

Bree Collaborative

Spine/Low Back Pain Topic

Report & Recommendations

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Table of Contents

Executive Summary & Recommendations	1
I. The Bree Collaborative and its charge	3
II. Problem statement	4
III. Areas of focus and goals	5
IV. Low back pain is a common and costly condition	5
V. Practices vary widely in the diagnosis and management of acute LBP	6
VI. Overview of recommendations	8
A. Guidelines: translating evidence-based guidelines into practice	8
<i>The ACP/APS guideline is a recommended resource for primary care providers</i>	8
<i>Providers should use tools like the Oswestry Disability Index to track functional status</i>	10
<i>Providing evidence-based care for complex LBP patients requires careful coordination</i>	11
<i>Decision support tools and payment reform can create environments that foster change</i>	11
<i>Recommendations for the implementation of evidence-based guidelines</i>	13
B. Screening tools: matching patients with appropriate care	14
<i>The STarT Back Screening Tool (SBST) is empirically proven to improve outcomes</i>	14
<i>The Functional Recovery Questionnaire (FRQ) is another option for injured workers</i>	16
<i>Recommendations for improved screening of low back pain patients</i>	16
Case study: Spine Clinic at Virginia Mason Medical Center	17
C. Patient education: increasing awareness and managing expectations	19
<i>Patient beliefs and expectations about low back pain have a significant impact on outcomes</i>	19
<i>Mass media educational campaigns can change attitudes about low back pain</i>	20
<i>Recommendations for increasing patient and public awareness</i>	21

Appendices

- A. *List of Bree Collaborative and Spine/Low Back Pain Workgroup Members*
- B. *Initiatives to Improve Low Back Pain Care (Acute and Chronic) and Organizations that Apply Best Practices*
- C. *Evaluation and Management Algorithms from the ACP/APS Guidelines*
- D. *Opioid Authorization Forms from Washington State Department of L&I*
- E. *Recommended Version of Oswestry Disability Index (ODI)*
- F. *9-item STarT Back Screening Tool (SBST)*
- G. *Functional Recovery Questionnaire (FRQ)*
- H. *Materials from Functional Recovery Interventions Pilot at L&I*
- I. *Potential Uses of Technology for Strengthening Public Education Efforts*

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Executive Summary & Recommendations

The Robert Bree Collaborative was established in 2011 to provide a forum in which public and private health care stakeholders can work together to improve quality, health outcomes, and cost-effectiveness of care in Washington State. At its first meeting, the Bree Collaborative identified spine/low back pain (LBP) care as one of its first topic areas due to the substantial variation in the diagnosis and treatment of LBP patients, high utilization rates for expensive modalities that have not been shown to improve health outcomes, and poor patient outcomes.

The Bree Collaborative convened a workgroup of spine/LBP experts in November 2012 to develop recommendations for preventing the transition of acute pain to chronic pain and disability. The workgroup chose three focus areas to target in its recommendations:

Focus Area	Specific Goals
#1 – Increase appropriate evaluation and management of patients with new onset and persistent acute LBP and/or nonspecific LBP not associated with major trauma (no red flags) in primary care	<ul style="list-style-type: none"> • Increase adherence to evidence-based guidelines • Increase provider awareness of key messages that emphasize physical activity, return to work, patient activation, etc. • Reduce use of non-value-added modalities in the diagnosis and treatment of LBP (e.g., inappropriate use of MRIs)
#2 – Increase early identification and management of patients that present with LBP not associated with major trauma (no red flags) but have psychosocial factors (yellow flags) that place them at a high risk for developing chronic LBP	<ul style="list-style-type: none"> • Increase use of STarT Back Tool, FRQ, or a similar screening instrument to triage acute LBP patients to appropriate care providers • Restore patient function more quickly
#3 – Increase awareness of LBP management among individual patients and the general public	<ul style="list-style-type: none"> • Increase the proportion of the population that agrees with key LBP messages (e.g., LBP is common, LBP symptoms often improve without treatment, there is no magic bullet, stay active, etc.)

The workgroup met 11 times from November 2012-September 2013 and researched best practices from current and recent initiatives in Washington State, other parts of the United States, and international efforts. This report summarizes those best practices and presents recommendations for every stakeholder group; some of the recommendations have been identified as high priority to aid in implementation efforts. *Improving care for acute LBP will require a multi-pronged strategy in which every part of the community has a role to play.*

This report includes recommendations for five different stakeholder groups:

1. Hospitals/Clinics
2. Individual Providers
3. HCA/Medicaid/DOH/L&I
4. Employers/Purchasers
5. Health Plans

Stakeholder Group	Recommendations
Hospitals/Clinics	<p><i>High priority:</i> Support or sustain a LBP quality improvement program that includes measuring patients’ functional status over time using the Oswestry Disability Index (see page 10)</p> <p><i>High priority:</i> Use a validated screening tool such as the STarT Back tool or Functional Recovery Questionnaire (FRQ) no later than the 3rd visit to identify patients that are not likely to respond to routine care (see page 14)</p> <p>Take steps to integrate evidence-based guidelines, scripts, shared decision making, and patient education materials into clinical practice and workflow (e.g., EMR, a clinical decision support tool such as UpToDate, etc.) (see page 11)</p> <p>Take steps to integrate comprehensive patient education and effective messaging into clinical practice and workflow for low back pain patients (see page 19)</p>
Individual Providers	<p><i>High priority:</i> Commit to using evidence-based guidelines and tools recommended by the Bree Collaborative, including the ACP/APS guidelines and Oswestry (see page 8)</p> <p><i>High priority:</i> Use a validated screening tool like the STarT Back tool or Functional Recovery Questionnaire (FRQ) no later than the 3rd visit to identify patients that are not likely to respond to routine care (see page 14)</p> <p>Establish referral relationships with physical medicine and rehabilitation physicians, also known as physiatrists (see page 11)</p> <p>Incorporate comprehensive patient education and expectation-setting into care for low back pain patients, particularly when the patient is requesting care that is not recommended by evidence-based guidelines (see page 19)</p>
HCA/Medicaid/DOH/L&I	<p><i>High priority:</i> Design and implement a payment structure for LBP care that incentivizes providers to adopt evidence-based practices (e.g., require providers to use a screening tool as part of the prior authorization process for imaging, spinal injections, and/or spinal surgery) (see page 8)</p> <p><i>High priority:</i> Coordinate an evidence-based public education campaign about low back pain (ideally modeled after an Australian campaign with proven effectiveness) (see page 19)</p>

Employers/ Purchasers	<i>High priority:</i> Encourage providers and delivery systems to track and report how frequently providers are administering tools to measure return to function scores (see page <u>10</u>)
	<i>High priority:</i> Negotiate tiered networks or other types of benefit design that will encourage patients to go to providers that have demonstrated that they use evidence-based practices (see page <u>8</u>)
	Provide recommended patient education materials about LBP to all employees and their families (see page <u>19</u>)
	Support the development of payment models that allow for higher touch and more time with patients with complex back pain who require rehabilitative services (e.g., payment for outcomes) (see page <u>11</u>)
Health Plans	<i>High priority:</i> Require providers to use a screening tool (such as STarT Back or FRQ) as part of the management of patients for imaging, spinal injections, and/or spinal surgery (see page <u>14</u>)
	<i>High priority:</i> Identify complex cases (e.g., a patient who is getting opioid prescriptions from multiple doctors) and refer them to a provider or a case manager who can oversee their care (see page <u>11</u>)
	Design benefits in a way that increases access to multidisciplinary care for patients at risk of developing chronic back pain (see page <u>11</u>)

I. The Bree Collaborative and its charge

The Robert Bree Collaborative was established in 2011 by Washington State House Bill 1311 as an offshoot of the Washington State Advanced Imaging Management (AIM) project. The purpose of the Bree Collaborative is to provide a mechanism through which public and private health care stakeholders can work together to improve quality, health outcomes, and cost-effectiveness of care in Washington State.

Appointed by the Washington State Governor, the 24-member Collaborative is charged with identifying up to three health care services annually where there is substantial variation in practice patterns or high utilization trends in Washington State. For each health care service, the Bree Collaborative is charged with identifying and recommending best practice approaches based on evidence that build upon existing efforts and quality improvement activities aimed at decreasing variation.^a (See *Appendix A* for a list of current Bree Collaborative and Spine/Low Back Pain Workgroup members).^b

^a In the bill, the legislature does not authorize agreements among competing health care providers or health carriers as to the price or specific level of reimbursement for health care services. Furthermore, it is not the intent of the legislature to mandate payment or coverage decisions by private health care purchasers or carriers.

^b For more information on the Bree Collaborative, go to: www.hta.hca.wa.gov/bree.html.

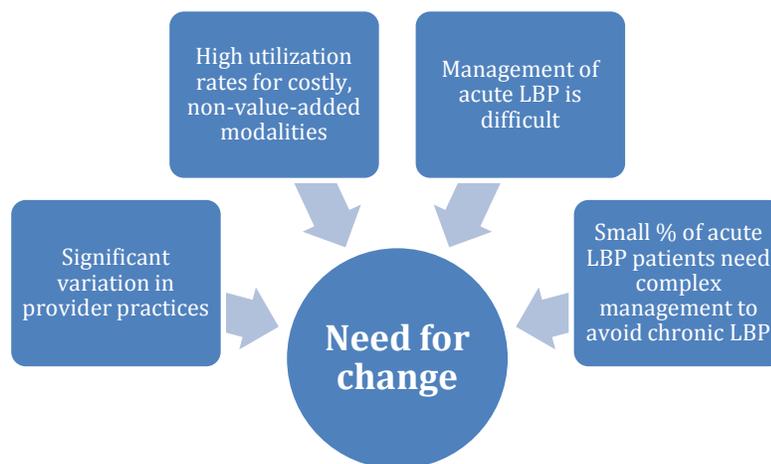
At its first meeting in September 2011, the Bree Collaborative prioritized spine/low back pain (LBP) as one of the first topics to research and make recommendations for improvement.^c The Bree chose a two-pronged strategy to address both acute and chronic low back pain:

- 1) Formed a workgroup to develop recommendations for preventing the transition of acute pain to chronic pain and disability (the focus of this report)
- 2) Recommended that all hospitals participate in Spine SCOAP to improve surgical outcomes for chronic low back pain patients^d

The Bree Collaborative is named in memory of Dr. Robert Bree. Dr. Bree was a pioneer in the imaging field and a key member of the AIM project.

II. Problem statement

Significant variation exists in the diagnosis and treatment of patients with new onset or persistent acute LBP, with high utilization rates for many costly modalities that have not been shown to improve health outcomes.^{1,2} Effective management of acute LBP patients can be difficult because the majority of patients have no identifiable anatomic or physiologic cause and the pain is likely a manifestation of another problem unrelated to LBP.³ For most acute LBP patients, symptoms will improve with conservative treatment such as physical activity or physical therapy; others are at a higher risk of developing chronic LBP that requires intensive, long-term, multi-disciplinary management. Regardless of severity, early identification of subgroups of patients with LBP and getting them on the right treatment path early is critical. Increased implementation of evidence-based guidelines and best practices, use of screening tools, patient education, and financial incentives are all necessary to improve the quality of LBP care and health outcomes while reducing inappropriate care and costs.



^c The Bree Collaborative also selected obstetrics, avoidable readmissions, and cardiology as high-priority topics.

^d In November 2012, the Bree strongly recommended all hospitals participate in Spine SCOAP, a quality improvement program, as a community standard. The Spine SCOAP registry is a clinician-led quality improvement collaborative for hospitals in Washington State. Spine SCOAP's aim is to reduce variability in quality, cost, and indications for surgery, and to address inappropriate care. The Bree sent its recommendation to the Washington Health Care Authority in April 2013 and is awaiting a response.

III. Areas of focus and goals

The Bree Collaborative, guided by a workgroup of spine/LBP experts, selected three areas of focus to study and target in its recommendations:

- 1) Increase appropriate evaluation and management of patients with new onset and persistent acute LBP and/or nonspecific LBP not associated with major trauma (no red flags) in primary care
 - Increase adherence to evidence-based guidelines
 - Increase provider awareness of key messages that emphasize physical activity, return to work, patient activation, etc.
 - Reduce use of non-value-added modalities in the diagnosis and treatment of LBP (e.g., inappropriate use of MRIs)
- 2) Increase early identification and management of patients that present with LBP not associated with major trauma (no red flags) but have psychosocial factors (yellow flags) that place them at a high risk for developing chronic LBP and disability
 - Increase use of STarT Back Tool, FRQ, or a similar screening instrument to triage acute LBP patients to appropriate care providers
 - Restore patient function more quickly
- 3) Increase awareness of LBP management among individual patients and the general public
 - Increase the proportion of the population that agrees with key LBP messages (e.g., LBP is common, LBP symptoms often improve without treatment, there is no magic bullet, stay active, etc.)

IV. Low back pain is a common and costly condition

LBP (acute, subacute, and chronic) is a common condition and the leading cause of disability in the United States as of 2010.⁴ At least 80% of adults will have LBP at some point in their life and approximately 20-30% of the adult population has LBP at any given time.⁵ Expensive, non-conservative modalities (e.g., imaging, opioids, and spinal injections) are often used for acute LBP in the absence of a clear indication for those services, further driving up LBP costs.⁶

The high cost of LBP and related musculoskeletal conditions make them a major source of concern to all health care stakeholders, especially employers and other purchasers such as the Washington State Department of Labor and Industries. The total direct health care costs attributable to LBP in the United States were estimated to be \$26.3 billion in 1998.⁷ In 2010, King County government's self-insured health plan (KingCare) spent more than \$31 million for surgical and non-surgical interventions specifically for LBP.⁸ Similarly, Costco Wholesale spent approximately \$124 million (107,951 claimants) in 2011 on musculoskeletal and connective tissue conditions.⁹ Indirect costs related to days lost from work are also substantial; one study found that mechanical low back pain was the fourth most costly physical health condition for businesses and 41% of those costs were

attributable to absence or disability.¹⁰ Most of the total costs (80%) are incurred by a small subset of LBP patients (approximately 6-20%) who become disabled.^{11,12}

Acute LBP is the most prevalent type of LBP and frequently recurs

Acute LBP, the focus of this report, is the most prevalent type of LBP; 85% of LBP diagnoses are for acute or non-specific low back pain. It is estimated that only 15% of all LBP has an identifiable anatomic or physiologic cause (e.g., herniated disc, lumbar spinal stenosis) for which there is widespread agreement on diagnostic criteria.^{13,14} Unfortunately, the total number of patients diagnosed with acute LBP is unknown in Washington State.^e

Although acute LBP usually improves with minimal or no treatment, the majority of patients will continue to have recurrent episodes and persistent pain over the course of their lifetime.¹⁵ Most patients improve considerably during the first 4-6 weeks after seeking treatment, but 66-75% still have at least mild pain one month after seeking care and 20-25% report substantial activity limitations.^{16,17} In long-term follow-up (1 year or more), about one in three patients report intermittent or persistent pain of at least moderate intensity, one in seven continue to report back pain of severe intensity, and one in five report substantial activity limitations.

V. Practices vary widely in the diagnosis and management of acute LBP

There are many reasons why significant variation exists in the treatment of acute LBP:

- *Overuse of unnecessary, non-evidence-based treatments for acute LBP.* Over the past few years, as technology has advanced, utilization of imaging, opioid use, and lumbar injections for the treatment of acute LBP have increased exponentially (see table on following page). In 2010, Washington had the 14th highest back surgery rate of all states and the District of Columbia: 5.6 per 1,000 Medicare enrollees, compared to a national average of 4.7.¹⁸ Surgery may be appropriate, evidence-based care in selected red flag cases, but checks are necessary to ensure that it is only used in those instances.

^e Individual providers, health plans, and employers can measure the number of patients or workers diagnosed with LBP within their own populations but there is no aggregated estimate.

Trends in the management and treatment of back pain^{19,20}

Diagnosis or Treatment Modality	Data about Utilization Rates and Expenditures
Advanced imaging (CT or MRI)	<ul style="list-style-type: none"> • 307% increase in the number of lumbar MRIs among Medicare beneficiaries from 1994 through 2005 • Use of CT or MRI increased from 7% of visits in 1999-2000 to 11% in 2009-2010 (use of plain radiographs did not change over the same period)
Chronic opioid use	<ul style="list-style-type: none"> • 108% increase in opioid prescriptions for patients with spinal disorders from 1997 through 2004 • 423% inflation-adjusted increase in expenditures for opioids for back pain from 1997 through 2004 • Narcotic use increased from 19% of visits in 1999-2000 to 29% of visits in 2009-2010 (use of NSAIDs or acetaminophen decreased by 12% over the same period)
Spinal injections	<ul style="list-style-type: none"> • 271% increase in the number of epidural injections from 1994 through 2001 • 629% increase in Medicare expenditures for spinal injections from 1994 through 2001
Spinal surgery	<ul style="list-style-type: none"> • 220% increase in U.S. spinal fusion surgery rates from 1990-2001

High utilization of these modalities signals inappropriate care; research shows that they do not improve clinical outcomes, expose patients to unnecessary harms, and are expensive.^{21,22,23} For example, a study based on a national database of private insurance claims (covering 8 million beneficiaries) found that more than 40% of patients with acute LBP underwent imaging.²⁴ While imaging can be used to exclude serious causes of LBP such as tumors and infections, anatomical abnormalities such as those associated with the aging process are commonly observed in otherwise asymptomatic healthy individuals.²⁵

- *Barriers to operationalizing evidence-based guidelines in delivery systems.* While not unique to LBP, translating or implementing best evidence recommendations into everyday clinical practice is difficult.^{26,27} A broad array of barriers to physician adherence exist including lack of provider awareness, agreement, self-efficacy, and/or motivation (e.g., an economic incentive).²⁸
- *Lack of access to multidisciplinary teams and rehabilitative services.* Some LBP patients require more complex, intensive care from a team of providers. Primary care providers frequently do not know how to connect patients with those resources in their community. Furthermore, they often lack the ability and/or incentive to provide this intensive care in the absence of support from a multidisciplinary team.
- *Different provider types offer a broad variety of evaluation and treatment options.* Of the 354 million patient visits per year for acute care in the United States, only 42% are seen by primary care providers; 28% are seen in the emergency room and 20% are seen by specialists.²⁹ Visits to primary care clinicians for low back pain are equally split between

chiropractors and allopathic clinicians. These different providers are wedded to their own approach, and some might not be evidence-based.³⁰ Even within disciplines, the specific beliefs of individual providers (e.g., elevated fear avoidance beliefs) can impact treatment.³¹

- *Patient demand for unnecessary or expensive treatments due to unrealistic expectations.* Patients might expect to be “fixed” after a visit or two even though no “magic bullets” for acute back pain exist.³² Demand is also shaped by patients’ past experiences of back pain and provider interpretations of their preferences.³³

VI. Overview of recommendations

The remainder of this report is divided into three sections that provide background information and support for the workgroup’s recommendations in each focus area:

1. Guidelines: translating evidence-based guidelines into practice
2. Screening tools: matching patients to appropriate care
3. Patient education: increasing awareness and expectations

Recommendations for each focus area are included at the end of each section and a complete list of recommendations, organized by stakeholder group, can be found at the end of the report.

While some examples of promising initiatives and best practices are highlighted in the text, a more complete list can be found in *Appendix B*.

A. Guidelines: translating evidence-based guidelines into practice

Various research and professional organizations have developed evidence-based guidelines for the evaluation and treatment of low back pain in primary care. An analysis of clinical guidelines from 13 countries found that recommendations are generally the same across topics for which strong evidence is available.³⁴ For acute low back pain, consistent features included early and gradual activation of patients, discouragement of bed rest, and recognition of psychosocial factors as risk factors for chronicity.^f Despite the similarity of the guidance provided across these guidelines, significant variation in provider practice persists.

To facilitate the incorporation of these evidence-based guidelines into clinical practice, the workgroup reviewed existing guidelines and tools for increasing adherence.

The ACP/APS guideline is a recommended resource for primary care providers

The American College of Physicians (ACP) and the American Pain Society (APS) published a joint clinical guideline in 2007 to address both the diagnosis and treatment of low back pain.³⁵ The ACP/APS guideline is based upon findings from randomized, controlled trials and targets non-

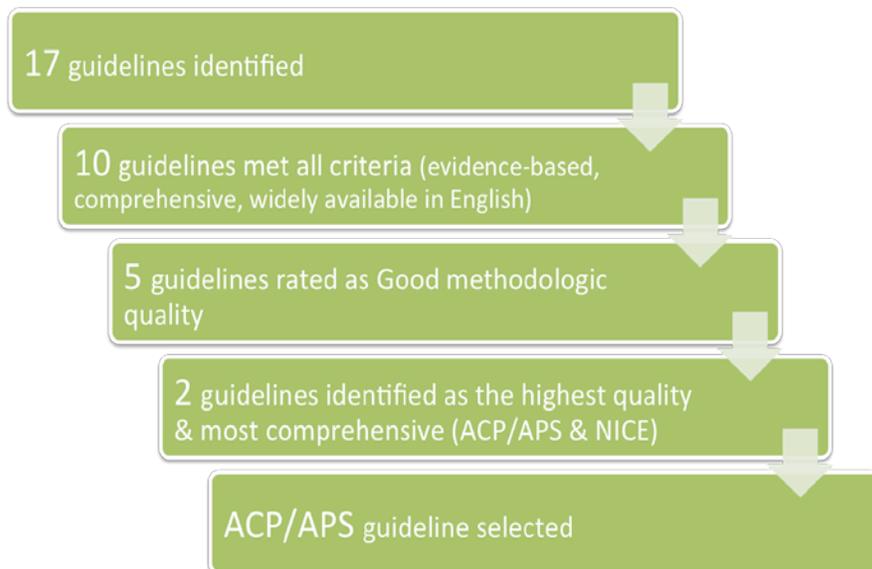
^f For chronic low back pain, consistent features including supervised exercises, cognitive behavioral therapy, and multidisciplinary treatment.

pregnant adults with acute and chronic low back pain of any duration.^g The complete guideline is available online: annals.org/article.aspx?articleid=736814.

While several high-quality guidelines exist, the workgroup recommends the widespread adoption of ACP/APS guidelines in primary care settings in Washington. The group selected the ACP/APS guidelines for the following reasons:

- 1) A rigorous evaluation of 17 clinical guidelines in 2011 resulted in a recommendation to adopt the ACP/ACS guideline.³⁶ A Guideline Development Group (GDG) composed of representatives from the State of Oregon and two private organizations conducted this analysis (see figure for summary of GDG methods).
- 2) The ACP/APS guideline includes algorithms for both the evaluation and management of low back pain that could be useful implementation tools (see *Appendix C* for algorithms).^h
- 3) The ACP/APS guideline was the only guideline related to Lumbar MRIs (out of four reviewed) that the Advanced Imaging Management group rated as “Good” across all three of its evaluation criteria.³⁷ Those criteria were rigor of evidence, rigor of recommendation, and editorial independence.
- 4) The guideline covers a broad patient population; it includes patients with back pain of any duration (acute and chronic) and patients with leg pain or radiculopathy.

Overview of Guideline Development Group (GDG) Methods



Notes: NICE = National Institute for Health and Clinical Excellence. The GDG preferred the ACP/APS guideline over the NICE guideline because the latter did not address treatment in the first six weeks, contain algorithms that would aid implementation, or include patients with leg pain or radiculopathy.

Key Takeaway

The workgroup recommends the widespread adoption of ACP/APS guidelines in primary care settings in Washington.

^g The guideline does not include recommendations for patients that have pain associated with major trauma, sources outside the back, fibromyalgia, or other myofascial pain syndromes.

^h The workgroup recommends that the Bree Implementation Team form an advisory group to develop other tools (scripts, simplified algorithms, etc.) to aid in the implementation of ACP/APS guidelines. This advisory group should include primary care providers, physical therapists, and possibly emergency room doctors.

Guideline for prescribing opioids to treat pain in injured workers

Washington State Department of Labor and Industries (L&I)

Effective July 1, 2013, L&I implemented a guideline for safe and effective prescription of opioids to patients in the workers' compensation population with chronic non-cancer pain. Under this guideline, L&I (or insurer) may cover opioids for no more than six weeks when prescribed to treat pain from an acute injury or after surgery. The guideline also establishes rigorous requirements for regular monitoring and documentation when providers prescribe chronic opioid therapy and includes strong language about appropriateness: "Continuing to prescribe opioids in the absence of clinically meaningful improvement in function or after the development of a severe adverse outcome is not considered proper and necessary care in the Washington State workers' compensation system. In addition, the use of escalating doses to the point of developing opioid use disorder is not proper and necessary care." See *Appendix D* for L&I's opioid authorization forms (more info at: www.lni.wa.gov/ClaimsIns/Providers/TreatingPatients/ByCondition/Opioids/).

Providers should use tools like the Oswestry Disability Index to track functional status

Tracking functional status is very important to determine whether patients with acute back pain are learning to effectively manage their pain or continuing down a pathway that is likely to lead to chronic pain. Focusing solely on pain can harm patients in the long run because the evidence shows that patients are more likely to develop chronic pain if they do not return to their normal activities as soon as possible, regardless of whether they are still in pain.

The Oswestry Disability Index (ODI) is the most widely used instrument for the evaluation of low back pain and has good validity and reliability.³⁸ The questionnaire asks patients to rate the intensity of their pain and the degree to which their back trouble affects their ability to manage nine everyday tasks such as personal care (washing, dressing, etc.) and sitting.

Although the ODI is not the only high-quality option for assessing functional status, the workgroup believes that selecting one standardized tool for widespread use would facilitate research and quality improvement efforts. Therefore, the workgroup recommends the use of the ODI to track functional status, specifically the version currently used by Spine SCOAP (see *Appendix E* for recommended version). The workgroup selected the ODI because it is already commonly used across Washington, is a useful tool for most patients, and does not take a long time to complete and score. However, the three-item PEG scale is another good option for primary care practices that require a shorter tool.³⁹

Key Takeaway

The workgroup recommends the use of the Oswestry Disability Index to track functional status.

Providing evidence-based care for complex LBP patients requires careful coordination

If patients continue to have significant functional deficits such as not returning to work or other key life activities according to the ODI (or a similar tool) despite treatment, then providers should consider more intensive coordinated rehabilitative services. Patients with complex low back pain may require referral to a physical medicine and rehabilitation physician and/or to a physical therapist or mental health specialist for further evaluation and rehabilitative services directed at helping patients resume life activities. Primary care providers may also require the assistance of a case manager to effectively coordinate these rehabilitative services. The figure below provides one example of how this type of risk-stratified “stepped-care” approach can be implemented.

A Risk-Stratified Stepped-Care Approach for Managing Back Pain in Primary Care⁴⁰

Level of Care	Targeted Patients	Objectives	Source of Care
Step 1	All patients with back pain	To identify and address specific patient worries and to encourage return to normal activities	Primary care clinician supported by self-care educational materials
Step 2	Patients with back pain with elevated psychosocial risk factors on a questionnaire like the STarT Back screener, or who still have activity limitations at 4 to 8 weeks	To help patients identify difficulties, set functional goals, and define and carry out plans to achieve their goals. To provide support for resumption of activities and exercise	Case manager (such as a nurse or physical therapist) in an individual or group format, supported by self-care educational materials
Step 3	Patients with back pain who have highly elevated psychosocial risk factors or who have substantial continuing disability in work or family roles	To provide interventions to restore work and family role function. To provide a graded exercise program. To treat psychological illness if present	Case manager and/or referral for rehabilitation. Psychological treatment (if indicated) in primary or specialty care

Source: Adapted from Table 1: *A Stepped-Care Approach for Managing Back Pain in Primary Care*. Von Korff M, Moore JC. Stepped care for back pain: activating approaches for primary care. *Ann Intern Med* 2001;134:911-917.

Decision support tools and payment reform can create environments that foster change

Many studies have demonstrated the difficulty of increasing provider adherence to guidelines using conventional provider education methods.^{41,42,43} To overcome some of these guideline implementation barriers and change provider behavior, the workgroup believes that it is often necessary to change clinical systems and/or create financial incentives.

Strong evidence exists for the effectiveness of clinical decision support systems (CDSS) in improving clinical practices. A synthesis of high-quality systematic reviews found that CDSS significantly impacted practitioner performance in 57% of studies conducted in hospital settings.⁴⁴ A systematic review of 70 studies of CDSS systems in any clinical setting (not just hospitals) found an even higher success rate; clinical practices significantly improved in 68% of trials.⁴⁵ Investigators identified the following features as independent predictors of improvements in clinical practice:

- Provision of decision support as part of clinician workflow, (P < 0.00001)
- Provision of recommendations rather than just assessments, (P = 0.0187)
- Provision of decision support at the time and location of decision making, (P = 0.0294)
- Computer-based decision support, (P = 0.0294)

Based on these findings, the workgroup recommends the implementation of CDSS in both hospitals and clinics to increase the adoption of evidence-based practices by providers. Useful templates for evidence-based order sets are available to help providers more effectively manage patients with acute low back pain.⁴⁶

Decision support tools can be particularly effective in changing ordering practices for advanced imaging. “Point-of-order” strategies that prevent providers from ordering imaging until appropriateness criteria are met are more effective than educational systems and easier to implement than the more common pre-authorization approach.⁴⁷ One study found that requiring clinicians to personally order (versus having non-clinical support staff order on their behalf) exams that had a low utility score reduced the fraction of low-yield exams that were eventually performed from 5.4% to 1.9% (P < 0.001).⁴⁸

Key Takeaway

The workgroup recommends the implementation of clinical decision support systems to increase the adoption of evidence-based practices.

Although CDSS often make it easier for providers to adopt evidence-based practices, in some instances it may also be necessary to provide a financial incentive for them to do so (see sidebar above). While the current evidence base for payment reform strategies is not as strong as for CDSS, it is growing and the workgroup agrees that financial levers have an important role to play in changing behavior and improving patient outcomes.

Priority Health

Priority Health, a large health plan in Michigan, instituted a requirement in 2007 that patients with nonurgent spine-related pain or disability must see a physiatrist before seeing a surgeon. When researchers compared utilization rates between 2006-2007 and 2008-2010, they found that physiatry referrals increased 70%, surgical referrals decreased 48%, the number of spine surgeries dropped 29%, and spinal imaging decreased by 18%. As a result, total spine care costs decreased by 12%. After the implementation of this requirement, the majority (74%) of patients said that they were satisfied or very satisfied with the physiatrist. Dr. Andrew Haig, a co-investigator in the evaluation of this policy change, summarized its implications: “The simple requirement for physiatrist consultation before surgery clearly benefitted the community and the insurer. We know the future now.”

Source: Fox J, Haig AJ, Todey B, Challa S. The effect of required physiatrist consultation on surgery rates for back pain. *Spine* 2013; 38(3):E178-E184.

Recommendations for the implementation of evidence-based guidelines

The workgroup believes that every member of the health care and purchaser community in Washington State has a role to play in promoting the uptake of evidence-based guidelines. To direct these efforts, the workgroup recommends the following areas of focus:

Hospitals/Clinics

- **High priority:** Support or sustain a LBP quality improvement program that includes measuring patients' functional status over time using the Oswestry Disability Index
- Take steps to integrate evidence-based guidelines, scripts, shared decision making, and patient education materials into clinical practice and workflow (e.g., EMR, a clinical decision support tool such as UpToDate, etc.)

Individual Providers

- **High priority:** Commit to using evidence-based guidelines and tools recommended by the Bree Collaborative, including the ACP/APS guidelines and Oswestry
- Establish referral relationships with physical medicine and rehabilitation physicians, also known as physiatrists

HCA/Medicaid/DOH/L&I

- **High priority:** Design and implement a payment structure for LBP care that incentivizes providers to adopt evidence-based practices (e.g., require providers to demonstrate that they have had patients complete a screening tool as part of the prior authorization process for imaging, spinal injections, and/or spinal surgery)

Key Takeaway

Every member of the community can help promote the uptake of evidence-based guidelines.

Employers/Purchasers

- **High priority:** Encourage providers and delivery systems to track and report how frequently providers are administering tools to measure return to function scores
- **High priority:** Negotiate tiered networks or other types of benefit design that will encourage patients to go to providers that have demonstrated that they use evidence-based practices
- Support the development of payment models that allow for higher touch and more time with patients with complex back pain who require rehabilitative services (e.g., outcome-based reimbursement)

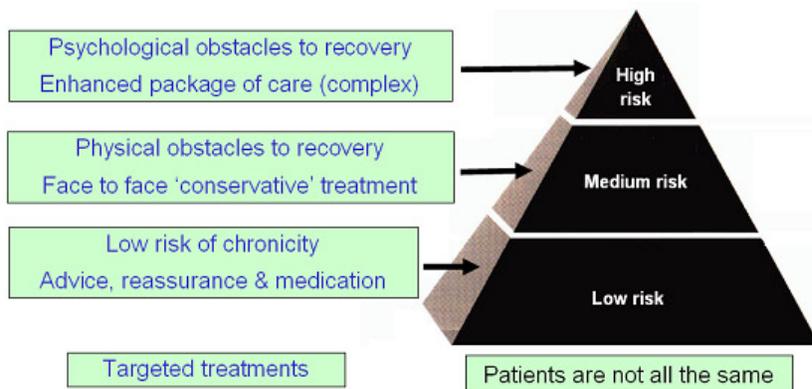
B. Screening tools: matching patients with appropriate care

Low back pain patients comprise a large population with diverse needs. Some patients only require reassurance and encouragement to stay active, while others require more intensive interventions such as treatment for a psychological illness.⁴⁹ Extensive research has been done to identify characteristics that providers can use to identify patients who are likely to need more complex care.^{50,51} Despite the emerging consensus about key predictors for developing chronic pain, a wide variety of assessment tools are currently being developed and used across the United States. Each of these tools has its own strengths and weaknesses, but many of them are not fully validated and the broad array of options makes standardize practices across providers difficult.^{52,53,54}

After reviewing several of these tools and related literature, the workgroup concluded that two tools are particularly robust and evidence-based: the STarT Back Screening Tool (SBST) and Functional Recovery Questionnaire (FRQ).

The STarT Back Screening Tool (SBST) is empirically proven to improve outcomes

Researchers at Keele University developed and validated the STarT Back Screening Tool (SBST) in 2008.⁵⁵ The 9-item tool includes questions about the following: radiating leg pain, pain in the shoulder or neck, restricted walking, dressing more slowly than usual, fear avoidance, anxiety, pessimistic patient expectations, low mood, and bothersomeness. All of these items are validated predictors for poor back pain outcomes and six of them were taken directly from previously validated tools. (See *Appendix F* for the 9-item SBST.)



Source: Keele University SBST Website (<http://www.keele.ac.uk/sbst/>)

The SBST can be used to divide patients into three risk categories for development of persistent, disabling back pain: low, medium, or high. Patients can then be matched with the appropriate treatment as summarized in the figure to the left.

In addition to the initial validation study, Hill et al. found that providers more consistently allocate patients to the appropriate risk group if they use the SBST to supplement their clinical judgment and intuition.⁵⁶

A randomized control trial of adults with low back pain reinforced the potential benefits of incorporating the SBST into clinical practice.⁵⁷ In the intervention group, physical therapists based their referral decisions on the patient's SBST classification at his or her baseline assessment. In the control group, physical therapists did not use the SBST and based referral decisions on their clinical

judgment. At the conclusion of the study, patients in the intervention group on average had a larger improvement in function, fewer days of work lost, and higher levels of satisfaction with the care received.ⁱ

Components of Targeted Treatment in SBST Trial⁵⁸

Low, medium and high risk groups (30-minute structured intervention)

- Evidence-based assessment of LBP presentations, according to current guidelines.
- Advice on back care emphasising positive messages about activity, pain relief and work.
- Patients are given a copy of "The Back Book" [35] and see a 15-minute video based on The Back Book entitled "Get Back Active" [36].

Medium and high risk groups

- Treatment according to STarT Back assessment and treatment algorithms and STarT Back physiotherapy manual.
- Evidence-based physiotherapy techniques addressing 'signs and symptoms' in non-specific LBP presentations, according to current recommendations from guidelines and high quality clinical trials.
- Evidence-based advice, education and reassurance for symptoms and management, according to guidelines and current literature within the biopsychosocial model.

High risk group

- Assessing and addressing biopsychosocial risk factors by adopting cognitive behavioural principles to address unhelpful beliefs and behaviours.

Source: Hay EM, Dunn KM, Hill JC, Lewis M, Mason EE, Konstantinou K, Sowden G, Somerville S, Vohora K, Whitehurst D, Main CJ. A randomized clinical trial of subgrouping and targeted treatment for low back pain compared with best current care. The STarT Back Trial Study Protocol. *BMC Musculoskeletal Disorders* 2008; 9(58). Available at: <http://www.biomedcentral.com/1471-2474/9/58>.

Fairview Health Services

Fairview is a large health system in Minnesota. In 2012, Fairview piloted the addition of the SBST to its triage process for low back pain patients. This pilot had significantly better outcomes for patient-reported function, decreased the average number of provider visits, and was well received by patients. After this success, Fairview expanded use of the SBST to all of its outpatient physical therapy sites and will be adding the SBST to the phone screen for all low back patients in 2013. Emily Karlen, Sr. Project Management Consultant at Fairview, said "People like the STarT Back tool – it is easy and quick."

Although the SBST has been extensively studied and implemented in the United Kingdom and other parts of Europe, it is less commonly used in the United States.^j However, the research base for SBST in the United States continues to grow and some US practices have moved forward with implementation (one example is included in the sidebar to the left).⁵⁹ A research team at Group Health Cooperative is currently conducting a study to test how well an enhanced version of the STarT Back method works for patients with back pain.^k

Providers do not need to pay any licensing fees to use the SBST and can download the materials here: www.keele.ac.uk/sbst/downloadthetool/
An online version of the tool is available here: www.keele.ac.uk/sbst/onlinetool/

ⁱ At four months, the average change in scores on the Roland Morris Disability Questionnaire (RMDQ) was 4.7 in the intervention group, compared to 3.0 in the control group, (p<0.0001). At 12 months, average change in RMDQ scores was 4.3 in the intervention group versus 3.3 in the control group.

^j A list of clinical partners is available on the Keele University website: www.keele.ac.uk/sbst/clinicalpartners/

^k Dan Cherkin Ph.D. is the principal investigator for this project, which is titled "Evaluation of a patient-centered risk stratification method for improving primary care for back pain."

The Functional Recovery Questionnaire (FRQ) is another option for injured workers

The Functional Recovery Questionnaire (FRQ) is a brief survey developed by researchers at the University of Washington to identify injured workers at increased risk of developing chronic, disabling pain.^{60,61} (See *Appendix G* for the FRQ.) The Washington State Department of Labor and Industries is currently conducting a pilot in which the FRQ is administered to workers who have missed two weeks of work. Workers who take the FRQ are identified as either high risk (FRQ+) or low risk (FRQ-). The FRQ+ workers receive care that addresses fear avoidance beliefs, sets activity goals, and if necessary includes a screening for psychosocial barriers and/or referral for activity coaching. The pilot also includes a Functional Recovery Intervention (FRI) that guides the treatment of injured workers with a high risk of prolonged disability; patients are also asked to complete an activity diary (see *Appendix H* for FRI materials).¹

The FRQ is available at no charge, but the University of Washington requests that interested parties complete a registration form prior to using it. More information is available here:
deohs.washington.edu/occepi/frq

What is the difference between the Oswestry Disability Index and these screening tools?

The ODI should be used throughout the care process to evaluate a patient's baseline functional status and track his or her progress at regular intervals. The SBST and FRQ are most effective when administered early in the care process to ensure that patients receive appropriate treatment as quickly as possible. In other words, the screening tools are used to put patients on the right track while the ODI is used to monitor their progress as they proceed along that track.

Recommendations for improved screening of low back pain patients

The workgroup has the following recommendations related to screening; all of these recommendations should be considered **high priority**:

1. **Hospitals/clinics** and **individual providers** use a validated screening tool like the STarT Back Screening Tool (SBST) or Functional Recovery Questionnaire (FRQ) no later than the 3rd visit to identify patients that are not likely to respond to routine care
2. **Health plans** require providers to use a screening tool (such as STarT Back or FRQ) as part of the management of patients for imaging, spinal injections, and/or spinal surgery
3. **Health plans** identify complex cases (e.g., a patient who is getting opioid prescriptions from multiple doctors) and refer them to a provider or a case manager who can oversee their care

¹ Not all workers who are identified as high risk are receiving focused care in this pilot. The providers are indicating a 33% clinical agreement with the screening, so the FRI is only being used on 33% of those workers identified as high risk.

If a provider prefers to use a screening tool other than the SBST or FRQ, the workgroup suggests that the alternative tool meet the following criteria:

- Validated tool with strong evidence of predictive power
- Using and scoring the tool is both fast and easy
- No cost to access or use the tool and any scoring materials
- Evidence that using the tool leads to improved outcomes (preferred, not required)

Case study: Spine Clinic at Virginia Mason Medical Center

Seattle, WA

Background

The Spine Clinic was created in 2005 in a “Marketplace Collaborative” that included Virginia Mason, Starbucks, and Aetna. Like many employers, Starbucks was looking for ways to contain the rising costs of health care. To accomplish this goal, the partnership focused on reducing waste from unnecessary care and delays related to barriers to care and poor care coordination. Starbucks identified back pain as a high-priority condition and with other employers defined quality measures in terms of evidence-based care, patient satisfaction, rapid access, rapid return to function, and affordability for purchaser and provider. In response, Virginia Mason undertook a rigorous analysis of its systems to identify sources of delays and conducted an evidence appraisal to determine whether its practices aligned with evidence-based care. This information enabled Virginia Mason to identify and eliminate non value-added components of its current back pain care processes and make changes to reduce that waste.

Spine Clinic best practices

The resulting Spine Clinic design has two steps. First, patients schedule same-day visits by phone. The schedulers have a standardized list of questions that they use to match patients with the appropriate provider and screen for red flags (signs of a major problem) and yellow flags (risk factors for developing chronic pain and disability). This phone call takes less than five minutes to complete. The second step is a same-day, hour-long visit with a physical therapist. A physiatrist also joins for 20 minutes of the visit. Patients begin active physical therapy at the first visit.

Virginia Mason also implemented controls on MRI ordering for back pain after finding that 23% of the MRIs ordered for patients with back pain or radiculopathy did not meet the generally accepted criteria for MRI imaging. After a provider education effort failed to make a significant impact on ordering behavior, Virginia Mason added “hard stops” in the MRI ordering process that required physicians to choose one of the accepted indications before they could order an MRI (see screenshot on the following page).^m To increase support among physicians, this change was paired with a pledge to provide same-day access to physical medicine specialists if the patient did not have an accepted indication but required additional evaluation.

^m For a copy of the decision rules Virginia Mason uses, go to: www.virginiamasoninstitute.org/advanced-imaging.

Image Ordering Screen for Lumbar MRIs at Virginia Mason Medical Center

MRI Lumbar & Thoracic Spine Exam

Exam Requested*

mr tspine mr l spine

mr tspine w/ w/o contrast mr l spine w/ w/o contrast

Current Weight* lbs kg Max Table Weight 200 kg/441 lbs

ICD9 Code(s)

Indications (select all that apply):*

Motor deficit (781.99)

Unremitting pain despite 6 weeks of appropriate therapy
(appropriate therapy is defined as 2 weeks of NSAIDs AND advice to stay active AND documentation of lack of improvement)
Document in relevant history field and apply appropriate ICD 9 code

Strong suspicion of systemic disease
Document in relevant history field and apply appropriate ICD 9 code

Neurogenic Claudication(435.9)

Cauda Equina(344.60)

Upper motor neuron findings: use myelopathy codes

Unspecified Region (722.70)

Cervical (722.71)

Thoracic (722.72)

Lumbar (722.73)

Significant trauma or fall
Document in relevant history field and apply appropriate ICD 9 code

Consult has been performed by physical medicine.

NOTE: A spine MRI will likely not be helpful for the patient with back or neck pain if none of these indications are present. The Spine Clinic physician on call will provide help by phone and offer a same day visit to assist in care of the patient. Text page (spine clinic page number) on V-Net and enter the following message: " Dr. --- wishes to speak with you about a patient with neck/back pain in whom an MRI is not indicated. Please call (pager number of ordering provider).

Source: Virginia Mason Institute

A final innovation at Virginia Mason was to add language about the incidence of “abnormal findings” in asymptomatic patients to all radiology reports (see text box below). Since many patients now have online access to their reports, this change was designed to reduce anxiety among patients who read a report outside of an appointment with a provider who could fully explain its findings.

“Abnormal Findings” Language included in Lumbar MRI Reports at Virginia Mason Medical Center

Note: The following findings are so common in people without low back pain that while we report their presence, they must be interpreted with caution and in the context of the clinical situation. (Reference--Jarvik et al, Spine 2001)

Findings (prevalence in patients without low back pain)

- Disc degeneration (decreased T2 signal, height loss, bulge) (91%)
- Disc T2 -- signal loss (83%)
- Disc height loss (56%)
- Disc bulge (64%)
- Disc protrusion (32%)
- Annular tear (38%)

Evidence of effectiveness

Performance was assessed according to the five quality indicators defined by employers and outlined above. Evidence-based care was delivered with active physical therapy and the elimination of unnecessary MRI studies.⁶² Patient satisfaction scores were measured at 4.9/5.0. The Spine Clinic often met the performance standard of same-day access and work loss of patients decreased by over 50%. Less imaging and work loss reduced both the direct and indirect cost of health care. The ability to care for four times the volume of patients with fewer staff improved the margin for Virginia Mason and offset the loss of revenue from unnecessary MRI studies.

Key Takeaway

Clinic processes can be re-designed to improve the quality of care for low back pain patients while reducing costs.

C. Patient education: increasing awareness and managing expectations

In addition to the clinical aspects of low back pain, effective treatment often requires addressing the financial, emotional, and social needs of patients. One qualitative study of back pain sufferers found that patients wanted information about treatment alternatives, the social and emotional effects of long-term pain, coping with everyday life, other patient experiences, and patient rights.⁶³ When providers do not meet the information needs of patients, those patients often turn to a variety of other sources that are often contradictory, conflict with empirical evidence, and/or set unreasonable expectations.⁶⁴ As a result, patients may request health care services that run counter to evidence-based practice, which poses a significant barrier to the implementation of guidelines.⁶⁵

The workgroup reviewed several potential strategies for more effectively educating both individual patients and the general population.



Patient beliefs and expectations about low back pain have a significant impact on outcomes

Psychological factors such as distress, anxiety, and pain behavior have been shown to affect the etiology of acute low back pain.⁶⁶ If patients do not have realistic expectations and accept return to a normal lifestyle as the ultimate goal of treatment, then they are more likely to adopt excessive illness behavior and develop chronic back pain.⁶⁷ Therefore, it is important to emphasize the following messages for LBP patients after a treatable disease has been ruled out:

- While exercise like walking may hurt, it will not usually cause harm
- No further investigation or specific therapy is likely to help
- Patients must engage in a program of progressive activity

Source: backactive.ca/resources.html

Addressing common patient fears and encouraging patients to resume normal activities is usually an important first step that lays a strong foundation for providing each patient with the appropriate level and type of care.⁶⁸

Mass media educational campaigns can change attitudes about low back pain

Multi-year educational campaigns targeting back pain beliefs have been implemented and evaluated in Australia, Scotland, Norway, and Canada with varying levels of success (see table below).

Summary of Back Pain Mass Media Campaigns⁶⁹

Name Dates	Location	Types of Media	Cost	Awareness Level	Key Findings
Back Pain, Don't Take It Lying Down ^{70,71} 9/1997-12/1999	Victoria, Australia	TV ads aired during prime time (primary), radio and printed ads, billboards, posters, seminars, workplace visits	\$7.6 million	86% (64% in a 3-year follow up survey)	<ul style="list-style-type: none"> • Scores on back beliefs questionnaire improved by an average of 3.2, (P < 0.001) • 15% absolute reduction in # of workers' compensation claims for back problems • Decline in rates of days compensated and medical payments for back pain claims • Average score on back beliefs questionnaire decreased from 29.7 to 28.8 at 3-year follow up, but was still better than average score at baseline (26.5)
Working Backs Scotland ⁷² 10/2000-9/2003	Scotland	Radio ads (primary), leaflets, website	n/a	60%	<ul style="list-style-type: none"> • Reversal in the balance of beliefs about rest – before: 55% agreed with rest and 40% with staying active; after: 30% rest and 60% active, (P < 0.001) • No changes in work-related beliefs and behaviors or the rate of long-term disability
Active Back ⁷³ 4/2002-6/2005	Norway (two counties: Vestfold and Aust-Agder)	Written educational materials; TV, radio, and cinema ads; website	\$1.1 million	98% of doctors (compared to 36% in control county)	<ul style="list-style-type: none"> • No statistically detectable differences in low back pain beliefs between exposed and unexposed providers • Important differences were observed between provider groups (doctors, physiotherapists, and chiropractors)
Back@It ⁷⁴ 5/2005-4/2008	Alberta, Canada	Radio ads (primary), bus ads, billboards, posters, television PSAs	\$930,000 (72% spent on radio)	49% (compared to 39% in control province)	<ul style="list-style-type: none"> • % who agreed with "If you have back pain you should try to stay active increased from 56 to 63 (no change in control province, P=0.008) • No measurable reductions in health care utilization or work disability

Key messages in these campaigns included:

- Stay active – activity is good for your back
- Try simple pain relief
- If you need it, get advice
- Even when you feel pain, you can participate in low-impact exercise without further straining your back
- The sooner you get moving the sooner you'll feel better
- Health care professionals believe with regular activity and proper body mechanics you'll feel better within a few weeks
- X-rays rarely show the reason for back pain
- Back pain is rarely caused by any dangerous illness
- Only a few people with back pain need surgery

Campaigns are more likely to be effective if they use different messages to target different groups, achieve a high level of awareness, address work-related issues directly, and are not limited to small geographical areas.^{75,76,77,78} Mass media campaigns can also take advantage of technologies such as social media tools to achieve low-cost, targeted messaging (see *Appendix I* for more information about potential uses of technology).

Recommendations for increasing patient and public awareness

Patient education efforts can only succeed if patients receive consistent messages from their employer, doctor, and media sources. Therefore, the workgroup recommends a multipronged strategy to promote messages that help people with back pain manage their symptoms and recovery more effectively:

Individual Providers

- **High priority:** Incorporate comprehensive patient education and expectation-setting into care for low back pain patients, particularly when the patient is requesting care that is not recommended by evidence-based guidelines

Hospitals/Clinics

- Take steps to integrate comprehensive patient education and effective messaging into clinical practice and workflow for low back pain patients

HCA/Medicaid/DOH/L&I

- **High priority:** Coordinate an evidence-based education campaign about low back pain (ideally modeled after an Australian campaign with proven effectiveness)

Employers/Purchasers

- Provide recommended patient education materials about low back pain to all employees and their families

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Bree Collaborative

Spine/Low Back Pain Topic Report & Recommendations

APPENDICES

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Appendix A: List of Bree Collaborative and Spine/Low Back Pain Workgroup Members

Dr. Robert Bree Collaborative	
Steve Hill, Chair	Retired, Former Director, Department of Retirement Systems; Former Chair, Puget Sound Health Alliance
Roki Chauhan, MD	Senior Vice President & Chief Medical Officer, Premera Blue Cross
Susie Dade, MS	Deputy Director, Puget Sound Health Alliance
Gary Franklin, MD, MPH	Medical Director, Washington State Department of Labor and Industries
Stuart Freed, MD	Medical Director, Wenatchee Valley Medical Center
Thomas Fritz	Chief Executive Officer, Inland Northwest Health Services, Spokane
Joseph Gifford, MD	Chief Strategy and Innovation Officer for Western Washington, Providence Health and Services
Richard Goss, MD	Medical Director, Harborview Medical Center - University of Washington
Christopher Kodama, MD	Medical Vice President, Clinical Operations, MultiCare Health System
MaryAnne Lindeblad	Medicaid Director
Gregory Marchand	Director of Benefits Policy and Strategy, Boeing
Robert Mecklenburg, MD	Medical Director, Center for Health Care Solutions, Virginia Mason Medical Center
Carl Olden, MD	Family Physician, Pacific Crest Family Medicine, Yakima
Mary Kay O'Neill, MD, MBA	Executive Medical Director, Regence
Robyn Phillips-Madson, DO, MPH	Dean and Chief Academic Officer, Pacific NW University of Health Sciences
John Robinson, MD, SM	Chief Medical Officer, First Choice Health
Terry Rogers, MD, Vice-Chair	CEO, Foundation for Health Care Quality
Kerry Schaefer	Strategic Planner for Employee Health, King County
Bruce Smith, MD	Physician, Group Health Physicians
Jay Tihinen	Assistant Vice President Benefits, Costco Wholesale

Spine/Low Back Pain Workgroup	
Mary Kay O’Neill, MD, MBA, Chair	Executive Medical Director, Regence
Dan Brzusek, DO	Physiatrist, Northwest Rehab Association
Neil Chasan	Physical Therapist, Sports Reaction Center
Andrew Friedman, MD	Physiatrist, Virginia Mason Medical Center
Leah Hole-Marshall, JD	Medical Administrator, Washington State Department of Labor and Industries
Heather Kroll, MD	Rehab physician, Rehabilitation Institute of Washington
Chong Lee, MD	Spine surgeon, Group Health Cooperative
John Robinson, MD, SM	Chief Medical Officer, First Choice Health
Michael Von Korff, ScD	Psychologist and researcher, Group Health Research Institute
Kelly Weaver, MD	Physiatrist, The Everett Clinic

Appendix B: Initiatives to Improve Low Back Pain Care (Acute and Chronic) and Organizations that Apply Best Practices

Updated 9/17/13

Quality Improvement Tools/Programs	2
<ul style="list-style-type: none">• Arthritis Research UK Primary Care Centre and Keele University: STaRT Back Screening Tool• EuroSpine: Spine Tango• <i>Foundation for Health Care Quality: Spine SCOAP (Surgical Care and Outcomes Assessment)</i>• Institute for Healthcare Improvement (IHI)• Intel: DirectLine to Healthcare Program• Priority Health: Spine Centers of Excellence (SCOE) Program• University of New Mexico Health Sciences Center (UNMHSC): Chronic Pain & Headache TeleECHO Clinic• <i>University of Washington: TelePain</i>• <i>Virginia Mason Medical Center and Everett Clinic: Imaging Controls</i>• <i>Washington State Department of Health: Prescription Monitoring Program (PMP)</i>• <i>Washington State Health Care Authority: Advanced Imaging Management Workgroup</i>	
Examples of Best Practices	7
<ul style="list-style-type: none">• <i>Franciscan Health System: Franciscan Spine Center</i>• <i>Rehabilitation Institute of Washington (RIW): Pain Management Program</i>• <i>Swedish/First Hill: Management of Back Pain Patients in the ER</i>• <i>United Back Care (UBC): Return-to-Work Pain Management Program</i>• <i>University of Washington: Division of Pain Medicine</i>• <i>Virginia Mason Medical Center: Spine Clinic</i>• <i>Washington State Department of Labor & Industries: Centers of Occupational Health and Education (COHEs)</i>	
Low Back Pain Research Projects.....	10
<ul style="list-style-type: none">• <i>Group Health Cooperative (GHC): Evaluation of a Patient-Centered Risk Stratification Method for Improving Primary Care for Back Pain</i>• <i>Group Health Cooperative (GHC): Incorporating Patient Decision Aids into Standard Clinical Practice</i>• <i>University of Washington: Functional Recovery Questionnaire</i>• <i>Washington State Department of Labor & Industries and University of Washington: Functional Recovery Questionnaire/Functional Recovery Intervention (FRQ/FRI) Pilot</i>• <i>Washington State Department of Labor & Industries and University of Washington: Activity Coaching Pilot in the Washington State Workers' Compensation Population</i>	
Patient Education and Management Tools	12
<ul style="list-style-type: none">• ABIM Foundation: Choosing Wisely Campaign• <i>Talaria, Inc.: Pain Compass</i>• Victorian WorkCover Authority: State-wide Public Health Campaign to Change Attitudes and Beliefs about Back Pain• Wellness and Prevention, Inc.: HealthMedia CARE® for Your Back	

***NOTE: Initiatives/organizations in *italics* are based in Washington State.

Organization/Initiative	Goal	Intervention/Model	Study Design	Findings	Notes
Quality Improvement Tools/Programs					
<p><i>Arthritis Research UK Primary Care Centre and Keele University:</i></p> <p>STarT Back Screening Tool</p> <p>http://www.keele.ac.uk/sbst/</p> <p><i>Source:</i> Hill JC et al. Comparison of stratified primary care management for low back pain with current best practice (STarT Back): a randomized controlled trial. <i>Lancet</i> 2011;378:1560-71.</p>	<p>Improve the management of low back pain using a stratified approach</p>	<p>Group patients into 3 categories of risk of poor outcome (persistent disabling symptoms): low, medium, and high-risk</p> <p>Different treatment pathways for each group developed by clinical experts</p> <p>9-item tool includes questions about pain, disability, fear, anxiety, patient expectations, mood, and how much patient is bothered by their pain</p>	<p>RCT of adults w/ low back pain in England</p> <p>Intervention Group: Referral decisions based on STarT Back Tool classification (n=568)</p> <p>Control Group: Referral decisions made on the basis of physiotherapist's clinical judgment (n=283)</p> <p>Primary outcome: Effect of treatment on Roland Morris Disability Questionnaire (RMDQ) score at 12 months</p>	<p>Adjusted mean <i>changes</i> in RMDQ scores significantly higher in intervention group at 4 months (4.7 vs. 3.0) and 12 months (4.3 vs. 3.3)</p> <p>Intervention group also had significant improvements in secondary outcome measures such as days off work (mean: 4.4 days vs. 12.2 days)</p>	<p>No license is required to use</p> <p>6-item tool has also been developed (excludes fear, anxiety, and pain elsewhere) but it is only able to allocate patients to 1 of 2 subgroups (low or high)</p>
<p><i>EuroSpine:</i></p> <p>Spine Tango</p> <p>http://www.eurospine.org/p31000381.html</p>	<p>Track the efficiency, safety, and cost-effectiveness of spinal surgeries across the world</p>	<p>International registry for spine surgery outcomes</p> <p>Data can be submitted online/real-time or on forms, and online statistics allow benchmarking on clinic, national, and international level</p>	<p>n/a</p>	<p>n/a</p>	<p>Introduced in 2002</p> <p>Swiss/International, Austrian, German, Italian, North American, Mexican, and Brazilian modules in operation</p>

Organization/Initiative	Goal	Intervention/Model	Study Design	Findings	Notes
<p><i>Intel:</i></p> <p>DirectLine to Healthcare Program</p>	Reduce costs for treatment of patients with low back pain	<p>Removes referrals and allows participants to be seen by a provider within 48 hours</p> <p>Initially tested program on patients suffering from uncomplicated back pain, but now available to patients suffering from back, shoulder, hip or knee pain as well as headaches.</p>	<p>500 program participants</p> <p>Began offering in 2010</p>	<p>10-30% reduction in treatment costs for routine back pain</p> <p>Average # of days that Intel workers undergo back pain treatment dropped from 52 to 21</p> <p>98% satisfied with program</p> <p>96% saw physical therapists the same day they sought referrals</p>	<p>Working with providers from Providence and Tuality health systems</p> <p>Based on processes developed by Virginia Mason</p> <p>Oregon PEBB began offering program in 2011</p>

Organization/Initiative	Goal	Intervention/Model	Study Design	Findings	Notes
<p><i>Priority Health (Michigan):</i></p> <p>Spine Centers of Excellence (SCOE) Program</p> <p>Source: Fox et al. The effect of required physiatrist consultation on surgery rates for back pain. <i>Spine</i> 2013;38: E178-E184.</p>	Reduce unwarranted variation, surgical costs, and the total number of spine surgical procedures in its patient population	<p>Patients must be evaluated by a physiatrist prior to evaluation by a spine surgeon in the absence of certain conditions (listed in notes)</p> <p>Surgeons are not reimbursed without prior approval</p> <p>No limitations beyond the initial physiatry consult</p>	<p>Cost and utilization data compared for 2006-2007 versus 2008-2010 (program began 11/2007)</p> <p>Only included completed episodes involving care by a spine surgeon or physical medicine & rehabilitation specialist</p> <p>Patient experience data collected via phone survey in 1/09 - included patients seen by a physiatrist 7/08-10/08 w/ diagnosis of back & neck pain</p>	<p>70% increase in physiatrist consults/ 1000 members</p> <p>48% reduction in surgical new consults/1000 members</p> <p>18% reduction in advanced imaging (CT or MRI)/1000 members</p> <p>29% reduction in surgical rate/1000 members</p> <p>(P<0.00 for all of these changes)</p> <p>74% of patients satisfied with physiatry consult</p>	<p>Excluded conditions: 1) evidence of tumor, trauma, or infection; 2) progressive bilateral neurological findings; 3) evidence of cauda equine syndrome; or 4) follow-up to an inpatient or ER evaluation by a spine surgeon</p> <p>Plan has had a prior authorization requirement for elective spine imaging in place since 2005</p>
<p><i>University of New Mexico Health Sciences Center (UNMHSC):</i></p> <p>Chronic Pain & Headache TeleECHO Clinic</p> <p>http://echo.unm.edu/</p>	Increase access to safe and effective pain management services in rural and underserved areas and monitor outcomes of those services	<p>Host weekly clinics via teleconferencing for rural providers that include didactic presentations by UNMHSC specialists and in-depth case-based presentations by community clinicians for feedback and recommendations</p> <p>No cost for providers to participate and also qualifies for CME/CEU/CE credits</p>	n/a	n/a	<p>Part of Project ECHO (Extension for Community Healthcare Outcomes)</p> <p>Received Clinical Center of Excellence in Pain Management Award from APS in 2011</p>

Organization/Initiative	Goal	Intervention/Model	Study Design	Findings	Notes
<p><i>University of Washington:</i></p> <p>TelePain</p> <p>http://depts.washington.edu/anesth/care/pain/telepain/index.shtml</p>	Increase the knowledge and skills of community practice providers who treat patients with chronic pain	Weekly video-conferences that include didactic presentations and case presentations from community clinicians - opportunity for interactive consultation on difficult chronic pain cases from an interprofessional panel of specialists	n/a	n/a	Funded by two NIH grants Has conducted about 200 consultations
<p><i>Virginia Mason Medical Center and Everett Clinic:</i></p> <p>Imaging Controls</p>	Reduce unnecessary imaging for back pain patients	<p>Incorporate “hard stops” into the process of ordering imaging for back pain patients</p> <p>Ordering criteria are embedded in the EMR and providers must document indications before they can order the scan</p>	<p>VMMC: Retrospective cohort study (head CT scan used as control)</p> <p>EC: Tracked the number of lumbar MRIs per 1,000 provider visits for low back pain</p>	<p>VMMC: 23% reduction in lumbar MRIs (head CT did not change)</p> <p>EC: 23% reduction in lumbar MRIs for back pain patients from 2006 to 2012</p>	<p>Both clinics also had reduced imaging rates for headache and sinusitis</p> <p>Loss in revenue was partially offset by the decision of some health plans to waive prior authorization requirements</p>
<p><i>Washington State Department of Health:</i></p> <p>Prescription Monitoring Program (PMP)</p> <p>http://www.doh.wa.gov/PublicHealthandHealthcareProviders/HealthcareProfessionsandFacilities/PrescriptionMonitoringProgramPMP.aspx</p>	Improve patient care and stop prescription drug misuse by collecting all records for Schedule II, III, IV, and V drugs	<p>Collect data from all dispensers</p> <p>Providers have access to the PMP before they prescribe or dispense drugs</p> <p>Prevent overdoses and misuse</p> <p>Promote referrals for pain management and treatment of addiction</p>	n/a	n/a	<p>Created by Legislation in 2007</p> <p>Implemented in 2011</p>

Organization/Initiative	Goal	Intervention/Model	Study Design	Findings	Notes
<p><i>Washington State Health Care Authority:</i></p> <p>Advanced Imaging Management Workgroup</p> <p>http://www.hta.hca.wa.gov/aim.html</p>	Identify evidence-based best practice tools for advanced imaging for use by state agencies	<p>Reviewed imaging use data from public purchasers</p> <p>Reviewed advancing imaging guidelines</p> <p>Reviewed decision support tools</p>	n/a	<p>Lumbar MRIs should be a high priority</p> <p>Purchasers should use AGREE checklist to periodically review guidelines</p> <p>Program should include incentives, denials, and provider education</p>	<p>Established by WA State Legislature in 2009 (ESHB 1205)</p> <p>Completed its work in February 2011</p>
Examples of Best Practices					
<p><i>Franciscan Health System:</i></p> <p>Franciscan Spine Center</p> <p>http://www.fhshealth.org/Health-Care-Services/Neurosciences/Spine-Centers/</p>	Help restore a healthy way of life for back pain patients	<p>All new patients have a 60 minute visit for a full assessment by a specially trained ARNP</p> <p>Develop individualized care plans based on ICSI guidelines</p> <p>Surgery is only considered after at least 6 months of pain</p>	n/a	n/a	Two locations: St. Joseph (Tacoma) and St. Clare (Lakewood)

Organization/Initiative	Goal	Intervention/Model	Study Design	Findings	Notes
<p><i>Rehabilitation Institute of Washington (RIW):</i></p> <p>Pain Management Program</p> <p>www.rehabwashington.com</p>	Restore quality and function to the lives of people with disabling chronic pain	<p>Multidisciplinary care team includes physician, pain psychologist, vocational counselor, and occupational and physical therapists</p> <p>20-day program (M-F from 9am-4pm)</p> <p>Long-term home exercise program developed with follow-up visits for up to 3 months following program completion</p>	4-year analysis (2009-2012)	<p>81% of respondents rated their treatment team at RIW as “above average to excellent”</p> <p>80% of patients used daily opioids at evaluation, but only 15% of those patients were still using opioids by the 12-week follow-up visit</p> <p>79% of patients had returned to work or were involved in the vocational retraining process</p>	<p>650 patients/year</p> <p>Received Clinical Center of Excellence in Pain Management Award from APS in 2011</p>
<p><i>Swedish/First Hill:</i></p> <p>Management of Back Pain Patients in the ER</p>	Ensure that patients who come to the ER for back pain receive appropriate treatment	<p>Back pain patients are referred to back care center rather than doing a surgical workup and prescribing opioids</p> <p>Use the Emergency Department Information Exchange™ (EDIE) system to better coordinate care for complex patients</p>	n/a	n/a	Expect that data from the DOH’s Prescription Monitoring Program (PMP) about narcotic use will be incorporated into the program if funded

Organization/Initiative	Goal	Intervention/Model	Study Design	Findings	Notes
<p><i>United Back Care (UBC):</i></p> <p>Return-to-Work Pain Management Program</p> <p>http://www.ubcinc.org/static/155/return-to-work--pain-management-program</p> <p>Also offer an Opioid Elimination Program</p>	<p>Help injured workers with chronic pain with an emphasis on return-to-work skills and physical rehabilitation</p>	<p>Full-time, 4-6 week interdisciplinary program for chronic pain patients that includes PT/OT, vocational counseling, behavioral health services, biofeedback, and other services</p> <p>Follow up visits at 1 and 3 months (plus 6 months for surgical candidates)</p> <p>Offers telemedicine</p>	<p>Survey at 90-day follow up visit for all clients who completed the Pain Management Program</p>	<p>93% of clients were satisfied and 96% would tell others to come to UBC</p>	<p>Received Clinical Center of Excellence in Pain Management Award from APS in 2012</p> <p>3 locations (Redmond, Everett, and Puyallup)</p>
<p><i>University of Washington:</i></p> <p>Division of Pain Medicine</p> <p>http://depts.washington.edu/anesth/care/pain/</p>	<p>Predict, diagnose, and prevent pain from becoming a disabling disease</p>	<p>World's first multidisciplinary pain clinic - opened in 1961</p> <p>Broad range of services, including: psychological evaluation/treatment, and rehabilitation counseling</p>	<p>n/a</p>	<p>n/a</p>	<p>Received Clinical Center of Excellence in Pain Management Award from APS in 2010</p>
<p><i>Virginia Mason Medical Center:</i></p> <p>Spine Clinic</p>	<p>Better, faster, more affordable care for back pain</p>	<p>Schedulers ask standardized questions to match patients and providers and separate red and yellow flags from green flags</p> <p>Same-day access to an appointment with both a physical therapist (PT) and a physiatrist (60 minutes with PT, MD joins for last 20 minutes)</p> <p>Active PT begins at the first visit</p>	<p>n/a</p>	<p>High patient satisfaction (average = 4.9/5)</p> <p>Average # of work days lost dropped from 12 to 4.5</p> <p>Average # of PT visits dropped from 9 to 4</p>	<p>Partnered with Starbucks and Aetna to design</p> <p>Has treated about 15,000 patients with this standardized pathway</p> <p>Assisted Intel and Wenatchee Valley Clinic in creating spine clinics based on this model</p>

Organization/Initiative	Goal	Intervention/Model	Study Design	Findings	Notes
<p><i>Washington State Department of Labor & Industries:</i></p> <p>Centers of Occupational Health and Education (COHEs)</p> <p><i>Source: Wickizer et al. Improving quality, preventing disability and reducing costs in workers' compensation healthcare. Med Care 2011;49:1105-1111.</i></p>	Reduce work disability for patients treated within Washington State workers' compensation system	<p>Two parts:</p> <p>1) Financial incentives to providers to adopt best practices, including completion of an activity prescription form at each evaluation</p> <p>2) Organizational support and care management activities, with a focus on improving communication</p>	<p>Prospective, nonrandomized intervention with nonequivalent comparison group</p> <p>Baseline data gathered from 7/2001 - 6/2003 and post-intervention data gathered from 7/2004 - 6/2007</p>	<p>COHE patients were less likely to be off work and on disability at 1 year post-claim (OR = 0.79, P = 0.003); reduced total disability and medical costs by \$510/claim (P<0.01)</p> <p>COHE patients with back sprain had a 29.5% reduction in disability days (P = 0.003)</p>	<p>2 pilot COHE sites - Spokane and Renton</p> <p>SB 5801 expanded COHEs on a statewide basis and by 2015 all injured workers must have access to occupational healthcare through COHEs</p>
Low Back Pain Research Projects					
<p><i>Group Health Cooperative (GHC):</i></p> <p>Evaluation of a Patient-Centered Risk Stratification Method for Improving Primary Care for Back Pain</p>	Test how well an enhanced version of the STarT Back method works for patients with back pain	<p>Three steps:</p> <p>1) Adapt STarT Back method for use at GHC</p> <p>2) Test method</p> <p>3) Share results with other groups</p>	<p>Method tested in 3 GHC clinics and compared with 3 similar clinics where the method is not used</p> <p>Collect info about the method's effect on treatment process and relief from back pain</p>	In progress - expect to publish results in 2016/2017	<p>Received federal funding from Patient-Centered Outcomes Research Institute (PCORI)</p> <p>PI: Dan Cherkin</p>

Organization/Initiative	Goal	Intervention/Model	Study Design	Findings	Notes
<p><i>Group Health Cooperative (GHC):</i></p> <p>Incorporating Patient Decision Aids into Standard Clinical Practice</p>	<p>Identify factors that promote or impede the use of decision aids (DAs) and measure the effect of increased DA use on elective surgery rates (including spine surgery)</p>	<p>Video-based DAs were distributed in 6 service lines for preference-sensitive conditions related to elective surgeries, including spinal stenosis and herniated disk (both in the neurosurgery clinic)</p>	<p>2 year study</p> <p>Collected data on # of DAs distributed and surgery rates</p> <p>Conducted interviews with providers and service line leaders</p>	<p>Strong support for DAs, but a lack of leadership for implementation in the neurosurgery clinic</p> <p>Collected data about spine surgery rates, but have not yet analyzed it</p>	<p>After introducing DAs, rates of knee and hip replacement surgeries fell by 38% and 26%, respectively, over 6 months</p>
<p><i>University of Washington:</i></p> <p>Functional Recovery Questionnaire</p> <p><i>Source: Fulton-Kehoe et al. Development of a brief questionnaire to predict long-term disability. J Occup Environ Med 2008;50(9):1042-52.</i></p>	<p>To develop a brief worker-completed questionnaire for use soon after a work-related back injury to assess the risk of long-term work disability</p>	<p>Identify factors which best predict which workers with back injuries will develop long-term work disability</p>	<p>Prospective cohort study that included 1885 workers</p> <p>Classification and regression tree analysis used to identify best predictive model of work disability status 1 year after claim submission</p>	<p>Pain interference with ability to work (>5, 0 to 10 scale), not currently working, and radiating leg pain comprised the best model</p> <p>Model accurately classified 77% of the workers</p>	<p>NIOSH-funded study</p>
<p><i>Washington State Department of Labor & Industries and University of Washington:</i></p> <p>Functional Recovery Questionnaire/ Functional Recovery Intervention (FRQ/FRI) Pilot</p> <p>deohs.washington.edu/occepi/frq</p> <p>www.lni.wa.gov/ClaimsIns/Providers/Reforms/EmergingBP/default.asp#3</p>	<p>Improve care by early identification and effective intervention for injured workers at high risk for chronic disability</p>	<p>Attempt to complete the FRQ by phone 2-8 weeks after injury</p> <p>High-risk workers receive care that addresses fear-avoidance beliefs, sets activity goals, and if necessary and eligible, referral for activity coaching (see next row for more information about activity coaching)</p>	<p>Pilot began in March 2013</p> <p>65 COHE providers have been invited to participate in the pilot</p>	<p>In progress</p>	<p>Pilot is not limited to back injuries although the FRQ was developed using back patients</p>

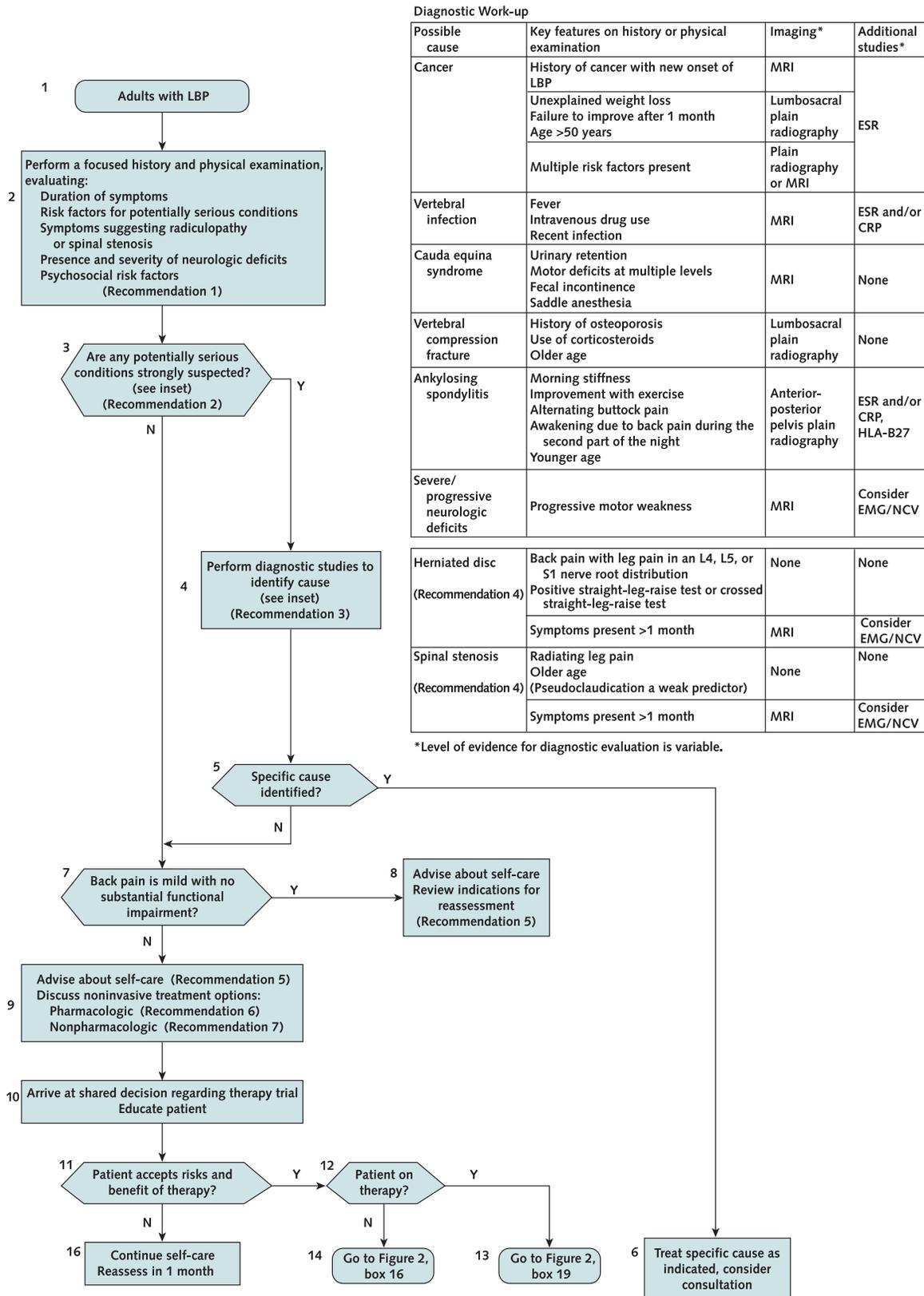
Organization/Initiative	Goal	Intervention/Model	Study Design	Findings	Notes
<p><i>Washington State Department of Labor & Industries and University of Washington:</i></p> <p>Activity Coaching Pilot in the Washington State Workers' Compensation Population</p> <p>http://www.lni.wa.gov/ClaimsIns/Providers/Reforms/EmergingBP/default.asp#2</p> <p>www.pdp-pgap.com/pgap/en/</p>	<p>Determine whether the Progressive Goal Attainment Program (PGAP™) is feasible and effective in the WA State workers' compensation population</p>	<p>Activity coaching is a standardized intervention delivered by professional therapists trained by the PGAP™</p>	<p>Began referring workers to coaches in February 2012</p>	<p>In progress</p>	
Patient Education and Management Tools					
<p><i>ABIM Foundation:</i></p> <p>Choosing Wisely Campaign</p>	<p>Promote conversations between physicians and patients by helping patients choose care that is supported by evidence, not duplicative of other tests or procedures already received, free from harm, and truly necessary</p>	<p>26 specialty society lists of "5 Things Physicians and Patients Should Question", including one on imaging from the American College of Radiology</p> <p>34 lists co-produced with Consumer Reports for patients similar to the specialty society lists, including one on "Imaging tests for lower-back pain: when you need them"</p>	<p>Campaign started in Spring 2012</p>	<p>In progress</p>	<p>The Washington State Medical Association and the Puget Sound Health Alliance received a small grant from the ABIM Foundation in Spring 2013 to help disseminate the lists in the medical community</p>

Organization/Initiative	Goal	Intervention/Model	Study Design	Findings	Notes
<p><i>Talaria, Inc.:</i></p> <p>Pain Compass www.paincompass.com</p>	<p>Help providers and patients find the right treatment for chronic pain by monitoring progress and expanding provider knowledge of a patient's pain experience</p>	<p>Web-based assessment tool that uses validated measures for outcomes in the following areas: substance use risk (including opioids), psychosocial assessment, physical functionality, and patient history self-report</p> <p>Baseline and follow-up assessment data are compiled into longitudinal reports</p>	<p>n/a</p>	<p>n/a</p>	<p>Talaria, Inc. is located in Seattle</p> <p>Used in the University of Washington Division of Pain Medicine</p>
<p><i>Victorian WorkCover Authority (Victoria, Australia):</i></p> <p>State-wide Public Health Campaign to Change Attitudes and Beliefs about Back Pain</p> <p>Source: Buchbinder et al. Population based intervention to change back pain beliefs and disability: three part evaluation. <i>BMJ</i> 2001;322: 1516-1520.</p>	<p>Reduce back pain-related disability and its accompanying costs by changing the general's population's attitudes and beliefs about back pain</p>	<p>Statewide public health media campaign based on the messages in <i>The Back Book</i>, an evidence-based patient education booklet produced in the UK by a multidisciplinary team</p> <p>Included prime-time television commercials, radio, and billboard advertising</p> <p>Messages included: stay as active as possible, continue normal daily activities, and back pain is not a serious medical problem</p>	<p>Surveys conducted before the campaign began and 2-2.5 years after with members of the general population and general practitioners</p> <p>Neighboring state used as a control group</p> <p>Reviewed claims databases</p>	<p>86% of general population aware of campaign and 48% changed their beliefs about back pain due to the campaign</p> <p>32% of providers reported that the campaign had changed their beliefs about back pain</p> <p>15% absolute reduction in # of claims for back problems over the duration of the campaign</p>	

Organization/Initiative	Goal	Intervention/Model	Study Design	Findings	Notes
<p><i>Wellness and Prevention, Inc:</i></p> <p>HealthMedia CARE® for Your Back</p> <p>http://healthcoach.myselfhelp.com/products/digitalcoachingprograms/care-for-your-back.htm</p>	<p>Provide individually personalized prevention and management techniques for each participant</p>	<p>Attempts to simulate a health coaching session to assess and address risk factors associated with back pain</p> <p>Includes multimedia tools such as a medical library and iPod™-enabled videos that teach proper posture</p>	<p>n = 45,581</p> <p>Detailed methods not provided</p>	<p>91% of participants reported improvement in ability to prevent back pain</p> <p>76% reported improvement in ability to manage back pain</p> <p>\$2,543 projected productivity savings per participant per year</p>	<p>Used at Kaiser Permanente, which reports similar findings for improvement (88% and 73%, respectively)</p> <p>Includes both acute and chronic back pain</p>

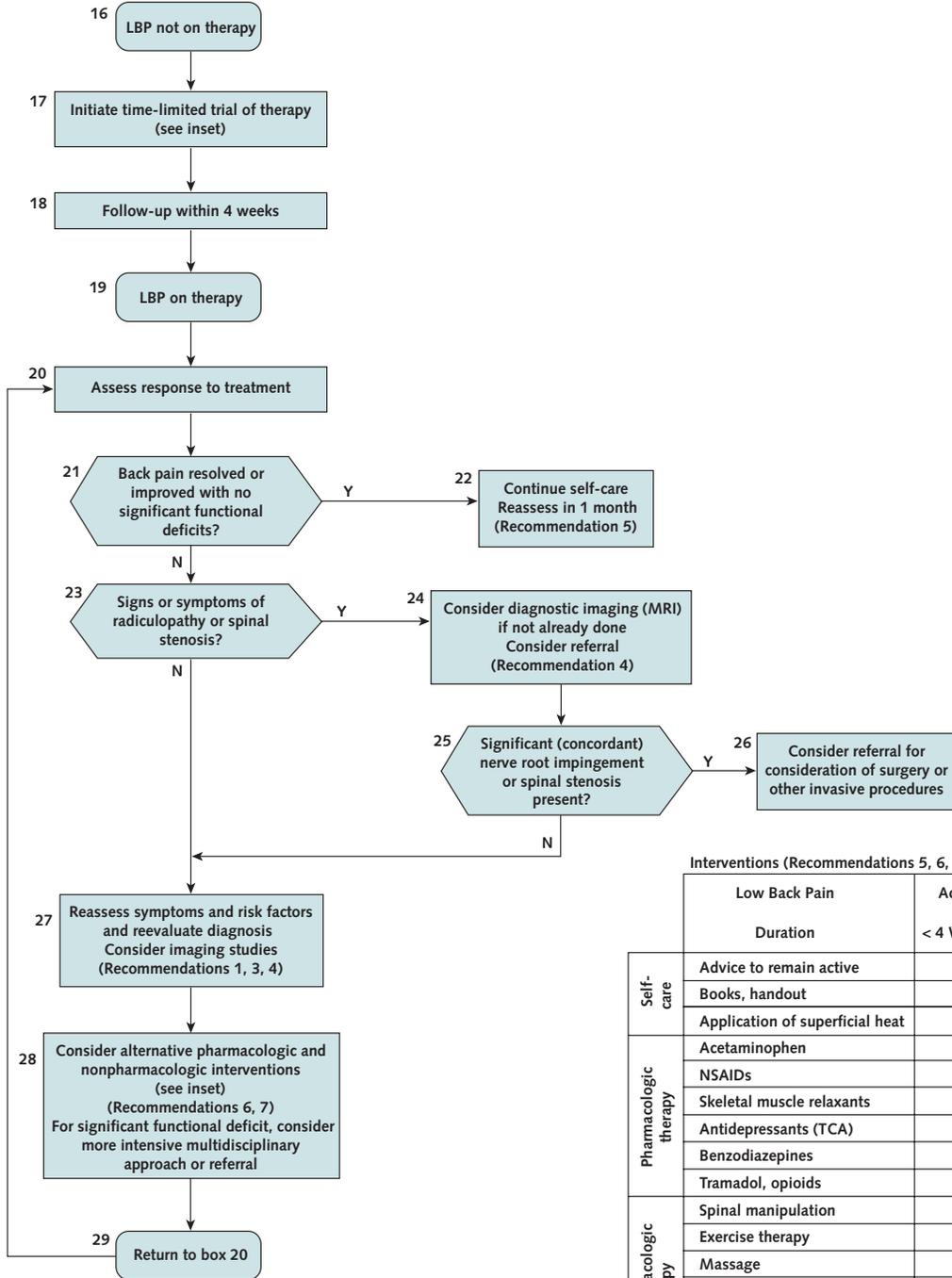
Appendix C: Evaluation and Management Algorithms from the ACP/APS Guidelines

Figure 1. Initial evaluation of low back pain (LBP).



Do not use this algorithm for back pain associated with major trauma, nonspinal back pain, or back pain due to systemic illness. CRP = C-reactive protein; EMG = electromyography; ESR = erythrocyte sedimentation rate; MRI = magnetic resonance imaging; NCV = nerve conduction velocity.

Figure 2. Management of low back pain (LBP).



Interventions (Recommendations 5, 6, 7)

		Low Back Pain	Acute	Subacute or Chronic
		Duration	< 4 Weeks	> 4 Weeks
Self-care	Advice to remain active		•	•
	Books, handout		•	•
	Application of superficial heat		•	
Pharmacologic therapy	Acetaminophen		•	•
	NSAIDs		•	•
	Skeletal muscle relaxants		•	
	Antidepressants (TCA)			•
	Benzodiazepines		•	•
	Tramadol, opioids		•	•
Nonpharmacologic therapy	Spinal manipulation		•	•
	Exercise therapy			•
	Massage			•
	Acupuncture			•
	Yoga			•
	Cognitive-behavioral therapy			•
	Progressive relaxation			•
	Intensive interdisciplinary rehabilitation			•

• Interventions supported by grade B evidence (at least fair-quality evidence of moderate benefit, or small benefit but no significant harms, costs, or burdens). No intervention was supported by grade A evidence (good-quality evidence of substantial benefit).

MRI = magnetic resonance imaging; NSAIDs = nonsteroidal anti-inflammatory drugs; TCA = tricyclic antidepressants.

Appendix D. Opioid Authorization Forms from Washington State Department of L&I

Department of Labor and Industries
 PO Box 44291
 Olympia WA 98504-4291



SUBACUTE OPIOID REQUEST FORM
 Billing code 1076M or 1077M

www.Opioid.Lni.wa.gov

Worker's name _____ Claim number _____

Was the worker on chronic opioids at the time of the injury? Yes No

Opioids must result in clinically meaningful improvement in function (CMIF) and pain in the acute phase. This means improvement of at least 30% as compared to baseline or in response to a dose change.

Function and pain assessment

Current pain interference — This scale's examples of activities at different levels are not meant to be exclusive. In the last month, how much has pain interfered with the worker's daily activities and functions? Circle number.

0 — No interference. Goes to work each day, has a social life outside of work, takes an active part in family life.
1 — Can work/volunteer, be active eight hours daily, takes part in family life, has limited outside social activities.
2 — Can work/volunteer for at least six hours daily, has energy to make plans for one evening social activity during the week, is active on the weekends.
3 — Can work/volunteer for a few hours daily, is active at least five hours daily, does simple activities on the weekends.
4 — Can work/volunteer limited hours, has limited social activities on weekends.
5 — Not able to work/volunteer, struggles with home responsibilities and outside activities.
6 — Does simple chores around home, has minimal outside activities two days a week.
7 — Gets dressed in the morning, has minimal activities at home, has contact with friends via phone or email.
8 — Gets out of bed but doesn't get dressed, stays at home all day.
9 — Stays in bed at least half the day, has no contact with the outside world.
10 — Unable to carry out any activities. Stays in bed all day, feels helpless and hopeless about life.

Date of first function assessment or before a dose change (baseline): _____ Baseline function: _____

If an alternative function scale is used, indicate name of scale: _____ Current function: _____

Current pain intensity — In the last month, on average, how would you rate the worker's pain? That is, their usual pain at times they were in pain. Circle number.

No pain		Mild pain			Moderate pain			Severe pain			Pain as bad as could be
0	1	2	3	4	5	6	7	8	9	10	

Date of first pain assessment (baseline): _____ Baseline pain intensity: _____

Screening

For free, easy to use, and validated screening tools and opioid calculator, visit www.agencymeddirectors.wa.gov/opioiddosing.asp.

Have you documented in the medical records the following . . .

1. Checked the state's prescription monitoring program and is it consistent with prescribing record and worker's report?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
2. Administered a urine drug test and verified the worker has no aberrant behaviors (e.g. presence of cocaine, heroin, alcohol, amphetamine/methamphetamine or non-prescribed drug; negative for prescribed opioids)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
3. Screened the worker for risk of opioid addiction?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4. Screened the worker for current or former substance use disorder?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
5. If indicated, screened the worker for depression and results indicated no severe depression?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
6. Assessed for potential contraindications to the use of opioids?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
7. Verified the worker has no known evidence of or is not at high risk for serious adverse outcome from opioid use (e.g. COPD, asthma, sleep apnea, apparent intoxication)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Dose

Current opioid	Dose (MED mg/d)
Current opioid	Dose (MED mg/d)
Total MED	

Sign

Provider name	L&I provider number/NPI	Phone number
Provider signature	Date	

Instructions for using the Subacute Opioid Request Form

Providers who treat injured workers are expected to follow the best practices outlined in the following:

- Pain management rules from the Washington State Department of Health.
- *Interagency Guideline on Opioid Dosing for Chronic Non-Cancer Pain*, Agency Medical Directors' Group, 2010.
- *Prescribing Opioids to Treat Pain in Injured Workers*, Labor and Industries, 2013.

How to use this form

- Use this form to request coverage for opioids between 6 weeks and 12 weeks from the date of injury or surgery.
- Complete *all* sections of the form.
- Submit the form at least 2 weeks before coverage ends to avoid abrupt stoppage in coverage.
- Send chart notes and reports as required.
- Make sure information is legible.

How to bill

- Use billing code 1076M if this form is submitted, but results of screenings are documented in the medical record.
- Use billing code 1077M for increased reimbursement if copies of all required screenings are submitted along with this form:
 - Urine drug test.
 - Screening for risk of opioid addiction.
 - Screening for current or former substance use disorder.
 - Screening for depression, if indicated.

How to submit your request

State Fund

Mail: Department of Labor and Industries
PO Box 44291
Olympia WA 98504-4291

FAX: Choose any number
360-902-4292 360-902-4565 360-902-4566 360-902-4567
360-902-5230 360-902-6100 360-902-6252 360-902-6460

Self-Insurance

Contact the self-insurer or their third-party administrator.

For a list of self-insured businesses: www.Lni.wa.gov/ClaimsIns/Insurance/SelfInsure/EmpList/Default.asp



www.Opioid.Lni.wa.gov

Worker's name _____ Claim number _____

Has the worker's opioid dose increased since last authorization? Yes No

Opioids must result in clinically meaningful improvement in function (CMIF) in acute or subacute phase and sustained CMIF during chronic phase. This means improvement of at least 30% as compared to baseline or in response to a dose change.

Function assessment

Current pain interference — This scale's examples of activities at different levels are not meant to be exclusive. In the last month, how much has pain interfered with the worker's daily activities and functions? Circle number.

0 — **No interference.** Goes to work each day, has a social life outside of work, takes an active part in family life.
 1 — Can work/volunteer, be active eight hours daily, takes part in family life, has limited outside social activities.
 2 — Can work/volunteer for at least six hours daily, has energy to make plans for one evening social activity during the week, is active on the weekends.
 3 — Can work/volunteer for a few hours daily, is active at least five hours daily, does simple activities on the weekends.
 4 — Can work/volunteer limited hours, has limited social activities on weekends.
 5 — Not able to work/volunteer, struggles with home responsibilities and outside activities.
 6 — Does simple chores around home, has minimal outside activities two days a week.
 7 — Gets dressed in the morning, has minimal activities at home, has contact with friends via phone or email.
 8 — Gets out of bed but doesn't get dressed, stays at home all day.
 9 — Stays in bed at least half the day, has no contact with the outside world.
 10 — **Unable to carry out any activities.** Stays in bed all day, feels helpless and hopeless about life.

Date of first function assessment or before a dose change (baseline): _____ Baseline function: _____

If an alternative function scale is used, indicate name of scale: _____ Current function: _____

Screening

For free, easy to use, and validated screening tools and opioid calculator, visit www.agencymeddirectors.wa.gov/opioiddosing.asp.

Have you documented in the medical records the following . . .

- | | | |
|--|------------------------------|-----------------------------|
| 1. Tried to manage the worker's pain with non-opioids? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 2. Re-administered urine drug tests at frequency based on risk and verified the worker has no pattern of recurrent aberrant behaviors (e.g. presence of cocaine, amphetamine/methamphetamine, heroin, alcohol or non-prescribed drug; negative for prescribed opioids)? See instructions for how often to monitor. | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 3. Re-checked the state's prescription monitoring program at frequency based on risk and verified the worker has no pattern of recurrent aberrant behaviors (e.g. lost prescriptions, multiple prescribers, multiple early refills, unauthorized dose escalation)? See instructions for how often to monitor. | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 4. Signed a treatment agreement for chronic opioid therapy with the worker? Treatment agreement should be renewed yearly. | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 5. Re-assessed for potential contraindications to the use of opioids (e.g. substance use disorder excluding nicotine; history of opioid use disorder; confirmed presence of cocaine, heroin, alcohol, or amphetamine/methamphetamine)? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 6. Verified the worker has no known evidence of or is not at high risk for serious adverse outcome from opioid use (e.g. COPD, asthma, sleep apnea, apparent intoxication)? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 7. Obtained a pain management consult if opioid dose >120mg/d morphine equivalent dose (MED)? If consultation is exempted, explain in the medical records. | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

Dose

Current opioid	Dose (MED mg/d)
Current opioid	Dose (MED mg/d)
Total MED	

Sign

Provider name	L&I provider number/NPI	Phone number
Provider signature	Date	

Instructions for using the Chronic Opioid Request Form

Providers who treat injured workers are expected to follow the best practices outlined in the following:

- Pain management rules from the Washington State Department of Health.
- *Interagency Guideline on Opioid Dosing for Chronic Non-Cancer Pain*, Agency Medical Directors' Group, 2010.
- *Prescribing Opioids to Treat Pain in Injured Workers*, Labor and Industries, 2013.

How to use this form

- Use this form to request coverage of opioids beyond 12 weeks from the date of injury or surgery, or every 90 days for chronic opioid therapy.
- Complete *all* sections of the form.
- Submit the form at least 2 weeks before coverage ends to avoid abrupt stoppage in coverage.
- Send chart notes and reports as required.
- Use billing code 1078M.

How often to monitor workers on chronic opioid therapy

- Administer a urine drug test (UDT) and check the prescription monitoring program (PMP) database at intervals according to the worker's risk category.

Monitoring Schedule for Workers' on Chronic Opioid Therapy

Risk Category per Validated Tool	UDT	PMP	Function and Pain
Low Risk	1/year	1/year	Every 12 weeks
Moderate Risk	2/year	2/year	Every 12 weeks
High Risk or opioid doses > 120mg/d morphine equivalent	4/year	4/year	Monthly (every visit)
Aberrant Behavior – lost prescriptions, multiple requests for early refills, opioids from multiple providers, unauthorized dose escalation, apparent intoxication			At time of visit

How to submit your request

State Fund

Mail: Department of Labor and Industries
PO Box 44291
Olympia WA 98504-4291

FAX: Choose any number
360-902-4292 360-902-4565 360-902-4566 360-902-4567
360-902-5230 360-902-6100 360-902-6252 360-902-6460

Self-Insurance

Contact the self-insurer or their third-party administrator.

For a list of self-insured businesses: www.Lni.wa.gov/ClaimsIns/Insurance/SelfInsure/EmpList/Default.asp



OPIOID TREATMENT AGREEMENT

www.Opioids.Lni.wa.gov

Worker's name _____ Claim number _____

Opioid (narcotic) treatment is used to reduce pain and improve what you are able to do each day.

Along with opioid treatment, other medical care may be prescribed to help improve your ability to do daily activities. This may include exercise, use of non-narcotic analgesics, physical therapy, psychological counseling, or other therapies or treatment. Vocational counseling may be provided to help your efforts to return to work.

I, _____, understand that I must comply with this agreement for continued pain treatment with Dr. _____.

1. I have the following responsibilities:

- a. Take my medications only at the dose and frequency prescribed.
- b. Won't increase or change my medications without the approval of this provider.
- c. Actively participate in Return to Work (RTW) efforts and in any program designed to improve function (including social, physical, psychological and daily or work activities).
- d. Won't ask for opioids or any other pain medicine from another provider. This provider will approve or prescribe all other mind- and mood-altering drugs.
- e. Inform this provider of all other medications that I am taking.
- f. Fill all medications from one pharmacy, when possible. By signing this agreement, I give consent to this provider to talk with the pharmacist.
Pharmacy: _____ Phone: _____
- g. Protect my prescriptions and medications. Only one lost prescription or medication will be replaced in a single calendar year. I will keep all medications away from children.
- h. Agree to participate in psychiatric or psychological assessments, if necessary.
- i. Won't use illegal or street drugs, or alcohol. This provider may ask me to follow through with a program to address this issue. Such programs may include the following:
 - 12-step program and securing a sponsor.
 - Individual counseling.
 - Inpatient or outpatient treatment.
 - Other: _____

2. In the event of an emergency, I or my representative will contact this provider who will discuss the problem with the emergency room or other doctor. I am responsible for requesting a record transfer to this provider.

3. I consent to random drug testing and pill counts.

4. This provider will check the state's prescription monitoring program database to verify my opioid prescription history.

5. I will keep my scheduled appointments, or if necessary, cancel my appointment at least 24 hours before the appointment.

6. This provider will stop prescribing opioids or change my treatment plan if:

- a. I don't show any improvement in function.
- b. I behave in a way that is not consistent with my responsibilities outlined in #1.
- c. I give away, sell, or misuse the opioid medications.
- d. I develop rapid tolerance or loss of improvement from this treatment.
- e. I get opioids from another provider.
- f. I don't cooperate when asked to get a drug test.
- g. I develop an addiction problem from opioid use.
- h. I experience a serious adverse outcome from this treatment.
- i. I don't keep my follow-up appointments.

I have read and understand both sides of this agreement. My questions have been answered satisfactorily. I agree to the use of opioids to help control my pain, with treatment to be carried out as described above.

Worker's signature _____ Date _____ Provider's signature _____ Date _____

Provider: Keep a signed copy on file. Give a copy to the worker. Send a copy to L&I. You should renew this agreement yearly.

Safety risks while working under the influence of opioids

Opioids decrease reaction time, cloud judgment, and cause drowsiness and tolerance. Also, it could be dangerous for you to operate heavy equipment or drive while under the influence of opioids.

Side effects of opioids

Some of the following side effects may worsen if you mix opioids with other drugs, including alcohol.

- Confusion or other changes in thinking ability
- Nausea/Vomiting
- Constipation
- Dry mouth
- Low testosterone
- Central sleep apnea
- Opioid use disorder or addiction
- Breathing too slowly – overdose can stop your breathing and lead to death
- Aggravation of depression

Other risks

Physical dependence – Abruptly stopping use of the drug may cause withdrawal symptoms, which could include:

- Runny nose
- Abdominal cramping
- Rapid heart rate
- Diarrhea
- Sweating
- Nervousness
- Difficulty sleeping
- Goose bumps

Psychological dependence – It is possible that stopping the drug will cause you to miss or crave it.

Tolerance – You may need more and more drug to get the same effect.

Addiction – Patients may develop addiction based on genetic or other factors.

Problems with pregnancy – If you are pregnant or contemplating pregnancy, discuss with your provider.

Recommendations for managing your medication

- Keep a diary of the pain medications you are taking, the doses, time of day you take them, their effectiveness and any side effects you may have.
- Take along only the amount of medication you need if you leave home. This lessens the risk of losing all your medications at the same time.
- It's important to dispose of your medication properly to avoid harm to others. Here are some disposal options and special disposal instructions for you to consider when throwing out expired, unwanted, or unused medicines:
 - **Medicine Take-Back Programs** - Contact your city or county government's household trash and recycling service to see if there is a medicine take-back program in your community.
 - **Disposal in Household Trash** - Mix medicines (do NOT crush tablets or capsules) with an unpalatable substance such as kitty litter or used coffee grounds; place the mixture in a container such as a sealed plastic bag; and throw the container in your household trash.
 - **Flushing of Certain Medicines** - Contact the FDA at 1-888-INFO-FDA (1-888-463-6332) to see if your medication has specific disposal instructions indicating it should be flushed down the sink or toilet.

Appendix E: Recommended Version of Oswestry Disability Index (ODI) (*Version used by Spine SCOAP*)

This questionnaire is designed to give us information as to how your back (or leg) trouble affects your ability to manage in everyday life. Please **answer** every section. Mark **one box only** in each section that most closely describes you **today**.

Section 1 – Pain Intensity

- I have no pain at the moment
- The pain is very mild at the moment
- The pain is moderate at the moment
- The pain is fairly severe at the moment
- The pain is very severe at the moment
- The pain is the worst imaginable at the moment

Section 2 – Personal Care (washing, dressing, etc....)

- I can look after myself normally but it is very painful
- It is painful to look after myself and I am slow and careful
- I need some help but manage most of my personal care
- I need help everyday in most aspects of my personal care
- I need help everyday in most aspects of self-care
- I do not get dressed, wash with difficulty and stay in bed

Section 3 – Lifting

- I can lift heavy weights with out extra pain
- I can lift heavy weights but it gives extra pain
- Pain prevents me from lifting heavy weights off the floor, but I can manage if they are conveniently positioned (i.e. on a table)
- Pain prevents me from lifting heavy weights, but I can manage light to medium weights if they are conveniently positioned
- I can lift only very light weights
- I cannot lift or carry anything at all

Section 4 – Walking

- Pain does not prevent me walking any distance
- Pain prevents me walking more than 1 mile
- Pain prevents me walking more than ¼ of a mile
- Pain prevents me walking more than 100 yards
- I can only walk using a stick or crutches
- I am in bed most of the time and have to crawl to the toilet

Section 5 – Sitting

- I can sit in any chair as long as I like
- I can sit in my favorite chair as long as I like
- Pain prevents me from sitting for more than 1 hour
- Pain prevents me from sitting for more than ½ hour
- Pain prevents me from sitting for more than 10 minutes
- Pain prevents me from sitting at all

Section 6 – Standing

- I can stand as long as I want without extra pain
- I can stand as long as I want but it gives me extra pain
- Pain prevents me from standing more than 1 hour
- Pain prevents me from standing for more than ½ an hour
- Pain prevents me from standing for more than 10 minutes
- Pain prevents me from standing at all

Section 7 – Sleeping

- My sleep is never disturbed by pain
- My sleep is occasionally disturbed by pain
- Because of pain, I have less than 6 hours sleep
- Because of pain, I have less than 4 hours sleep
- Because of pain, I have less than 2 hours sleep
- Pain prevents me from sleeping at all

Section 8 – Sex Life (if applicable)

- My sex life is normal and causes no extra pain
- My sex life is normal but causes some extra pain
- My sex life is nearly normal but is very painful
- My sex life is severely restricted by pain
- My sex life is nearly absent because of pain
- Pain prevents any sex life at all

Section 9 – Social Life

- My social life is normal and causes me no extra pain
- My social life is normal but increases the degree of pain
- Pain has no significant effect on my social life apart from limiting my more energetic interests (i.e. sports)
- Pain has restricted my social life and I do not go out as often
- Pain has restricted social life to my home
- I have no social life because of the pain

Section 10- Traveling

- I can travel anywhere without pain
- I can travel anywhere but it gives me extra pain
- Pain is bad but I manage journeys over 2 hours
- Pain restricts me to journeys of less than 1 hour
- Pain restricts me to short necessary journeys less than 30 minutes
- Pain prevents me from traveling except to the doctor or hospital

Reference Publications

- Fairbank J, Pynsent PB. The Oswestry Disability Index. Spine 2000; 25(22):2940-2953
- Fairbank JCT, Couper J, Davies JB, O'Brien JP. The Oswestry Low Back Pain Disability Questionnaire. Physiotherapy. 1980;66:271-273

Appendix F: 9-item STarT Back Screening Tool (SBST)

The Keele 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	<input type="checkbox"/>	<input type="checkbox"/>
2 I have had pain in the shoulder or neck at some time in the last 2 weeks	<input type="checkbox"/>	<input type="checkbox"/>
3 I have only walked short distances because of my back pain	<input type="checkbox"/>	<input type="checkbox"/>
4 In the last 2 weeks, I have dressed more slowly than usual because of back pain	<input type="checkbox"/>	<input type="checkbox"/>
5 It's not really safe for a person with a condition like mine to be physically active	<input type="checkbox"/>	<input type="checkbox"/>
6 Worrying thoughts have been going through my mind a lot of the time	<input type="checkbox"/>	<input type="checkbox"/>
7 I feel that my back pain is terrible and it's never going to get any better	<input type="checkbox"/>	<input type="checkbox"/>
8 In general I have not enjoyed all the things I used to enjoy	<input type="checkbox"/>	<input type="checkbox"/>

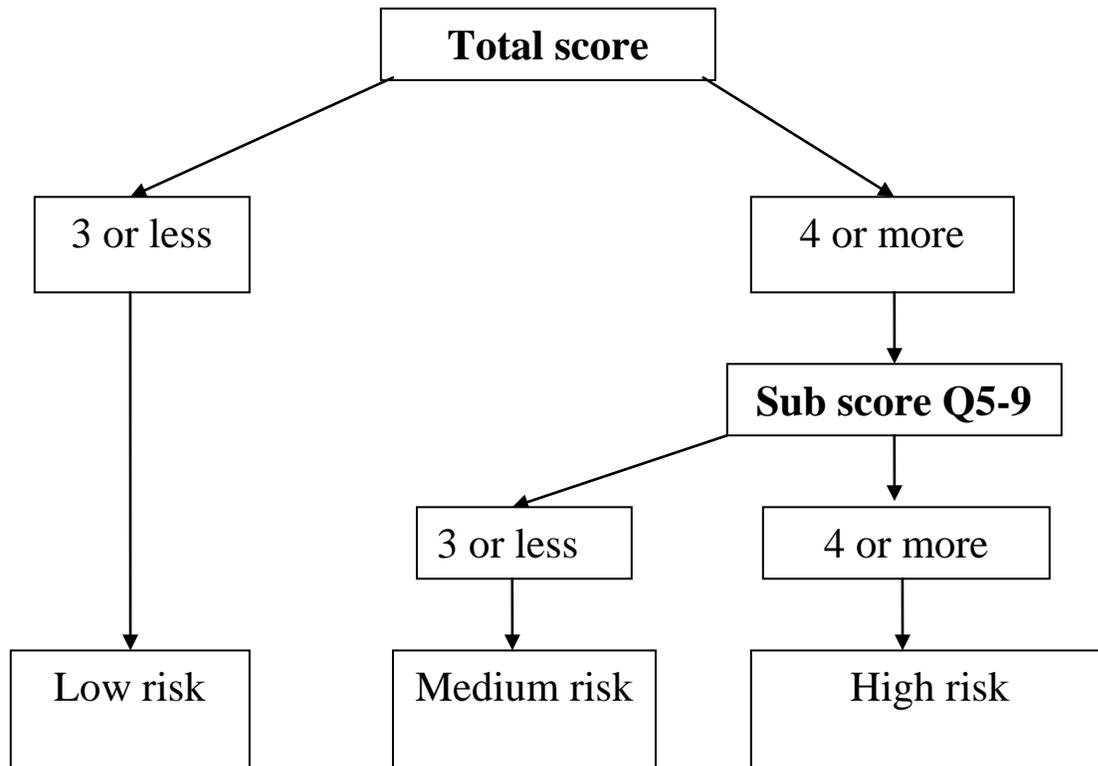
9. Overall, how **bothersome** has your back pain been in the **last 2 weeks**?

Not at all	Slightly	Moderately	Very much	Extremely
<input type="checkbox"/>				
0	0	0	1	1

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

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Funded by Arthritis Research UK

The STarT Back Tool Scoring System



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Funded by Arthritis Research UK

Functional Recovery Interventions and Use of the Tracking Sheet

Functional recovery interventions (FRIs) are occupational-health best practices that you should use when treating injured workers with a high risk of prolonged disability. This is in addition to your use of standard best practices of the Centers of Occupational Health and Education (COHEs).

High-risk patients are those who: a) have been off work for four weeks or longer; OR b) have been off work for two weeks and rated positive on the functional recovery questionnaire (FRQ).

Instructions for using the FRI tracking sheet

Initial FRIs section

- Schedule a patient visit to address points in the top section of the FRI tracking sheet.
- Check off all points covered with the patient and note any relevant specifics.
- Fill in the date that you addressed relevant points.

Follow-up FRI sections

- Review progress with the patient, reinforcing likelihood of good recovery, expectation of patient participation, and importance of incrementally increasing activity.
- Review the activity diary and discuss what work activities the patient CAN do.
- If referred for physical therapy or occupational therapy, discuss functional gains.
- Check off all points covered and note any relevant specifics.

Billing for the FRI tracking sheet:

- Only one FRI tracking sheet is billable per claim.
- To be reimbursed, you must completely fill out the FRI tracking sheet for the initial visit and at least one follow-up visit.
- Fax the FRI tracking sheet to L&I at 855-268-4088.

If the patient has not yet returned to work, at least four weeks of FRIs, including two follow-ups, are required for reimbursement.



Background

The FRQ is a short survey administered by the University of Washington to workers who have missed two weeks of work. Nearly 40% of workers identified as “positive” on the FRQ are disabled one year after their injury compared to fewer than 3% of workers with a negative FRQ.

If you have been notified that one of your L&I patients is FRQ+, add functional recovery interventions (known best practices for high-disability-risk patients) to your treatment plan.

High-risk workers who have not returned to work after four weeks of FRIs may be at even greater risk of disability. Additional treatment should be provided. To identify treatment options, arrange a conference call with treating provider(s), the Health Services Coordinator and COHE advisor.

About Your Activity Diary

Staying active is critical to your recovery!

Instructions for using your activity diary

1. You and your doctor have written in goals for the week for walking or other activity and exercises. Now list some things you want to do at home, under "Other Activities."
2. Schedule a time each day for each activity.
3. Each day, check off the exercises you do. Write down how many times you do each activity and the total number of minutes you spend in the activity each day. Write down the other activities.
4. Use the "Notes" section to jot down anything you learned from keeping your diary and anything you want to discuss with your doctor.
5. Bring your completed activity diary to your next visit to discuss your progress with your doctor.

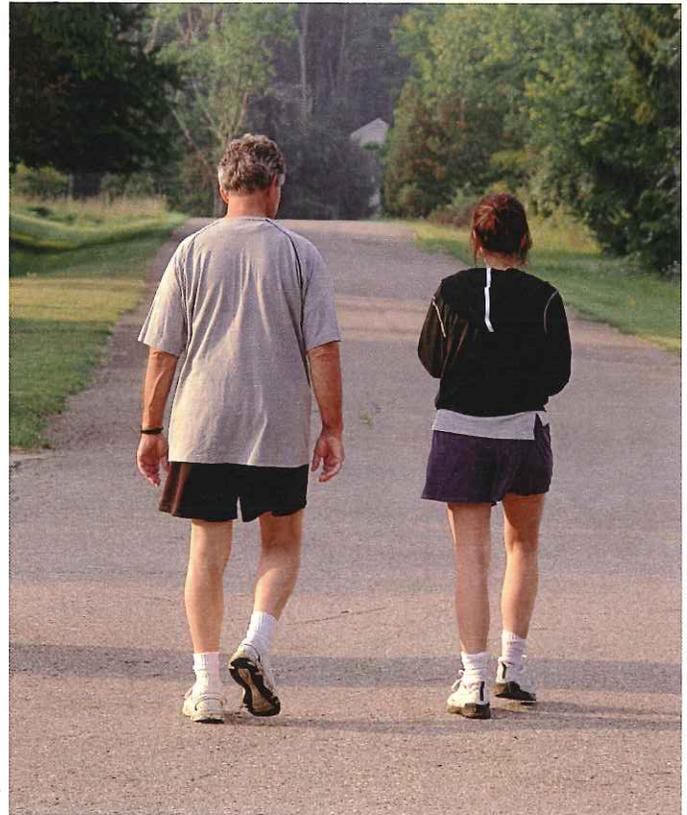
Tips for success

- Set goals that are specific and that you are confident you can achieve.
- Include activities that you enjoy and find meaningful.
- Get up and go to bed at the same time each day, and avoid napping. This will improve your sleep and you'll feel better.

Remember:

Movement fosters better healing and actually shortens the time that the tissues hurt.

- Even modest activity helps your recovery.
- Do a little more each day than you did the day before.
- Most problems with joints and muscles get better within a few days or weeks, just like a cold or flu.
- Increased pain with activity is usually normal and does not mean the activity is physically harmful.
- Regular aerobic exercise of any kind is very helpful, for example walking, swimming, stationary bicycling, or treadmill.
- Avoid prolonged sitting, lying down, or leaning in one position. Variety speeds recovery.
- You and your body do the real healing — the doctor doesn't cure your injury.



Patient's Activity Diary

Name _____

Week 1 ___/___/___ 2 ___/___/___ 3 ___/___/___ 4 ___/___/___

Claim # _____

Provider/Patient Discussion	Planned Activity <input type="checkbox"/> Walk <input type="checkbox"/> Swim <input type="checkbox"/> Other: _____ <input type="checkbox"/> Stationary Bike _____	Specific Exercises <small>(from exercise sheet)</small> <input type="checkbox"/> Back <input type="checkbox"/> Arm <input type="checkbox"/> Other: _____ <input type="checkbox"/> Neck <input type="checkbox"/> Leg _____	Other Activities <i>Include routine daily tasks.</i>
Day 1	Goal: _____ times/day _____ total mins Completed: _____ times/day _____ total mins	Goal: _____ times/day _____ total mins Completed: _____ times/day _____ total mins	Goal: _____ _____ Completed: _____ _____
Day 2	Goal: _____ times/day _____ total mins Completed: _____ times/day _____ total mins	Goal: _____ times/day _____ total mins Completed: _____ times/day _____ total mins	Goal: _____ _____ Completed: _____ _____
Day 3	Goal: _____ times/day _____ total mins Completed: _____ times/day _____ total mins	Goal: _____ times/day _____ total mins Completed: _____ times/day _____ total mins	Goal: _____ _____ Completed: _____ _____
Day 4	Goal: _____ times/day _____ total mins Completed: _____ times/day _____ total mins	Goal: _____ times/day _____ total mins Completed: _____ times/day _____ total mins	Goal: _____ _____ Completed: _____ _____
Day 5	Goal: _____ times/day _____ total mins Completed: _____ times/day _____ total mins	Goal: _____ times/day _____ total mins Completed: _____ times/day _____ total mins	Goal: _____ _____ Completed: _____ _____
Day 6	Goal: _____ times/day _____ total mins Completed: _____ times/day _____ total mins	Goal: _____ times/day _____ total mins Completed: _____ times/day _____ total mins	Goal: _____ _____ Completed: _____ _____
Day 7	Goal: _____ times/day _____ total mins Completed: _____ times/day _____ total mins	Goal: _____ times/day _____ total mins Completed: _____ times/day _____ total mins	Goal: _____ _____ Completed: _____ _____
Notes			

Appendix I: Potential Uses of Technology for Strengthening Patient Education Efforts

The workgroup believes that various technologies create the opportunity for effective and low-cost patient education campaigns. These technologies include:

- Viral marketing campaign using online tools and platforms such as Google AdWords, Facebook, and Twitter
- Smart phone apps such as iREHAB Back Pain, My Pain Diary, or Pain Free Back for the iPhone (*note*: Neil Chasan, a workgroup member, developed Pain Free Back)
- Exercise programs on YouTube
 - Daniel Brzusek, D.O., workgroup member, has his office send the following links out to patients after their initial visit:
 - Exercises for lower back http://www.youtube.com/watch?v=u_alXoZ4774
 - Low back pain remedy stretching exercises <http://www.youtube.com/watch?v=0l9f62bu364>
 - Top 5 stretches to relieve low back pain <http://www.youtube.com/watch?v=XNN3K2qj-L0>
 - Yoga for back pain <http://www.youtube.com/watch?v=aSthNvRxvaE>
- Sending patients educational materials by email
- Meeting over Skype to provide exercise advice