

Appendices

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Examining the features of impacts of workers' compensation policies for chronic pain on health, social, and economic outcomes

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Appendix 1: Methodological details

Background to the rapid synthesis

This rapid synthesis mobilizes both global and local research evidence about a question submitted to the McMaster Health Forum's Rapid Response program. Whenever possible, the rapid synthesis summarizes evidence drawn from existing evidence syntheses and from single research studies in areas not covered by existing evidence syntheses and/or if existing evidence syntheses are old or the science is moving fast. A systematic review is a summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select and appraise research studies, and to synthesize data from the included studies. The rapid synthesis does not contain recommendations, which would have required the authors to make judgments based on their personal values and preferences.

The Forum produces timely and demand-driven contextualized evidence syntheses such as this one that address pressing health and social system issues faced by decision-makers (see [our website](#) for more details and examples). This includes evidence syntheses produced within:

- days (e.g., rapid evidence profiles or living evidence profiles)
- weeks (e.g., rapid syntheses that at a minimum include a policy analysis of the best-available evidence, which can be requested in a 10-, 30-, 60-, or 90-business-day timeframe)
- months (e.g., full evidence syntheses or living evidence syntheses with updates and enhancements over time)

This rapid synthesis was prepared over a 30-business day timeframe and involved six steps:

- 1) submission of a question from a policymaker or stakeholder (in this case, Pain Canada)
- 2) engaging subject matter experts
- 3) identifying, selecting, appraising, and synthesizing relevant research evidence about the question
- 4) conducting and synthesizing a jurisdictional scan of experiences about the question from other countries and Canadian provinces and territories

- 5) drafting the rapid synthesis in such a way as to present concisely and in accessible language the research evidence
- 6) finalizing the rapid synthesis based on the input of at least two merit reviewers.

Engaging subject matter experts

At the beginning of each rapid evidence profile and throughout its development, we engage subject matter experts, who help us to scope the question and ensure relevant context is taken into account in the summary of the evidence.

Identification, selection, quality appraisal, and synthesis of evidence

For this rapid synthesis, we searched Health Systems Evidence, Social Systems Evidence, and PubMed:

- 1) evidence syntheses
- 2) protocols for evidence syntheses that are underway
- 3) single studies (when no guidelines or evidence syntheses are identified or when they are older).

In [Health Systems Evidence](#), we searched for evidence syntheses using an open search for (chronic pain). In [Social Systems Evidence](#), we searched for evidence syntheses using the “employment” filter under programs and services combined with an open search for (chronic pain). In [PubMed](#), we used an open search for (chronic pain) AND (worker OR workplace OR occupation) AND (compensation OR benefit) combined with a filter for the past 10 years.

Each source for these documents is assigned to one team member who conducts hand searches (when a source contains a smaller number of documents) or keyword searches to identify potentially relevant documents. A final inclusion assessment is performed both by the person who did the initial screening and the lead author of the rapid synthesis, with disagreements resolved by consensus or with the input of a third reviewer on the team. The team uses a dedicated virtual channel to discuss and iteratively refine inclusion/exclusion criteria throughout the process, which provides a running list of considerations that all members can consult during the first stages of assessment.

For any included guidelines, two reviewers assess each guideline using three domains in the AGREE II tool (stakeholder involvement, rigour of development, and editorial independence). Guidelines are classified as high quality if they were scored as 60% or higher across each of these domains.

For each evidence synthesis we included, we documented the dimension of the organizing framework (see Appendix 2) with which it aligns, key findings, living status, methodological quality (using AMSTAR), last year the literature was searched (as an indicator of how recently it was conducted), availability of GRADE profile, and equity considerations using PROGRESS PLUS.

For AMSTAR, two reviewers independently appraise the methodological quality of evidence syntheses that are deemed to be highly relevant. Disagreements are resolved by consensus with a third reviewer if needed. AMSTAR rates overall methodological quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. High-quality evidence syntheses are those with scores of eight or higher out of a possible 11, medium-quality evidence syntheses are those with scores between four and seven, and low-quality evidence syntheses are those with scores less than four. It is important to note that the AMSTAR tool was developed to assess evidence syntheses focused on clinical interventions, so not all criteria apply to those pertaining to health-system arrangements or to economic and social responses. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, an evidence synthesis that scores 8/8 is generally of comparable quality to another scoring 11/11; both ratings are considered ‘high scores.’ A high score signals that readers of the evidence synthesis can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the evidence synthesis should be discarded, merely that less confidence can be placed in its findings and that it needs to

be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1): S8.)

For primary research (if included), we documented the dimension of the organizing framework with which it aligns, publication date, jurisdiction studied, methods used, a description of the sample and intervention, declarative title and key findings, and equity considerations using PROGRESS PLUS. We then used this extracted information to develop a synthesis of the key findings from the included syntheses and primary studies.

During this process we include published, pre-print and grey literature. We do not exclude documents based on the language of a document. However, we are not able to extract key findings from documents that are written in languages other than Chinese, English, French, Portuguese, or Spanish. We provide any documents that do not have content available in these languages in an appendix containing documents excluded at the final stages of reviewing. We excluded documents that did not directly address the research questions and the relevant organizing framework. All of the information provided in the appendix tables was taken into account by the authors in describing the findings in the rapid synthesis.

Identifying experiences from other countries and from Canadian provinces and territories

For each rapid synthesis, we work with the requestors and a subject matter expert to collectively decide on what countries (and/or states or provinces) to examine based on the question posed. For other countries and for Canadian provinces and territories, we search websites of workers' compensation boards (or similar organizations) While we do not exclude content based on language, where information is not available in English, Chinese, French, Spanish, or Portuguese we attempt to use site-specific translation functions or Google Translate. A full list of websites and organizations searched is available upon request.

Appendix 2: Framework to organize what we looked for

We used the framework below to categorize each of the evidence documents included in the rapid synthesis and to structure the presentation of findings in the rapid synthesis and appendices 4 and 5.

- Chronic pain as conceptualized in International Classification of Diseases (ICD-11)
 - Chronic primary pain
 - Chronic secondary pain
 - Chronic cancer-related pain
 - Chronic post-surgical or post-traumatic pain
 - Chronic secondary musculoskeletal pain
 - Chronic secondary visceral pain
 - Chronic neuropathic pain
 - Chronic secondary headache or orofacial pain
- Chronic pain conceptualized using another framework
 - Classification of functional impairment
 - Impairment
 - Permanent partial disability
 - Permanent total disability
- Sector of work
 - Business, finance, and administration occupations
 - Natural and applied sciences and related occupations
 - Health occupations
 - Occupations in education, law, and social, community, and government services
 - Occupations in art, culture, recreation, and sport
 - Sale and service occupations
 - Trades, transport, and equipment operators and related occupations
 - Natural resources, agriculture, and related production occupations
 - Occupations in manufacturing and utilities
- Type of worker
 - Full-time
 - Part-time
 - Occasional/casual
 - Temporary foreign worker
- Nature of eligibility
 - Worker-centred determination
 - Standardized guideline determination (e.g., after which typical recovery would be expected)
 - Compensation for wages lost
 - Fixed percentage
 - Variable percentage (e.g., tied to functional impairment)
 - Treatment and rehabilitation
 - Assessment
 - By treating physician
 - By allied health professional (e.g., occupational therapist)
 - By multidisciplinary/interdisciplinary team
 - Programs, services, and products covered
 - Non-pharmacologic therapy (e.g., physical treatments and psychological therapies)
 - Over-the-counter pharmacologic therapies
 - Prescription non-opioid pharmacologic therapies

- Medical cannabis authorized by a healthcare provider
- Non-opioid pharmacologic therapies (e.g., NSAIDs, SNRIs)
- Prescription opiate therapies
- Post-discharge supports
- Multidisciplinary/interdisciplinary treatment (including any of the above)
- Return-to-work assistance (or vocational rehabilitation) covered
 - Medical management
 - Physical conditioning
 - Workplace conditioning (e.g., requirements for ergonomic assessment or cognitive demand assessment)
 - Pain and symptom management
- Governance arrangements related to contested decisions
 - What decisions need to be made
 - Reassessment of functional capacity
 - Determination of change in compensation and/or benefit
 - By whom can decisions be made
 - Internal to workers' compensation board
 - Independent process (e.g., tribunal; justice system)
- Priority populations
 - Individuals experiencing job insecurity
 - Individuals without a primary care provider
 - Individual living in northern, rural, or remote areas
 - Recent immigrants or refugees
- Impacts of workers' compensation policies
 - Health impacts
 - Physical health
 - Mental health
 - Social impacts
 - Economic impacts
 - Income and wages

Appendix 3: Key findings from the jurisdictional scan about workers' compensation policies for chronic pain

Jurisdiction	Workers' Compensation Board	Chronic pain specific policy (yes/no)	Temporary wage loss and medical benefits	Long-term wage loss	Assessment process for long-term wage loss	Adjudication process	Dispute process
Australia – New South Wales	State Insurance Regulatory Authority	No	95% of pre-injury earning for the first 13 weeks and then 80% until 130 weeks - Maximum weekly compensation is \$2,423.60 AUD - Medical benefits include medical and related treatments (including domestic assistance services), hospital treatment, ambulance services, rehabilitation, and travel expenses	80% of worker's pre-injury earnings, only applicable with a whole person impairment of more than 20% determined by independent medical assessment - Chronic pain may qualify if particular signs and symptoms are present at the time of evaluation and no other diagnosis better explains the signs and symptoms	Assessed by nominated treating doctor chosen by the claimant and insurance company	- It takes three business days to review a claim and seven business days for a complete assessment - If the assessment requires further investigation, individuals may be able to access provisional weekly compensations for up to 12 weeks, covering a maximum of \$10,000 AUD in medical treatment	Independent Review Office (IRO) is an independent statutory office that is responsible for helping to find solutions to disputes for injured workers - Personal Injury Commission is an independent tribunal that helps resolve workers' compensation disputes
Australia – South Australia	Return-to-work South Australia	No	100% of weekly earnings for the first 52 weeks of injury followed by 80% of weekly earnings for another 52 weeks Financial support for reasonable and necessary medical treatment for up to one year after income support ceases	Income support until retirement age including 100% notional weekly earnings in the first year and 80% for subsequent years - Lifetime treatment, care, and support services	Assessments are conducted by a medical professional (usually a physician), return-to-work coordinator, and a claims specialist	- A claim decision is made within 10 business days, with some variations depending on individual circumstances - A claim could be processed during an initial call if the expenses are for	South Australian Employment Tribunal resolves workers' compensation and return-to-work disputes through conciliation conference, settlement conference, and hearings

Jurisdiction	Workers' Compensation Board	Chronic pain specific policy (yes/no)	Temporary wage loss and medical benefits	Long-term wage loss	Assessment process for long-term wage loss	Adjudication process	Dispute process
						medical treatment and are approved by the employer • The adjudication process might take longer if the case is complex and requires further investigation from the employer and an independent medical examiner • Reimbursements can be made for treatments occurring during this period if the claim is approved	
Canada – British Columbia	WorkSafeBC	Yes	• 90% of normal take-home pay for 10 weeks • Covers the cost of healthcare services and supplies that are considered reasonably necessary to treat injuries as well as vocational rehabilitation	• Long-term wage rate is determined using a combination of pre-injury net earnings, loss of function percentage, loss of function, and a compensation factor • Chronic pain that is permanent and disproportionate to the associated physical or psychological injuries may be granted permanent	• Assessment is conducted by a Vocational Rehabilitation Consultant	• The timeline for the adjudication process is not clearly stated, but may take longer for complex cases • Workers may be reimbursed for treatments that occurred during this process	• Appeals can be submitted to the Reviews Division process and then the Workers' Compensation Appeal Tribunal

Jurisdiction	Workers' Compensation Board	Chronic pain specific policy (yes/no)	Temporary wage loss and medical benefits	Long-term wage loss	Assessment process for long-term wage loss	Adjudication process	Dispute process
				disability benefits, equal to 2.5% of total disability			
Canada – Alberta	Alberta Workers' Compensation Board	Yes	- Wage replacements are offered for part-time, short-term, and full-time positions 90% of net income payable up to \$98,700 CAD for up to 80 days	Permanent Clinical Impairment guidelines recommend a percentage of whole-body impairment for injury, which is used to calculate a financial award	- In-person evaluation is provided by an examining physician or physiotherapist - If pain persists past usual healing time, is inconsistent with organic findings, or impairs earning capacity additional awards may be added	The timeline for the adjudication process is not stated and it is unclear whether individuals are able to seek treatment in the interim	- A formal review can be requested with the supervisor of the case worker that made the initial adjudication - A supervisor can forward the dispute to the Dispute Resolution and Decision Review Body which is a department of specialists who will determine if the decision is correct - A final appeal can be made to the Appeals Commission, which is an independent body
Canada – Saskatchewan	Saskatchewan Workers' Compensation Board	No	- Up to 90% of average earnings up to a maximum of \$68,102 CAD if the injury occurred prior to 2014 or \$96,945 if after 2014 - The minimum weekly earning is \$753.27 - Workers are entitled to additional compensation for medical treatment and loss of time at work	If symptoms from an injury persist (e.g., chronic pain) individuals are categorized as needing level III care and may be entitled to advanced assessment and treatment	Assessments dependent on the level of care needed - Level one may be provided by a primary care physician - Level two and three are provided by Workers' Compensation	- A claims decision is typically made within days - More complex cases may require additional time and investigation - The board recommends receiving care as	A three-step process is in place and culminates with an appeal to the Workers' Compensation Board Tribunal, which is comprised of two or more members of the board and may amend, rescind or alter any prior decisions

Jurisdiction	Workers' Compensation Board	Chronic pain specific policy (yes/no)	Temporary wage loss and medical benefits	Long-term wage loss	Assessment process for long-term wage loss	Adjudication process	Dispute process
			due to medical appointments Return to work and vocational rehabilitation supports		Board multidisciplinary teams	soon as needed and asking care providers to bill the board while awaiting a claim decision	
Canada – Manitoba	Workers Compensation Board of Manitoba	No	90% of workers' net pay - Medical treatment and expenses as well as transportation and living expenses if travel is required - Return to work and vocational rehabilitation supports are also provided	Permanent impairment may be determined one year after an accident, injury or related surgery - Permanent impairment ratings are established based on a Rating Schedule as a percentage of the whole body	Initial assessments are provided by a healthcare provider (typically physician) of the claimant's choice	- The timeline for adjudication is not stated and depends on the complexity of the case and information available - It is unclear whether individuals can seek treatment in the interim	- Appeals can be filed with the Appeal Commission, which operates separately and independently from the Workers Compensation Board - The Commission includes a commissioner representing public interest, one who is designated by the Chief Appeal Commissioner and one presenting the workers and employers
Canada – Ontario	Workplace Safety and Insurance Board (WSIB)	Yes	85% take-home pay up to an annual maximum - Healthcare benefits including medical treatment, hospitalization, prescription drugs, devices and equipment, and reasonable travel - Return to work and vocational rehabilitation	Non-economic loss benefit is calculated by multiplying the whole person impairment percentage by a base dollar value set out in the Workplace Safety Insurance Act - Entitlements for chronic pain may be provided when it results from a workplace injury, with	- Permanent impairment is assessed by a team of nurses according to criteria set out by the American Medical Association - Chronic pain assessments use a holistic	The timeline for adjudication is not stated; it is unclear if workers may be reimbursed for treatment occurring during the claims process	- Appeals Service Division is the first line of appeal - The Workplace Safety and Insurance Appeals Tribunal is the second and final level, which is external to WSIB - Appeals resolution officers are responsible for addressing appeals

Jurisdiction	Workers' Compensation Board	Chronic pain specific policy (yes/no)	Temporary wage loss and medical benefits	Long-term wage loss	Assessment process for long-term wage loss	Adjudication process	Dispute process
				medical and non-medical evidence of pain that persists for six or more months beyond usual healing, and the pain impacts earning capacity A chronic pain disability supersedes and replaces any prior award	approach and account for using a global impairment rating Assessments may be conducted by a range of health professionals, which may be chosen by the claimant or by WSIB		
Canada – Quebec	Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST)	No	90% of the workers net-income to a maximum of \$94,000 Medical benefits include services of health professionals, treatment by a public health facility, medicines and pharmaceuticals, prosthetics, and assistive devices - Unpaid interns are eligible for weekly indemnity of \$126	The product of the percentage of the permanent physical or mental impairment multiplied by a set amount set out in the Workplace Accident and Professional Injuries Act	- A physician of the claimant's choosing undertakes an initial assessment - It is up to the CNESST, not the doctor, to determine whether the worker is able to do their job, return to work, and subsequently stop income replacement indemnity	- The adjudication process takes approximately 15 days and benefits are dispersed within 10 days of approval - Workers may be reimbursed for treatment that occurred during the claim process	- Administrative review is the first step where a supervisor will review the decision - A following appeal can be made to the Tribunal administratif du travail in the following cases: - following an opinion of the medical evaluation office - following an opinion of Special Committee of Chairpersons (which analyzes occupation lung disease)

Jurisdiction	Workers' Compensation Board	Chronic pain specific policy (yes/no)	Temporary wage loss and medical benefits	Long-term wage loss	Assessment process for long-term wage loss	Adjudication process	Dispute process
							- o following opinion of the Committee on Occupational Oncological Diseases - o for financing and cost assignment matters
Canada – New Brunswick	WorkSafeNB	Yes	• 85% of average earnings minus any net estimated capable earnings (labour percentage may vary based on employment) • Healthcare services and supplies that are considered medically necessary to treat injury and help return to work	• Lump sum physical impairment award • Specific guidelines are in place for managing claims that result in chronic pain as a complication of a compensable injury	• Permanent impairment assessments are completed by a WorkSafeNB medical advisor certified by the American Board of Independent Medical Examiners	• The timeline for adjudication is not stated and it is unclear whether individuals are able to seek treatment in the interim	• Decision Review Office can internally review a decision • An appeal can be submitted to the Workers' Compensation Appeals Tribunal, which is an independent body
Canada – Nova Scotia	Nova Scotia Workers' Compensation Board (NS WCB)	Yes	• 75% of net earnings loss for up to 26 weeks following 85% earnings loss • Healthcare costs related to injury for pre-approved services and personal equipment • Return to work and vocational rehabilitation supports	• Permanent impairment is calculated based on a percentage of total body impairment with 100% being the maximum possible rating • Extended earnings replacement is paid monthly for a permanent loss of earnings if the lost earnings are greater than the amount paid by the permanent impairment benefit	• Permanent impairment is determined by a NS WCB accredited physician	• The timeline for adjudication depends on the complexity of the case • Low complexity cases can be resolved within a few weeks • Medium complex cases (e.g., sprains) may take four to six weeks	• An internal appeal processes is available by a hearing officer • Final decisions can be appealed to the Workers' Compensation Appeals Tribunal, which is an independent body reporting to the Minister of Justice

Jurisdiction	Workers' Compensation Board	Chronic pain specific policy (yes/no)	Temporary wage loss and medical benefits	Long-term wage loss	Assessment process for long-term wage loss	Adjudication process	Dispute process
				Where a worker is found to have a pain-related impairment, the Board will pay the worker a permanent benefit based upon a permanent impairment rating of 3% where the worker experiences a slight pain-related impairment or 6% where the worker experiences a substantial pain-related impairment		- Highly complex cases are variable - Benefits are given only once the claim is accepted - It is unclear whether individuals are able to seek treatment in the interim	
Canada – Prince Edward Island	PEI Workers Compensation Board	No	90% of net annual earnings up to a maximum limit of \$78,400 CAD - Healthcare coverage for services and treatments are approved based on the policy	Long-term wage loss is calculated based on pre-accident average earnings and current net earning capacity	- Long-term wage loss is based on medical information and a functional assessment conducted by an approved health professional based on American Medical Association guidelines - Benefits are reviewed after 36 months	- Once the Workers Compensation Board of PEI registers a claim, the adjudication process typically takes one to two weeks; however, more complex cases can take longer - The injured worker is entitled to benefits once the claim has been accepted but treatments such as physiotherapy and chiropractic	- Requests for internal reconsideration may be submitted to the board - Final appeals may be submitted to the Workers Compensation Appeal Tribunal, which is an independent body

Jurisdiction	Workers' Compensation Board	Chronic pain specific policy (yes/no)	Temporary wage loss and medical benefits	Long-term wage loss	Assessment process for long-term wage loss	Adjudication process	Dispute process
						services can be approved before a decision is made	
Canada – Newfoundland and Labrador	WorkplaceNL	No	85% of pre-injury earnings, which are re-evaluated after 13 weeks - Healthcare costs including services from allied professionals, medical tests, medications, assistive devices, travel costs, and home modifications	Lump sum payment based on percentage of injury impairment	Permanent functional impairment assessment is performed by a physician with special training	The timeline for the adjudication process is not stated and it is unclear whether individuals are able to seek treatment in the interim	- Internal review is completed by WorkplaceNL Workers' Compensation Independent Review Board is available for an external independent review
Canada - Northwest Territories and Nunavut	Workers' Safety and Compensation Commission (WSCC)	Yes	90% of estimated annual earnings up to a maximum insurable amount - Coverage for the cost of healthcare services and treatment - Return to work and vocational rehabilitation	One-time lump sum based on their permanent medical impairment rating as defined in the American Medical Association guide Long-term earning loss benefit calculated based on 90% of the difference between the pre-injury and post-injury earnings - Specific guidelines have been set for the coverage of chronic pain	Permanent medical impairment is assessment is conducted by a WSCC Medical Advisor	- According to the WSCC, the adjudicator has the authority for determining ongoing benefit eligibility for workers with time loss claims up to six weeks in duration - However, it is unclear whether individuals can seek treatment and are entitled to reimbursement during the claims process	- An internal review can be conducted by the Review Committee - A second and final review may be sent to the Appeals Tribunal, which is an independent organization
Canada – Yukon	Workers' Safety and	Yes	75% of estimated worker's loss of	Permanent impairment benefits	Assessments are provided by	According to the Workers'	Internal reviews are available by the

Jurisdiction	Workers' Compensation Board	Chronic pain specific policy (yes/no)	Temporary wage loss and medical benefits	Long-term wage loss	Assessment process for long-term wage loss	Adjudication process	Dispute process
	Compensation Board Yukon		earning capacity (with up to 100% for individuals with low average earning) - Coverage of costs for healthcare services and medical treatments including First Nations healing services - Return to work and vocational rehabilitation	are calculated by multiplying a percentage of 125% of maximum annual earnings by the permanent impairment rating, which are based on the American Medical Association guide Specific guidelines are available for chronic pain, which may be compensable once it has been established that it is the result of a work-related disability	Workers' Safety and Compensation Board medical consultants	Safety and Compensation Board Yukon, the adjudication process of a claim is completed within an average of 14 days; however, some complex cases may take more time since each claim is considered on an individual basis It is unclear whether individuals can seek treatment in the interim and become qualified for reimbursement	Reconsideration Unit External and independent reviews may be made by the Appeals Tribunal
New Zealand	Accident Compensation Corporation New Zealand	No	80% of their weekly compensation - Coverage of healthcare services and treatments, as well as medical aids, home attendant care, transportation, childcare, and counselling	Permanent injury can result in either a one-time lump sum payment or ongoing support based on the date of injury and the level of impairment Lump sum payments range from \$4,162. 20 NZD for 10% impairment to \$166,487.44 for 80% impairment	A whole person is completed by a certified health professional conducted based on the American Medical Association guide	- The adjudication process takes approximately 35 working days - However, it is unclear whether individuals can seek treatment and are entitled to reimbursement in the interim	Appeals may be made to the Accident Compensation Appeals District Court Registry and heard by a district court judge

Jurisdiction	Workers' Compensation Board	Chronic pain specific policy (yes/no)	Temporary wage loss and medical benefits	Long-term wage loss	Assessment process for long-term wage loss	Adjudication process	Dispute process
				Interdisciplinary care for persistence pain requires prior approval but may be covered when deemed necessary and clinically appropriate			
United Kingdom	Employer's liability insurance	No	Compensation is based on insurance package	- Compensation is based on insurance package Employment and Support Allowance can be given to persons who have limited capability for work and is dependent on medical examinations and income capacity	Not reported	The timeline for the adjudication process is not stated and it is unclear whether individuals are able to seek treatment in the interim	- Appeals for entitlement to benefits are directed to the Social Security and Child Support Tribunal who are supported by HM Courts and Tribunal Services - The Tribunal is impartial and independent from government
United States – California	California Division of Workers' Compensation	No	66% of gross wages pre-tax to a maximum of 104 weeks - Medical care benefits including treatment covered as long as medically necessary but must be reviewed by a claims administrator - A maximum of 24 chiropractic, physiotherapy, and occupational therapy sessions are allotted	- Permanent disabilities are based on a percentage calculated on how the impairment affects ability to work, occupation age at the time of injury and future earning capacity - A maximum pain rating of 3% is permitted for pain resulting from an injury - Supplementary job displacement benefits are available based on	Assessed by a physician chosen by the insurance company and confirmed by the Disability Evaluation Unit	- The adjudication timeline is 14 days for a claim decision - Within one day of filing a claim form, the worker is authorized appropriate medical treatment up to \$10,000 USD	Workers' Compensation Appeals Board is a seven member judicial body appointed by the Governor and confirmed by the Senate

Jurisdiction	Workers' Compensation Board	Chronic pain specific policy (yes/no)	Temporary wage loss and medical benefits	Long-term wage loss	Assessment process for long-term wage loss	Adjudication process	Dispute process
				permanent disability ratings If workers are not offered work by their employer, permanent disability benefits may be increased by 15%			
United States – Florida	Workers' Compensation System Guide produced by Department of Financial Services	No	100% of benefits for up to seven days 66% of earnings (80% for severe injury) for up to 104 weeks Medical treatments performed by an insurance company authorized doctor may be covered; care might include doctor's visits, physical therapy, medical tests, prosthesis, and attendant care - Vocational rehabilitation may also be provided	Permanent total disability is paid as 66% of the worker's average weekly wages subject to a state maximum will be made for the duration of the disability or until the individual reaches 75 Permanent partial benefits will not pay more than 75 percent of the maximum and are based on a percentage of impairment	No information identified	The determination of a claim takes typically two to six weeks and workers are not eligible for paid benefits during the waiting period	Appeals are made initially through Alternative Dispute Resolutions followed by an Appeal to the First District Court of Appeal
United States – Iowa	Iowa Worker Compensation	No	- Up to 80% of spendable weekly earnings for temporary total disability and up to 66% for temporary partial disability Coverage of healthcare services and supplies that are reasonable suited to treat an employee's work injury	- Healing period benefits are available if work injury causes permanent impairment Permanent partial disability and permanent total disability are compensated (in addition to the healing	Assessed by a medical doctor chosen by the insurance company and certified by the American Medical Association	The timeline for the adjudication process is not stated and it is unclear whether individuals are able to seek treatment and become eligible for	- A petition and request for a hearing can be sent to the Iowa Workers' Compensation Commissioner - This can be followed by an Iowa Court of Appeal decision

Jurisdiction	Workers' Compensation Board	Chronic pain specific policy (yes/no)	Temporary wage loss and medical benefits	Long-term wage loss	Assessment process for long-term wage loss	Adjudication process	Dispute process
			- Employer has the right to choose the medical care in most circumstances \$100 per week is available for vocational rehabilitation services	period) based on the extent to disability by percentage multiplied by 80% of an individual's average spendable earnings (with a minimum of 35% of the statewide average weekly wage)		reimbursement in the interim	
United States – New York	New York Workers' Compensation Board	No	66% of average weekly wage by the degree of disability with 100% for total and 25% for mild Medical benefits including doctors' visits, diagnostic tests, prescription drugs, assistive devices, and travel, but must be performed by a board-approved provider - To maintain benefits, a medical report must be completed at least every 90 days and may include cross-examination by an independent medical examiner - Other services including vocational rehabilitation, social services, and return to work may be offered	Not identified	Not identified	A general timeline for the adjudication process is not stated; however, workers are entitled to benefit payments if lost time exceeds seven days	Internal appeals are handled by panel consisting of three Board member - Judicial appeals may be made to the State of New York Supreme Court, Appellate Division, Third Department
United States - Texas	Texas Department of Insurance	No	70% of the difference between pre- and post-injury average weekly income, which end when no further	70% of average weekly wage based on an impairment rating (three weeks of benefits per percentage	Medical assessments are provided by a designated doctor that is	The timeline for the adjudication process is not stated and it is unclear whether	Appeals panels are provided at the Division of Workers' Compensation within the Texas

Jurisdiction	Workers' Compensation Board	Chronic pain specific policy (yes/no)	Temporary wage loss and medical benefits	Long-term wage loss	Assessment process for long-term wage loss	Adjudication process	Dispute process
			healing is expected or 104 weeks have passed Medical benefits for treatment covered by a provider approved in healthcare network	of impairment), with increases by increments of 10, starting at 10% Supplemental income benefits may be paid after impairment income benefits have ceased for individuals who have ratings of 15% or more, have not returned to work, earn less than 80% of pre-injury average weekly wage, are seeking employment, and did not accept a lump sum payment for their injury Lifetime income benefits for those with a permanent disability (e.g., loss of sight or amputation)	trained to support injured workers	individuals are able to seek treatment and become eligible for reimbursement in the interim	Department of Insurance Additional appeals may be made to an appropriate state court

Appendix 4: Detailed data extractions from evidence syntheses about compensation for chronic pain

Dimension of organizing framework	Declarative title and key findings	Relevance	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations
- Chronic pain as conceptualized in ICD-11 - Chronic primary pain - Impact of workers' compensation policies - Economic impacts - Income and wages	There is a positive association between workers' compensation policies and return-to-work outcomes (1) - The purpose of this systematic review was to examine predictors of sick leave duration in workers after six weeks of low back pain. - This review stated that workers' compensation policies were only explored in one study. This study reported a positive association between workers' compensation policies and return-to-work outcomes for workers with chronic pain. - Modified work duties or accommodations were found to improve return-to-work outcomes; however, it is unclear if these accommodations were a result of workers' compensation programs. - A negative association between male chronic pain and return to work was reported in one study. - No associations between female chronic pain and return to work were found. - No information on the type of disability, type of worker, or sector of work was reported.	High	No	4/9	2012	No	Gender/sex
- Chronic pain conceptualized using another framework - Nature of eligibility - Standardized guideline determination (e.g., after which typical recovery would be expected) - Compensation for wages lost - Fixed percentage - Treatment and rehabilitation - Assessment - By multidisciplinary/interdisciplinary team - Programs, services, and products covered	The experiences of injured workers overwhelmingly suggest much distress and dissatisfaction within the compensation systems, and that there is potential for the system to cause additional harm to an already-injured individual (2) - The overarching aim of this scoping review was to map the literature on the lived experiences of injured workers in Australia to better understand the factors that inhibit the transition back to work and improved health. - Based on the findings, improvements to the systems are required to consider a less harmful, more cooperative approach to workers' rehabilitation and compensation.	High	No	5/11	2016	No	Socio-economic status

○ Governance arrangements related to contested decisions ▪ What decisions need to be made • Reassessment of functional capacity • Determination of change in compensation and/or benefit ▪ By whom can decisions be made • Internal to workers' compensation board • Impacts of workers' compensation policies ○ Health impacts ▪ Physical health ▪ Mental health ○ Social impacts ○ Economic impacts ▪ Income and wages							
• Chronic pain conceptualized using another framework ○ Type of worker ▪ Full-time ▪ Part-time ▪ Occasional/casual ○ Nature of eligibility ▪ Standardized guideline determination (e.g., after which typical recovery would be expected) ○ Compensation for wages lost ▪ Fixed percentage ○ Treatment and rehabilitation ▪ Assessment • By multidisciplinary/interdisciplinary team ▪ Programs, services, and products covered ○ Governance arrangements related to contested decisions	<u>To be effective, workers' compensation systems at a minimum should include principles that require the addressing of medical causation, determination of an individual's functional ability both pre- and post-injury to include activity restrictions, return-to-work capability and disability, meeting jurisdiction-specific reporting requirements of the workers' compensation reporting requirements, and having knowledge of other perspectives of the various authorities and jurisdictions present in the United States (3)</u> • The American College of Occupational and Environmental Medicine lays out a description of various aspects of workers' compensations systems in the United States, with recommendations for minimal standards and best practices.	High	No	0/9	2020	No	None identified

▪ What decisions need to be made • Reassessment of functional capacity • Determination of change in compensation and/or benefit ▪ By whom can decisions be made • Internal to workers' compensation board • Impacts of workers' compensation policies ○ Health impacts ▪ Physical health ▪ Mental health ○ Social impacts ○ Economic impacts ▪ Income and wages							
• Chronic pain as conceptualized in ICD-11 ○ Chronic primary pain • Treatment and rehabilitation ○ Programs, services, and products covered ▪ Non-pharmacologic therapy (e.g., physical treatments and psychological therapies) ▪ Return-to-work assistance • Workplace conditioning • Impacts of workers' compensation policies ○ Health impacts ▪ Physical health	Multidisciplinary treatments tend to be more effective at improving the effects of chronic low back pain and return to work than single interventions (4) • The review notes that the effectiveness of return-to-work interventions for chronic low back pain relies heavily on the type of intervention used and national compensation policies regarding long-term sick leave, with one included cohort study suggesting that employing work-oriented interventions and allowing greater flexibility in the way the compensation schemes are applied could improve return-to-work prospects. • The review focuses on tertiary interventions aimed at promoting return-to-work outcomes, most of which were multidisciplinary including workplace elements such as job coaching, ergonomic elements, and educational elements. • In general, multidisciplinary treatments tended to yield better return-to-work results.	Medium	No	8/10	2018	No	None reported

Appendix 5: Detailed data extractions from single studies about compensation for chronic pain

Dimension of the organizing framework	Study characteristics	Sample and intervention description	Relevance	Declarative title and key findings
- Chronic pain as conceptualized in ICD-11 - Chronic secondary pain - Chronic secondary musculoskeletal pain - Chronic secondary visceral pain - Chronic pain conceptualized using another framework - Nature of eligibility - Standardized guideline determination (e.g., after which typical recovery would be expected) - Compensation for wages lost - Fixed percentage - Treatment and rehabilitation - Assessment - By multidisciplinary/interdisciplinary team - Programs, services, and products covered - Governance arrangements related to contested decisions - What decisions need to be made - Reassessment of functional capacity - Determination of change in compensation and/or benefit - By whom can decisions be made - Internal to workers' compensation board - Impacts of workers' compensation policies - Health impacts - Physical health - Mental health - Social impacts - Economic impacts - Income and wages	<i>Focus of study:</i> To measure the effect of legislation in Victoria, Australia, that increased workers' compensation benefits, including a raised wage replacement cap for higher earners, on claiming behaviours <i>Publication date:</i> 2019 <i>Jurisdiction studied:</i> Victoria, Australia <i>Methods used:</i> Interrupted time series	Data was derived from the National Dataset for Compensation-based Statistics, an amalgamation of administrative claims records from each Australian Workers' Compensation jurisdiction. Controlled interrupted time series of monthly claiming volumes and median disability duration, focusing on overall effects, impact among higher earners, and by condition type.	High	The effect of benefit generosity on workers' compensation claiming and disability duration varied by earnings and condition; effects were strongest among musculoskeletal conditions (5) In Victoria, the Accident Compensation Amendment Act 2010 increased benefit generosity for injured workers. Its implementation was followed by increased claiming overall, which seemed to be driven by musculoskeletal conditions.
- Chronic pain as conceptualized in ICD-11 - Chronic secondary pain - Chronic secondary musculoskeletal pain - Chronic secondary visceral pain	<i>Focus of study:</i> The aim of this study was to examine the impact of perceived injustice in the interactions between	678 participants seeking compensation for a musculoskeletal disorder.	High	Perceived injustice in interactions with claim agents shortly after injury was found to be associated with mental health for those with work-related musculoskeletal disorders (6)

Dimension of the organizing framework	Study characteristics	Sample and intervention description	Relevance	Declarative title and key findings
- Chronic pain conceptualized using another framework - Nature of eligibility - Standardized guideline determination (e.g., after which typical recovery would be expected) - Compensation for wages lost - Fixed percentage - Treatment and rehabilitation - Assessment - By multidisciplinary/interdisciplinary team - Programs, services, and products covered - Governance arrangements related to contested decisions - What decisions need to be made - Reassessment of functional capacity - Determination of change in compensation and/or benefit - By whom can decisions be made - Internal to workers' compensation board - Impacts of workers' compensation policies - Health impacts - Physical health - Mental health - Social impacts - Economic impacts - Income and wages	claim agents and claimants on mental health symptoms in the 12 months following a musculoskeletal workplace injury <i>Publication date:</i> 2020 <i>Jurisdiction studied:</i> Victoria, Australia <i>Methods used:</i> Path analyses	Interviews were conducted by telephone at baseline, with follow-up interviews six months and 12 months after baseline. Data were collected regarding perceived justice in claim agent interactions, disagreements with claim agents, general health and mental health, severity of injury, as well as job and work information and demographic variables.		- Perceived injustice was also associated with increased likelihood of disagreements between the claim agent and claimant, which subsequently had a negative association with longer term mental health. - This study highlights the importance of fair, open, and respectful communications, and the provision of clear and thorough information to claimants with work-related injuries.
- Chronic pain as conceptualized in ICD-11 - Chronic primary pain - Type of worker - Full-time - Nature of eligibility - Worker-centred determination - Standardized guideline determination - Impacts of workers' compensation policies - Economic impacts - Return to work	<i>Focus of study:</i> Differences between compensation for chronic pain <i>Publication date:</i> 2009 <i>Jurisdiction studied:</i> Six countries of Denmark, Germany, Israel, Netherlands, Sweden, and the United States	2,825 claimants with lower back pain that were between the ages of 18 and 59 that had stopped working in the past three months.	High	The study found that eligibility criteria for long-term disability benefits contributed to the observed differences in return-to-work rates and that work interventions and less strict compensation policies contribute to sustainable return to work (7) The study emphasizes that countries tend to have two different approaches in disability benefits, some with an emphasis on compensation policy and others with an emphasis on reintegration.

Dimension of the organizing framework	Study characteristics	Sample and intervention description	Relevance	Declarative title and key findings
	<i>Methods used:</i> Cross-sectional			- Six countries were included in the comparison – Denmark, Germany, Israel, Netherlands, Sweden, and the United States. - Compensation policy variables included income loss, waiting days, medical certificates needed for a sickness benefit, high minimum of work incapacity needed for a long-term benefit (e.g., 50%), risk of dismissal, and no or late entitlement to a long-term disability benefit. - Substantial differences were found between the medical and work interventions in the six countries during follow up, with the US having the highest rate of surgery, Israel and Denmark in pain relieving medication, Germany in passive treatment and manipulation, the U.S. and Netherlands in exercise therapy, and Germany and Denmark in back schools. - For health-related variables, there was an association with earlier sustainable return to work, namely, no co-morbidity, lower pain intensity, and less functional limitation - For job characteristics, association with earlier sustainable return to work include longer tenure, higher work ability score, less physical job demands, and less job strain. - Four work interventions were related to earlier sustainable return to work, including adaptation of the workplace, job redesign, working hours adaptation, and therapeutic work resumption. - The following compensation policy variables for entitlement to benefits were associated with sustainable return to work: no or late timing of entitlement to long-term disability and no high minimum degree of work incapacity needed.
- Chronic pain as conceptualized in ICD-11 - Chronic primary pain - Treatment and rehabilitation - Programs, services, and products covered - Multidisciplinary/interdisciplinary treatment - Impact of workers' compensation policies	<i>Focus of study:</i> Examines the feasibility of comprehensive and less comprehensive vocational rehabilitation for individuals with chronic musculoskeletal pain	Patients who had completed either the less comprehensive vocational rehabilitation program or the comprehensive vocational rehabilitation program. Comprehensive	High	Both comprehensive and less comprehensive vocational rehabilitation are deemed useful for patients with chronic musculoskeletal pain and reduced work participation (8) The study examined the usefulness and feasibility of a comprehensive vocational rehabilitation program and less comprehensive

Dimension of the organizing framework	Study characteristics	Sample and intervention description	Relevance	Declarative title and key findings
○ Health impacts ▪ Physical health ▪ Social impacts	<i>Publication date:</i> 2014 <i>Jurisdiction studied:</i> United States <i>Methods used:</i> Qualitative	vocational rehabilitation was a multidisciplinary biopsychosocial group-based outpatient program that consisted of five modules: return-to-work coordination, fitness/graded activity, CBT, group education, and relaxation. The program lasted approximately 100 contact hours and 15 weeks with two contact moments of 3.5 hours per week.		program for workers on sick leave due to chronic musculoskeletal pain. • Professionals noted that the less comprehensive program will be useful for patients with work participation as their treatment goal, patients who are willing to return to work, and patients who have already made steps towards reintegration. • When there is a bad relationship with the employer and when the patient is more than one year out of the work situation the comprehensive program was seen to be more beneficial.
• Chronic pain as conceptualized in ICD-11 ○ Chronic primary pain • Chronic pain conceptualized using another framework ○ Type of worker ▪ Full-time ○ Nature of eligibility ▪ Worker-centred determination ○ Treatment and rehabilitation ▪ Assessment • By allied health professional • By multidisciplinary/interdisciplinary team ▪ Programs, services, and products covered • Multidisciplinary/interdisciplinary treatment ▪ Return-to-work assistance • Workplace conditioning	<i>Focus of study:</i> To explore the intensity of worker's psychosocial factors in workers before and after a return-to-work program <i>Publication date:</i> 2023 <i>Jurisdiction studied:</i> Quebec, Canada <i>Methods used:</i> Pre-post study design	A total of 80 individuals who were previously full-time workers, from all sectors of work, who had received a workers' compensation payment self-elected to participate in this study. The return-to-work program lasted approximately four months. It followed an interdisciplinary client-centred approach involving work adjustment strategies (e.g., modifying and organizing tasks) and collaboration with the employer, employee, and healthcare team.	High	Understanding a worker's worries about the return-to-work process and job demands can facilitate the return-to-work process to inform decision-making (9) • This study found that worker's worries (e.g., disability management and organization) may interfere with the return-to-work process. • The authors concluded that if the return-to-work team (employers, insurers, and allied health professionals) took the time to understand these worries, this may facilitate return-to-work planning involving workplace conditioning.
• Chronic pain as conceptualized in ICD-11 ○ Chronic primary pain • Chronic pain conceptualized using another framework ○ Treatment and rehabilitation ▪ Programs, services, and products covered	<i>Focus of study:</i> This study explored the association between prescription opioid analgesic use and receiving workers' compensation benefits in persons with chronic pain	A total of 327 individuals with chronic pain receiving workers' compensation completed this study. No information on disability	High	Persons with chronic pain receiving workers' compensation benefits may receive higher doses of opioids; healthcare teams should be aware of this bias and encourage other treatment options to improve functional ability and return to work (10)

Dimension of the organizing framework	Study characteristics	Sample and intervention description	Relevance	Declarative title and key findings
• Prescription opiate therapies • Impacts of workers' compensation policies ○ Social impacts	<i>Publication date:</i> December 2019 <i>Jurisdiction studied:</i> Texas <i>Methods used:</i> Prospective cohort study	type, type of worker, or job sector was reported.		• Though not direct impacts from workers' compensation policies, there were some associations between opioid use and receiving benefits in persons with chronic pain. • Persons receiving benefits were more likely to receive higher opioid doses than persons not receiving benefits. • Higher doses of opioids may create challenges with finding employment. • The healthcare team of an injured worker should be aware of how receiving benefits and other psychosocial factors may impact an injured worker with chronic pain. Monitoring opioid doses and encouraging activities of daily living may assist with pain management and return to work.
• Chronic pain as conceptualized in ICD-11 ○ Chronic primary pain • Chronic pain conceptualized using another framework ○ Treatment and rehabilitation ▪ Programs, services, and products covered • Non-pharmacologic therapy • Priority populations ○ Individuals living in northern, rural, or remote areas	<i>Focus of study:</i> To explore the use of workers' compensation mental health services for individuals with chronic low back pain <i>Publication date:</i> 23 January 23, 2023 <i>Jurisdiction studied:</i> Australia <i>Methods used:</i> Cross-sectional	A total of 2,800 cases were included in this analysis. Approximately 66% of claims were from males and persons aged 36 to 45. The type of worker and job sector was not reported.	High	Length of time on workers' compensation benefits, location, and gender impact access to mental health services in persons with a chronic low back pain injury: workers' compensation regulators and insurers should be aware of these factors and consider promo (11) • Less than 10% of workers with chronic low back pain injury accessed mental health services, and females were more likely to access mental health services than men. • Over the years, an increased use in mental health services was seen. • Persons in Queensland, Australia, were more likely to access mental health services, perhaps due to differences in case management prioritizing biopsychosocial approaches to pain. • Persons in major cities were more likely to access mental health services, perhaps because of more availability. • Additionally, different regions permit different time restraints for compensations. Longer compensation times may be associated with more access of mental health services.

Dimension of the organizing framework	Study characteristics	Sample and intervention description	Relevance	Declarative title and key findings
				It is unclear whether mental health services were accessed due to chronic pain or a secondary condition.
- Chronic pain as conceptualized in ICD-11 - Chronic primary pain - Chronic pain conceptualized using another framework - Treatment and rehabilitation - Assessment - By multidisciplinary/interdisciplinary team - Programs, services, and products covered - Multidisciplinary/interdisciplinary treatment	<i>Focus of study:</i> To describe the experiences and needs of persons with a workplace injury in the Thunder Bay region <i>Publication date:</i> July 2022 <i>Jurisdiction studied:</i> Thunder Bay <i>Methods used:</i> Cross-sectional	A total of 40 participants completed the survey and 16 participants were interviewed. Participants were mostly male, between the ages of 35 and 54, and had been injured within the past five years.	High	Access to chronic pain programs from workers' compensation programs may support the well-being and recovery of injured workers (12) - The majority of results were not specified for persons with chronic pain, but may be applicable for this population. - Participants described having trouble navigating workers' compensation services and claims for chronic pain programs, employment services, injured worker groups, employee assistance programs, food banks, transportation, income supplement services, and crisis lines. - Access to pain rehabilitation specialists was noted as a service that could improve workers' compensation programs.
- Chronic pain as conceptualized in ICD-11 - Chronic primary pain - Classification of functional impairment - Permanent partial disability - Impacts of workers' compensation policies - Health impacts - Physical health - Economic impacts - Return to work	<i>Focus of study:</i> Self-reported experiences of injured workers during the first year of reintegration following a workers' compensation claim <i>Publication date:</i> 2022 <i>Jurisdiction studied:</i> Washington (state), United States <i>Methods used:</i> Cross-sectional	599 interviews were conducted within individuals that had received a workers' compensation claim accepted by Washington State Department of Labor and Industries of permanent partial disability.	Medium	Workers with a higher degree of impairment and particularly those whose workers' compensation claims closed with a permanent partial disability award reported working fewer hours, earning less and being at higher risk of losing their job due to permanent disability (13) - The study seeks to descriptively quantify the self-reported experiences of injured workers during their first year of reintegration following a workers' compensation claim. - Workers with a higher degree of impairment more frequently reported fair to poor health status and work functioning, with approximately half noting that their permanent impairment made it difficult to keep their job. - Workers with a higher degree of impairment had 70% higher odds of working in a different occupation than when they were injured, relative to workers with a lower degree of impairment. - More than a quarter of the workers reported working fewer hours and earning less at the

Dimension of the organizing framework	Study characteristics	Sample and intervention description	Relevance	Declarative title and key findings
				time they were interviewed compared to before the injury, and workers with a higher degree of impairment more frequently had worse outcomes.
- Chronic pain as conceptualized in ICD-11 - Chronic primary pain - Type of worker - Full-time - Treatment and rehabilitation - Programs, services, and products covered - Non-pharmacologic therapy - Post-discharge supports - Return-to-work assistance (or vocational rehabilitation) covered - Medical management - Workplace conditioning - Impacts of workers' compensation policies - Economic impacts	<i>Focus of study:</i> Examining the effects of vocational rehabilitation for individuals on sick leave due to chronic musculoskeletal pain <i>Publication date:</i> 2021 <i>Jurisdiction studied:</i> Netherlands <i>Methods used:</i> Cohort study	1,272 working-age patients with sub-acute or chronic musculoskeletal pain and reduced work participation taking part in a 15-week interdisciplinary biopsychosocial group-based outpatient program, delivered by healthcare professionals, which included a work module consisting of case management, the development of a return-to-work plan, and a workplace visit.	Medium	The addition of a vocational element to rehabilitation from chronic musculoskeletal pain was found to be cost-effective and positive for employers (14) - Results from the short-term retrospective longitudinal cohort study show a mean cost savings of 820 euros per 0.012 quality adjusted life year gained. - A cost-effective analysis suggests the probability of the additional vocational elements is more than 91% for thresholds of 20,000 euros and higher. - Reward on investment for employers was 37%.
- Chronic pain as conceptualized in ICD-11 - Chronic primary pain - Treatment and rehabilitation - Non-pharmacologic therapy - Impact of workers' compensation policies - Health impacts - Physical health	<i>Focus of study:</i> Effects of workers' compensation on reporting of pain <i>Publication date:</i> 1997 <i>Jurisdiction studied:</i> United States <i>Methods used:</i> Cohort study	192 patients with primary symptoms of chronic low back pain and or sciatica evaluated by physicians who were between the age of 18 and 70 years and had no surgically correctable lesion.	Medium	Reported pain and disability among compensated individuals were present after differences in other baseline barriers were controlled for, leading to the conclusion that compensation involvement may have an adverse effect on the reporting of pain and disability (15) - Substantial differences were reported in many demographic, subjective, and objective characteristics when patients were compared based on compensation involvement. - Those with compensation involvement had less education, were more likely to work jobs with medium or heavy labour, and were more likely to relate a compensable event to the onset of symptoms. - Patients with compensation involvement had more serious chronic back pain. - Compensation involvement was not associated with membership in the evaluation-only group;

Dimension of the organizing framework	Study characteristics	Sample and intervention description	Relevance	Declarative title and key findings
				similarly, treatment compliance did not differ based on compensation involvement. • Treatment duration and meantime from evaluation to treatment completion was similar for those with and without compensation involvement. • Initial and final performances on tests of physical function were found to be largely similar, with groups with compensation involvement having statistically less trunk flexion and straight leg raising than at treatment completion. • Non-compensation patients reported less pain, depression, and disability at all points of follow-up.
• Chronic pain as conceptualized in ICD-11 ○ Chronic primary pain	<i>Focus of study:</i> Examines the influence of patient and contextual factors with chronic pain when making pain and disability judgments for others (i.e., peer judgements) <i>Publication date:</i> 2019 <i>Jurisdiction studied:</i> United States <i>Methods used:</i> Cross-sectional	Participants all reported having chronic pain, including chronic back pain, arthritis, headache/migraine, neuropathic pain, and fibromyalgia.	Medium	Peer judgments about pain and disability vary according to patient weight, fault of accident, and physical work demands (16) • Examined the impact of hypothetical patients' weight, fault of accident, and physical work demands on pain-related and disability judgments of study participants. • The main effects of patient weight and job physicality on symptom severity were significant, with individuals ascribing more severe symptoms to patients with obesity, who were not at fault for their injury and who held more physically demanding jobs. • Participants rated patients with obesity, who were not at-fault for their injury, and who held a physically demanding job as more disabled compared to patients who were normal weight. • Participants were more likely to recommend compensation for obese patients who were not at fault for their injury and who held a physically demanding job compared to those who were a normal weight. • The results of this work align with studies demonstrating that occupational physical demands are taken into consideration when determining disability status.

Dimension of the organizing framework	Study characteristics	Sample and intervention description	Relevance	Declarative title and key findings
- Chronic pain as conceptualized in ICD-11 - Chronic primary pain - Chronic pain conceptualized using another framework - Treatment and rehabilitation - Programs, services, and products covered - Prescription opiate therapies	<i>Focus of study:</i> To examine associations in opioid prescribing policy interventions and changes in high-risk opioid prescribing practices <i>Publication date:</i> 2 February, 2021 <i>Jurisdiction studied:</i> Washington (state), United States <i>Methods used:</i> Time series analysis	A total of 118 injured workers were included in this study. No details regarding the percentage of workers with chronic pain, sector of work, or type of worker were reported.	Medium	Chronic pain opioid prescribing policies informed by interdisciplinary and nation-wide collaboration can improve safe opioid prescribing practices for persons receiving a workers' injury claim (17) - Persons with chronic pain are likely to be prescribed opioids. - High opioid risk prescribing factors were defined as prescribing opioids greater than a seven-day period, high doses above 50 mg, concurrent opioid and sedative prescribing, and chronic opioid prescribing. Low opioid risk prescribing was defined as one prescription over a three-month period. - This review found that chronic pain opioid prescribing policies related to workers' compensation claims in Washington state were improving over time, as demonstrated by a decrease in high opioid risk prescribing. - Influential policies included the 2016 CDC Guideline for Prescribing Opioids for Chronic Pain, Interagency Guideline on Opioid Dosing for Chronic Non-cancer Pain, and Prescription Monitoring Program. No information on the content of the policies were reported.
- Chronic pain as conceptualized in ICD-11 - Chronic primary pain - Chronic pain conceptualized using another framework - Sector of work - Business, finance, and administration occupations - Occupations in education, law, and social, community, and government services - Type of worker - Full-time	<i>Focus of study:</i> To examine factors related to workers' compensation claims <i>Publication date:</i> August 2018 <i>Jurisdiction studied:</i> Colorado, United States <i>Methods used:</i> Cross-sectional	Approximately 60% of participants were female. Most participants worked in professional, clerical, and service occupations and were employed full-time.	Medium	Approximately 42% of women and 32% of men with arthritis and pain had multiple workers' compensation claims; no information on the type of claim was reported (18)
- Chronic pain as conceptualized in ICD-11 - Type of worker - Full-time - Part-time - Treatment and rehabilitation	<i>Focus of study:</i> Examining patient characteristics that can predict outcomes from multidisciplinary	164 people reporting pain for at least three months accepted into a two- to three-week pain management program.	Low	Being male and working full-time were associated with poorer outcomes in select measures at discharge (19) The study explores whether baseline patient characteristics of age, gender, condition,

Dimension of the organizing framework	Study characteristics	Sample and intervention description	Relevance	Declarative title and key findings
○ Assessment ▪ By multidisciplinary team ○ Programs, services, and products covered ▪ Non-pharmacological therapy ▪ Prescription non-opioid pharmacologic therapies ▪ Multidisciplinary treatment ● Impact of workers' compensation policies ○ Health impacts ▪ Physical health	pain management programs <i>Publication date:</i> <i>Jurisdiction studied:</i> New Zealand <i>Methods used:</i> Cohort study	The in-patient pain management program consisted of a range of treatment modalities including non-pharmaceutical as well as pharmaceutical treatment.		employment status, and ethnicity are associated with short- and long-term outcomes from pain. management programs in urban locations ● The study found sex was associated with baseline pain indicators, with males having greater pain interference at discharge compared to females. ● Work status was also associated with high stress scores: compared to those working full-time, those working part-time had lower stress. ● However, those who were unemployed and retired had higher depression scores. ● Ethnicity was associated with BPI intensity and interference at 3 months; in both cases, outcomes for Māori were significantly worse compared to New Zealand Europeans. ● Employment status may be a result of those working part-time being exposed to less physical stress, having more time to rest, and contributing to a lower pain intensity once patients returned to work compared to those undertaking full-time work.

Appendix 6: Key findings from highly relevant jurisdictional experiences on workplace compensation for chronic pain

Jurisdiction	Policy language and compensation-design features for chronic pain used by workers' compensation boards
Australia – New South Wales	• The New South Wales worker compensation program is regulated by the State Insurance Regulatory Authority (SIRA) and the New South Wales Government. • The New South Wales Government requires that all businesses have documented return-to-work plans for all types of workers (part-time and full-time) to help persons return to work and maintain self-value. This program does not have specific regulations for chronic pain. ○ This program must be in compliance with SIRA regulations. ○ This program might involve workplace conditioning. • The New South Wales compensation program has established regulations for eligibility, assessment, and compensation that are submitted via approved insurance agencies (e.g., SIRA, iCARE). This program does not have specific regulations for chronic pain. ○ Individuals are eligible for compensation if they have endured a physical injury (e.g., fall, crash, overexerted muscle), psychological injury, or occupational disease. ○ A work capacity assessment may be performed by injury management consultants and medical professionals. ○ Compensation may be allotted for wage loss, rehabilitation treatment, and return-to-work training. ○ Weekly compensation payments are based on pre-injury earnings and capacity for work. ○ Individuals are responsible to make efforts to return to work and comply with rehabilitation treatments and assessments. ○ The time allotted for compensation varies per case and unique factors.
Australia – South Australia	• Return-to-Work South Australia manages work compensation claims in South Australia and has established guidelines to support decision making. This program does not have specific regulations for chronic pain. ○ Assessment reports may involve a medical professional for medical exams, a return-to-work coordinator conducting workplace assessments, and a claims specialist to manage the overall case. ○ Medical professionals have a significant say on the return-to-work process. They might suggest a significant time off or a gradual return to work. ○ Eligible workers are permitted to receive 100% of their weekly earnings for the first 52 weeks after injury. After that period, if needed individuals may receive 80% of their weekly earning for another 52 weeks. ○ Re-assessments occur monthly. ○ Additional funds may be available to cover medical costs (e.g., treatments from allied health professionals, travel), if deemed necessary by a medical professional. ○ Return-to-Work South Australia offers interventions to help people find jobs meeting their physical capacities and skills. Interventions might include job counselling, work simulation, vocational guidance, and suitable retraining. • Safe Work South Australia can support individuals with increased vulnerability (e.g., mental impairment) in navigating the Return-to-Work South Australia program. Services include counselling and teaching individuals how to organize their case files. This program does not have specific regulations for chronic pain, but persons with chronic pain may have increased vulnerability. • The model of care for chronic pain management in South Australia recommends that work specialists and return-work work treatments occur as a part of multidisciplinary pain care.
Canada – British Columbia	• Compensation guidelines have been established by WorkSafeBC after injury in the workplace. ○ Compensation may begin within weeks after a file is claimed and can last until an individual is able to return to work. Compensation for healthcare services may continue if deemed necessary by a medical professional.

Jurisdiction	Policy language and compensation-design features for chronic pain used by workers' compensation boards
	○ Compensation is based on a worker-centred determination model and may include wage-loss during injury or while working reduced hours during return to work. ○ Individuals are responsible to attend adhere to their treatment plan and attend all rehabilitation services while receiving compensation. ● WorkSafeBC offers interventions for return to work. ○ Individuals may be referred to vocational rehabilitation to facilitate a feasible return to work between employers and employees. ○ Workers may also be introduced to a return-to-work program by their employer at the start of their injury. ● Permanent disability benefits may be given if one demonstrates that their condition will affect their long-term earning potential. ○ A disability rating and loss of earning assessment is conducted using a comparison of pre- and post-injury earnings, as well as the degree of injury. ○ Persons may be given a monthly payment of up to \$200, depending on their disability rating. ○ If persons are given a “specific chronic pain” diagnosis that is related to their permanent disability, they are not awarded any additional benefit. In other words, persons are not given additional compensation if the pain is a symptom of the primary condition. ○ If a person’s pain is considered disproportionate to their injuries, they may receive an additional 2.5% compensation for their pain. ○ If persons have a “nonspecific chronic pain” condition that persists past the recovery of their injury, they may receive a label of chronic pain as a permanent condition and continue to receive payments. ● Seriously injured individuals may receive additional services from WorkSafeBC. ○ Persons may receive compensation for specialized equipment. ○ Additional rehabilitation services including an assigned registered nurse, pain and addiction management, and counselling services may be available. ● A 2015 policy brief exploring WorkSafeBC and chronic pain highlights potential policy issues. ○ Many persons described having their compensation revoked due to long periods of compensations, requiring a lengthy appeal process, frequent changes in claim managers, and delays in payment. This can lead to financial hardship, further impacting chronic pain. ○ The invisible nature of chronic pain creates stigma, as many individuals may not be believed by the compensation team or their employers. This can cause challenges with providing sufficient evidence for compensation. ○ This brief recommends uninterrupted compensation, defined treatment procedures, limited lengthy assessments, and access to return-to-work interventions.
Canada – Alberta	● Worker’s Compensation Board – Alberta has recommendations for return-to-work planning that are not specified for persons with chronic pain. ○ A return-to-work plan should be formed in collaboration with workers and employers and sent to the board. This form should include a fitness for work form and physical demands analysis. ○ The board may offer compensation for wage replacement benefits, part-time, short-term, or full-time positions, training-on-the-job programs, wage loss if persons are unable to find another job that pays their previous salary, and all treatment costs reported on claim. ○ Persons with severe injuries can receive compensation for personal care providers, vehicle and home modifications, psychological counselling, personal assistants, and wheelchair costs. ○ The board may offer additional services including coaching during job search. ○ The board has partnered with healthcare professionals to offer expedited services including medical imaging (e.g., computer tomography scan), specialized surgeons, counselling, and pain management. ● There are set timelines for compensation. ○ Workers are allowed payments for up to 80 days. If they are unable to work after this time, they may be offered additional compensation and services to help persons explore options and secure a new employment that suits their needs. Alternatively, they may receive benefits from Long Term Disability Continuance Plan. ● Alberta’s Workers Compensation Board has specific guidelines for compensating chronic pain. ○ The board may cover pain treatment if pain is a result of injury, persists past usual healing time, inconsistent with organic findings, or impairs earning capacity.

Jurisdiction	Policy language and compensation-design features for chronic pain used by workers' compensation boards
	○ Pain on its own is considered compensable if all rehabilitation treatment has ended and pain disrupts one's life, is a consequence of work-related injury, persists six months, is inconsistent with organic findings, and impairs earning capacity.
Canada – Saskatchewan	● The Saskatchewan Workers' Compensation Board has set guidelines, but they are not specified for chronic pain. ● Workers may be entitled to earning loss benefits from their employers until they are able to return to work on a modified schedule. ○ As of 2023, workers may be entitled to a maximum of \$68,102 CAD in loss wages (if injury happened before 2014) or \$96,945 (if the injury happened after 2014). The minimum weekly earning is \$753.27/week. ○ Workers are entitled to receive benefits if they attend medical appointments and stay in touch with their employer and case manager. ○ Moving or travelling outside the province may affect compensation benefits. ● Workers may receive compensation for medical treatment. ○ Treatments may be covered by health-care providers approved by the Saskatchewan Workers' Compensation Board. ○ Prescriptions, medical supplies, medical travel expenses and loss time at work due to medical appointments may be reimbursed by the board. ○ Customer care facilitators services may arrange treatments. ○ Medical cannabis may be covered for persons with chronic neuropathic pain. ● The Saskatchewan Workers' Compensation Board recommends return to work whenever possible. ○ Persons may return to work with restrictions or modifications, based on their abilities. ○ Customer care facilitators may facilitate the return-to-work process between workers and employers. ○ A return-to-work plan should include a checklists of reasonable job duties, communication between employer and worker, and training for job goals. ● If symptoms from an injury persists (e.g., chronic pain) individuals are categorized as needing level III care and may be entitled to advanced assessment and treatment. ○ Level III care occurs when there are risk factors for chronic disability, there is no return-to-work date, and the expected recovery date has passed. ○ The board will organize assessments from an interdisciplinary team to provide a treatment plan. ○ Examples of treatment might include rehabilitation services occurring five days a week.
Canada – Manitoba	● The Workers Compensation Board of Manitoba has outlined benefits and services for injured workers but they do not have specific regulations for chronic pain. ○ Injured workers are entitled to wage loss benefits, which begins the working day after the injury occurred and are based on 90% of the worker's net pay. ○ Medical treatment and expenses are also covered including hospital expenses, prescriptions, dental, physiotherapy, prosthetics, and transportation and living expenses allowed if travel is required for treatment. ○ Lump sum payments are also provided if a permanent impairment has resulted from the workplace injury. ○ Return-to-work assistance is provided to ensure the injured worker and employer have the necessary supports to plan a safe return-to-work process. ○ Vocational rehabilitation services allow the injured workers to find alternative work with respect to their new working capabilities.
Canada – Ontario	● The Ontario Workplace Safety and Insurance Board accepts entitlement for chronic pain disability when it results from a workplace-related injury and there is sufficient and credible evidence establishing the disability. They have also provided entitlement guidelines for claims for chronic pain disability: ○ A work-related injury must have occurred, and a claim has been submitted and accepted. ○ Chronic pain is caused by the injury and there is subjective or objective medical and non-medical evidence of the worker's continuous, consistent, and genuine pain since the time of the injury. ○ The pain persists six or more months beyond the usual healing time of the injury. ○ The degree of pain is inconsistent with organic findings.

Jurisdiction	Policy language and compensation-design features for chronic pain used by workers' compensation boards
	○ The chronic pain impairs earning capacity. ○ Workers with chronic pain disability are still entitled to wage loss benefits and rehabilitation services and programs.
Canada – Quebec	● In Quebec, the Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST) promotes and ensures compliance with labour rights and obligations for both workers and employers. However, they do not have specific regulations for workers experiencing chronic pain. ○ The CNESST pays an income replacement indemnity to workers who are unable to work due to an employment injury and are paid until they are able to do their job, an equivalent job, or a suitable job full-time once again. ○ The income replacement indemnity is equal to 90% of the worker's net income and is paid every 2 weeks. ○ In terms of eligibility, it is up to the CNESST, not the doctor, to determine whether the worker is able to do their job, return to work, and subsequently stop income replacement indemnity.
Canada – New Brunswick	● WorkSafeNB provides guidelines for managing claims that result in chronic pain as a complication of a compensable injury. ○ WorkSafeNB is required by legislation to determine the necessity, character, and sufficiency of medical aid to be provided to injured workers and this includes the type of medical aid required and to what extent. ○ WorkSafeNB also focuses on identifying risk factors linked to the development of chronic pain and implements early intervention strategies such as work conditioning, education, and early and safe return-to-work strategies to prevent the onset of chronic pain. ○ If a worker develops chronic pain after a compensable injury and has a reduction in functional capacity that affects earning capacity, the worker is entitled to continued loss of earnings benefits.
Canada – Nova Scotia	● The Nova Scotia Workers' Compensation Board outlines that a worker to is entitled to an assessment to determine eligibility for benefits and services outlined in the Chronic Pain Regulations where the medical evidence establishes that the worker has chronic pain that is connected to an original compensable injury. ○ Where a worker is found to have a pain-related impairment, the Board will pay the worker a permanent benefit based upon a permanent impairment rating of 3% where the worker experiences a slight pain-related impairment or 6% where the worker experiences a substantial pain-related impairment. ○ Permanent impairment ratings are expressed as a percentage of total body impairment with 100% being the maximum possible rating. In the case of a pain-related impairment 6% is the maximum possible rating any one person can receive for chronic pain.
Canada – Prince Edward Island	● The PEI Workers' Compensation Board has set guidelines, but they are not specified for chronic pain. ● The board offers benefits to persons with a work-related injury or illness. ○ Persons may be entitled to healthcare benefits including chiropractic services, dental treatment, allied health services (e.g., physiotherapy), counselling, medical supplies and devices, psychology, medications, and potentially more. ○ Persons with chronic neuropathic pain may be able to receive payments for medical cannabis. ○ Persons must receive treatment from a board-approved professional. ○ Temporary wage loss benefits equivalent to 90% of earnings up to a maximum of \$78,400 CAD. ○ Expenses related to treatment or return to work (e.g., transportation, meals, accommodations) may be covered by the board if approved by a case worker. ● Persons with a permanent reduction in function may receive an Impairment Award. ○ An Impairment Award is given if treatment is completed, and no further recovery is expected. ○ Persons may be offered financial compensation based on their total body impairment. ○ Vocational rehabilitation services may be offered is earning capacity is decreased. ○ It is unclear if chronic pain can be included for an Impairment Award. ● Long-term wage benefits are offered to persons who are unable to find suitable work.

Jurisdiction	Policy language and compensation-design features for chronic pain used by workers' compensation boards
	○ Persons are eligible for long-term benefits if their condition is stable, their rehabilitation is completed, and they experience a loss in earning capacity. ○ After the first 36 months, benefits are reviewed.
Canada – Newfoundland and Labrador	• The Newfound and Labrador Worker's Compensation Board has set guidelines, but they are not specified for chronic pain. • The board offers benefits to persons with a work-related injury or illness. ○ Healthcare costs include services from allied health professionals (e.g., physiotherapy), medical tests, medications, assistive devices, medical travel costs, and home modifications. ○ Wage-loss benefits of 85% of pre-injury earnings are available for those receiving medical treatment or participating in return to work and labour market. ▪ Wage loss claims are re-evaluated after 13 weeks. ○ Those with a permanent functional impairment may be qualified for a lump sum benefit in addition to healthcare and wage benefits. • The board may facilitate the Early and Safe Return to Work program between employers and employees. ○ This program should adapt to workers' abilities and try to restore their pre-injury earnings. ○ The board's policy manual recognizes that chronic pain is a profound condition and may consider pain when determining suitable employment. Procedures to assess chronic pain and its impacts are not specific in the policy manual.
Canada – Northwest Territories and Nunavut	• The Northwest Territories Workers and Nunavut Compensation Board has set guidelines for all full-time workers. • The board may offer benefits including compensation for lost wages, medical care, medications, and return-to-work services. • Information on the claims process and potential benefits are not specified. • Employers and workers should establish a return-to-work plan and submit it to the board. • The board has set guidelines for the coverage of chronic pain. ○ The board considers pain as a manageable condition. ○ The board may cover pain management services including medical management, physical conditioning, work conditioning, or stress management. ○ Chronic pain may be compensable if it is connected to a workplace injury, persists beyond the expected healing time, is inconsistent with physical findings, disrupt life and functioning, and is confirmed by medical opinions. ○ Assessments of pain from medical professionals, assessing life distribution and the timing of association between pain and the disease may be conducted. ○ If eligible and unable to work, the worker may receive a pension plan.
Canada – Yukon	• The Yukon Workers' Safety and Compensation Board has set guidelines for all full-time workers. • Individuals may be entitled to benefits for medical treatments including medications, allied health treatments (e.g., physiotherapy), chiropractic treatment, massage, daily living supports, psychological treatment, and First Nations healing services. • Wage loss benefits equal to 75% of a worker's loss of earning capacity are available. ○ Individuals with low average earnings may receive 100% of their earnings. ○ Short-term loss benefits are available for up to 90 days. ○ Long-term loss benefits are assessed using employment information from the last two years. • Individuals may receive permanent impairment benefits that are separate from compensation of loss of earnings. ○ The board defines permanent impairment as a permanent physical or function loss (e.g. loss of hearing, post-traumatic stress disorder). ○ An assessment occurs once the worker has achieved "maximum medical improvement" as determined by a medical professional. Interim assessments may occur before the final assessment. ○ For pre-existing conditions, medical professionals will assess pre-existing conditions have been furthered due to injury. ○ The benefit is calculated by multiplying the percentage of 125% of maximum annual earnings.

Jurisdiction	Policy language and compensation-design features for chronic pain used by workers' compensation boards
	○ The benefit is delivered as a singular lump sum payment. ● The board may assist with the return-to-work process by monitoring recovery, helping explore work options, assisting with communication with employers, establishing a case management treatment, and coordinating medical services and loss of earning benefits. ● The board has specific guidelines for chronic pain. ○ The board encourages early intervention and medical examination when available. ○ Families and workers are encouraged to actively participate in the recovery process. ● The diagnosis must occur in a timely manner (during short- or long-term benefits) to be eligible.
New Zealand	● The Accident Compensation Corporation New Zealand has set guidelines, but they are not specified for chronic pain. ● Individuals may be offered up to 80% of their weekly compensation. ○ Payments for permanent employees are calculated based on pay over the past year. ○ Payments for casual employees are based on PAYE earnings from the past year. ○ For self-employed individuals, payments are based on 80% of their taxable income over the past year. ○ Individuals who are injured before turning 18 may be entitled to loss of earnings payment. ○ Payments are stopped after the individual returns to work. ● The board may cover partial treatment for injuries. ○ Treatment must be appropriate for the condition and accepted by the government of New Zealand. ○ Examples of treatment may include acupuncture, audiology services, chiropractic treatment, dental services, surgery specialists, allied health services (e.g., occupational therapy), imaging services, medications, and traditional Māori healing services. ○ Additional services that may be covered include medical aids (e.g., hearing aids, wheelchairs), home attendant care, transportation, childcare, and counselling. ○ Unexpected issues, including long-term disabilities, that persist past recovery may be covered. ○ Treatments not related to injury, related to a pre-existing condition, outside of New Zealand, or delivered by an unlicensed provider will not be covered. ○ The amount that the board covers vary per treatment. Details are not specified on the website. ● Individuals with a permanent condition may be entitled to additional compensation. ○ Persons must complete a whole person assessment conducted by the American Medical Association. ○ Four payments per year are issued based. ○ The maximum amount of each payment is based on percentage of impairment ranging from 10% impairment at \$4,162.20 NZD to 80% of \$166,487.44.
United Kingdom – England	● The United Kingdom government does not have a workers' compensation program and instead mandates that employers get employer's liability insurance to cover any injuries. ○ Employees must contact their employer after injury. The employer must then submit a claim to the insurance to receive compensation for any wage loss. ○ The amount and duration of compensation varies per insurance package. ○ No information on compensation for permanent conditions could be identified. ● The U.K. citizen advice website recommends that individuals keep all records of their injury and ask their employer for contractual sick pay or employee medical care. ● Persons with chronic pain may have to seek other government funding such as jobseeker's allowance or employment support allowance. ○ Jobseeker's allowance depends on income capital, number of dependants, and age. Persons with chronic pain may use this when finding suitable employment for their condition.

Jurisdiction	Policy language and compensation-design features for chronic pain used by workers' compensation boards
	○ Employment & Support Allowance can be given to persons who have limited capability for work. The amount depends on medical examinations and income capacity.
United Kingdom – Northern Ireland	● No specific guidelines for chronic pain and worker' compensation program in Northern Ireland could be identified. The United Kingdom guidelines presented above is applicable to Northern Ireland.
United Kingdom – Scotland	● No specific guidelines for chronic pain and workers' compensation program in Scotland could be identified. The United Kingdom guidelines presented above is applicable to Scotland. ● Persons with chronic pain may apply for the Scotland Adult Disability Payment for a standard amount of £68.10 or an enhanced amount of £101.75.
United Kingdom – Wales	● No specific guidelines for chronic pain and workers' compensation program in Wales could be identified. The United Kingdom guidelines presented above is applicable to Wales.
United States – California	● The California Division of Workers' Compensation has set guidelines, but they are not specified for chronic pain. ○ The division does not provide insurance to employers; employers are required a workers' compensation policy from a licenced insurer or be self-insured. ● Workers' compensation insurance provides benefits for medical care, temporary wage loss, permeant disability benefits if function is never restored, or supplemental job displacement benefits for those who need retraining to find other employment. ● There are some standard regulations for medical treatment benefits that are not specified to chronic pain. ○ Treatments are covered as long as medically necessary; doctors may need to show evidence to provide the efficacy of treatments. Treatment plans must be reviewed by a claim's administrator. ○ A maximum of 24 chiropractic visits, 24 physiotherapy sessions, and 24 occupational therapy sessions are allotted unless the claims administrator approves more. ○ Typically, primary physicians are selected by an employer. If an employer is a part of a medical provider network, treatment must be conducted by a healthcare professional within that network. ● The board does encourage return to work whenever possible. ○ Medical professionals can recommend reduced or altered work schedules during the recovery process. ○ Employers may offer return to work and workers have 30 days to respond to the offer. ○ If individuals are unsuccessful with return to work within 12 months, they may be eligible for supplemental job displacement benefits. ● There are some standard regulations for wage loss benefits that are not specified to chronic pain. ○ Temporary disability benefits are generally two-thirds of gross wages pre-tax. ○ Temporary disability benefits generally last a maximum of 104 weeks. ● Supplemental job displacement benefits are available for those seeking other employment. ○ Supplemental job displacement benefits are based on permanent disability ratings. ○ Persons may receive \$4000 USD for less than 15%, \$6000 for 15–25%, \$8000 for 26–49%, and \$10,000 for 50–99%. ○ This benefit is not available if an individual denies an alternative or modified job offer. ○ The worker must seek supplemental job displacement benefits within 30 days of the end of temporary disability benefits. ● Permanent disability is assessed by a medical doctor if an individual demonstrates stabilization and if there is no likely change for recovery and confirmed by the Disability Evaluation Unit. ○ Permanent disability benefits are based on the disability rating, date of injury, and wages before injury. ○ A disability percentage is calculated based on how the impairment affects ability to work, occupation, age at time of injury, and future earning capacity.

Jurisdiction	Policy language and compensation-design features for chronic pain used by workers' compensation boards
	○ A maximum pain rating of 3% is permitted for pain resulting from an injury. ○ If workers are not offered work by their employer, permanent disability benefits may be increased by 15%. ● There are no specified regulations for persons with chronic pain, but if not eligible to continue receiving payments individuals may apply for the State Disability Insurance, unemployment insurance, Social Security Disability Insurance, or employer long-term disability plans. ● State Disability Insurance may offer 60–70% of wages earned five to 18 months before claim.
United States – Florida	● The Department of Financial Services has a Workers' Compensation System Guide, but there are no standard regulations for chronic pain. ● Individuals may be eligible for benefits after a work-related injury or illness. ○ Indemnity benefits up to 100% of weekly earnings are available for up to seven days. ○ Temporary disability benefits of 66% of earnings and 80% of earnings for those with a severe injury are available for up to 104 weeks. ○ Temporal partial disability benefits are available for those who are returning to work on a modified schedule. Individuals can receive 80% of earnings for their difference in hours. ○ Medical treatments performed by an insurance company authorized doctor may be covered. Care might include doctor's visits, physical therapy, medical tests, prosthesis, and attendant care. ○ Re-employment services are available for those who cannot return to work. ● Individuals who do not fully recover from their workplace injury may be qualified for Permanent Total Disability. ● Individuals with chronic pain remaining from their injuries may apply for federal compensation programs including the State Disability Insurance, unemployment insurance, or Social Security Disability Insurance.
United States – Iowa	● The Iowa Workers' Compensation has set guidelines, but they are not specified for chronic pain. ○ The employer or their insurance pays for compensation, not the Iowa board. ● Individuals may be entitled to medical benefits. ○ Medical care is decided by the employer and an employee must share medical information with their employer. ○ The employer may cover travel expenses and services including crutches, prosthetic devices, assistive devices are included in treatment costs. ○ Wage loss for medical treatment may be given at the discretion of the employer. ● Monetary disability benefits are calculated based on 80% of spendable weekly earnings. ○ Temporary total disability is offered if a worker missed 14 or more days due to injury. ○ Temporary partial disability benefits of 66% of earnings are available to those missing work or earning less because of their injury. ○ Healing period benefits are like temporary total disability benefits but are offered when individuals have a permanent impairment. ○ Permanent partial disability benefits occur when individuals show maximum medical improvement from injury. This can be assessed using guidelines from the American Medical Association. ○ Secondary injury benefits are given if individuals already have a permanent disability. ○ Select professions including volunteer firefighters, emergency medical care providers, reserve peace officers, and volunteer ambulance drivers are paid equally to their pre-injury earnings. ● Up to \$100/week for up to 13 weeks is available for vocational rehabilitation services. Individuals with chronic pain remaining from their injuries may apply for federal compensation programs including the State Disability Insurance, unemployment insurance, or Social Security Disability Insurance.
United States – New York	● The New York Worker's Compensation board has set guidelines, but they are not specified for chronic pain. ● Individuals are entitled to medical benefits including doctors' visits, diagnostic tests, prescription drugs, assistive devices, and travel. ○ All care must be performed by a board-approved provider.

Jurisdiction	Policy language and compensation-design features for chronic pain used by workers' compensation boards
	○ To maintain benefits, a medical report must be completed at least every 90 days, and you may be crossed examined by and independent medical examiner. ○ In most cases, medical care for injury is a lifetime benefit. ○ The board has a medical treatment guideline for complex regional pain syndrome to inform decision-making. Procedures for compensation decision-making for pain are not specified. ● Lost wage benefits are available if individuals cannot work for more than seven days or if pay is reduced due to injury. ○ An employer may choose to pay wages, instead of the insurer. ○ The degree of disability is based upon medical exams from main physicians and the insurance's independent medical examiner. Degree of disability ranges from total (100%), marked (75%), moderate (50%), and mild (25%). ○ Weekly benefits are based on 66% of average weekly wage by the degree of disability. The minimum weekly benefit is \$275/week. ○ Those who cannot work for at least one year may receive social security disability benefits. ● The board may offer additional support services including vocational rehabilitation, social services, return to work, finding legal representation, and navigating the claim process. ○ Vocational rehabilitation services can help regain daily activities to return to work. This might involve understanding job duties, evaluating capabilities and restrictions, determining reasonable accommodations, and monitoring personal progress. ○ Social services may advocate for injured workers with creditors, make referrals to social support programs (e.g., emergency shelters or food pantries), identifying medical providers, and documenting claims. ○ Return-to-work services include assessing current strengths, developing a plan, identifying community and mental health resources, advocating for employment, and reduced earning benefits up to 66% of pre-injury earnings. ○ Legal representation from a board-approved lawyer or claim representative can be used to help navigate the claim process.
United States – Texas	● The Texas Department of Insurance has set guidelines, but they are not specified for chronic pain. ○ The employer or their insurance pays for compensation, not the Texas board. The role of the board is to regulate compensation benefits and resolve disputes. ● Regulated income benefits are based on average weekly wage, which includes non-pecuniary benefits. ○ Temporary income benefits are 70% of the difference between pre- and post-injury average weekly income. These benefits end when no further healing is expected, individuals can earn their pre-injury earnings, or after 104 weeks have passed. ○ Impairment income benefits of 70% of average weekly wage are based on an impairment rating (three weeks of benefits per percentage of impairment), with increases by increments of 10, starting at 10%. ○ Supplemental income benefits may be paid after impairment income benefits have ceased for individuals who have ratings of 15% or more, have not returned to work, earn less than 80% of pre-injury average weekly wage, are seeking employment, and did not accept a lump sum payment for their injury. ○ Lifetime income benefits for those with a permanent disability (e.g., loss of sight, amputation). These benefits are 75% of average weekly wage, with a 3% increase a year. ● Medical benefits for treatment covered by a provider approved in the healthcare network. ● The board can provide services to facilitate return to work including workplace changes, job searching and training, and managing disputes with employers. ● Individuals with chronic pain remaining from their injuries may apply for federal compensation programs including the State Disability Insurance, unemployment insurance, or Social Security Disability Insurance.

Appendix 7: Documents excluded at the final stage of reviewing

Document type	Hyperlinked title
Single study	Compensating income variation approach to valuing 35 health conditions in Iceland
	The relationship between financial stressors, chronic pain and high-impact chronic pain: Findings from the 2019 National Health Interview Survey
	Workforce reintegration after work-related permanent impairment: A look at the first year after workers' compensation claim closure
	Predicting recurrent care seeking of physical therapy for musculoskeletal pain conditions
	Disability benefits and change in prescription opioid dose
	Clusters of financially incentivized chronic pain patients using the Minnesota multiphasic personality inventory-2 restructured form
	Effect of workers' compensation status on pain, disability, quality of life, and return to work after lumbar spine surgery: A year propensity matched analysis
	The effect of workers' compensation status on the patient experience
	Regional differences in time off work after injury: A comparison of Australian states and territories within a single workers' compensation system

Waddell K, Dass R, Grewal E, Wilson MG. Rapid synthesis: Examining the features and impacts of workers' compensation policies for chronic pain on health, social, and economic outcomes. Hamilton: McMaster Health Forum, 29 January 2024.

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