied by service redesign was found to be more likely to result in improvements. However, the authors acknowledge that this is a challenge due to the resourcing required.
- Recent evaluations of **HealthPathways in New Zealand**(73) and **South-West Victoria**(72) reported that clinicians viewed HealthPathways positively and usage had increased over time but there was a lack of planning and engagement of clinicians and that many GPs "did not think to look at HealthPathways or simply did not know about it."(72)
- **HealthPathways Sydney** was recently evaluated by the Menzies Centre for Health Policy, University of Sydney.(75) The evaluation recommended strategies to improve the planning of referral pathways and engagement of clinicians such as:
    - Establishing workgroups (with GPs, specialists, allied health professionals) to create a sense of community and momentum, a forum for identifying system and service level issues and key insights and as a way of disseminating information
    - Involving a range of clinicians in implementation to enable 'buy-in' including senior clinicians and executive staff
    - Focusing on GPs that are new to the district (including visits and training)
    - Utilising existing PHN training events; and thinking about how to engage clinicians that are outside the normal engagement channels.
    - The authors also highlight that patients and clinicians do not think in terms of PHN boundaries and there is a need to create access to different pathways outside PHN boundaries.

Transitions of care

- **Effective discharge planning, communication between hospital and primary care providers and follow-up of patients is crucial** for effective pharmacological and non-pharmacological pain management and tapering of opioids.

- Research on methods and outcomes of discharge planning and improving patient handovers from hospital to primary care are limited.(8, 76)
- The US clinical practice guidelines related to the management of postoperative pain, 2016, recommend a coordinated approach to discharge instruction including advice from hospital-based prescribers, nurses, physiotherapists, and pharmacists.(8)
- A systematic review (76)highlighted the following interventions to **improve patient handovers from hospital to primary care** including
    - Medication reconciliation (Medication reconciliation is the process of creating the most accurate list possible of all medications a patient is taking — including drug name, dosage, frequency, and route — and comparing that list against the physician's admission, transfer, and/or discharge orders, with the goal of providing correct medications)
    - Electronic tools to facilitate quick, clear, and structured summary generation
    - Discharge planning; shared involvement in follow-up by hospital and community care providers
    - Use of electronic discharge notifications
    - Web-based access to discharge information for general practitioners
- **Community pharmacists** may play an important role in improving continuity of care during transition from hospital to the community in collaboration with hospital clinicians and primary care providers, although more research is needed.(77, 78)
    - A systematic review to identify the optimal role for pharmacists in care transitions during and after hospitalisation recommends the implementation of multifaceted programs that combine medication reconciliation with active patient counselling and a clinical medication review.(77) The authors also recommend that pharmacists collaborate with other health care professionals to acquire information about the clinical background of patients.

Benchmarking system for the pain sector

- The **Electronic Persistent Pain Outcomes Collaboration (ePPOC)** is a national benchmarking system for the pain sector https://ahsri.uow.edu.au/eppoc/index.html)(79) It aims to improve clinical outcomes for people experiencing persistent pain through reporting and benchmarking. It is implemented and managed by the Australian Health Services Research Institute (AHSRI), University of Wollongong. It includes ePPOC for adults and PaedePPOC for children.
- **Multidisciplinary pain services** (public and private) involved in the ePPOC initiative routinely collect data using validated assessment tools; submit data to ePPOC every 6 months; and receive feedback and biannual reports. Services can compare their outcomes with the Australasian average and ePPOC benchmarks.
- Multidisciplinary pain services are currently mainly hospital based but there is a growing involvement of primary care services with several PHNs currently involved in the ePPOC initiative.

Drug monitoring

- **SafeScript** is a real-time prescription monitoring and clinical decision support system that aims to provide doctors and pharmacists access to an up-to-the-minute medication supply history for certain high-risk medicines for their patient at the point of consultation. This includes all Schedule 8 medicines and other high-risk medicines such as benzodiazepines, zolpidem or zopiclone, quetiapine and codeine. It aims to help prescribers and pharmacists to safely manage patients who may be misusing prescription medicines, or those who may be receiving supplies of high-risk medicines beyond therapeutic need.

- The Victorian Government has engaged Western Victoria PHN as lead for a consortium comprising all Victorian PHNs and NPS MedicineWise, to develop and deliver training for doctors and pharmacists to ensure successful uptake of the system. This includes safe and appropriate prescribing of high-risk medicines; drug counselling skills and engaging in conversations with patients around prescription medicine misuse and tapering of prescription medicines; and how information in the SafeScript system may be used to inform clinical decisions and regulatory obligations. Western Victoria PHN have undertaken a pilot of the training (face-to-face sessions and online NPS resources), which is now being rolled out https://vtphna.org.au/safescript/ https://vtphna.org.au/safescript-training-hub/

- Drugs and Poisons Information System Online Remote Access (**DORA**) is a real-time prescription monitoring and clinical decision support system implemented by the Department of Health in Tasmania. https://www.dhhs.tas.gov.au/psbtas/publications/general/dora

6.6 PHN initiatives related to Goal 3 (health system support initiatives)

Key points

- The mapping of PHN chronic pain initiatives in Phase 1 of the Chronic Pain Project found **a gap related to the secondary prevention of chronic pain** with most initiatives currently being implemented by PHNs relating to the management of chronic pain.

PHN initiatives related to the secondary prevention of chronic pain

- The **Pain Prescribing on Discharge Working Group** including the Top End Health Service (TEHS) and the NT PHN, funded by the NT Department of Health. The PHN role will be to support the development of health literacy tools that are appropriate for the Indigenous population (patients will be provided with information on discharge); and to support integration of care between hospitals and primary care by ensuring that information provided to patients on discharge is also provided to their GP via the discharge summary or a letter.
- Support for the implementation of **prescription drug monitoring systems, e.g. SafeScript.** The Victoria PHNs (N=6) led by Western Victoria PHN have been commissioned to provide education and training (in partnership with NPS MedicineWise) for GPs and pharmacists to support the implementation of SafeScript. Western Victoria PHN has undertaken a pilot of the education and training (face-to-face sessions and online NPS resources) which is currently being rolled out across Victoria.

PHN initiatives that could be adapted to the secondary prevention of chronic pain

- **Implementation of HealthPathways** to assist general practitioners (GPs) with the management of patients and the referral of patients to specialists and allied health professionals.
    - Most PHNs have implemented HealthPathways
    - Some PHNs have developed relevant referral pathways to assess and manage patients with (sub)acute pain (including post-surgery, post-injury and (sub)acute low back pain populations)
        - PHNs should include localised referral pathways to allied health practitioners and specialist services (if required at 12 weeks)
        - PHNs should provide information about risk factors and screening (including screening tools); self-management, goal-setting, pacing and non-pharmacological approaches; simple coping methods and behavioural strategies; opioid deprescribing; and follow-up (see *Principle 4: Education and training of primary care providers*).
        - PHNs should provide clinicians with links to relevant education and training and other health professional resources.
        - *For a summary of the enablers to implementing Healthpathways identified in the consultation with PHNs in Phase 1 of the Chronic Pain Project see* **Appendix 7**.
- Some PHNs are currently participating in the **Electronic Persistent Pain Outcomes Collaboration (ePPOC)** (national benchmarking system for the pain sector https://ahsri.uow.edu.au/eppoc/index.html) to evaluate a face-to-face multidisciplinary consumer pain program for consumers with chronic pain. ePPOC could also support the evaluation of a consumer pain program for consumers with (sub)acute pain at risk of developing chronic pain.

For more information about these initiatives see the report of the consultation[19] or the information resource disseminated to PHN at the PHN workshop in Phase 1 of the project and available on the Australian Prevention Partnership Centre website https://preventioncentre.org.au/our-work/research-projects/preventing-the-development-of-chronic-pain/

[19] De Morgan S, Walker P and Blyth F. Review of Primary Health Network Chronic Pain Initiatives: Summary of findings from the consultation with Primary Health Networks. The Australian Prevention Partnership Centre and the University of Sydney, June 2019.

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Appendix 1: Chronic Pain Project Steering Committee

Ms Carol Bennett, CEO, painaustralia

Mr David Beveridge, Nurse Practitioner, Lismore Base Hospital, Multidisciplinary Pain Management Clinic

Dr Matthew Bryant, Director Townsville Pain Persistent Pain Service and NQPPMS

Sr Mary-Lynne Cochrane, Consumer Representative

Dr Anne Daly, Physiotherapy and Pain Management Consultant

Ms Terina Grace, CEO and Managing Director Black Swan Health

Ms Fiona Hodson, Clinical Nurse Consultant Pain Management, Hunter Integrated Pain Service, Surgical Services

Associate Professor Malcolm Hogg, painaustralia

Dr Simon Holliday, GP and Addiction Medicine Specialist

Ms Jenni Johnson, Manager, Pain Management Network, NSW ACI

Ms Margaret Knight, Consumer Representative

Ms Joyce McSwan, Pharmacist, Pain Educator Gold Coast PHN

Professor Michael Nicholas, Director, Pain Education & Pain Management Programs, PMRI, University of Sydney

Dr Milana Votrubec, GP specialising in pain

Ms Leanne Wells, Consumers Health Forum and consumer representative on Pain Australia

Professor Andrew Wilson, Director, TAPPC and Co-Director Menzies Centre for Health Policy

Appendix 2: A framework of the types of chronic pain initiatives implemented in PHNs

The definitions of the types of chronic pain initiatives outlined in the framework is provided in **the table below**.

Table 4: Definitions of the types of chronic pain initiatives outlined in the framework

Label	Definition
Access to multidisciplinary care and improving consumer health literacy and care navigation	
Consumer pain programs (Face-to-face, online, and/or telephone)	Multidisciplinary chronic pain management programs based in the community involving group-based education with/without individual consultations with healthcare providers; online consumer pain programs; and telephone support initiatives
Outreach patient services	Outreach services in regional, rural and remote areas: telehealth and face-to-face (visiting) consultations connecting people in pain with pain specialists and other health providers
Online consumer information	Online consumer information including patient information portals, e.g. Health Resource Directory; and online distribution platforms, e.g. GoShare (Excludes patient resources available on HealthPathways)
Community awareness	Community awareness initiative, e.g. support for the Pain Revolution Local Pain Education Program
Other	Other, e.g. Opioid Early Intervention Pilot Project, Adelaide Pain Support Network
Ensuring health professionals are skilled and provide best-practice evidence-based care	
Education and training	Education and training of health professionals related to pain including a) face-to-face educational events implemented or commissioned by PHNs; b) support for implementation of education and training conducted by other agencies, e.g. NPS MedicineWise educational visits, Pain Revolution Local Pain Education Program; c) promotion of webinar training; and d) support for mentorship of primary care providers
Formal networks	Formal health professional networks related to pain
Outreach services for providers	Telehealth and other online services connecting primary care providers with pain specialists and other health providers
Quality improvement and health system support	
Referral pathways	Improving pathways and referral systems related to pain, e.g. HealthPathways
Drug monitoring	Support for the implementation of prescription drug monitoring systems, e.g. SafeScript
Other data collection and monitoring systems	Other data collection and monitoring systems, e.g. Electronic Persistent Pain Outcomes Collaboration (ePPOC) initiative

Other	Other, e.g. establishment of key stakeholder working group to understand the role of the different services and programs related to chronic pain

Appendix 3: PHN deliberative dialogue: Secondary prevention of chronic pain

Date: Tuesday 8 October 2019

TIME: 9:30am – 2pm (9:30am registration and tea/coffee)

LOCATION: Level 6 Seminar Room, Charles Perkins Centre, The University of Sydney, Johns Hopkins Dr, Camperdown NSW 2006

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Key features of the dialogue

The dialogue:

- Addresses a key problem currently being faced in Australia (and internationally)
- Is informed by the peer-review and grey literature (rapid review pre-circulated to participants)
- Engages a wide range of PHNs (including different states and territories, metropolitan and regional PHNs)
- Focuses on options for PHNs to help address the problem and implementation considerations
- Recognises the similarities and differences between PHNs and does not aim for consensus or 'one solution fits all model'. It recognises that there is a range of options and also recognises the importance of the local context and differences in resources and capacity.
- Recognises that participants' views, experience and knowledge are key inputs to the dialogue
- Allows for frank off the record discussion
- Engages two facilitators to assist with the discussion
- Is designed to increase participants' knowledge of the problem and options to address the problem
- Aims to spark insights which occur when those involved in addressing a problem are brought together
- Aims to generate action while recognising the resource limitations faced by PHNs

Purpose

The purpose of the deliberative dialogue is to:

1. Provide context to PHNs about the problem
2. Provide a map of the options to improve the secondary prevention of chronic pain identified in the peer-review and the grey literature including initiatives currently implemented by PHNs (identified by the consultation with PHNs in Phase 1 of the Chronic Pain Project)
3. Provide PHNs with the opportunity to share their knowledge about relevant initiatives that they know of, or have implemented, are implementing or plan to implement in the near future
4. Provide PHNs with the opportunity to discuss the options considering their context
5. Provide PHNs with the opportunity to discuss implementation and resource and capacity requirements

Outcomes

By the end of this dialogue, we hope to:

1. Improve PHNs' knowledge of the options for the secondary prevention of chronic pain
2. Help PHNs to identify initiatives that may be feasible for their PHN to implement and improve their knowledge about implementation considerations
3. Foster collaboration between PHNs with similar interests

AGENDA

Date: Tuesday 8 October 2019		
Time	**Item**	**Facilitators/ Presenters**
9:30am	**Registration and tea/coffee**	
10.00am	• Welcome • Purpose of the day • Introductions to the research team • Participants to briefly introduce themselves	Professor Lucie Rychetnik
10.15-10.45am	**Why is the secondary prevention of chronic pain so important and what are the options for PHNs informed by the evidence?**	Professor Fiona Blyth, Dr Simone De Morgan
10.45-11am	**Morning tea (15 minutes)**	
11am	**Dialogue with PHNs about the options for the secondary prevention of chronic pain** Introduction and rules for the dialogue: "Participants are free to use the information received during the dialogue but should excise caution and consideration in identifying particular participants after the dialogue."	Professor Lucie Rychetnik and Professor Fiona Blyth
	Activity 1 – Group activity Thinking about the options for the secondary prevention of chronic pain presented, participants will highlight: • **Other options** • **Or examples of options** *that participants know of, have implemented, are implementing, plan to implement or think would be a good idea and are not currently included in the map of options or presented as examples*	

	Activity 2- Sticky notes • Participants will think about the options for the secondary prevention of chronic pain presented (and shown in the posters) • **Each participant will place a sticky note on 1 option (on the posters) that they are most interested in discussing today** • Facilitators will summarise the results	
	Activity 3 – Small group activity *(to be continued after lunch)* • Participants will form small groups (chairs moved to accommodate groups) to discuss **the option** that they are most interested in discussing • Each group will nominate a scribe and a person to report back to the larger group • Participants in each group will discuss their option and record on butcher's paper their ideas **Think about how this option could be implemented by your PHN Consider e.g. role of the PHN, partners/commissioned agencies, resources required, funding models, organisational or behavioural change strategies, other enablers to implementation** **Record on butcher's paper ideas about how this option could be implemented by the different PHNs in your group**	
12-12:30pm	**Lunch (30 minutes)**	
12:35pm	**Activity 3 – Small group activity** *(continued)* • One participant from each group will report back to the larger group • Further discussion	Professor Lucie Rychetnik and Professor Fiona Blyth
1.25pm	**Activity 4- group activity** • Participants will discuss how they could collaborate after the dialogue to help plan and implement some of the options discussed at the dialogue	

1:45pm	**Next steps and completion of evaluation survey (before leaving the dialogue)** • Participants are encouraged to form ongoing networks after the dialogue with other PHNs who are interested in implementing or currently implementing similar options • **A participant list** will be circulated before the end of the dialogue and participants are given the opportunity to record the options that they are most interested in discussing with other PHNs and whether they would like to take on a co-ordination role • **Dialogue summary and update of rapid review and mapping of the options** to be sent to participants after the dialogue • **Participants to complete evaluation survey before leaving**	
2pm	**Dialogue concludes- tea/coffee** **Thank you for participating in the dialogue**	

Appendix 4: Search strategy for the rapid review

Peer-review literature search

1. Medline, PsychINFO, Cochrane Database of Systematic Reviews, Joanna Briggs Institute EBP Database and PEDro database search

   Key word headings:

   i. pain OR acute pain OR subacute pain OR sub-acute pain OR surgery Or postoperative Or postoperative care AND psychology OR behavioral medicine OR behavioural medicine OR physical therapy OR exercise OR exercise therapy OR physiotherapy OR rehabilitation OR stress training OR stress management OR mindfulness OR education OR cognitive behavioural therapy OR cognitive behavioral therapy OR cognitive therapy OR psychological therapy OR counselling OR counseling OR self-management OR occupational therapy OR tai chi OR yoga

   ii. neck OR injury OR post injury OR acute whiplash-associated disorder OR whiplash injuries OR whiplash OR acute WAD AND psychology OR behavioral medicine OR behavioural medicine OR physical therapy OR exercise OR exercise therapy OR physiotherapy OR rehabilitation OR stress training OR stress management OR mindfulness OR education OR cognitive behavioural therapy OR cognitive behavioral therapy OR cognitive therapy OR psychological therapy OR counselling OR counseling OR self-management OR occupational therapy OR tai chi OR yoga

   iii. return to work OR occupational-related injuries OR occupational injuries OR workers compensation AND psychology OR behavioral medicine OR behavioural medicine OR physical therapy OR exercise OR exercise therapy OR physiotherapy OR rehabilitation OR stress training OR stress management OR mindfulness OR education OR cognitive behavioural therapy OR cognitive behavioral therapy OR cognitive therapy OR psychological therapy OR counselling OR counseling OR self-management OR occupational therapy OR tai chi OR yoga

   iv. prevention OR preventative medicine OR preventative health services OR early intervention OR secondary prevention

   v. pain OR acute pain OR subacute pain OR sub-acute pain OR surgery Or postoperative Or postoperative care OR Secondary prevention OR early intervention AND opioid AND education

   vi. pain OR acute pain OR subacute pain OR sub-acute pain OR surgery Or postoperative Or postoperative care OR Secondary prevention OR early intervention AND education OR training OR professional development

2. Google and Google Scholar
3. Hand searching of references from relevant papers

Consultation with PHNs in Phase 1 of the Chronic Pain Project

- Relevant literature, evaluation reports and initiatives (without evaluations) identified in the consultation with PHNs in Phase 1 of the Chronic Pain Project [20]

[20] De Morgan S, Walker P and Blyth F. Secondary prevention of chronic pain: Summary of findings from the consultation with Primary Health Networks. The Australian Prevention Partnership Centre and the University of Sydney, June 2019.

Key stakeholders

- Key stakeholders[21] were asked to identify relevant literature, evaluation reports, initiatives (without evaluations), health professional and consumer resources, and research studies and initiatives 'in the pipeline'. Key stakeholders were also asked their expert opinion of the initiatives they thought may be most relevant to PHNs.

Grey literature search

1. Grey literature search of key agencies and agencies listed on International Association for the Study of Pain (IASP) to identify evaluation reports, initiatives (without evaluations) and health professional and consumer resources. A list of agencies searched is below.
2. Google advanced search technique was used to conduct 3 searches of 1) all Australian organisation websites (Search 1 = "site:org.au") 2) all Australian government websites (Search 2 = "site:gov.au") and 3) educational institution websites (Search 3 = "site:edu"), each containing key search terms, including
    i. acute pain OR subacute pain OR sub-acute pain AND prevention OR preventative health services OR early intervention OR secondary prevention
3. Ad hoc identification of literature, through internet searching, full text readings, reference list scanning or documents that have been identified through stakeholders.

The following websites were searched for relevant grey literature.

Pain-related agencies

- Painaustralia https://www.painaustralia.org.au
- Australian Pain Society https://www.apsoc.org.au/
- Australian Pain Management Association https://www.painmanagement.org.au/
- Chronic Pain Australia http://chronicpainaustralia.org.au/
- Arthritis Australia https://arthritisaustralia.com.au/ and https://mybackpain.org.au/
- Musculoskeletal Australia https://www.msk.org.au/
- International Association for the Study of Pain (IASP) https://www.iasp-pain.org/
- American Chronic Pain Association http://www.theacpa.org
- Australian Pain Management Association http://www.painmanagement.org.au/
- Canadian Pain Coalition http://www.canadianpaincoalition.ca/
- Chronic Pain Australia http://www.chronicpainaustralia.org.au/
- Patient Advocate Foundation http://www.patientadvocate.org
- Chronic Pain Scotland http://chronicpainscotland.org/
- Pain Connection-Chronic Pain Outreach Center http://www.painconnection.org/
- Pain Health WA https://painhealth.csse.uwa.edu.au/
- Scottish Society of Acute Pain Services https://www.ssaps.scot.nhs.uk/i
- The British Pain Society https://www.britishpainsociety.org/

[21] Professor Helen Slater, Dr Duncan Sanders, Ms Fiona Hodson, Professor Michael Nicholas, Dr Simon Holliday, Ms Joyce McSwan, Dr Stephanie Mathieson

Other agencies

- Departments of Health (Federal, WA, SA, NT, QLD, NSW, Vic, ACT, Tas)
- NSW Agency for Clinical Innovation (ACI) https://www.aci.health.nsw.gov.au/
- National Prescribing Service (NPS) MedicineWise https://www.nps.org.au/
- Sax Institute https://www.saxinstitute.org.au/
- Consumers Health Forum of Australia https://chf.org.au/
- Therapeutic Goods Administration (TGA) https://www.tga.gov.au/
- HealthPathways - https://www.swsphn.com.au/healthpathways

Health professional associations

- Australian College of Rural and Remote Medicine https://www.acrrm.org.au/
- Pharmaceutical Society of Australia https://www.psa.org.au/
- Australian Psychology Society https://www.psychology.org.au/
- Royal Australian College of Physicians (RACGP) https://www.racgp.org.au/
- Australian and New Zealand College of Anaesthetists http://www.anzca.edu.au/
- Australian Physiotherapy Association https://australian.physio/
- The Australian Clinical Psychology Association https://acpa.org.au/

Appendix 5: Enablers to implementing consumer pain programs identified in Phase 1 of the Chronic Pain Project

Evidence of benefit	• Evidence of benefit (that is, initiative shown to be feasible, acceptable and effective through program monitoring and evaluation)
Implemented by other PHNs	• Delivered or commissioned by other PHNs and ease of adaptation to the local context
Champions	• Clinical local champions (for example, GPs with a special interest) and non-clinical local champions (for example, consumers, managers, administrators, funders)
Working groups	• Establishment of a working group with a range of stakeholders to help plan, implement and monitor the initiative (for example, stakeholders from the PHN, hospital pain services, commissioned providers, other funders, consumers)
Standardised processes	• Standardised processes for communication and referrals
Health professional networks	• Establishment of health professional networks to support the implementation of consumer pain programs
Feedback	• Regular feedback from consumers, health professionals and commissioned providers
Promotion and engagement	• Promotion of the initiative among general practitioners and engagement of consumers
Monitoring and evaluation	• Continuous improvement and adaptation; establishing key indicators to evaluate impact/outcomes for commissioned providers; using standardised data collection systems, for example, ePPOC data collection; and partnership with a university to undertake the evaluation
Adequate resources	• Adequate funding and staff to deliver or commission the initiative

Appendix 6: Enablers to implementing education and training initiatives identified in Phase 1 of the Chronic Pain Project

Face-to-face educational events implemented or commissioned by PHNs	•Local pain specialist or a GP with a special interest in pain to conduct the education event •Selecting topics of interest, usually based on GP surveys (for example, pain management strategies, opioid management) or responding to policy changes, for example, up-scheduling of codeine •Promoting education events through health professional networks and newsletters •Events accredited by the he Royal Australian College of General Practitioners (RACGP) •Running events free of charge and at times that are feasible for primary care providers (usually evening seminars)
Support for implementation of education and training conducted by other agencies e.g. NPS Medicine Wise practice education, Pain Revolution Local Pain Education Program (LPEP)	•Practice visits to promote the program increased program enrolments •GP incentives •Maintaining relationships with NPS MedicineWise Clinical Service Specialists through the transition from Medicare Local to Primary Health Network •Champions within the PHN, for example, GP liaison officer who has completed the LPEP in Murrumbidgee
Promotion of webinar training	•Funding from NSW ACI for facilitators to access the webinar free of charge
Support for mentorship of primary care providers by pain specialists and other members of the pain service	•Time and commitment from pain specialists and other members of the pain service
Telehealth and other online services connecting primary care providers with pain specialists and other health providers	•Project ECHO provided free of charge to providers online via Zoom. •Project ECHO is an established program, with training provided in the US.

Appendix 7: Enablers to implementing HealthPathways identified in in Phase 1 of the Chronic Pain Project

Executive level support (local hospital networks and PHNs)

Engagement with local hospital networks to enable specialist involvement

Formal partnerships (working groups) between primary care providers and specialists to develop the referrral pathways

Involvement of clinicial editors in the the development of the referral pathways

Promotion of HealthPathways and how to use it
(e.g. PHN education events with primary care providers; HealthPathways staff conducting site visits to GP practices; promoting HealthPathways through peak GP bodies such as GP Synergy, Hunter Postgraduate Medical Institute)

Responding to feedback from clinicians and addressing any use or content-related issues

Adequate capacity (staff and time) to develop new referral pathways and update the content and design of new referral pathways as needed

Monitoring of usage of localised referral pathways

Evaluation of HealthPathways

Appendix 8: Potential prototype of a consumer pain program for people with (sub)acute pain who are at risk of developing chronic pain

This project plan is a draft only and it is included is this review as a potential prototype only (yet to be funded and tested). It demonstrates how a consumer pain program for chronic pain (Turning Pain Into Gain) could be adapted to a program for consumers with (sub)acute pain at risk of developing chronic pain.

Permission to publish the project plan below has been provided by Ms Joyce McSwan.

Project Plan

A Project Plan is used to elaborate on the information submitted as part of the Concept Brief which was created in the Initiation phase. In the Planning phase, the contents of the Brief are extended and refined into the Project Plan, after which the Concept Brief is no longer maintained.

Project Name: Turning Pain into Gain **Early Intervention self-management program for acute and subacute pain conditions within primary health care**	**Project Officer: Joyce McSwan – PainWISE Pty Ltd**
Date Submitted:	

Project Overview

Background

- Early stages of acute/subacute pain are different to chronic pain because patients at this phase of the pain condition are not at the stage of accepting a potential life of pain and associated losses. For many acute/subacute pain sufferers, they are focused on 'getting better' which is a very different focus to chronic pain management where potentially a life long journey of persistent pain will require them to learn management skills as well as managing expectations to enable this. As this is very different to a chronic pain scenario it should be treated through a health pathway dedicated to the unique needs of the early intervention of acute/subacute pain.
- Chronic pain and mental health problems, particularly depression, commonly occur together. In Australia and New Zealand, 40.5% of pain patients captured in ePPOC (Electronic Persistent Pain Outcomes Collaboration)data in 2016 reported also suffering depression and/or anxiety *(Ref: Blanchard M, Tardif H, Fenwick N, Blissett C and Eagar K (2017) Electronic Persistent Pain Outcomes Collaboration Annual Data Report 2016. Australian Health Services Research Institute, University of Wollongong.)*
- Currently approximately 15% of patients referred to the TPIG program are between 3-6 months of a pain condition diagnosis
- Approximately 70% of patients who have been referred who are within 3-6 months of a pain condition diagnosis are discharged by 6-7 months of program participation. At the moment they have to stay a minimum of 6 months even if they are ready to leave earlier as our group based Self-Management Education program is a minimum of 6 months in duration.
- A program stream dedicated to acute/subacute pain management will have 3 main goals: a) faster turn-over of patients which will result in better efficiency of fund utilisation within an acute/subacute pain program; b) allow for the TPIG funding to be dedicated to chronic pain sufferers; and c) prevention of progression to chronic/persistent pain.
- Early education and awareness of the risks of opioids have resulted in reduction of opioid requirements and cessation plan. Approximately 80% of all acute/subacute pain management patients reduced their opioids between 6-7 months from time of commencement during participation within the current TPIG program.
- Current research by the Australian Prevention Partnership Centre have recommended primary health care identifies and manage acute/subacute care patients to reduce the healthcare burden of chronic pain.

- This will be the first pilot study of its kind in primary healthcare in Australia.

Psychosocial factors
Predominantly patient risk for developing chronic pain is predicted better by psychosocial factors than biological factors. Some of the more common psychosocial risk factors are:

- The patient's attitudes and beliefs, emotions, behaviours, family, and workplace.
- The behaviour of health professionals can also have a major influence.
- Beliefs or judgements about pain and injury, how disabling it is.
- Poor work history, or unsupportive work environment.
- Thinking the worst, that the pain is uncontrollable or will never improve.
- Comorbid depression, anxiety, or social withdrawal.
- Excessive bedrest, avoiding activity or movement because of fear of pain.
- Lack of support, overprotective or punitive partner/spouse.
- Impaired sleep or increased alcohol use since onset of pain.

Objectives

- Prevent the progression of acute/subacute to chronic pain through early identification of psychosocial, 'yellow flag', risk factors.
- Provide early multidisciplinary care and develop self-management skills for those who are at risk of transitioning from acute/subacute to chronic pain.
- Minimise biopsychosocial consequence of those who are at risk of chronic pain no matter which intervention is introduced.
- Minimise secondary changes due to the development of chronic pain e.g. physical movement compensation and adaptation, fear avoidance behaviour, depression and anxiety.
- Minimise the burden of healthcare cost of progression to chronic pain and other comorbidities.
- Minimise the overuse of passive modalities of treatment in the early phase of pain management.
- Prevent the overuse of medicines that may result in long term adverse effects (e.g. addiction, dependency, tolerance, endocrine effects).

Service Model

- Similar referral pathway as for the current PainWISE commissioned Turning Pain into Gain Pain Program (TPIG), however the patient referred will be triaged to the acute/subacute pain program.
- Referral form would have a tick box section that identifies the phase of pain experienced by the patient, e.g. □ 1-3 months post injury/surgery/trauma or □ 3-6 months post injury/surgery/trauma. Referral form should also include Yellow Flags check list and Orebro Musculoskeletal Pain Screening (10 Questions) – for musculoskeletal pain conditions such as low back pain.
- Education of GPs will also be important and necessary to differentiate the Turning Pain into Gain Persistent Pain Program and the Acute/Subacute pain program. This can be done through GP Newsletter and letters to current network.
- Our triage clinician would act as an early screen for filtering toward the required program. Clear differentiation will be required between the TPIG Persistent Pain program and the Acute/Subacute program.
- Acute/Subacute Self-Management program: A one-day group based education program with up to four 1:1 case management sessions with clinical facilitator (allied health/pharmacist), and 4 allied health sessions as required. Clear hand over to treating allied health clinicians to ensure the same message is reiterated. Final attendance of one-day psychological group based education program prior to discharge. It would be important not to over support. If they need more, they could transition into the TPIG program.
- At discharge a pain management plan will be provided to the patient and communicated to the GP.
- Staggered program start would be necessary to ensure that a new program is commenced once a month. Dedicated staffing required to staff this program to ensure timely access. Waitlist should be no more than 2 weeks.

Target Group/Service Users

- Patients experience pain a) 1-3 months post injury/surgery/trauma or b) 3-6 months post injury/surgery/trauma with 'yellow flag' risk factors indication possible progression to chronic/persistent pain.

Eligibility Criteria:

- The patient has suffered pain 1-3 months post injury/surgery/trauma or for 3-6 months and displaying Yellow Flag indicators suggesting an increased risk of progression to long-term distress, disability and potential drug misuse (the referral will list yellow flag checklist).
- The patient is not displaying any Red Flags (Red Flags are clinical indicators of possible serious underlying conditions requiring further medical intervention).
- The patient is not suitable for surgical or urgent pain specialist interventions.
- The patient is not a palliative care patient.
- The patient requires improved self-management strategies and skills to optimise ongoing care.
- The patient is able to participate in group education.
- Able to give voluntary, informed consent for the ongoing collection of audit data.
- If the patient has had surgery in the past 12 weeks, a functional instructional plan is provided with this referral.

Exclusions:

- Patents who are undergoing worker's compensation.
- This exclusion is recommended for the first year of this pilot study so that the program can be evaluated for its stand alone merits.

Referral Requirements:

- Referral form to be completed with the above *Eligibility Criteria.*
- Referral form will clearly state the name of the program "Early Intervention Acute/ Subacute Pain Program".
- Fax number or Medical Object contact.
- Yellow Flags checklist.
- Confirmation that Red Flags have been excluded.
- Orebro Musculoskeletal Pain Screening (10 Questions).
- Co-referral by Allied Health.
- For Referrals to be valid the patient's GP must sign the referral.
- Mandatory requirements - For patients who have been referred between 6-12 weeks post injury/surgery/trauma, a written instruction of the patient's functional capacity is required from the GP to accompany the referral.

Supporting Collateral Material:

- 3 hour Initial group based "Early Intervention Acute/ Subacute Pain Program" presentation.
- 3 hour Final Psychological group based program presentation.
- Patient Information Sheet specific for the "Early Intervention Acute/ Subacute Pain Program".
- GP Information Sheet specific for the "Early Intervention Acute/ Subacute Pain Program".

Program overview

Total Duration of Acute/Subacute Pain Program = 9 to 12 hours of program involvement over approximately 4 to 6 months

Table 1: Education Program – Duration: 3 hour (10am to 1.00pm or 12.00 to 3.00pm)

40 minutes	**What is pain?** -Pain and the healing cycle? -Why do I still have pain?

Break 15 mins	
40 minutes	**What contributes to my pain?** -Stressors, pain and the brain -Identity and loss -Social engagement and losing your way
Break 15 mins	
40 minutes	**Where to from here?** -Minimising the impact of pain on my life: • My mental health • My social engagement -Finding my function: • Pacing my functional gains • Thinking outside the box 'what other areas of my body can I engage in with movement?' -Responsible medication usage: • Understand the role of medicines in pain management • Understand safety considerations

Table 2: Individual Case Management

Initial assessment	• Exclusion of red flags. • Post-surgical patients will need functional instructions from GP of their capacity. • Check current understanding and interpretation of: -Prognosis -Diagnosis • Determine and discuss thoughts and actions in relation to the two program goals. • Determine and discuss the barriers of positive outcomes.
Acute/Subacute Self-Management Education Program	• Participate in the education program before seeing the clinician for further case management. • 3 hour group based session.
2nd Case Management Session:	• Check current understanding and interpretation of: -Prognosis -Diagnosis • Determine and discuss thoughts and actions in relation to two points above. • Determine and discuss the barriers of positive outcomes. • Consider referral to psychologist.

3rd Case Management Session:	• As above. • Navigation to allied health services if needed, 4 extra services above medicare allowance to allied health support if needed. • Consider if referral to longer TPIG program is needed for further support. Or • Discharge with pain management plan (including a flare up plan and medium term plan).
4th Case Management Session (optional)	• If final review is required. • Review how allied health or psychologist services are going. • Check adherence to plan. • Check understanding of pain. • Consider if referral to longer TPIG program is needed for further support. OR • Discharge with pain management plan (including a flare up plan and medium term plan).
Group based Psychological Support Program: • Summary of key points learned in the Acute/Subacute Self-Management Program. • Next steps. • Problem solving flare ups. • Healthcare navigation.	• On exit from the program ALL participants will be invited to a final group based psychological support program. • 3 hour group based program. • Completion Certificate provided. • Discharge with pain management plan (including an Exacerbation 'Flare Up' plan).

Key Outputs: (e.g new service, report etc.) **Key Deliverables:** 1. Increase GP and Allied Health awareness of acute / subacute pain, risk factors and early identification and prevention to chronic pain 2. Enhance collaborations with QLD Health departments and support them in transitioning into primary healthcare for those with acute/subacute pain presenting with Yellow Flag symptoms (e.g. to ED, Post surgery and Rehabilitation) 3. Expand and grow the primary Health Care Network across a community of practice to support community based patients with chronic pain using the consistent messages in promoting self-management and a multimodal model of care.	**Key Stakeholders: (**e.g. GPs, allied health, pharmacist Speciatlists) GPs, Allied Health, Pharmacists Family, Carers Specialists – public and private

4. Early referral to other community based social support services 5. Build on existing networks and broaden further collaboration with existing and partners across primary Health care providers. 6. A maximum of 40 patients accessing the early intervention acute/subacute pain program between Jan 2020 and June 2020. 7. A minimum completion rate of 70% participants (28 participants) within 4-6 months of referral. 8. Improved patient experience and quality of care. 9. Improved patient, carer and family access to information and education.	
Proposed Start Date: September/ October 2019 **Timeline of Program Roll out:** **September and October 2019:** Internal operations pathway mapping **Nov and Dec 2019:** Referral Form completion Patient and GP Information Sheet Completion GP and Allied Health communications **January 2020:** Patient recruitment commencement **February to June 2020:** Acute/Subacute Self-Management Program commencement -Group based Acute/Subacute Self-Management Program -Individual case management -Psychological group based support	**Estimated Project Duration:** Maximum of 6 months
Key risks identified to date: • Injury sustained at the pain education program (e.g. falls, setting up, packing up)	
Project Strategies	
Quality Management *(Identify how the quality of the product or service will be assured e.g. peer review, pilots, objective tests, etc.)* 1. Clinical peer review of content 2. This trial itself is a pilot study of the feasibility of such a program to prevent the progression of acute/subacute pain conditions to chronic/persistent pain.	**Risk Management -** As per current organisation practice.

3. With sufficient funding University Evaluation of the program goals and clinical measures will inform the ongoing quality of the program. 4. Patient feedback utilising both validated questionnaires and pre and post engagement with the program will also help to inform the quality of the program.	

KPIs:

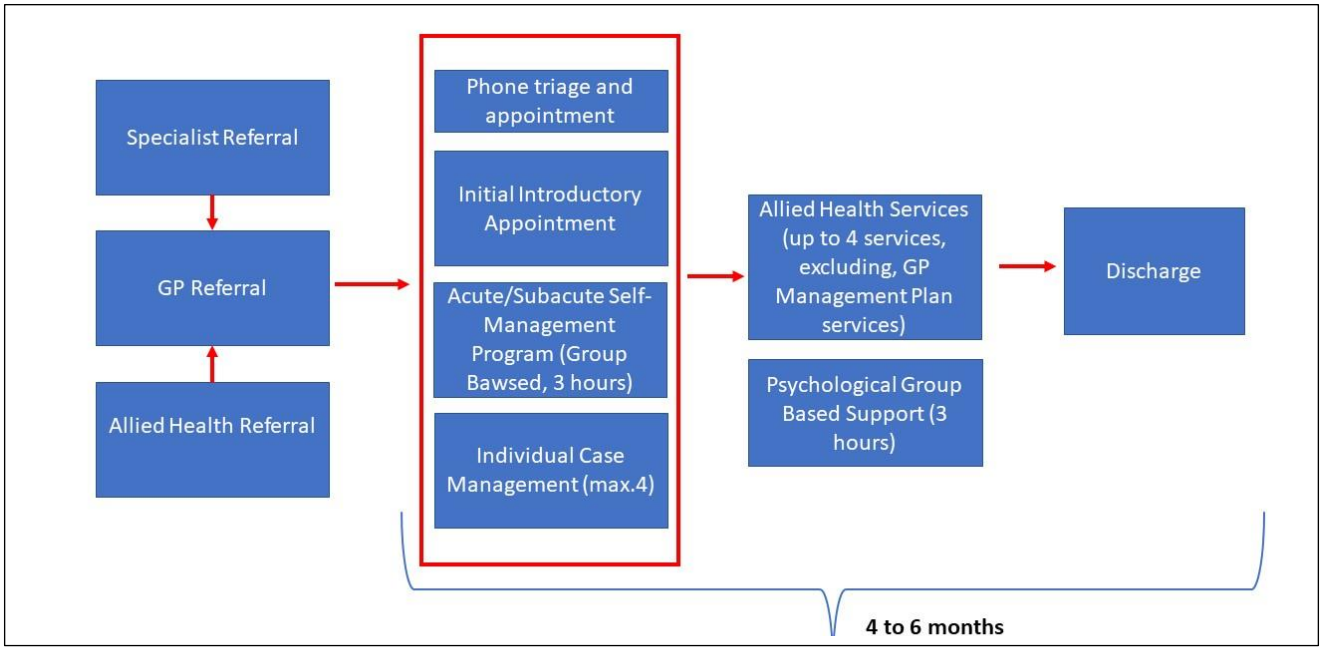
- **A.** Early Intervention acute/subacute self-management program referrals – a maximum of 40 patients in 6 months referred
- **A.** 3 x Acute/Subacute Self-Management Program group presentations
- **B.** 3 x Psychological Support Program group presentations
- **C.** Allied Health services- Access to extended allied health interventions (up to 4 extra services per patient).
- **D.** GP referral numbers into the Early Intervention Acute/Subacute Pain Program
- **E.** AH referral numbers into the Early Intervention Acute/Subacute Pain Program

COST	
Project Manager 0.1	$6,000
Project Clinical Co-Facilitator (8 hours/week) @ $65/hr (for 36 weeks) Administration Support (8 hours/week) @ $25/hr (for 36 weeks)	$18,720 $7200
Resources : Printing/ mail - @$40/participant	 $1600
3 x Acute/Subacute Self-Management Program 3 x Psychological Program (venue, catering, resources) approx. $250/group -Robina Community Centre/ Library	$1500
Advanced Allied Health Intervention/Therapy (max. 160 sessions) @ $65/service (Ex GST)	$10,400
Total	**$ 45,420.00**
Evaluation – University • ED/Hospital presentation during program • Patient Self-Efficacy Questionnaire • Pain Interference Score pre and post • Orebro pre and post • Change in yellow flag symptoms pre and post	Approx. $10,000 (one off for pilot project)
Grand Total	**$ 55,420.00**

Signed:_____

Name: Joyce McSwan **Position: Clinical Director, PainWISE** **Date: 24/8/19**	

Picture 1: Early Intervention Acute/Subacute Self-Management Pain Program Pathway



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Appendix 9: Consumer resources relevant to the secondary prevention of chronic pain

Examples of online consumer information

- **NSW Agency for Clinical Innovation(ACI), Best practice care for people with acute low back pain**, a consumer resource to support the *Management of people with acute low back pain (2016)* model of care https://www.aci.health.nsw.gov.au/__data/assets/pdf_file/0003/363450/ALBP-Consumer-Info.pdf
- **NSW Agency for Clinical Innovation (ACI) pain management network,** website designed to help consumers gain a better understanding of their pain. The site contains information to enable consumers to develop skills and knowledge in the self-management of pain in partnership with their healthcare providers. Key pages include 'Pain management for everyone' and 'PainBytes for youth'. https://www.aci.health.nsw.gov.au/chronic-pain/for-everyone https://www.aci.health.nsw.gov.au/chronic-pain/painbytes
  *Note, website focuses on chronic pain but information is also relevant to (sub)acute pain
- **painHEALTH** aims to help health consumers with musculoskeletal pain access reliable, evidence-based information and tips to assist in the co-management of musculoskeletal pain. The website provides several online information modules, including 'Movement with pain' and 'Work related pain'. painHEALTH is an initiative of the Department of Health, Western Australia.http://painhealth.csse.uwa.edu.au/

  Slater H, Davies S, Milne G et al. The painhealth website: A Western Australian policy-into-practice initiative to deliver holistic, consumer-focused best-evidence pain management for people with musculoskeletal pain. Physiotherapy (United Kingdom). 2015;1:eS1410.
- **PAIN-ED** is an online resource for patients and healthcare practitioners regarding evidence-based management of pain. It was developed by clinical researchers who recognised the need to translate the scientific evidence about pain for both public and healthcare practitioners. The site aims to dispel some common myths about chronic pain and provide hope for change. PAIN-ED is available at: http://www.pain-ed.com/
- **PainAustralia** is Australia's leading pain advocacy body working to improve the quality of life of people living with pain, their families and carers, and to minimise the social and economic burden of pain on individuals and the community. The website provides information for consumers and health professionals. https://www.painaustralia.org.au/
- **Brainman brief educational videos**: 1) Understanding pain in less than 5 minutes, and what to do about it! 2013 Jan 15. www.youtube.com/watch?v=C_3phB93rvI 2) Understanding Pain: Brainman stops his opioids. 2014 Oct 3 www.youtube.com/watch?v=MI1myFQPdCE 3) Understanding Pain: Brainman chooses. 2014 Oct 3 www.youtube.com/watch?v=jIwn9rC3rOI
- The **Keele group - the IMPaCT Back study** evaluating risk-stratified care for low back pain in family practices in the UK provides patient information leaflets https://startback.hfac.keele.ac.uk/patients/
- **NPS MedicineWise consumer information** NPS MedicineWise has a range of consumer education pages related to pain management, including '10 things you need to know about low back pain'. Freely available online. https://www.nps.org.au/consumers/10-things-you-need-to-know-about-low-back-pain
- **Whiplash Injury Recovery – a Self Help Guide** to aid the recovery of people with a whiplash injury- Motor Accident Insurance Commission. NHMRC Centre of Research Excellence in Recovery Following Road Traffic Injuries https://cre-rfrti.centre.uq.edu.au/whiplash-evidence-based-resource/whiplash-injury-recovery-%E2%80%93-self-help-guide

- **Australia Acceptance & Commitment Therapy Workshops & Training** is a form of cognitive–behavioural treatment called acceptance and commitment therapy (ACT) used in the Toronto General Hospital Transitional Pain Service (TPS) ACT Groups & Centres Australia & New Zealand https://www.actmindfully.com.au/
- **MyBackPain Website and resources** provide information on back pain. The resource was developed through a collaboration between The University of Queensland, Arthritis Australia and the Cochrane Back and Neck Group.
  https://mybackpain.org.au/
- **The Acute Pain Management Service, Metro North Hospital and Health service – Patient information sheet** 'Patient Controlled Analgesia (PCA) Breaking the Pain Barrier - Your pain relief in hospital', QLD Health.
  https://metronorth.health.qld.gov.au/rbwh/wp-content/uploads/sites/2/2017/06/patient-controlled-analgesia.pdf
- **Musculoskeletal Australia (MSK) online resources and community webinars,** provides information to help consumers manage their condition. Recording from webinars are available online free, including one Webinar recording 'Understanding and managing low back pain' (21 August 2019) also available on YouTube.
  https://www.youtube.com/watch?v=Cv9vteCdVMo&feature=youtu.be
  https://www.msk.org. au/back-pain/
  https://www.msk.org.au/community-webinars/
- **The American Chronic Pain Association (ACPA) communication tools,** developed to help patients talk more productively with their health care provider or pharmacist about their pain. The tools can also help to identify patterns in patients' daily life that may have an impact on pain. Available freely online for consumers and healthcare providers.
  https://www.theacpa.org/conditions-treatments/conditions-a-z/acute-pain/
  *Note, website focuses on chronic pain but information is also relevant to (sub)acute pain
- **Persistent Pain Hub, Better Health Channel Information on pain and pain management**, including links to information and resources for people with pain. Provided by the Victorian Department of Health. Information has been translated into multiple languages. Freely available online for people experiencing pain.
  https://www.betterhealth.vic.gov.au/conditionsandtreatments/pain
  *Note, website focuses on chronic pain but information is also relevant to (sub)acute pain

Examples of pain services (Face-to-face, online, and/or telephone)

- **Royal North Shore Hospital (RNSH) emergency department advanced practice physiotherapy service**. The service utilises an evidence-based pathway to improve the clinical management of acute back pain. A senior physiotherapist aims to assess patients with acute non-specific back pain, or back pain with leg pain, who present to the emergency department between 8.00 am and 6.00 pm. An individualised management plan is developed with the patient utilising the ACI model of care for the Management of People with Acute Low Back Pain. Evaluation of this model of care demonstrates an 11 per cent reduction in admissions from emergency after the introduction of the physiotherapy back pain service. From February 2016 to September 2017, 383 back pain patients were assessed by a physiotherapist in the RNSH emergency department, and 84 per cent (322) of these patients were discharged home. The average cost of a hospital admission for back pain is $3450. Utilising a physiotherapy service at the front door demonstrates a saving of approximately $331,200 annually. In addition to face-to-face management, a physiotherapy-led telephone initiative has been developed to ensure patients with acute back pain without serious pathology are offered follow-up care after discharge. https://australian.physio/inmotion/managing-back-pain-ed
  *Note, uncertain whether this service is still available. Evaluation not publicly available.

- **The Acute Pain Service at John Hunter Hospital, NSW** is linked to Hunter Integrated Pain Service (HIPS) and manages post-operative and post-trauma pain. The services aim to provide early intervention in high risk groups to reduce progression to chronic pain.
  http://www.hnehealth.nsw.gov.au/Pain/Pages/About.aspx
- **Acute Pain Service at Alfred Health, Melbourne** - Department of Anaesthesiology and Perioperative Medicine, the clinic offers 24-hour service for routine and emergency anaesthesia and acute pain referrals. https://www.alfredhealth.org.au/services/hp/anaesthesiology-and-perioperative-medicine/
- **Musculoskeletal Australia (MSK) online resources and helpline.** Helpline nurses and volunteers take calls from patients who need help managing back pain and other musculoskeletal conditions. Resources are also available online for various musculoskeletal conditions. National helpline phone 1800 263 265 or email helpline@msk.org.au. https://www.msk.org.au/back-pain/
  *Note, uncertain to what extent this initiative offers support for consumers with (sub)acute pain
- **Australian Pain Management Association (APMA) Support Groups**, aim to offer positive support and encouragement, with a focus on supporting and encouraging self-management of pain and use of evidence-based treatment, APMA currently operates a national network of Pain Support Groups (PSG) throughout Australia, which meet regularly. The groups are for everyone in the community living with pain (and their family members) and are FREE for APMA members.
  https://www.painmanagement.org.au/what-we-do/support/pain-support-groups.html
  *Note, uncertain to what extent this initiative offers support for consumers with (sub)acute pain

Appendix 10: Health professional education and training and other resources relevant to the secondary prevention of chronic pain

Examples of information and support to implement telehealth

- **The NHMRC Centre for Research Excellence in Telehealth Policy Digest** https://cretelehealth.centre.uq.edu.au/policy-digest includes information about existing telehealth policies, position statements, guidelines, frameworks and standards. The aim of the Telehealth Policy Digest is to support health care practitioners and health service delivery organisations when they are considering, setting up or extending telehealth services and wish to develop their own policies, processes and standards.
- ***A Practical Guide to Knowledge Translation in Telehealth* (2016)** www.cretelehealth.org.au
- **The NSW Agency for Clinical Innovation (ACI) Chronic Pain Telehealth Toolkit (2015)** https://www.aci.health.nsw.gov.au/__data/assets/pdf_file/0006/297843/Chronic_Pain_Telehealth_Toolkit.pdf
- **The NSW Agency for Clinical Innovation (ACI)** runs a ***Virtual forum of the Telehealth Capability Interest Group*** on the third Thursday of the month and provides the opportunity for two presentations that highlight the use of telehealth in clinical practice. https://www.aci.health.nsw.gov.au/make-it-happen/telehealth Information on the Telehealth Capability Interest Group www.aci.health.nsw.gov.au/make-it-happen/telehealth/telehealth-capbility-interest-group
- **NSW Agency for Clinical Innovation (ACI). Guidelines for the use of Telehealth for Clinical and Non Clinical Settings in NSW** Chatswood: ACI; 2015. Available from: https://www.aci.health.nsw.gov.au/__data/assets/pdf_ file/0010/258706/ACI-telehealth-guidelines.pdf Guidelines for the use of Telehealth for Clinical and Non Clinical Settings in NSW www.aci.health.nsw.gov.au/__data/assets/pdf_file/0010/258706/ACI-telehealth-guidelines.pdf
- **NSW Agency for Clinical Innovation (ACI) Improving physiotherapy access using telehealth**. Murrumbidgee Local Health District 2018 - A telehealth extension to the existing physiotherapy service was introduced, connecting a senior physiotherapist in Griffith (base site) to the patient and an allied health assistant in Hay (recipient site). The report describes the benefits, key elements, services and physiotherapy patient flow in Hay; building engagement with primary healthcare; governance, planning and resourcing; and monitoring and evaluation https://www.aci.health.nsw.gov.au/__data/assets/pdf_file/0019/406018/Improving-physiotherapy-telehealth.pdf
- **The NSW Agency for Clinical Innovation (ACI). Telehealth in practice Guide (2019)** https://www.aci.health.nsw.gov.au/__data/assets/pdf_file/0008/509480/ACI_0261_Telehealth_guidelines.pdf
- **NSW Agency for Clinical Innovation (ACI)**. **Telehealth contacts in NSW** https://www.aci.health.nsw.gov.au/__data/assets/pdf_file/0006/509478/Telehealth-contacts-in-NSW.pdf
- **The Allied Health Telehealth Capacity Building Scoping Project** is a joint initiative of the Allied Health Professions' Office of Queensland (AHPOQ), Health Service and Clinical Innovation Division, Department of Health and the Cunningham Centre, Darling Downs Hospital and Health Service (DDHHS). https://www.health.qld.gov.au/cunninghamcentre/html/telehealth Nielsen I, Kirkpatrick J. Allied Health Telehealth Capacity Building: Scoping Project Completion report. Brisbane: Queensland Health; 2015. Available from: https://www.health.qld.gov.au/__data/assets/pdf_file/0020/150149/ telehealthreportpt1.pdf

- **The Allied Health Telehealth education package**. The Cunningham Centre has developed an online, on demand training package available to all Queensland Health staff. This package is designed to increase clinician capability in the use of telehealth for the delivery of allied health clinical services in Queensland Hospital and Health Services. Further details regarding this package are listed below. https://www.health.qld.gov.au/cunninghamcentre/html/telehealth#objective1
- **The Allied Health Telehealth Network** commenced in 2015 and provides members with opportunities to share information and develop collaborative partnerships through three main methods:
    - Opt-in email group coordinated by the Cunningham Centre for dissemination of information on telehealth collaboration, education / training, information sharing opportunities
    - Intranet/internet page for publishing of key documents such as information on networking structures, presentation schedule, summary information from previous presentations (AHPOQ or Cunningham Centre) [in development]
    - Scheduled videoconference presentations on allied health telehealth services implemented in Queensland HHSs (and other agencies if relevant). https://www.health.qld.gov.au/cunninghamcentre/html/telehealth#objective2

- **Evaluation Resource Guide: Allied Health Telehealth Capacity Building Project** Published by the State of Queensland (Queensland Health), September 2016. https://www.health.qld.gov.au/cunninghamcentre/html/telehealth#objective3 An electronic version of this document is available at https://www.health.qld.gov.au/ahwac/html/publications.asp

Examples of education and training and other health professional resources for primary care providers

- **Pain Management Research Institute, University of Sydney: Webinar skills training in pain management: putting cognitive behavioural therapy skills into practice**. Online, interactive webinars training in CGT skills for pain: seven sessions over 2-3 months https://sydney.edu.au/medicine-health/our-research/research-centres/pain-management-research-institute/postgraduate-and-short-courses-in-pain-management/putting-cognitive-behavioural-therapy-skills-into-practice.html

  As part of the Chronic Pain Management Program (consumer pain program) in South Eastern NSW PHN, the NSW Agency for Clinical Innovation (ACI) supported consumer pain program facilitators to access webinar skills training in pain management.

- **Faculty of Pain Medicine, Australian and New Zealand College of Anaesthetists (ANZCA). Better pain management: pain education for professionals.** An online education program designed for specialist and general medical practitioners, medical students, nurses and allied health practitioners engaged in the care of patients with persistent pain. The program comprises twelve online education modules each designed to be completed in one hour. Relevant modules for (sub)acute pain available e.g. Module 1: Making an effective pain diagnosis: a whole person approach Module 2: The impact and management of psychological factors in pain Module 5: Identification and management of low back pain in the primary care setting Module 6: Opioids in pain management Module 9: Post-discharge acute pain management. Modules can be purchased individually for $38.50 each or $330 for the whole program. https://www.betterpainmanagement.com

- **Annual Multidisciplinary Pain Management Workshop** (1 week) **Pain Management Research Institute, University of Sydney.** PAINRefresh: Assessing and managing patients with acute and chronic pain conditions including sessions on screening and treatment options if identified early. Based on Sydney Medical School's internationally recognised postgraduate program in pain management, this workshop is aimed at all health professionals interested in pain management. . Topic areas include; concepts and assessment of pain, early intervention, opioid tapering, acute pain services etc. The workshop is being held on multiple dates between Mon 3rd February - Fri 7th February 2020, at Northside Conference Centre,

Crows Nest. Registration costs $930/$1090 (early bird before November 1st /normal) and includes catering. https://sydney.edu.au/medicine-health/our-research/research-centres/pain-management-research-institute/postgraduate-and-short-courses-in-pain-management/pain-management-multidisciplinary-workshop.html

- **The University of Sydney Master of Medicine** (Pain Management) https://sydney.edu.au/courses/uos-landing.html/content/courses/courses/pc/master-of-medicine-pain-management.html Individual modules can be completed e.g. Acute Pain
- **Pain Management Research Institute (PMRI) Symposium, 'Descending the analgesic ladder: The how, when and why of opioid tapering for chronic pain'**. A one-day symposium bringing together 13 national and international experts on the role of opioids in chronic pain management. Learning objectives include 1) Assess patients' appropriateness for opioid tapering and pain self-management; 2) Communicate the risks of opioid use for chronic pain and the benefits of tapering; 3) Explain pain self-management to patients. Held on 29 November 2019 9.00 – 18.00, Taronga Zoo, Sydney, Australia. Registration is AUD$375 and includes catering for the day. Email paineducation.admin@sydney.edu.au for further information.
- **NSW Agency for Clinical Innovation (ACI) Management of people with acute low back pain (2016)** which highlights three important areas for improvement: more appropriate clinical examination and use of radiological imaging only as necessary; better use of appropriate analgesia; and enhanced patient education. The model of care is designed for people presenting to health practitioners in primary care settings but is also a guide for care in settings such as emergency departments. https://www.aci.health.nsw.gov.au/resources/musculoskeletal/management-of-people-with-acute-low-back-pain/albp-model
- **NSW Agency for Clinical Innovation (ACI) pain management network.** Online Webinar Burn Pain presented by Sue Taggart. 'Acute and chronic pain in the minor burn'. Available online free https://vimeo.com/165508797
- **NPS MedicineWise clinical resources about acute non-specific low back pain** including research, factsheets, podcasts and professional development https://www.nps.org.au/professionals/low-back-pain

  Taking Action for Acute Low Back Pain - Online Case Study - 2018 – 2019: This online interactive case study provides a clinical update on quality use of imaging and managing patients with low back pain. The activity emphasises the importance of using a risk stratification approach to identify risk factors for poor prognosis and inform selection of targeted and tailored interventions. It also includes resources to facilitate patient conversations on the importance of staying active during recovery.
- **VIC Health and NPS MedicineWise** Management of acute non-specific low back pain. https://www2.health.vic.gov.au/~/media/Health/Files/Collections/Policies%20and%20guidelines/safe-opiod-use/Management%20of%20acute%20non-specific%20low%20back%20pain%20-%20for%20health%20professionals
- **VIC Health and NPS MedicineWise** Recommendations for deprescribing or tapering opioids https://www2.health.vic.gov.au/~/media/Health/Files/Collections/Policies%20and%20guidelines/safe-opiod-use/Recommendations%20for%20deprescribing%20or%20tapering%20opioids%20-%20for%20health%20professionals
- **NPS MedicineWise educational visits** are facilitated by NPS MedicineWise Clinical Service Specialists to health professionals free of charge on a range of therapeutic areas commonly managed in general practice, including low back pain. https://www.nps.org.au/cpd/book-a-visit
- **NPS MedicineWise National Prescribing Curriculum (NPC)** The National Prescribing Curriculum is a series of interactive case-based online modules that encourage confident and rational prescribing. Targeted at undergraduate and postgraduate medical students, Pharmacy, dental, nurse practitioner and other health

professional students. One module on 'Analgesia for low back pain 2019' focusses around management of acute low back pain. The modules are free; however, users need a free NPS MedicineWise account to access them modules. https://learn.nps.org.au/course/index.php?categoryid=78

- The **KEELE GROUP - IMPACT BACK STUDY** evaluating risk-stratified care for low back pain in family practices in the UK also provide online training and useful resources https://startback.hfac.keele.ac.uk/training/
- The **AUSTRALIAN PHYSIOTHERAPY ASSOCIATION** Level 1 course specifically targeting screening in the acute pain phase and how to prevent chronic pain. https://australian.physio/pd
- **PAIN REVOLUTION**: Local Pain Educator to upskill rural health professionals with the latest pain science research and provide a support network to assist health professionals to share this knowledge with their local professional and public communities. https://www.painrevolution.org/
- **CURTIN UNIVERSITY SCHOOL OF PHYSIOTHERAPY AND EXERCISE SCIENCE**- undergraduate and postgraduate pain study units https://healthsciences.curtin.edu.au/schools/physiotherapy-exercise-science/
- **COURSES RUN BY PETER O'SULLIVAN, PROFESSOR OF MUSCULOSKELETAL PHYSIOTHERAPY AT CURTIN UNIVERSITY, PERTH, AUSTRALIA.** For example, Challenging common beliefs about pain. http://www.pain-ed.com/
- The **ROYAL AUSTRALIAN AND NEW ZEALAND COLLEGE OF RADIOLOGISTS** (RANZCR) Educational modules (EMs) have been developed to improve the appropriateness of referrals for medical imaging. https://www.ranzcr.com/our-work/quality-standards/education-modules
- The **ROYAL AUSTRALIAN COLLEGE OF GENERAL PRACTITIONERS** (RACGP):
    - https://www.racgp.org.au/education/professional-development/online-learning/webinars/chronic-pain/managing-chronic-pain-in-general-practice This webinar equips GPs with the knowledge to help patients re-establish their health through active self-management and managing common complicating aspects of chronic pain such as mental health (e.g. depression, anxiety, family problems). It discussed the benefits and harms of prescribing opioids and provides strategies for de-prescribing opioids. It is presented by Dr Simon Holliday and Dr Chris Hayes and developed in partnership with NSW Health.
    - RACGP active learning modules: Cognitive behavioural therapy skills for general practice (not pain specific) The ALM provides GPs with foundational CBT skills to use in their general practice and is ideal for GPs who have completed mental health skills training (MHST) and wish to include CBT in their clinical practice.https://www.racgp.org.au/education/professional-development/online-learning/active-learning-modules/alm-cognitive-behavioural-therapy-skills
    - Psychological strategies skills training (not pain specific). The RACGP Rural training package provides GPs with essential training in Focussed Psychological Strategies Skills Training (FPS ST) to enable rural GPs to provide CBT-derived FPS counselling to patients. https://www.racgp.org.au/education/professional-development/online-learning/online-learning-modules/online-focussed-psychological-strategies-skills
    - *Assessment and Management of Acute Pain - Interactive Online Module (8 hours). Provided by* Learn EM, this interactive online module reviews the approach to assessment and management of a patients' acute and ongoing pain management in various settings relevant to General Practitioners. Registration for this course requires a LearnEM account, and costs $9.90. https://moodle.learnem.com.au/enrol/index.php?id=498 https://www.racgp.org.au/education/courses/activitylist/activity/?id=58748&q=keywords%3dacute%2bpain%26triennium%3d17-19
    - Approach to low back pain – exercise physiology. non-pharmacological treatments for back pain https://www.racgp.org.au/download/Documents/AFP/2014/November/201411Clinical-Booth.pdf
- **PAIN-ED** an online resource for patients and healthcare practitioners related to evidence-based management of pain. It was developed by clinical researchers who recognised the need to translate the

scientific evidence about pain for both public and healthcare practitioners. The site aims to dispel some common myths about chronic pain and provide hope for change. PAIN-ED is available at: http://www.pain-ed.com/

- **PainAustralia** is Australia's leading pain advocacy body working to improve the quality of life of people living with pain, their families and carers, and to minimise the social and economic burden of pain on individuals and the community. The website provides information for consumers and health professionals. https://www.painaustralia.org.au/
- **Australia Acceptance & Commitment Therapy Workshops & Training** is a form of cognitive-behavioural treatment called acceptance and commitment therapy (ACT) used in The Toronto General Hospital Transitional Pain Service (TPS) ACT Groups & Centres Australia & New Zealand https://www.actmindfully.com.au/
- **Boston Children's Hospital and Harvard Medical School Paediatric Pain and Opioid Education' online accredited course.** The online course provides training in acute and chronic pain management for paediatric patients, with an emphasis on safe and effective opioid use. Model 1 covers Acute Pain treatment; Module 2 covers Chronic Pain Treatment; and Module 3 covers Oversight and Safe Storage of Opioid Medications. Target audience includes Physicians and Trainees, Paediatric Physicians and Trainees, Paediatric Intensive Care (ICU) MDs and Trainees. The course takes 5 hours and 30 minutes to complete, and costs US$125. Registration requires a free OPENPediatrics account. https://www.openpediatrics.org/course/pediatric-pain-and-opioid-education-0
- **The Health Education and Training Institute (HETI) NSW (2015). eLearning module Acute Pain Management for Adults.** This module uses a case study to demonstrate effective and appropriate pain management, including differentiating types of pain and how to relieve/manage acute pain. Target audience includes clinical nurses, midwives and junior medical officers. Registration requires a NSW Health account. https://www.heti.nsw.gov.au/education-and-training/courses-and-programs/acute-pain-management-for-adults
  *Note, uncertain whether this course is still available
- **Musculoskeletal Australia (MSK). Health Professional Webinar 'Diagnosis and management of low back pain in primary care'**. Presented by Dr Adrian Traeger, University of Sydney. This online webinar is designed to provide participants with clinically meaningful skills and knowledge to deliver recommended care. Recordings of individual webinars can be purchased online for $30/$45 (MSK member/non-member). https://www.msk.org.au/health-professional-webinars
- **WorkCover Queensland (2017). Webinar Early interventions for musculoskeletal disorders.** This Workers' Compensation Regulator webinar is presented by Michael Donovan who discusses; the background of musculoskeletal disorders, injury, pain and early intervention, the levels of prevention and intervention, and key components of successful intervention. Video recording available online free. https://www.worksafe.qld.gov.au/forms-and-resources/webinars/early-interventions-for-musculoskeletal-disorders
- **British Pain society and The Faculty of Pain medicine. e-PAIN: a multi-disciplinary programme designed to improve the early diagnosis and management of pain.** The programme includes 12 training modules that cover knowledge ranging from how to manage acute pain well, through to learning in depth about common pain conditions and moves on to cover how to manage pain in specialist areas, like pain in cancer or pain in childhood. The modules are made up of 30-minute interactive e-learning sessions and assessments. For example, one session on Pharmacology for Acute Pain, explains the mechanisms of acute pain and its management using multimodal analgesia. Access to the e-PAIN programme is available from Australia and requires a free e-LfH account. Option to purchase the whole program (consisting of >60 sessions) for £90 or individual modules for £20. https://www.e-lfh.org.uk/programmes/pain-management/

- **OPENPediatrics (2015)** Online video 'Treatment of acute pain in a healthy teenager'. The video demonstrates the clinical administration of pain treatment and opioid prescribing using the CRAFFT screening tool as a guide.
  https://www.openpediatrics.org/assets/video/treatment-acute-pain-healthy-teenager

Appendix 11: Key content of the training packages in the IMPaCT Back trial

Sowden et al (65)

Key content covered in the training packages.

	Key content covered
GP best practice updates	The subgrouping and targeted treatment system and study design, protocols and relevant documentation Use and interpretation of the 6-item subgrouping tool to guide treatment and referral to physiotherapy Screening for red flags and diagnosis Reassurance about good overall prognosis, the benign nature of the LBP and addressing concerns Role of further investigations Simple messages and advice about pain medication Appropriate use of pain relieving modalities Advice about appropriate physical activity levels, return to normal activity, including work and avoiding bed rest Sickenss certification
Low- and medium-risk training	The subgrouping and targeted treatment system and study design, protocols and relevant documentation Use and interpretation of the subgrouping tool to guide treatment The role of diagnostic investigations, medication, epidural injections and surgery in back pain and radiculopathy Appropriate reassurance and explanation re: low back pain symptoms Appropriate advice about analgesia. Advice about the maintenance of, or return to, usual activities (including work) Onwards referral of patients who present a clinical or management concern (e.g. those with signs of potential serious pathology or red flags or significant radicular symptoms) Current guidelines for managing LBP in primary care, including current best physiotherapy practice for the management of disability, back pain and referred leg pain, including the role of exercise and manual therapy as well as strategies for equipping patients with the skills to manage future recurrences. Goal setting, pacing and graded exercise will be covered briefly The configuration and availability of local services such as interface clinics and secondary care spinal services and how to refer study patients to these services The role of Job Centre Plus in return to work facilitation.
High-risk training	Specific biopsychosocial factors that contribute to the development and maintenance of chronic pain and disability The importance of key processes and how to utilise knowledge of them in treatment Identifying key psychosocial prognostic indicators using stem and leaf questions Exploring the impact of an individuals' pain on activity, work, sleep, relationships and mood Basic and advanced communications skills training including rapport building, listening, demonstrating empathy and motivational interviewing skills Facilitating discussions with patients about the relation between physical and psychosocial factors Applying the biopsychosocial and cognitive behavioural models to the management of pain and pain related disability and distress Making sense of the assessment information, clinical reasoning, identifying appropriate targets for treatment and treatment planning Explaining pain and providing reassurance Problem solving difficulties Managing patients' expectations Promoting an active rehabilitation self-management approach Challenge patients' unhelpful or inaccurate beliefs and expectations, for example through the provision of individualized information, reassurance and advice Pacing and graded activity in order to sustain or increase meaningful physical function Improving sleep, mood, social and work functioning Dealing with distressed or complex patients and when to refer onwards or seek additional input Goal setting Monitoring and reinforcing progress and modifying treatment Supporting patients in active self-management of future set-backs or recurrences How to appropriately refer or signpost patients to other services such as chronic pain services

The 9-item STarT Back screening tool.

Patient name: _____ Date: _____

Thinking about the last 2 weeks tick your response to the following questions:

		Disagree 0	Agree 1
1	My back pain has spread down my leg(s) at some time in the last 2 weeks	☐	☐
2	I have had pain in the shoulder or neck at some time in the last 2 weeks	☐	☐
3	I have only walked short distances because of my back pain	☐	☐
4	In the last 2 weeks, I have dressed more slowly than usual because of back pain	☐	☐
5	It's not really safe for a person with a condition like mine to be physically active	☐	☐
6	Worrying thoughts have been going through my mind a lot of the time	☐	☐
7	I feel that my back pain is terrible and it's never going to get any better	☐	☐
8	In general I have not enjoyed all the things I used to enjoy	☐	☐

9. Overall, how bothersome has your back pain been in the last 2 weeks?

Not at all	Slightly	Moderately	Very much	Extremely
☐	☐	☐	☐	☐
0	0	0	1	1

Total score (all 9): _____ Sub Score (Q5-9):_____

Appendix 12: Content of a GP trainee education initiative about opioids implemented in Australia

Holliday (53)

Box 1 **Presentation content**

The history of opium and analgesia practice
The escalation in the West of opioid prescribing and associated harms, including overdose and addiction
Chronic noncancer pain (CNCP) neurophysiology including neuro-plasticity, central sensitization, and opioid-induced hyperalgesia
Guideline-concordant and patient-centred management of CNCP
Biopsychosocial assessment in CNCP including past and present psychiatric and substance use problems, in preference to tool-based risk stratification (38)
Use of the Pain Intensity, Enjoyment of Life, General Activity measurement scale (40)
The importance of multidisciplinary and multimodal CNCP management with appropriate referral to physiotherapy, psychology, pain specialists, or addiction treatment services
The nonpharmaceutical self-management management of CNCP
The nonopioid pharmaceutical management of CNCP
The lack of evidence supporting opioids in CNCP in terms of efficacy and safety
The practice, principals, and limitations of universal precautions if or when opioids are used in CNCP
The importance of assessing and responding to the emergence of aberrant behavior
Deprescribing opioids