



Working together to improve health care quality, outcomes, and affordability in Washington State.

Collaborative Care for Chronic Pain Report and Recommendations

2018

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Dr. Robert Bree Collaborative Background

The Dr. Robert Bree Collaborative was established in 2011 by Washington State House Bill 1311 “...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.” The Bree Collaborative was modeled after the Washington State Advanced Imaging Management (AIM) project and named in memory of Dr. Robert Bree, a leader in the imaging field and a key member of the AIM project.

Members are appointed by the Washington State Governor and include public health care purchasers for Washington State, private health care purchasers (employers and union trusts), health plans, physicians and other health care providers, hospitals, and quality improvement organizations. The Bree Collaborative is charged with identifying up to three health care services annually that have substantial variation in practice patterns, high utilization trends in Washington State, or patient safety issues. For each health care service, the Bree Collaborative identifies and recommends best-practice, evidence-based approaches that build upon existing efforts and quality improvement activities to decrease variation. 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.

See **Appendix A** for a list of current Bree Collaborative members.

Recommendations are sent to the Washington State Health Care Authority for review and approval. The Health Care Authority (HCA) oversees Washington State’s largest health care purchasers, Medicaid and the Public Employees Benefits Board Program, as well as other programs. The HCA uses the recommendations to guide state purchasing for these programs. The Bree Collaborative also strives to develop recommendations to improve patient health, health care service quality, and the affordability of health care for the private sector but does not have the authority to mandate implementation of recommendations.

For more information about the Bree Collaborative, please visit: www.breecollaborative.org.

Treatment of pain is widely variable with high financial and human cost. Moving to a collaborative or team-based approach to managing complex pain has been shown to result in better patient outcomes. The Bree Collaborative elected to address this topic and a workgroup convened to develop recommendations from January 2018 to January 2019.

See **Appendix B** for the Collaborative Care for Chronic Pain workgroup charter and a list of members.

See **Appendix C** for results of the Guideline and Systematic Review Search Results.

Background

Chronic pain, present on most days for three months or longer, is common among adults.^{1,2} An estimated 40 percent of adults report chronic pain while bothersome chronic pain affects an estimated 20 to 25 percent of adults.^{1,2} Chronic pain with major life activity impacts affects about 10 percent of the adult population.^{1,2} This report focuses on improved management and prevention of chronic or persistent pain with significant life activity impacts in work, social and family life. Chronic pain is more prevalent for women than men, tends to increase with age, and is most commonly attributed to low back and osteoarthritis pain.² Persons with chronic pain with life activity impacts frequently report pain at multiple body sites or anatomically diffused pain.³ Chronic pain with life activity impacts is complex and unique to individual patients, often occurring along with comorbidities including obesity, depression, anxiety, and post-traumatic stress disorder.^{4,5,6}

Treatment of chronic or persistent pain with life activity impacts is widely variable with high financial and human cost. Overprescribing of opioids for both acute and chronic pain has contributed to the current opioid epidemic. Opioids have been shown to be less effective than non-opioid medications such as acetaminophen or non-steroidal anti-inflammatory drugs in the treatment of chronic pain.⁷ The [Washington State Agency Medical Directors Group Guideline on Prescribing Opioids for Pain](#) and the [Centers for Disease Control and Prevention Guidelines on Prescribing Opioids for Chronic Pain](#) recommend against opioids for chronic pain as a first-line or routine therapy.^{8,9}

Moving to a collaborative or team-based approach to managing persistent pain with life activity impacts has been shown to result in improved patient outcomes.^{10,11} This is true for traditionally-delivered in-person care and care delivered via telemedicine; showing flexibility in how models can be implemented and used.¹² Due to the complexity of chronic pain with life activity impacts, multifaceted care, or using more than one approach, has been recommended.¹³ However, most approaches to chronic pain management involved siloed health care providers. Patients benefit from employing multiple ways of managing chronic pain in tandem, rather than expecting one treatment to solve the problem. This can enhance participation in life activities affected by chronic pain and reduce pain bothersomeness. Health care providers can help patients identify diverse, personally helpful chronic pain management techniques and can recognize and encourage helpful chronic pain management strategies that patients are already using in their daily lives.

Current iterations of collaborative care as a system draw heavily from quality improvement strategies those for chronic illness, especially diabetes, and for depression.¹⁴ Many are conceptually based on the Chronic Care Model developed by Wagner and colleagues in 2001; an integrated system of interventions focused on patients with chronic illness (e.g., diabetes, asthma) moving along a continuum from minimal integration to fully integrated care. (interventions integrated into primary care).^{15,16} Collaborative care is based in primary care using a team-based care model with a care coordination function, often supported by health information technology infrastructure, and engaging the patient as a critically important member of the care team by providing resources for self-management support. However, implementation of collaborative care varies across settings and clinical contexts. There is no consensus approach regarding which elements of a systems-based model are critical and which resources are

necessary to support the model that is applicable in all settings. The Enhanced Chronic Pain Care Resources Grid (**Appendix E**) provides an overview and explanation of resources needed to provide collaborative care for chronic pain.

This workgroup developed standards for collaborative care specific to chronic pain with life activity impacts and recommendations for addressing chronic pain with life activity impacts. The workgroup's goal is a collaborative model of care for persistent pain with life activity impacts centered on the patient and the patient's goals for resuming affected life activities and built on patient self-management in the context of a biopsychosocial model.

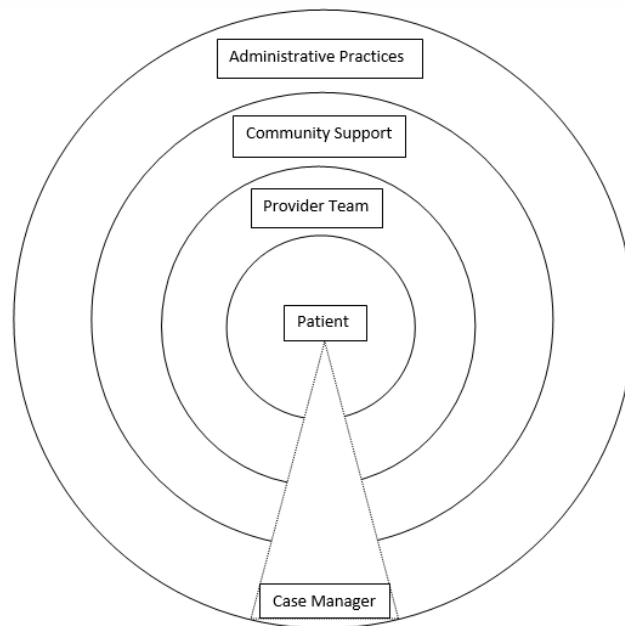
Recommendations

The goals for collaborative care focused on chronic pain with life activity impacts are improved function, increased quality of life, and greater patient autonomy rather than a predominate focus on pain relief.ⁱ The workgroup strove to define areas within collaborative care unique to chronic pain with life activity impacts while also developing a system to recognize and limit the transition from acute and subacute pain to chronic pain with life activity impacts. Ideally, both acute and chronic pain with life activity impacts will be managed and treated over time using a systems approach to allow patients to stay within primary care supported by the minimum standards of collaborative care including: patient identification and population management, a care team, a care management function, basing treatments in evidence-informed care, and patient-centered supported self-management.

As seen in image 1, the patient should be at the heart of care with case management intersecting with the patient, provider team, community support, and administrative practices to support the patient.

The workgroup's aim is that these minimum standards can be used within and complementary to other models of care including the 2016 Bree Collaborative Behavioral Health Integration Recommendations and adapted by a wide variety of systems, clinics, and locations.

We define care coordination using the Agency for Healthcare Research and Quality's definition: *"Care coordination is the deliberate organization of patient care activities between two or more participants (including the patient) involved in a patient's care to facilitate the appropriate delivery of health care services [to meet the patient's needs and preferences in the delivery of high quality, high value care]. Organizing care involves the marshalling of personnel and other resources needed to carry out all required patient care activities and is often managed by the exchange of information among participants responsible for different aspects of care."*¹⁷



ⁱ Adapted from MultiCare's vision mantra.

The workgroup developed the following focus areas for use as minimum standards for the collaborative care model used to manage chronic pain:

Table 1: Collaborative Care for Chronic Pain Focus Areas

<p>Patient Identification and Population Management</p>	<ul style="list-style-type: none"> • Identifying patients with persistent pain with life activity impacts • Preventing the transition from acute to chronic pain with life activity impacts through screening with a brief, validated instrument for psychosocial barriers to recovery (e.g., STarT Back Tool for low back pain) • Tracking patients in a registry and participating in performance improvement based on aggregation of data for collaborative care performance • Use of a dashboard for patient progress • Patient-reported outcome measures at initial visit and follow-up
<p>Care Team</p>	<ul style="list-style-type: none"> • Defined roles for care team members, care team coordination, and communication expectations • Access to specialty pain or behavioral health consultation, if needed • Patient point of contact for care team • Standard workflow with planned interactions • System supports (e.g. technology, training) • Identifying, supporting and enhancing what patients are already doing to manage chronic pain with life activity impacts
<p>Care Management</p>	<ul style="list-style-type: none"> • Coordination of the collaborative care process including facilitation of care team access • Identifying diverse resources and interventions that patients can use in managing chronic pain with life activity impacts, depending on motivations and preferences. • Facilitation of referrals, if needed • Management of medication • Proactive outreach
<p>Evidence-Informed Care</p>	<ul style="list-style-type: none"> • Trauma-informed care • Developing and improving pain management skills (e.g. relaxation) • Conventional medical treatment options (e.g., NSAIDs as first line treatment rather than opioids, topical, heat and ice) • Addressing pain amplifiers (e.g., sleep problems) • Integrative health practices (e.g., massage, acupuncture) • Movement and body awareness strategies
<p>Supported Self-Management</p>	<ul style="list-style-type: none"> • Helping patients identify goals for resuming life activities and addressing barriers to making progress toward goals

- | | |
|--|---|
| | <ul style="list-style-type: none">• Pain education including understanding of the cycle of pain• Addressing anxiety and anger• Removing barriers to physical activity• Helping patients shift thoughts from being reactive to creative• Focusing more on patient abilities, preferences, assets and existing efforts to restore life activities, and less on deficits and dysfunctions• Identifying and offering diverse resources to patients that may help them develop and sustain multiple personally helpful ways of managing chronic pain and increase participation in affected life activities. See Enhanced Chronic Pain Care Resource Grid in Appendix E. These may include educational resources (written, online, etc.), interventions that help people become more active, diverse services that enhance chronic pain self-management skills within or external to health care settings, and care management services that help patients develop and implement a personalized plan to manage chronic pain and reduce impacts on life activities. |
|--|---|

Stakeholder-Specific Actions and Quality Improvement Strategies

Do not use these recommendations in lieu of medical advice.

Persons Who Have Chronic Pain with Life Activity Impacts

- Talk to your primary care provider and other care team members about any concerns that you have about managing your pain to resume life activities most important to you.
- Discuss any other concerns that you may have such as feeling low, depressed, or anxious, or concerns about sleeping (too much or not enough), drinking, or drug use.
- Understand the complex cycle of chronic pain; see **Appendix F** for an infographic, and your role in helping address pain and function. The inter-related effects of chronic pain on mood, thoughts and life activities can lead to a downward cycle. The downward cycle can be reversed by employing multiple approaches to chronic pain management selected from the options depicted.
- Understand the inter-relationships among pain, emotions, actions, attention, and thoughts through the pain neuromatrix. The infographic for the pain neuromatrix shows how it can be “rewired” via body and movement strategies, mind-body pain management skills, integrating health practices as well as conventional medical treatment options. Many people benefit from using multiple approaches to chronic pain management at the same time.

Primary Care Providers

- **Patient Identification and Population Management**
 - Conduct a thorough history and physical examination to rule out conditions (e.g., cord compression) needing specialty referral, imaging, or other intervention.
 - For patients presenting with chronic or persistent pain as defined by pain on most days in the past three months, with life activity impacts, identify as good candidates for collaborative care for chronic pain in the electronic medical record.
 - For patients presenting with acute pain, a new pain episode, or an exacerbation of chronic pain, use a validated instrument such as the STarT Back tool or Functional Recovery Questionnaire (FRQ) for low back pain or the STarT Back-G to identify patients that are not likely to respond to routine care. Patients who are unlikely to respond to routine care may be good candidates for collaborative care.
 - Screen for behavioral health diagnoses using a validated tool including for:
 - Depression (e.g., Patient Health Questionnaire (PHQ) two or three question)
 - Suicidality (e.g., ninth question of the PHQ-9, the first two questions of the Columbia Suicide Severity Scale)
 - Anxiety (e.g., Generalized Anxiety Disorder seven-item)
 - Alcohol use (e.g., Alcohol Use Disorder Identification Test)
 - Drug use (e.g., Drug Abuse Screening Test)
 - At the first visit and at follow-up visits, use a validated patient-reported outcome measure to assess progress in pain control and reducing life activity impacts.
 - Ask patients what they are already doing to manage their pain and to resume important life activities affected by chronic pain.

- Review a dashboard to measure patient progress.
- Participate in performance improvement based on aggregate program data for collaborative care performance.
- **Care Team**
 - Explain to the patient the collaborative care model including the roles of the care team and care manager (if one person or if shared between staff).
 - Make sure the patient knows who to contact with any questions or in the case of an emergency.
- **Care Management**
 - Coordinate care and communicate regularly with other collaborative care team providers and the patient.
 - Step up care as needed either within the existing team or refer out (i.e., specialty care for pain or behavioral health).
 - Incorporate psychiatric consultation for barriers to recovery as needed (e.g., assessment and medication treatments for psychiatric issues that may be impeding recovery).

- **Evidence-Informed Care**

Note some overlap with supported self-management below. Members of the care team including the care manager can provide these functions.

- Practice trauma-informed care. The Substance Abuse and Mental Health Services Administration (SAMHSA) defines six key principles for a trauma-informed approach including: safety; trustworthiness and transparency; peer support; collaboration and mutuality; empowerment, voice and choice; and cultural, historical, and gender issues.¹⁸ More information is available [here](#).
- Use the diagram in **Appendix G** to discuss managing complex pain including the patient’s role, impact of pain amplifiers, and how collaborative care will help address pain and function.
- Use pain neuroscience education. The adage “know pain, know gain” empowers the patient, providing hope and encouragement to overcome persistent pain.
- Shift the focus of discussion from pain to function and talk about previous experience with physical therapy or any fears of movement. Discuss psychoeducation on philosophy of pain self-management.
- Address factors that might amplify pain such as issues with sleeping, anxiety, depression, stress, eating habits, weight, and any alcohol or drug use as identified in screeners previously.
- Discuss pain management skills such as:
 - Relaxation skills (e.g., progressive muscle relaxation, guided imagery).
 - Scheduling pleasant activities.
 - Building helpful social support and social engagement.
 - Attentional awareness and distraction techniques.
 - Calming self-statements and challenging unhelpful thinking.
 - Mood management including nurturing positive emotions.
 - Problem solving including planning for pain flare-ups.
 - Sleep hygiene.
 - Self-monitoring by identifying progress and strengths.
 - Cognitive restructuring.
 - Mindfulness meditation.

- Discuss movement and body awareness strategies that can help to decrease pain and restore function including:
 - Fears of movement or exercise.
 - Avoiding a sedentary lifestyle
 - Building tolerance to physical activities by cycling between activity and rest (e.g., pacing).
 - Deep/diaphragmatic breathing training.
 - Types of movement and body awareness strategies including physical therapy, regular physical activity like walking or exercising in water, mind/body practices such as yoga or tai chi, ergonomics and body movement awareness (i.e., biodynamic), and/or use of assistive devices and environmental accommodations.
- Discuss integrative health practices such as massage or acupuncture.
- Facilitate access to group or peer support activities, if available.
- Prescribe opioids in-line with the [Washington State Agency Medical Directors Group Guideline on Prescribing Opioids for Pain](#) and the [Centers for Disease Control and Prevention Guidelines on Prescribing Opioids for Chronic Pain](#) recommendations (e.g., to not prescribe opioids for chronic pain as a first-line or routine therapy).
 - Use non-steroidal anti inflammatory drugs or acetaminophen as a first-line treatment rather than opioids.
 - Use heat and ice to address pain.
- **Supported Self-Management**
 - Discuss with the patient goals for resuming important life activities affected by pain -and help the patient set goals for resuming these activities and for managing pain.
 - Discuss, address barriers to, and assets for achieving patient goals.
 - Work with patients to understand how resuming life activities can help control pain and improve quality of life, using **Appendix F**.
 - Explicitly recognize and support positive actions patients are already taking to control pain and to resume important life activities.
 - Ensure the patient understands:
 - Process of chronic pain acceptance.
 - Using mind and emotions to manage pain and restore quality of life (e.g., mindfulness meditation)
 - Engaging in physical activities that reduce pain and increase quality of life (e.g., aerobic, stretching, strengthening activities)
 - Use of emotions, thoughts and physical activities in combination to manage pain and enhance your quality of life (e.g., scheduling pleasant events)
 - Safe and effective use of analgesics (e.g., topical analgesics, balms, etc.)
 - Recovery (e.g., goal setting)

Primary Care Practices and Systems

- **Address access to the collaborative care program and capacity issues.**
 - Using the Enhanced Chronic Pain Care Resource Grid in **Appendix E**, conduct a systematic assessment of resources currently available to help patients manage chronic pain and reduce impacts on life activities.

- Using the Enhanced Chronic Pain Care Resource Grid in **Appendix E**, identify gaps in available resources and develop strategies for making a more diverse set of options available for patients in your care setting.
- **Patient Identification and Population Management**
 - Use systematic clinical protocols based on screening results and other patient data, like emergency department use, that help to characterize patient risk and complexity of needs.
 - Provide a registry to track patients who have been identified as good candidates for collaborative care for chronic pain with life activity impacts.
 - Integrate a validated patient-reported outcome measure into the electronic health record. Many have been successfully used in primary care. These recommendations do not require a specific measure.
 - Develop a dashboard to measure patient progress.
- **Care Team**
 - Clearly define roles for care team members.
 - Structure typical practice activities to facilitate involvement by all members of the integrated care team (e.g., team meetings, daily huddles, pre-visit planning, quality improvement meetings).
 - Ensure that care team members have access to actionable medical and behavioral health information via a shared care plan at the point of care.
 - Facilitate access to specialty pain services or behavioral health services if needed to assist the care team in developing a treatment plan and adjusting treatments for patients not improving as expected under the current plan.
- **Care Management**
 - Determine who should provide care management services given population needs and practice context
 - Identify needed skills, appropriate training, and licensure requirements
- **Evidence-Informed Care and Supported Self-Management**
 - Train staff on motivational interviewing.
 - Use patient goals to inform the care plan.
 - Develop plans to increase patient access to diverse services identified using the Enhanced Chronic Pain Care Resource Grid in **Appendix E**.

Health Plans

Partially adapted from SAMHSA's *ACAP Fact Sheet Safety Net Health Plan Efforts to Integrate Physical and Behavioral Health at Community Health Centers*¹⁹

- Reimburse for Medicare primary care providers participating in a collaborative care program or receiving other integrated behavioral health services as outlined in CMS Federal Register Final Rule for Docket Number CMS-1654-F (e.g., G0502, G0503, G0504).
- Work with health care purchasers to identify and provide data on outcome measurements relevant to their population to better ensure treatment efficacy and patient access (e.g., NCQA behavioral health treatment within 14 days, NCAQ anti-depressant medication management).

Employers

- When designing benefits, work to eliminate inadvertent barriers to collaborative care including access to behavioral health care services and integrating care for employees including equalizing benefit structures for behavioral health and physical health care.
- Review the Enhanced Chronic Pain Care Resources Grid in **Appendix E** and consider whether employee insurance benefits and wellness services provide access to multiple options to enable patients to effectively manage chronic pain to resume life and work activities.
- If an employee assistance program is offered, promote employee understanding of behavioral health benefits.
- Include behavioral health-related components in employee wellness programs (e.g., stress and anxiety reduction, interventions around alcohol consumption).

Collaborative Care Models

The collaborative care model was developed in reaction to a siloed model of care centered around clinical or provider need rather than patient need. The Chronic Care Model developed by Wagner and colleagues in 2001 includes delivery system redesign focused on chronic illness management linked to domains including:^{20,21}

- The community,
- The health system,
- Self-management support viewing patient as the most important resource for achieving favorable outcomes,
- Delivery system design,
- Decision support, and
- Clinical information systems.

More information [here](#). Specifics of this model and others are outlined in **Appendix D**. The Enhanced Chronic Pain Care Resources Grid in **Appendix E** lists resources and providers that can play a role in implementing Collaborative Care for Chronic Pain.

The University of Washington Advancing Integrated Mental Health Solutions (AIMS) Center uses five principles to define Collaborative Care specific to caring for behavioral health diagnosis within primary care, or integrated behavioral health:²²

- Patient-centered team care: Collaboration between primary and behavioral health care providers using a shared care plan
- Population-based care: Defined patient group tracked in a registry with consultation from specialists
- Measurement-based treatment to target: Treatment plans based on patient goals and evidence-based tools (e.g., the Patient Health Questionnaire nine question or PHQ-9)
- Evidence-informed care: Use of therapeutic techniques shown to work in primary care (e.g., problem-solving treatment, cognitive behavioral therapy) and medication management
- Accountable care: Reimbursement for quality and outcomes

Read more about these principles [here](#)

The Bree Collaborative convened a workgroup to develop standards around integrating behavioral health into primary care for those with behavioral health concerns and diagnoses for whom accessing services through primary care would be appropriate.²³ The workgroup developed eight common elements that outline a minimum standard of integrated care that are meant to bridge the different models used throughout Washington State and across the country and include:

- Integrated care team.
- Patient access to behavioral health as a routine part of care.
- Accessibility and sharing of patient information.
- Practice access to psychiatric services.
- Operational systems and workflows to support population-based care.
- Evidence-based treatments.

- Patient involvement in care.
- Data for quality improvement.

Read the Report and Recommendations [here](#).

Literature reviews support the inclusion of many of the elements identified as being necessary for integration of behavioral health or chronic illness management as supporting patients with chronic pain in primary care. The Veterans Administration Evidence-Based Synthesis Program conducted an evidence brief on effectiveness of models used to deliver multimodal care for treating chronic musculoskeletal pain in primary care.²⁴ Interventions differed due based on intensity, length, frequency of interactions, and other factors but shared the four system intervention components:

- Decision support: Enhance provider education and treatment planning (e.g., provider to provider interaction, stepped care algorithms).
- Additional care coordination resources (e.g., health information technology support, case manager).
- Improving activation building from patient strengths and actions they are already taking to manage pain and resume important life activities.
- Increasing access to diverse resources relevant to patient preferences and motivations, sometimes including multi-modal care.
- Increase capacities to connect patients with diverse resources identified using the Enhanced Chronic Pain Care Resource Grid in **Appendix E**.

The Learning from Effective Ambulatory Practice project was a multi-state effort to implement clinic re-design focused on clinical care teams for patients with chronic non-cancer pain who were being prescribed opioids.²⁵ Six building blocks for successful implementation were developed from this pilot including:²⁶

- Leadership and building consensus.
- Revise policies and standard work.
- Tracking patients on chronic opioid therapy (i.e., registry).
- Prepared, patient-centered visits.
- Caring for complex patients.
- Measuring success.

Details on Focus Areas

Patient Identification and Population Management

These recommendations are directed toward people who have chronic pain with life activity impacts, meaning chronic pain on most days in the past three months coupled with pain-related activity limitations or psychosocial risks. Activity limitations may include:

- Unable to work or attend school due to pain for one month or more or who are at risk of prolonged work loss
- Unable to fulfill home or family responsibilities for one month or more due to pain.
- Unable to live independently without assistance due to pain and limitations in mobility, cooking, bathing, dressing, etc.
- Ineffective use of health care for pain such as using high-dose opioids, repeated emergency department visits, doctor shopping, etc.
- Sedentary lifestyle in which resting is a major life activity

There is a growing body of evidence on factors that influence chronic pain with life activity impacts, called “pain amplifiers”. Chronic pain with life activity impacts is associated with depression and anxiety (including fear of movement or re-injury)^{27,28,29} as well as with sleep and sleep disturbance.^{30,31} Other factors associated with chronic pain with life activity impacts include conflicts in relationships, poor nutrition, weight gain, smoking, and drug or alcohol problems. Additional psychosocial risks include physical inactivity, conflicts in relationships, catastrophizing, low self-efficacy, perceived injustice, disability conviction, poor treatment adherence, anger, loss of employment, low recovery expectations, and other social stressors.

Patients should be assessed for any physical conditions such as cord compression that would necessitate specialty referral, imaging, or other intervention. Wood et al. outline a care pathway, the Identify, Customize, and Enhance (ICE) model for back pain care using the STarT Back Screening Tool at an initial visit to assess risk following by a triage to high or low risk.³²

Patients with Acute Pain

Identifying patients with acute low back pain at risk of transitioning to chronic low back pain was a focus of the 2013 Bree Collaborative Low Back Pain Recommendations, available [here](#). These recommendations recommend use of a “*validated screening tool like the STarT Back Screening Tool (SBST) or Functional Recovery Questionnaire (FRQ) no later than the third visit to identify patients that are not likely to respond to routine care.*” The STarT Back Screening Tool includes nine-items that have been validated as predictors for poor outcomes including function, fear of being physically active, anxiety, catastrophizing, and mood.³³ The tool categories people into three risk categories for developing chronic back pain and helping providers and care teams to make clinical decisions including: patients at low risk of chronicity needing advice, reassurance, and medication; patients with physical obstacles to recovery who needing face-to-face conservative treatment; and patients with psychological obstacles to recovery who needing an enhanced, coordinated care process. Stratifying patients with the STarT Back Screening tool has been associated with lower levels of disability and lower cost at 12 months.³⁴

The STarT Back Screening Tool has also been adapted to other types of pain. The generic STarT Back five-item screening tool (STarT-G), applicable to multiple types of pain, has been validated among Japanese patients with chronic pain.³⁵ A modified nine-item STarT Back Screening Tool has been validated for musculoskeletal pain conditions including low back, neck, shoulder, and knee pain.³⁶ Another version of a modified STarT Back Screening Tool has been validated in Dutch patients with neck pain, used in primary care.³⁷

Stepped Care Approach

A stepped care approach stratifies patients by risk and individual need. The 2013 Low Back Pain recommendations suggested the stepped care approach outlined by Von Korff and Moore for managing low back pain in primary care as summarized in **Table 2**, below.

Table 2: A Risk-Stratified Stepped-Care Approach for Managing Back Pain in Primary Care³⁸

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

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.

Care Team

Defining roles for care team members is essential for successful collaborative care. These recommendations do not delineate members of a care team that must be involved, as there are many ways of implementing Chronic Pain Collaborative Care that can effectively support patients with chronic pain. Patients should have access to specialty pain consultation and behavioral health and know who in the care team or practice to contact with questions. Patient care should involve a standard workflow with planned interactions supported by training and health information technology including a registry to track patients with chronic pain who are good candidates for collaborative care. The practice should have clear expectations around communication with the patient. Considering the relevant resources that can be made available in your setting (see the Enhanced Chronic Pain Care Resources Grid in **Appendix E**) may be helpful in developing care pathways that will work in your setting.

Team-based care including nurse (or other allied health professional) care management along with other elements used in collaborative such as a registry, has been associated with care that better follows guidelines on opioid prescribing for patients with chronic pain.³⁹ Integrating specific roles such as behavioral specialists, nurse case managers, physical therapists, and pharmacists has been suggested as a key step in effective management of chronic pain.⁴⁰

Care Management

The workgroup includes care management as a minimum standard for collaborative care. Care management is described as a series of functions that can be delivered by one staff member or shared across multiple people depending on the structure of the practice. Key components of care management for these recommendations include:

- Coordination of the collaborative care process.
- Facilitation of referrals, if needed.
- Identify diverse behavioral, educational, and therapeutic resources relevant to patient goals for controlling pain and resuming important life activities using Enhanced Chronic Pain Care Resource Grid (see **Appendix E**) and improve patient access to these services.
- Management of medication.
- Proactive outreach.

In some organizations this is referred to as case management as in the Veterans Administration Evidence-Based Synthesis Program while the Agency for Healthcare Research and Quality (AHRQ) refers to case management as being applicable to health plans.⁴¹ The Center for Health Care Strategies defines care management as *“programs that apply systems, science, incentives, and information to improve medical practice and assist consumers and their support system to become engaged in a collaborative process designed to manage medical/social/mental health conditions more effectively. The goal of care management is to achieve an optimal level of wellness and improve coordination of care while providing cost effective, non-duplicative services.”*⁴² The Robert Wood Johnson Foundation describes care management as *“a set of activities designed to assist patients and their support systems in managing medical conditions more effectively.”*⁴³

Key care management roles identified by AHRQ include:²²

- Coordination of care (e.g., coordination of specialty referrals).
- Self-management support (described elsewhere in this report).
- Patient outreach (e.g., outreach calls for medication changes, signs needing medical attention, hospitalization questions, follow-up with primary care).

A job description of a behavioral health care manager from the University of Washington AIMS Center is available [here](#). The role is described as a *“behavioral health professional, typically a counselor, clinical social worker, psychologist or psychiatric nurse, who performs all of the care management tasks including offering psychotherapy when that is part of the treatment plan.”*⁴⁴

Evidence-Informed Care

Interventions to address chronic pain should be based in available evidence. See **Appendix F and G: Managing Complex Pain** for tools to help discuss factors that influence chronic pain and the impact of interventions. Evidence-informed care should be based in trauma-informed care. The Substance Abuse and Mental Health Services Administration (SAMHSA) defines six key principles for a trauma-informed approach including: safety; trustworthiness and transparency; peer support; collaboration and mutuality; empowerment, voice and choice; and cultural, historical, and gender issues.⁴⁵ More information is available [here](#).

Movement and body awareness strategies have been shown to decrease pain and increase function. Much of the literature has been on impact on low back pain. Individually designed exercise programs that include stretching and strengthening help improve pain and function and physical activity in general and have been shown to improve low back pain, although some physical activities are not recommended such as those involving high impacts.^{46,47,48} Progressive exercise has been shown to have a greater impact than usual care on pain and function and also be associated with lower costs and lower rates of health care utilization by patients.⁴⁹

Lifestyle changes and improved self-care such as interventions around managing stress and using relaxation techniques are also supported by research. Mindfulness-based stress reduction, transcendental meditation, progressive muscle relaxation, and stress management have shown to have a positive impact on depression, anxiety, and blood pressure for patients with cardiac disease.⁵⁰ Lower-quality evidence supports a positive effect of stress reduction techniques on blood pressure for patients with hypertension.⁵¹ Mindfulness-based interventions have shown to be associated with decreases in depression.⁵² Nonpharmacological sleep treatments, especially those delivered in person, have been found to increase quality of sleep, and decrease pain, fatigue, and depression.⁵³ Motivational interviewing has been shown to help patients make lifestyle changes such as reducing alcohol use and smoking to lifestyle changes such as medication adherence for those with diabetes.⁵⁴

The Agency for Healthcare Research and Quality conducted a literature review of noninvasive and nonpharmacological treatments for chronic pain in 2018 that found mainly small effects and differences by diagnosis and intervention including improved function and pain for at least one month for:⁵⁵

- *“Chronic low back pain: Exercise, psychological therapies (primarily cognitive behavioral therapy), spinal manipulation, low-level laser therapy, massage, mindfulness-based stress reduction, yoga, acupuncture, multidisciplinary rehabilitation.*
- *Chronic neck pain: Exercise, low-level laser, Alexander Technique [an educational process to improve movement and posture], acupuncture.*
- *Knee osteoarthritis: Exercise, ultrasound.*
- *Hip osteoarthritis: Exercise, manual therapies.*
- *Fibromyalgia: Exercise, cognitive behavioral therapy, myofascial release massage, tai chi, qigong, acupuncture, multidisciplinary rehabilitation.*
- *Chronic tension headache: Spinal manipulation.”*

Acupuncture has been shown to be associated with a stronger effect in reducing chronic pain when compared to sham or no acupuncture.^{56,57} Massage has also been found to be more effective than placebo or sham therapy in reducing chronic pain.⁵⁴

Supported Self-Management

A wide body of literature supports self-management strategies in the management of chronic illness.^{58,59} Self-management interventions have been shown to be more effective than interventions focusing only on education and to also have a positive effect on patient outcomes and in some cases to reduce cost.^{25,60,61} AHRQ defines self-management as a “*commitment to patient-centered care, providing clear and useful information to patients, helping patients set goals and make plans to live a healthier life, creating a team of clinicians and administrative staff with clearly understood roles and responsibilities, and using office systems to support follow-up and tracking of patients.*”⁶²

The workgroup recommends following the roadmap for chronic pain self-management developed by Michael Von Korff, ScD, Kaiser Permanente Washington Health Research Institute and adapted from David Hanscomb’s *Back in Control*, Vertus Press, Seattle WA (2012) as follows:

- **Address anxiety.** Pain increases anxiety. Through the use of mind–body principles it is possible to diminish pain-related anxiety, to reduce pain, and to foster more effective approaches to managing chronic pain.
- **Deal with anger.** Chronic pain is frustrating and can engender anger about having chronic pain and about people or health care professionals who do not seem to understand the difficulties in living with chronic pain.
- **Shift from reactive to creative.** Living with chronic pain can put patients in “survival mode” trying to get by day-to-day through conserving energy and minimizing pain. A key task is becoming engaged in living again, developing ways of reengaging in life activities, and shifting focus from pain to activities that are engaging, meaningful, and enjoyable.
- **Take back your life.** Chronic pain can result in isolation, wherein friendships and family relationships become strained or atrophy because the person does not feel able to engage in activities or because limits on what he or she is able to do may conflict with what friends and family members want to do. A key task is restoring or building new nurturing relationships with friends and family.
- **Live a rich, full life.** A person with chronic pain who has become inactive and passive needs to find ways of regaining hope for the future and reconnecting with activities that give life meaning and purpose.
- *The patient’s role is to manage these challenges in managing chronic pain with life activity impacts to reduce suffering and enhance quality of life. The role of health care providers is to offer patients effective tools, skills, knowledge and support in their journey to achieve these goals. The following toolkit offers evidence-based tools for reducing pain and enhancing quality of life for persons with chronic pain.*

Additional resources include: [Partnering in Self-Management Support: A Toolkit for Clinicians](#)

See **Table 3** on the following page for more information on tools to support patient self-management for chronic pain.

Table 3: Tools for Self-Management of Chronic Pain

TASK	TOOL	WHAT YOU NEED TO KNOW
Understand pain management	Understanding that pain is influenced by your thoughts emotions and activities.	Your brain and spinal cord actively produce the experience of pain through interactions among thoughts, emotions and activities that increase or reduce pain signals from your body.
Use your mind and emotions to manage pain and to restore your quality of life	Mindfulness meditation	Mind-body techniques can modify brain networks to reduce bodily pain by reducing fear, anger and depression that often accompany chronic pain. Mind-body techniques can also help you engage in rewarding life activities to improve your quality of life.
	Deep breathing, progressive muscle relaxation mini-practices	
	Identify and manage thoughts that increase pain	
	Identify and manage emotions that increase pain	
	Engage in enjoyable life activities	
	Attention and diversion	
Engage in physical activities that reduce pain and increase your quality of life.	Heat/cold, counter-stimulation (e.g. pinching other body parts)	These physical activities compete with bodily pain and activate brain chemicals that reduce pain. They can also help you resume life activities that contribute to your quality of life.
	Aerobic, stretching, strengthening activities	
	Yoga	
	Massage	
Use of emotions, thoughts and physical activities in combination to manage pain and enhance your quality of life.	Pleasant events scheduling	These approaches combine psychological and physical techniques for controlling pain, managing negative thoughts and emotions that accompany chronic pain, resuming life activities, and enhancing quality of life.
	Increasing activity levels gradually, step by step	
	Cognitive-behavioral therapy	
	Acceptance & commitment therapy	
Safe and effective use of analgesics	Over the counter (non-prescription) analgesics	Analgesics can be helpful when used to reduce pain to tolerable levels so that you can be more active and employ mental, emotional and physical activities to reduce pain and enhance quality of life.
	Medically prescribed analgesics	
	Topical analgesics, balms, etc.	
Recovery	Peer support	These approaches can help persons with chronic pain re-engage in rewarding life activities and resume their roles in work, community and family life.
	Goal setting and creative problem-solving	
	Activity-rest cycling, pacing	
	Workplace, environmental accommodations	
	Mobility and physical aids	
Health care team	Case manager, coach, physical therapy/occupational therapy, nurse, physician, psychologist, chiropractor, acupuncturist, massage therapist, rehabilitation specialist, etc.	Your health care team often can't cure chronic pain, but they may be able to support you in carrying out tasks and learning skills for managing chronic pain and restoring quality of life.

Other Work in Washington State

Low Back Pain Recommendations (November 2013)

The Bree Collaborative convened a workgroup to develop recommendations addressing low back pain from November to October 2013. Recommendations were adopted in November 2013. Focus areas included:

- Increase appropriate evaluation and management of patients with new onset and persistent acute low back pain and/or nonspecific low back pain 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 low back pain (e.g., inappropriate use of MRIs)
- Increase early identification and management of patients that present with low back pain not associated with major trauma (no red flags) but have psychosocial factors (yellow flags) that place them at a high risk for developing chronic low back pain
 - Increase use of STarT Back Tool, Functional Recovery Questionnaire, or a similar screening instrument to triage acute low back pain patients to appropriate care providers
 - Restore patient function more quickly
- Increase awareness of low back pain management among individual patients and the general public
 - Increase the proportion of the population that agrees with key low back pain messages (e.g., low back pain is common, low back pain symptoms often improve without treatment, there is no magic bullet, stay active, etc.)

Behavioral Health Integration Recommendations (March 2017)

This Report and Recommendations is focused on integrating behavioral health care services into primary care for those with behavioral health concerns and diagnoses for whom accessing services through primary care would be appropriate. The workgroup used available evidence and existing models to develop eight common elements that outline a minimum standard of integrated care. These eight elements are meant to bridge the different models used throughout Washington State and across the country and include:

- Integrated Care Team
 - Each member of the integrated care team has clearly defined roles for both physical and behavioral health services. Team members, including clinicians and non-licensed staff, understand their roles and participate in typical practice activities in-person or virtually such as team meetings, daily huddles, pre-visit planning, and quality improvement.
- Patient Access to Behavioral Health as a Routine Part of Care
 - Access to behavioral health and primary care services are available on the same day as much as feasible. At a minimum, a plan is developed on the same day that includes continuous patient engagement in ways that are convenient for patients, in person or by phone or videoconferencing.
- Accessibility and Sharing of Patient Information

- The integrated care team has access to actionable medical and behavioral health information via a shared care plan at the point of care. Clinicians work together via regularly scheduled consultation and coordination to jointly address the patient’s shared care plan.
- Practice Access to Psychiatric Services
 - Access to psychiatric consultation services is available in a systematic manner to assist the care team in developing a treatment plan and adjusting treatments for patients who are not improving as expected under their current plan. For patients with more severe or complex symptoms and diagnoses, specialty behavioral health services are readily available and are well coordinated with primary care.
- Operational Systems and Workflows to Support Population-Based Care
 - A structured method is in place for proactive identification and stratification of patients for targeted conditions. The practice uses systematic clinical protocols based on screening results and other patient data, like emergency room use, that help to characterize patient risk and complexity of needs. Practices track patients with target conditions to make sure patient is engaged and treated-to-target/remission and have a proactive follow-up plan to assess improvement and adapt treatment accordingly.
- Evidence-Based Treatments
 - Age language, culturally, and religiously-appropriate measurement-based interventions for physical and behavioral health interventions are adapted to the specific needs of the practice setting. Integrated practice teams use behavioral health symptom rating scales in a systematic and quantifiable way to determine whether their patients are improving. The goal of treatment is to provide strategies that include the patient’s goals of care and appropriate self-management support.
- Patient Involvement in Care
 - Patient goals inform the care plan. The practice communicates effectively with the patient about their treatment options and asks for patient input and feedback into care planning. Patient activation and self-care is supported and promoted.
- Data for Quality Improvement
 - System-level data regarding access to behavioral care, the patients’ experience, and patient outcomes is tracked. If system goals are not met, quality improvement efforts are employed to achieve patient access goals and outcome standards.

Measurement

[Healthy People 2020](#) includes measures around chronic pain including:

- AOCBC-12 Reduce activity limitation due to chronic back conditions
- AOCBC-13 (Developmental) Decrease the prevalence of adults having high impact chronic pain
- AOCBC-14 (Developmental) Increase public awareness/knowledge of high impact chronic pain
- AOCBC-15 (Developmental) Increase self-management of high impact chronic pain
- AOCBC-16 (Developmental) Decrease the impact of high impact chronic pain on family/significant others

Appendix A: Bree Collaborative Members

Member	Title	Organization
Susie Dade, MS	Deputy Director	Washington Health Alliance
Peter Dunbar, MB, ChB, MBA	CEO	Foundation for Health Care Quality
John Espinola, MD, MPH	Executive Vice President, Health Care Services	Premera Blue Cross
Gary Franklin, MD, MPH	Medical Director	Washington State Department of Labor and Industries
Stuart Freed, MD	Chief Medical Officer	Confluence Health
Richard Goss, MD	Medical Director	Harborview Medical Center – University of Washington
Jennifer Graves, RN, MS	Senior Vice President, Patient Safety	Washington State Hospital Association
Christopher Kodama, MD	President, MultiCare Connected Care	MultiCare Health System
Daniel Lessler, MD, MHA	Chief Medical Officer	Washington State Health Care Authority
Wm. Richard Ludwig, MD	Chief Medical Officer, Accountable Care Organization	Providence Health and Services
Greg Marchand	Director, Benefits & Policy and Strategy	The Boeing Company
Robert Mecklenburg, MD	Medical Director, Center for Health Care Solutions	Virginia Mason Medical Center
Kimberly Moore, MD	Associate Chief Medical Officer	Franciscan Health System
Carl Olden, MD	Family Physician	Pacific Crest Family Medicine, Yakima
Mary Kay O’Neill, MD, MBA	Partner	Mercer
John Robinson, MD, SM	Chief Medical Officer	First Choice Health
Terry Rogers, MD (Vice Chair)	Retired	
Jeanne Rupert, DO, PhD	Medical Director, Community Health Services	Public Health – Seattle and King County
Kerry Schaefer, MS	Strategic Planner for Employee Health	King County
Lani Spencer, RN, MHA	Vice President, Health Care Management Services	Amerigroup
Hugh Straley, MD (Chair)	Retired	Medical Director, Group Health Cooperative; President, Group Health Physicians
Shawn West, MD	Family Physician	Provider

Appendix B: Collaborative Care for Chronic Pain Charter and Roster

Problem Statement

Treatment of pain is widely variable with high financial and human cost. Moving to a collaborative or team-based approach to managing complex pain has been shown to result in better patient outcomes.^{ii,iii} However, most approaches to pain management including chronic opioid therapy involved siloed health care providers. There is also a lack of consensus around which elements of a systems-based model are critical and which resources are appropriate.

Aim

To develop collaborative care standards and recommendations for prevention and treatment of chronic pain, including a stepped care approach to acute and chronic pain.

Purpose

To propose evidence-based recommendations to the full Bree Collaborative on:

- Identifying areas within collaborative care that are unique to chronic pain.
- Best practices for recognizing and limiting the transition from acute and subacute pain to chronic, disabling pain (e.g., screening and appropriate interventions screened using a brief, validated instrument for psychosocial barriers to recovery).
- Managing and treating chronic pain over time using a systems approach to allow most patients to stay within a primary care model (e.g., effective use of resources, care management, stepped care interventions, patient advocacy and engagement).
- Self-management approaches to chronic pain.
- Addressing barriers to delivery of collaborative care (e.g., training, workforce).
- Identifying other areas of focus or modifying areas, as needed.

Duties & Functions

The Collaborative Care for Chronic Pain workgroup will:

- Research evidence-based and expert-opinion informed guidelines and best practices (emerging and established).
- Alignment with other Bree Collaborative recommendations (e.g., behavioral health integration).
- Consult relevant professional associations and other stakeholder organizations and subject matter experts for feedback, as appropriate.
- Meet for approximately nine months, as needed.
- Provide updates at Bree Collaborative meetings.
- Post draft report(s) on the Bree Collaborative website for public comment prior to sending report to the Bree Collaborative for approval and adoption.
- Present findings and recommendations in a report.
- Recommend data-driven and practical implementation strategies.
- Create and oversee subsequent subgroups to help carry out the work, as needed.
- Revise this charter as necessary based on scope of work.

ⁱⁱ Katon WJ, Lin EH, Von Korff M, Ciechanowski P, Ludman EJ, Young B, Peterson D, Rutter CM, McGregor M, McCulloch D. Collaborative care for patients with depression and chronic illnesses. *N Engl J Med*. 2010;363:2611-20.

ⁱⁱⁱ Bodenheimer T, Wagner EH, Grumbach K. Improving primary care for patients with chronic illness: the chronic care model, Part 2. *JAMA*. 2002;288:1909-14

Structure

The workgroup will consist of individuals confirmed by Bree Collaborative members or appointed by the chair of the Bree Collaborative or the workgroup chair.

The chair of the workgroup will be appointed by the chair of the Bree Collaborative.

The Bree Collaborative program director will staff and provide management and support services for the workgroup.

Less than the full workgroup may convene to: gather and discuss information; conduct research; analyze relevant issues and facts; or draft recommendations for the deliberation of the full workgroup. A quorum shall be a simple majority and shall be required to accept and approve recommendations to send to the Bree Collaborative.

Meetings

The workgroup will hold meetings as necessary. The program director will conduct meetings along with the chair, arrange for the recording of each meeting, and distribute meeting agendas and other materials prior to each meeting. Additional workgroup members to be added at the discretion of the chair.

Name	Title	Organization
Leah Hole-Marshall, JD (chair)	Medical Administrator	Washington Health Benefit Exchange
Ross Bethel, MD	Family Physician	Selah Family Medicine
Stu Freed, MD	Chief Medical Officer	Confluence Health
Andrew Friedman, MD	Physiatrist	Virginia Mason Medical Center
Lynn DeBar, PhD, MPH	Senior Investigator	Kaiser Permanente Washington Health Research Institute
Mark Murphy, MD/Greg Rudolf, MD	President	Washington Society of Addiction Medicine
Mary Kay O'Neill, MD, MBA	Partner	Mercer
Jim Rivard, PT, DPT, MOMT, OCS, FAAOMPT	President	MTI Physical Therapy
Kari A. Stephens, PhD	Assistant Professor - Psychiatry & Behavioral Sciences	University of Washington Medicine
Mark Sullivan, MD, PhD	Professor, psychiatry; Adjunct professor, anesthesiology and pain medicine	University of Washington Medicine
David Tauben, MD	Chief of Pain Medicine	University of Washington Medicine
Nancy Tietje	Patient Advocate	
Emily Transue, MD, MHA	Associate Medical Director	Washington State Health Care Authority
Michael Von Korff, ScD	Senior Investigator	Kaiser Permanente Washington Health Research Institute

Appendix C: Guideline and Systematic Review Search Results

Source	Guidelines or Systematic Reviews
AHRQ: Research Findings and Reports	<p>(2018) Systematic Review: Noninvasive Nonpharmacological Treatment for Chronic Pain: A Systematic Review</p> <p>(2015) Systematic Review: Treatments for Fibromyalgia in Adult Subgroups</p> <p>(2014) Systematic Review: The Effectiveness and Risks of Long-Term Opioid Treatment of Chronic Pain</p> <p>(2012) Noncyclic Chronic Pelvic Pain Therapies for Women: Comparative Effectiveness</p> <p>(2011) Multidisciplinary Pain Programs for Chronic Noncancer Pain</p>
Cochrane Collection	<p>(2015) Consultation liaison in primary care appears to improve mental health practice and outcomes for people with a mental disorder</p> <p>(2013) Collaborative care approaches for people with severe mental illness</p> <p>(2012) Collaborative care for people with depression and anxiety</p> <p>(2009) Psychosocial interventions for the prevention of disability following traumatic physical injury</p>
Specialty Society Guidelines (via Guideline Clearinghouse including Choosing Wisely)	<p>(2017) Department of Defense, Department of Veterans Affairs, Veterans Health Administration VA/DoD clinical practice guideline for the management of posttraumatic stress disorder and acute stress disorder</p> <p>(2016) Department of Defense, Department of Veterans Affairs, Veterans Health Administration VA/DoD clinical practice guideline for the management of major depressive disorder</p> <p>(2016) Institute for Clinical Systems Improvement: Adult depression in primary care</p> <p>(2015) Program in Evidence-based Care The management of depression in patients with cancer.</p> <p>(2014) C17 Council Guideline for primary antifungal prophylaxis for pediatric patients with cancer or hematopoietic stem cell transplant recipients</p> <p>(2012) Expert Commentary Primary Care Depression Guidelines and Treatment Resistant Depression: Variations on an Important but Understudied Theme</p>
Health Technology Assessment Program	<p>(2017) Chronic migraine and chronic tension-type headache Treatment of chronic migraine with OnabotulinumtoxinA is a covered benefit with conditions. Treatment of chronic tension-type headache with OnabotulinumtoxinA is not a covered benefit. Treatment of chronic migraine or chronic tension-type headache with acupuncture, massage, trigger point injections, transcranial magnetic stimulation, or manipulation/manual therapy is not a covered benefit.</p> <p>(2016) Spinal injections Spinal injections are a covered benefit with conditions.</p> <p>(2010) Spinal cord stimulation Spinal Cord Stimulation for chronic neuropathic pain is not a covered benefit.</p> <p>(2009) Electrical neural stimulation (ENS) Electrical Neural Stimulation is a non-covered benefit. This decision applies to use of durable medical equipment ENS device and supplies outside of medically supervised facility settings (e.g. in home use).</p> <p>(2008) Discography Discography for patients with chronic low back pain and lumbar degenerative disc disease is not a covered benefit, with exceptions by diagnosis.</p>
Centers for Disease Control and Prevention	<p>(2016) Centers for Disease Control and Prevention: CDC guideline for prescribing opioids for chronic pain</p>

<p>Institute for Clinical and Economic Review</p>	<p>(2017) Cognitive and Mind-Body Therapies for Chronic Low Back and Neck Pain: Effectiveness and Value Acupuncture, cognitive behavioral therapy, mindfulness-based stress reduction, tai chi, and yoga (2011) Management Options for Low Back Pain Disorders</p>
<p>BMJ Clinical Evidence Systematic Overview</p>	<p>0 systematic reviews for collaborative care</p>
<p>Veterans Administration Evidence-based Synthesis Program</p>	<p>(2017) Evidence Brief: Effectiveness of Models Used to Deliver Multimodal Care for Chronic Musculoskeletal Pain (2015) Mapping the Evidence: Sex Effects in High-impact Conditions for Women Veterans – Depression, Diabetes, and Chronic Pain (2012) Group Visits Focusing on Education for the Management of Chronic Conditions in Adults: A Systematic Review</p>

Appendix D: Comparison Between Collaborative Care Models

MacColl Model		Bree Behavioral Health Integration	Peterson (VA Multi-Model Review)	Unutzer	Parchman
Community - Mobilize community resources to meet patient need					
Health System - Create a culture, organization, and mechanisms that promote safe, high quality care	Health System Requirements:				Leadership
Promote effective improvement strategies aimed at comprehensive system change.	Leadership Support for system changed and continuous monitoring				
Provide incentives based on quality of care	Incentives aligned to support intervention				
Clinical Information System - Organize patient and population data to facilitate efficient and effective care.	Clinical Information System:				
Provide timely reminders for providers and patients	CIS - Appropriate reminders		Decision support		
Identify relevant subpopulations for proactive care. Facilitate individual patient care planning.	CIS - Population identification; risk assessment	Operational Systems and Workflows to support Population based care		Population Registry	Population registry
Share information with patients and providers to coordinate care.	CIS - Support Patient and provider communication; telehealth	Accessibility and Sharing of Patient Information			
Monitor performance of practice team and care system.	CIS - Measure and monitor and feedback	Data for Quality Improvement		Outcome Measures	Measurement
Delivery System Design - Assure the delivery of effective, efficient clinical care and self-management support	Delivery System				
Define roles and distribute tasks among team members	Identify /Define roles for primary care provider; care manager; and expert consultation	Integrated Care Team		Practice Team	
Use planned interactions to support evidence-based care.	Standard workflow with CIS support for stepped, EBM protocols and care	Evidence Based Treatments	Treatment planning		Planned visits
Provide clinical case management services for complex patients	Care Manager		Additional care coordination	Care manager	Complex patient resources
Ensure regular follow-up by the care team	See CIS				
Give care that patients understand and that fits with their cultural background	See Patient Empowerment				
Decision Support - Promote clinical care that is consistent with scientific evidence and patient preferences					
Embed evidence-based guidelines into daily clinical practice.	See Delivery System	Operational systems and workflows to support population based care		Treatment Protocols	Policy and Workflow

Share evidence-based guidelines and information with patients to encourage their participation				Increasing access to multi-modal care			
Use proven provider education methods.				Increasing access to multi-modal care			
Integrate specialist expertise and primary care	See Delivery system		patient access to behavioral health as a routine part of care; Practice access to Psychiatric services	Increasing access to multi-modal care			
Self-Management Support - Empower and prepare patients to manager their health and health care	Patient Empowerment			Improving Patient Education and Activation			
Emphasize the patient's central role in managing their health.							
Use effective self-management support strategies that include assessment, goal setting, action planning, problem solving and follow-up.	Self-Management Support		Patient involvement in care				

Appendix E: Enhanced Chronic Pain Care Resource Grid – Health care resources

Health Care Setting/System Assessment to Enhance Availability of Resources for Patients

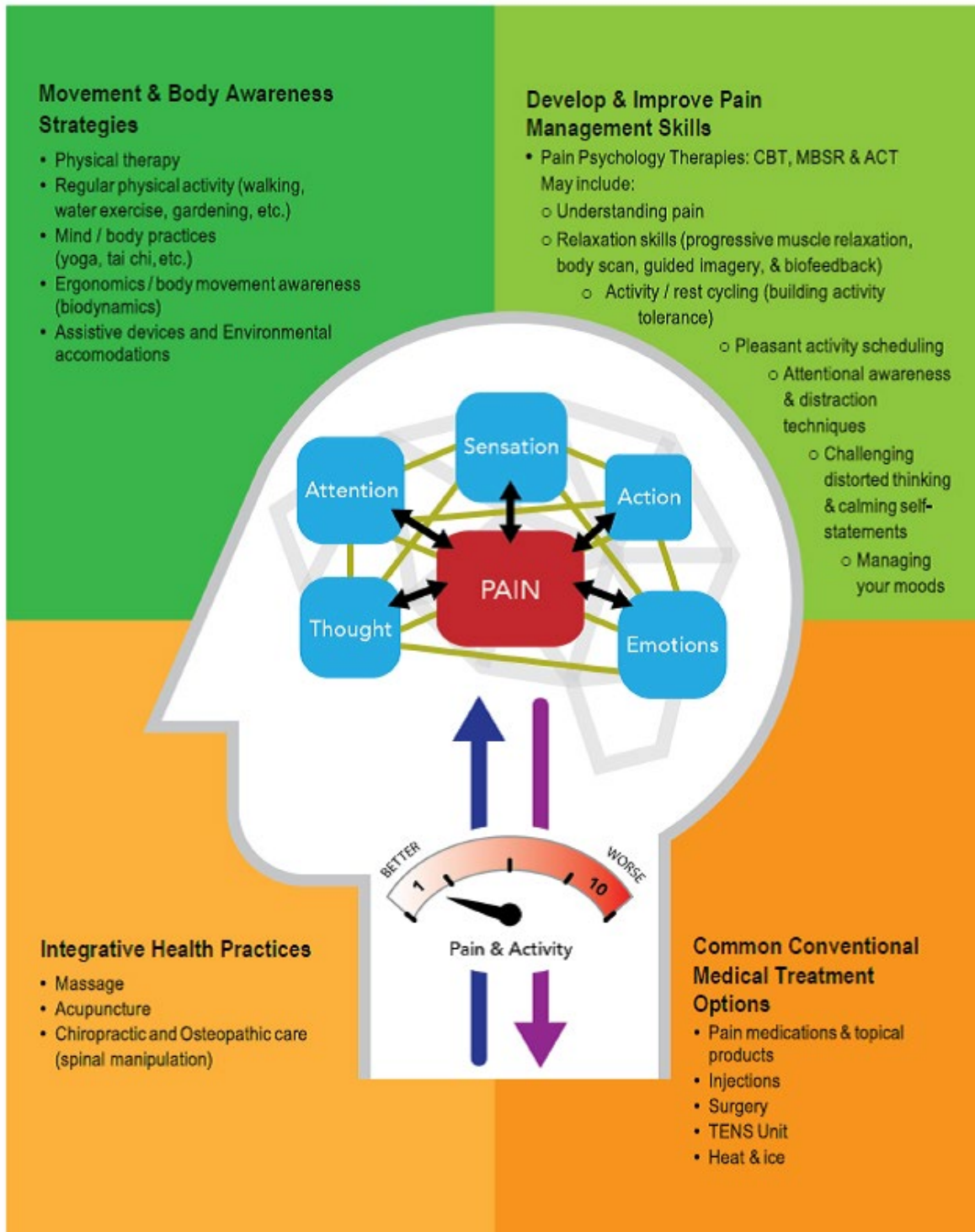
		Readily available in your setting?	If NO, what can be done to enhance availability?
Health care resources	Explanation		
Mind-body therapies: Cognitive behavioral therapy (CBT), Acceptance and Commitment Therapy (ACT) for chronic pain, Mindfulness-Based Stress Reduction (MBSR)	CBT and ACT help people resume life activities, overcome fears and concerns related to chronic pain, and develop pain management skills such as relaxation, breathing, attention diversion and developing new ways of thinking about and experiencing pain. MBSR helps participants learn to better manage <i>pain</i> through diverse techniques such as guided meditation, gentle yoga, and breathing exercises.	No Yes	
CBT for insomnia (CBT-I)	Cognitive behavioral therapy addressing sleep difficulties. Improves restorative sleep among persons with chronic pain. Therapy can be provided in-person or via on-line programs that include expert guidance.	No Yes	
Physical therapy (PT)	PT includes strengthening and flexibility exercises, manual therapy, posture awareness, and body mechanics instruction. PTs also help patients understand underlying causes of their pain. Some therapists offer MBSR therapy. PT's gradually increase the intensity of active exercises and educate patients about how CNS hypersensitivity contributes to chronic pain.	No Yes	
Occupational therapy (OT)	OT helps clients live and function productively. OT's evaluate the pain's impact on a client's desired activities and quality of life, and equips them with skills and strategies to manage the pain and resume normal activities, including work.	No Yes	
Physiatry/Rehabilitation Medicine	Physiatrists evaluation patients and create individualized, nonoperative treatment plans, including PT and OT ,medications, and orthotic devices if likely to be beneficial. They develop a care plan for managing pain and resuming life activities.	No Yes	
CAM therapies: Chiropractic, yoga, acupuncture, massage, hypnosis, tai-chi	Diverse therapies that seek to reduce pain, improve mood, enhance well-being, reduce stress, improve function and abilities to do life activities, provide a greater sense of control over life and pain.	No Yes	
Care Manager for chronic pain	Care managers identify and work with chronic pain patients with major life activity impacts more likely to have unfavorable outcomes. The assess patient needs and work with patients to identify their personal goals and develop a care plan. The help connect patients with resources to implement their plan, including self-management support services, and coordinate care across providers. The follow-up with patients over time to assess progress, to adjust care plans as needed, and to help patients overcome barriers to achieving their goals.	No Yes	

Appendix E (cont'd): Enhanced Chronic Pain Care Resource Grid – Self-Management support resources

Health Care Setting/System Assessment to Enhance Availability of Resources for Patients

Self-management resources	Explanation	Readily available in your setting?	If NO, what can be done to enhance availability?
<p>Note: Pain BC has a website with a guide to diverse resources that support chronic pain self-management. Access the Pain BC website via this link: https://www.painbc.ca/chronic-pain/recommended-resources</p>			
Educational materials on chronic pain self-management	Educates patients about effective chronic pain self-management approaches. Diverse resources are available via Pain BC: https://www.painbc.ca/sites/default/files/PainBC-PainToolbox-2016-Digital.pdf	No Yes	
	A quick and simple video explaining the definition and benefits of self-management. https://www.youtube.com/watch?v=rkYvWSXr8t8	No Yes	
Support groups and workshops for chronic pain self-management	Provides guidance and support for effective chronic pain self-management and for problem-solving	No Yes	
Yoga/movement classes	Teaches gentle stretching, relaxation, breathing and movement skills	No Yes	
Mindfulness meditation and relaxation/breathing training	Teaches mindfulness meditation, relaxation and deep breathing skills	No Yes	
E-health tools for chronic pain self-management	Provides access to diverse resources (including MBSR, ACT, CBT, CBT-I therapies) via on-line services (apps and websites). A list of links is available on the Pain BC website: https://www.painbc.ca/recommended-apps-help-manage-persistent-pain	No Yes	

Rewiring The Pain Neuromatrix



REVERSING THE PERSISTENT PAIN CYCLE



References

- ¹ National Center for Complementary and Integrative Health. Pain in the U.S., August, 2015. Available: <https://nccih.nih.gov/news/press/08112015>.
- ² Johannes CB, Le TK, Zhou X, Johnston JA, Dworkin RH. The prevalence of chronic pain in United States adults: results of an Internet-based survey. *J Pain*. 2010 Nov;11(11):1230-9.
- ³ Kerns RD, Otis J, Rosenberg R, Reid MC. Veterans' reports of pain and associations with ratings of health, health-risk behaviors, affective distress, and use of the healthcare system. *J Rehabil Res Dev*. 2003 Sep-Oct;40(5):371-9.
- ⁴ Narouze S, Souzdalnitski D. Obesity and chronic pain: systematic review of prevalence and implications for pain practice. *Reg Anesth Pain Med*. 2015 Mar-Apr;40(2):91-111.
- ⁵ Stubbs B, Koyanagi A, Thompson T, Veronese N, Carvalho AF, Solomi M, et al. The epidemiology of back pain and its relationship with depression, psychosis, anxiety, sleep disturbances, and stress sensitivity: Data from 43 low- and middle-income countries. *Gen Hosp Psychiatry*. 2016 Nov - Dec;43:63-70.
- ⁶ Otis JD, Keane TM, Kerns RD. An examination of the relationship between chronic pain and post-traumatic stress disorder. *J Rehabil Res Dev*. 2003 Sep-Oct;40(5):397-405.
- ⁷ Krebs EE, Gravely A, Nugent S, Jensen AC, DeRonne B, Goldsmith ES, et al. Effect of Opioid vs Nonopioid Medications on Pain-Related Function in Patients With Chronic Back Pain or Hip or Knee Osteoarthritis Pain: The SPACE Randomized Clinical Trial. *JAMA*. 2018 Mar 6;319(9):872-882.
- ⁸ Washington State Agency Medical Directors Group. Interagency Guideline on Prescribing Opioids for Pain. 3rd edition, June 2015. <http://www.breecollaborative.org/wp-content/uploads/2015AMDGOpioidGuideline.pdf>
- ⁹ Dowell D, Haegerich TM, Chou R. CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016. *MMWR Recomm Rep* 2016;65(No. RR-1):1–49.
- ¹⁰ Katon WJ, Lin EH, Von Korff M, Ciechanowski P, Ludman EJ, Young B, Peterson D, Rutter CM, McGregor M, McCulloch D. Collaborative care for patients with depression and chronic illnesses. *N Engl J Med*. 2010;363:2611-20.
- ¹¹ Bodenheimer T, Wagner EH, Grumbach K. Improving primary care for patients with chronic illness: the chronic care model, Part 2. *JAMA*. 2002;288:1909-14
- ¹² Kroenke K, Krebs EE, Wu J, Yu Z, Chumbler NR, Bair MJ. Telecare collaborative management of chronic pain in primary care: a randomized clinical trial. *JAMA*. 2014 Jul 16;312(3):240-8.
- ¹³ Peterson K, Anderson J, Bourne D, Mackey K, Helfand M. Evidence Brief: Effectiveness of Models Used to Deliver Multimodal Care for Chronic Musculoskeletal Pain. VA Evidence-based Synthesis Program Evidence Briefs [Internet]. Washington (DC): Department of Veterans Affairs (US); 2011- 2017 Jan.
- ¹⁴ Shojania KG1, Ranji SR, McDonald KM, Grimshaw JM, Sundaram V, Rushakoff RJ, Owens DK. Effects of quality improvement strategies for type 2 diabetes on glycemic control: a meta-regression analysis. *JAMA*. 2006 Jul 26;296(4):427-40.
- ¹⁵ Wagner E, Austin B, Davis C, Hindmarsh M, Schaefer J, Bonomi A. Improving Chronic Illness Care: Translating Evidence into Action. *Health Affairs* 20(6):64–78.. Available: <http://dx.doi.org/doi:10.1377/hlthaff.20.6.64>.
- ¹⁶ Wagner E. 1998. Chronic Disease Management: What Will It Take to Improve Care for Chronic Illness? *Effective Clinical Practice* 1(August/September):2–4. Available: www.acponline.org/clinical_information/journals_publications/ecp/augsep98/cdm.pdf.
- ¹⁷ U.S. Agency for Healthcare Research and Quality (AHRQ) and published in June 2014.
- ¹⁸ Substance Abuse and Mental Health Services Administration. Trauma Informed Approach and Trauma-Specific Interventions. Accessed: June 2018. Available: www.samhsa.gov/nctic/trauma-interventions.
- ¹⁹ Association for Community Affiliated Plans. ACAP Fact Sheet Safety Net Health Plan Efforts to Integrate Physical and Behavioral Health at Community Health Centers. September 2014. Accessed: December 2016. www.integration.samhsa.gov/integrated-care-models/Integrated_Health_Fact_Sheet_ACAP.pdf
- ²⁰ Wagner E, Austin B, Davis C, Hindmarsh M, Schaefer J, Bonomi A. Improving Chronic Illness Care: Translating Evidence into Action. *Health Affairs* 20(6):64–78.. Available: <http://dx.doi.org/doi:10.1377/hlthaff.20.6.64>.
- ²¹ Wagner E. 1998. Chronic Disease Management: What Will It Take to Improve Care for Chronic Illness? *Effective Clinical Practice* 1(August/September):2–4. Available: www.acponline.org/clinical_information/journals_publications/ecp/augsep98/cdm.pdf.
- ²² Advancing Integrated Mental Health Solutions. Principles of Collaborative Care. 2016. Accessed: November 2016. Available: <https://aims.uw.edu/collaborative-care/principles-collaborative-care>

-
- ²³ Behavioral Health Integration Workgroup. (2017). Behavioral Health Integration Report and Recommendations. Weir, V, ed. Seattle, WA: Dr. Robert Bree Collaborative. Available: www.breecollaborative.org/topic-areas/behavioral-health/.
- ²⁴ Peterson K, Anderson J, Bourne D, Mackey K, Helfand M. Evidence Brief: Effectiveness of Models Used to Deliver Multimodal Care for Chronic Musculoskeletal Pain. VA Evidence-based Synthesis Program Evidence Briefs [Internet]. Washington (DC): Department of Veterans Affairs (US); 2011-. VA Evidence-based Synthesis Program Reports. 2017 Jan.
- ²⁵ Parchman ML, Von Korff M, Baldwin L-M, et al. Primary Care Clinic Re-Design for Prescription Opioid Management. *Journal of the American Board of Family Medicine : JABFM*. 2017;30(1):44-51. doi:10.3122/jabfm.2017.01.160183.
- ²⁶ Parchman M. Available: http://www.agencymeddirectors.wa.gov/Files/CollaborativeCareConference2017/MacCollPrinciples_BuildingCollaborativeTeams.pdf
- ²⁷ McWilliams LA, Cox BJ, Enns MW. Mood and anxiety disorders associated with chronic pain: an examination in a nationally representative sample. *Pain*. 2003 Nov;106(1-2):127-33.
- ²⁸ Brenes GA, Guralnik JM, Williamson JD, Fried LP, Simpson C, Simonsick EM, Penninx BW. influence of anxiety on the progression of disability. *Journal of the American Geriatrics Society. J Am Geriatr Soc*. 2005 Jan;53(1):34-9.
- ²⁹ Tsang A, Von Korff M, Lee S, Alonso J, Karam E, Angermeyer MC, et al. Common chronic pain conditions in developed and developing countries: gender and age differences and comorbidity with depression-anxiety disorders. *J Pain*. 2008 Oct;9(10):883-91.
- ³⁰ Bjurstrom MF, Irwin MR. Polysomnographic characteristics in nonmalignant chronic pain populations: a review of controlled studies. *Sleep Med Rev*. 2016 Apr;26:74-86.
- ³¹ Cheatle MD, Foster S, Pinkett A, Lesneski M, Qu D, Dhingra L. Assessing and Managing Sleep Disturbance in Patients with Chronic Pain. *Sleep Med Clin*. 2016 Dec;11(4):531-541.
- ³² Wood A, Matula SR, Huan L, Linos E, Platchek T, Milstein A. Improving the Value of Medical Care for Patients with Back Pain. *Pain Med*. 2017 Apr 17.
- ³³ Hill JC, Dunn JM, Lewis M, Mullis R, Main CD, Foster NE, Hay EM. A primary care back pain screening tool: identifying patient subgroups for initial treatment. *Arthritis Rheum* 2008;59(5):632-641.
- ³⁴ Hill JC, Whitehurst DG, Lewis M, Bryan S, Dunn KM, Foster NE, et al. Comparison of stratified primary care management for low back pain with current best practice (STarT Back): a randomised controlled trial. *Lancet*. 2011 Oct 29;378(9802):1560-71.
- ³⁵ Oka H, Matsudaira K, Fujii T, et al. Estimated risk for chronic pain determined using the generic STarT Back 5-item screening tool. *Journal of Pain Research*. 2017;10:461-467.
- ³⁶ Butera KA, Lentz TA, Beneciuk JM, George SZ. Preliminary Evaluation of a Modified STarT Back Screening Tool Across Different Musculoskeletal Pain Conditions. *Physical Therapy*. 2016;96(8):1251-1261.
- ³⁷ Bier JD, Ostelo RWJG, Koes BW, Verhagen AP. Validity and reproducibility of the modified STarT Back Tool (Dutch version) for patients with neck pain in primary care. *Musculoskelet Sci Pract*. 2017 Oct;31:22-29.
- ³⁸ Von Korff M, Moore JC. Stepped care for back pain: activating approaches for primary care. *Ann Intern Med*. 2001 May 1;134(9 Pt 2):911-7.
- ³⁹ Liebschutz JM, Xuan Z, Shanahan CW, LaRochelle M, Keosaian J, Beers D, et al. Improving Adherence to Long-term Opioid Therapy Guidelines to Reduce Opioid Misuse in Primary Care: A Cluster-Randomized Clinical Trial. *JAMA Intern Med*. 2017 Sep 1;177(9):1265-1272.
- ⁴⁰ Debar LL, Kindler L, Keefe FJ, Green CA, Smith DH, Deyo RA, Ames K, Feldstein A. A primary care-based interdisciplinary team approach to the treatment of chronic pain utilizing a pragmatic clinical trials framework. *Transl Behav Med*. 2012 Dec 1;2(4):523-530.
- ⁴¹ Agency for Healthcare Research and Quality. Care Management: Implications for Medical Practice, Health Policy, and Health Services Research. AHRQ Publication No. 15-0018-EF. April 2015. Accessed: April 2018. Available: www.ahrq.gov/professionals/prevention-chronic-care/improve/coordination/caremanagement/index.html
- ⁴² https://www.chcs.org/media/Care_Management_Framework.pdf
- ⁴³ Goodell S, Bodenheimer TS, Berry-Millett R. Care Management of Patients with Complex Health Care Needs. Robert Wood Johnson Foundation. December 1, 2009. Available: www.rwjf.org/en/library/research/2009/12/care-management-of-patients-with-complex-health-care-needs.html
- ⁴⁴ Advancing Integrated Mental Health Solutions. Behavioral Health Care Manager. 2018. Accessed: April 2018. Available: <http://aims.uw.edu/collaborative-care/team-structure/care-manager>
- ⁴⁵ Substance Abuse and Mental Health Services Administration. Trauma Informed Approach and Trauma-Specific Interventions. Accessed: June 2018. Available: www.samhsa.gov/nctic/trauma-interventions.

-
- ⁴⁶ Hayden JA, van Tulder MW, Tomlinson G. Systematic review: strategies for using exercise therapy to improve outcomes in chronic low back pain. *Ann Intern Med*. 2005 May 3;142(9):776-85.
- ⁴⁷ Vuori IM. Dose-response of physical activity and low back pain, osteoarthritis, and osteoporosis. *Medicine and science in sports and exercise*. *Med Sci Sports Exerc*. 2001 Jun;33(6 Suppl):S551-86; discussion 609-10.
- ⁴⁸ van Middelkoop M1, Rubinstein SM, Kuijpers T, Verhagen AP, Ostelo R, Koes BW, van Tulder MW. A systematic review on the effectiveness of physical and rehabilitation interventions for chronic non-specific low back pain. *Eur Spine J*. 2011 Jan;20(1):19-39.
- ⁴⁹ Moffett JK, Torgerson D, Bell-Syer S, Jackson D, Llewlyn-Phillips H, Farrin A, et al. Randomised controlled trial of exercise for low back pain: clinical outcomes, costs, and preferences. *BMJ*. 1999 Jul 31;319(7205):279-83.
- ⁵⁰ Younge JO, Gotink RA, Baena CP, Roos-Hesselink JW, Hunink MG. Mind-body practices for patients with cardiac disease: a systematic review and meta-analysis. *Eur J Prev Cardiol*. 2015 Nov;22(11):1385-98.
- ⁵¹ Nagele E, Jeitler K, Horvath K, Semlitsch T, Posch N, et al. Herrmann KH Clinical effectiveness of stress-reduction techniques in patients with hypertension: systematic review and meta-analysis. *J Hypertens*. 2014 Oct;32(10):1936-44; discussion 1944.
- ⁵² Strauss C, Cavanagh K, Oliver A, Pettman D. Mindfulness-based interventions for people diagnosed with a current episode of an anxiety or depressive disorder: a meta-analysis of randomised controlled trials. *PLoS One*. 2014 Apr 24;9(4):e96110.
- ⁵³ Tang NK, Lereya ST, Boulton H, Miller MA, Wolke D, Cappuccio FP. Nonpharmacological Treatments of Insomnia for Long-Term Painful Conditions: A Systematic Review and Metaanalysis of Patient-Reported Outcomes in Randomized Controlled Trials. *Sleep*. 2015 Nov 1;38(11):1751-64.
- ⁵⁴ Rubak S, Sandbæk A, Lauritzen T, Christensen B. Motivational interviewing: a systematic review and meta-analysis. *The British Journal of General Practice*. 2005;55(513):305-312.
- ⁵⁵ Skelly AC, Chou R, Dettori JR, Turner JA, Friedly JL, Rundell SD, Fu R, Brodt ED, Wasson N, Winter C, Ferguson AJR. Noninvasive Nonpharmacological Treatment for Chronic Pain: A Systematic Review. *Comparative Effectiveness Review No. 209*. (Prepared by the Pacific Northwest Evidence-based Practice Center under Contract No. 290-2015-00009-I.) AHRQ Publication No 18-EHC013-EF. Rockville, MD: Agency for Healthcare Research and Quality; June 2018. Available: <https://effectivehealthcare.ahrq.gov/sites/default/files/pdf/nonpharma-chronic-pain-cer-209.pdf>
- ⁵⁶ Vickers AJ1, Vertosick EA2, Lewith G3, MacPherson H4, Foster NE5, Sherman KJ6, et al. Acupuncture for Chronic Pain: Update of an Individual Patient Data Meta-Analysis. *J Pain*. 2018 May;19(5):455-474.
- ⁵⁷ Tick H, Nielsen A, Pelletier KR, Bonakdar R, Simmons S, Glick R, et al. Evidence-Based Nonpharmacologic Strategies for Comprehensive Pain Care: The Consortium Pain Task Force White Paper. *Explore (NY)*. 2018 May - Jun;14(3):177-211.
- ⁵⁸ Bodenheimer T, Lorig K, Holman H, Grumbach K. Patient self-management of chronic disease in primary care. *JAMA*. 2002 Nov 20;288(19):2469-75.
- ⁵⁹ Simmons L, Baker NJ, Schaefer J, Miller D, Anders S. Activation of patients for successful self-management. *J Ambul Care Manage*. 2009 Jan-Mar;32(1):16-23.
- ⁶⁰ Glasgow RE, Funnell MM, Bonomi AE, Davis C, Beckham V, Wagner EH. Self-management aspects of the improving chronic illness care breakthrough series: implementation with diabetes and heart failure teams. *Ann Behav Med*. 2002 Spring;24(2):80-7.
- ⁶¹ Lukewich J, Mann E, VanDenKerkhof E, Tranmer J. Self-management support for chronic pain in primary care: a cross-sectional study of patient experiences and nursing roles. *J Adv Nurs*. 2015 Nov;71(11):2551-62.
- ⁶² <https://www.ahrq.gov/professionals/prevention-chronic-care/improve/self-mgmt/self/index.html>