



# Opioids and Work: A Formative Research Assessment to Inform Educational Outreach

**November 2018**

**PREPARED BY**

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**Disclaimer: The contents of this publication are solely the responsibility of  
the authors and do not necessarily represent the official views of the  
Centers for Disease Control and Prevention.**

**Acknowledgment: This project was supported by a grant (IU17CE002724)  
from the Centers for Disease Control and Prevention to the Massachusetts  
Department of Public Health. The findings and conclusions in this report  
are those of the authors and do not necessarily represent the official  
position of the Centers for Disease Control and Prevention.**



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## Executive Summary

### Background

In response to findings by the Massachusetts Department of Public Health and local public health coalitions of high fatal overdose rates in certain occupations and the need for development of worker-oriented prevention efforts, MA DPH contracted with the Center for the Promotion of Health in the New England Workplace at the University of Massachusetts Lowell to conduct a formative assessment to inform intervention efforts.

### Focus Group and Interviews

Dr. Cora Roelofs conducted 18 key informant interviews with workers, union representatives (in construction and healthcare), healthcare providers, insurers, lawyers, an administrative law judge, and an employer. She also conducted a focus group of primarily immigrant home-health aides in collaboration with the Massachusetts Coalition for Occupational Safety and Health. For both the interviews and the focus group, the investigated domains concerned existing programs addressing opioid awareness and substance use disorder prevention offered by unions and employers; the relationship between work and opioid use; medical care for injured workers; substance use disorder treatment for workers; and challenges and opportunities for prevention of opioid dependence, addiction and overdose among workers.

### Current Employer and Union Policies and Practices: Work and Opioid Use

Conversations with these key informants revealed very few existing programs. The MA Division of Industrial Accident's Alternative Pathway Pilot Project allows injured workers to shift their care to a care coordinator who can assist with both reducing opioid dependence and improving pain management. Those respondents who were familiar with this program – and several helped to craft it – considered it a strong start in addressing the crisis through the Workers' Compensation system. Construction unions are providing direct assistance and peer support to struggling members. Notable among these in Massachusetts is the Modern Assistance Program EAP and substance use disorder treatment provider based in Quincy, MA. Some unions integrate messages about substance use prevention into apprenticeship training programs. Employers rely on Employee Assistance Programs to connect their employees with needed services; however, quality and helpfulness of EAP programs varies widely. Occupational health services of large employers also play a critical role in identifying workers who may need intervention. Employers' drug-free workplace policies - which generally involve drug testing - are more developed for construction than other sectors and may not, in fact, prevent workers from using opioids if the worker has a prescription.

### Determinants of Work Related Opioid Use and Opioid Treatment Strategies

Respondents generally were of the opinion that the relationship between work and opioid use was not straightforward and that the causes of problematic opioid use by workers was multi-factorial. However, most respondents agreed that injuries and work demands, combined with easy access to

opioids, was a potential pathway to opioid use disorder (OUD).<sup>1</sup> Work was also identified as a potentially positive social determinant of health that might mitigate OUD by preventing loss of income and social support. Additionally, some workplaces offer resources such as EAPs and benefits to assist with OUD treatment. Peers and unions were identified as key supports for workers struggling with OUD.

Medical care for injured workers with pain-related injuries very often includes opioids as front-line treatment. Opioid guidelines which limit their use for chronic pain are slow to penetrating healthcare practice for injured workers, who are often seen as “legitimate users” of opioids. Workers face challenges accessing best practices in non-opioid multidisciplinary care, and there is also a lack of access to care integrating opioid tapering/OUD treatment and pain management tailored for working people.

Effective substance use disorder treatment for workers, includes peer support, as well as programs that are compatible with work. Many respondents called for employer policies which allow workers to keep their jobs and return-to-work strategies that preserve worker dignity and prevent re-injury. Respondents expressed a diversity of strong opinions on the benefits and challenges of Medication-Assisted Treatment (MAT) for worker populations, especially in the construction sector.

### Challenges and Opportunities to Address Opioid Use in the Workplace

Challenges for prevention programs include reaching non-union workers and workers with limited training opportunities. There are currently perverse financial incentives influencing employers, workers, and healthcare providers in ways that may exacerbate and extend opioid use. Societal attitudes and norms that present challenges include the “just take a pill” culture; lack of patient empowerment and active involvement in medical care; stigma related to OUD; and lack of recognition of opioid-related substance use disorder by patients and providers.

Respondents identified unmet education and outreach opportunities for different audiences including workers in high-risk occupations, young workers, injured workers, workers with opiate prescriptions, and workers with substance use disorders. If employers implement prevention and support-oriented policies, they can train supervisors and workers on those policies. Provider training and care management was viewed as essential as well, with positive results from a Washington State program cited as justification.

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<sup>1</sup> In accord with the Substance Abuse and Mental Health Services Administration (SAMHSA), we adopt the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) definition: “Substance use disorders occur when the recurrent use of alcohol and/or drugs causes clinically and functionally significant impairment, such as health problems, disability, and failure to meet major responsibilities at work, school, or home. According to the DSM-5, a diagnosis of substance use disorder is based on evidence of impaired control, social impairment, risky use, and pharmacological criteria.” Opioid use disorder is diagnosis in the case where the substance of concern is either legal or illegal opioids such as oxycontin or heroin. (see: <https://www.samhsa.gov/disorders/substance-use>)

## Introduction and Background

The purpose of this formative assessment for the Massachusetts Department of Public Health Occupational Health Surveillance Program (OHSP) and the Bureau of Substance Addiction Services (BSAS) was to conduct background research that could aid in the development of a strategy for educational outreach to Massachusetts workers regarding injury prevention, opioids and pain management following injury, and addiction resources. Given the urgency of the public health problem of opioid addiction and overdose, the OHSP was interested in suggestions for potentially fruitful avenues for prevention interventions and identification of current promising practices. These interventions could include worker education as well as potential policy and/or organizational changes to promote prevention.

Qualitative research cannot answer questions about causation or suggest evidence-based interventions. However, it can uncover potent themes, suggest research questions and foci, help to delineate relevance of concepts to various stakeholders, and identify ideas that may be controversial as well as those around which there may be agreement. Additionally, it can identify potential partners and common language, uncover barriers and opportunities, and suggest wording and subjects for survey instruments and pilot interventions.

### Research and Activities on Opioids and Work in Massachusetts

In recent years, there have been few initiatives in Massachusetts aimed specifically at addressing opioid use in working populations. In 2016 the Barnstable County Substance Abuse Prevention Coalition sponsored an analysis of industry and occupation of overdose cases.<sup>1</sup> They found very high representation of people in the building trades and especially those with high school or less education. As a result, they initiated education programs for the “Straight to Work” population of young people leaving school for work, to increase their opioid awareness and provide them with substance use disorder services information.

Similarly, the Mystic Valley Public Health Coalition analyzed the occupations of overdose cases in their region and found an over-representation of workers in heavy manual labor jobs. They then conducted focus groups with people in manual labor jobs and began outreach efforts including a resource guide for employers and a Public Service Announcement campaign aimed broadly at construction and other manual trade workers.<sup>2-4</sup> Both the Mystic Valley Public Health Coalition and the Barnstable County Substance Abuse Prevention Council sponsored educational conferences for employers and others on the subject of work and opioids. The Massachusetts Coalition for Occupational Safety and Health (MassCOSH) took up this issue in its 2017 and 2018 Dying for Work reports and participated in these conferences with a strong message about the potential role of work injury in the opioid epidemic.

In response to requests from workers compensation attorneys, and from his own observation that injured workers were suffering both from their injuries and from the treatment for them, Massachusetts Division of Industrial Accidents (DIA) Senior Judge Omar Hernandez supported a stakeholder process in 2016 that resulted in the DIA’s Opioid Alternative Treatment Pathway pilot

project.<sup>5</sup> For settled Workers Compensation (WC) cases where the payments for medical treatment continue, injured workers can voluntarily shift their care to a DIA-approved medical case manager to reduce their opioid dependence and improve their pain management. In announcing the pilot, Governor Baker said: "There's more we can do to help injured workers with settled workers' compensation claims get appropriate treatment for pain management." Injured workers began enrolling in the pilot in late 2017.<sup>6</sup>

Prompted in part by local findings, OHSP conducted a statewide analysis of the industry and occupation reported on the death certificates of individuals who died of opioid overdose during 2011-2015. That investigation, released on August 8, 2018, showed that the rate of fatal overdose varied by industry and occupation. Specifically, rates were higher among workers employed in industries and occupations known to have high rates of work-related injuries and illnesses. A striking commonality among those occupations was that they involved heavy physical demands. Lack of paid sick days and high job insecurity also characterized the occupations of the cases.

These initial findings suggested that more detailed information was needed on worker populations potentially at greater risk in Massachusetts, avenues for primary prevention, available services and education efforts, employer policies, opioids and the WC system, and best practices in occupational medicine and post-injury care. Building on these efforts, this formative research project is an attempt to provide background regarding the activities of the multiple relevant players in Massachusetts and to share their perspectives on barriers and opportunities to reduce the epidemic and its toll among the injured worker population.

## Methods

### Formation of Research Questions

The interview guide for the key informant interviews and the focus group are included as an Appendix to this report. The domains were suggested and discussed by Drs. Roelofs, Punnett, and Davis, with input from Jodi Sugerman-Brozan, Executive Director of MassCOSH. The domains, which included existing opioid awareness or addiction prevention programs, the relationship between work injuries and opioid use and addiction, the role of the WC system, perspectives on addiction and treatment, and prevention policies and messages, were reviewed in conversation with Dr. Punnett and formulated into questions in a format designed to achieve rich and authentic responses from participants.

Open-ended interviews were conducted conversationally and covered all the topics in the interview guides; however, each conversation was tailored to the expertise of the particular informant. The interview guides and protocol were approved by the University of Massachusetts Institutional Review Board which required special attention to warning participants to not discuss personal drug use. This was emphasized during the interviews.

### Participants

The list of potential key informants was drawn from three sources: interviewees suggested by Drs. Davis and Punnett and Ms. Sugerman-Brozan; research conducted by Dr. Roelofs; and the interviewees themselves. Several background interviews were conducted by Dr. Roelofs in

preparation for the main set of interviews. The following individuals were consulted to facilitate understanding of important background concepts, to learn from their experience in the field, and to ask for suggestions of interviewees:

- Dr. Angela Wangari Walter, University Massachusetts Lowell (substance use disorder treatment and fishing)
- Scott Fulmer, University of Massachusetts Lowell (participatory ergonomics, fishing)
- Dr. Jack Dennerlein, Northeastern University (construction Total Worker Health™ and ergonomics and injury prevention)
- Devan Hawkins, formerly OHSP (overdose and industry/occupation epidemiology)
- Dr. Bill Shaw, University of Connecticut Health Center (return to work, disability prevention)
- Dr. Jennifer Cavallari, University of Connecticut Health Center (peer support, construction interventions)
- Lauren Dustin, Mystic Valley Public Health Coalition, Substance Abuse Prevention Task Force (outreach)
- Vaira Harik, Senior Project Manager, Barnstable County Department of Human Services (epidemiology and surveillance, overdose and interventions)
- Gioia Pursuitte, Program Specialist, Barnstable County Department of Human Services (worker-oriented interventions)

The following individuals participated in key informant interviews:

- Brian Doherty, Boston Metro Building and Construction Trades Council (construction, union)
- Dr. Andrew Kolodny, Brandeis University, (public health dimensions of the epidemic, addiction treatment)
- Kyle Zimmer, Business Manager, Operating Engineers Local 103 (construction, peer support, union)
- Becca Gutman, Vice President (Home Health Care) SEIU-1199 (home health aides, union)
- Kim Higgins, Organizer (Hospitals) SEIU-1199 (health care workers)
- Cristina Lamarre, Medical Technician, SEIU-1199 (health support worker)
- Lisa Murphy, RN, SEIU 1199 (Cape Cod) (hospital worker, peer and family support)
- Dr. Albert Rielly, Cambridge Health Alliance/MGH Occupational Health (occupational medicine, employer occupational health service)
- Deborah Kohl, Attorney (WC, worker representation)
- Dr. Dean Hashimoto, Health Services Board of the DIA, Partners Medical Center, Harvard University (occupational medicine practice, DIA Health Services Board)
- Dr. Jonathan Burrell, OccMed CIC (occupational medicine practice, DIA Health Services Board)
- Hon. Omar Hernandez, Judge, MA DIA (WC policy and practice)
- John Christian and Damien Turini, President and Vice-President/Clinician, Modern Assistance Program (Employee Assistance Programs, Substance Use Disorder Treatment)

- Ryan Falvey, Operations Manager, Gentle Giant Moving Company (employer)
- Mike Pringle, RN, Windham Group, Care Coordinator DIA (case management, pain management, return to work and insurance)
- Niko Pappas, Director, MA Interlocal Insurance Co/AON WC Division (insurance)
- Catherine Reuben and Arielle Kristan, Attorneys, Hirsch, Roberts, Weinstein (employer representation)
- Michael J. Shor, MPH, Best Doctors Occupational Health Institute (insurance, case management)

Several of the individuals above have been leaders in opioid awareness and reform efforts, such as those sponsored by the Massachusetts Bar Association Workplace Safety Taskforce Opiate Subcommittee, the Public Health Committee of the Massachusetts Medical Association, the American College of Occupational and Environmental Medicine, the MA DIA's Health Services Board, the National Association of Building Trades Unions Taskforce on Substance Abuse, and through public presentations sponsored through substance use disorder task forces. While not specific to workers or workplaces, Dr. Kolodny's early and on-going efforts to raise awareness of the public health consequences of opioid prescribing is particularly worth appreciating.

Most of those invited to participate, in fact, agreed to do so. However, several either declined or did not respond. The non-responders included representatives of self-insured employers, construction project owners, construction contractor safety managers, occupational health physicians, insurance claims adjusters, insurance loss prevention, restaurant workers, and pain physicians. Furthermore, interviewees suggested several additional potential interviews from diverse professional identities who we were not able to interview in the timeframe of the study.

In addition to the general stakeholder perspectives described above, and especially in light of the OHSP analysis of high-risk occupations, we decided to focus attention on the healthcare and construction sectors. While healthcare support occupations were not among the highest-risk overall, they represented the highest risk occupational setting for women. We elected to not interview representatives of the fishing industry although it also has high rates, given that it was receiving attention from other researchers at the time.<sup>7</sup>

It should be noted that the interviewees were identified and recommended as experienced key informants, often with professional roles, particularly within the WC system. Less represented are voices from less organized populations such as non-union construction or temporary workers or others who do not have formal leadership roles. Future research should investigate ways of identifying key informants from these populations.

### [Interview Protocol](#)

Potential participants were contacted by phone or email and offered a copy of the informed consent form that described the study. Follow up emails led to an appointment for either a phone (four interviews) or in-person interview (14). Phone interviews were generally one hour or less. In-person interviews ranged from one to two hours and were generally conducted in the interviewee's office. Participants reviewed the informed consent and were made aware that

interviews were neither anonymous nor confidential, and would be recorded with their permission. All interviews except for one were recorded and notes were taken by Dr. Roelofs. For three interviews, a student intern, Klara Keyrouz, also took notes. The focus group protocol is described separately below.

### Focus Group

On June 18<sup>th</sup>, a focus group was conducted at MassCOSH in the evening. A MassCOSH Worker Center organizer<sup>2</sup> had recruited workers to participate who could speak and understand English and who worked in physically demanding occupations. Ten workers agreed to participate; however, ultimately there were eight participants including the MassCOSH Worker Center organizer. The focus group was facilitated by Dr. Roelofs and Jodi Sugerman-Brozan took notes. Prior to the conversation, the oral informed consent text was read and the purpose of the focus group was clarified. A short survey was administered covering basic demographic background.

Seven participants were women. The focus group was conducted in English, however all but one participant was a Latin American immigrant for whom Spanish was his/her first language. Three were born in the Dominican Republic; others were born in Venezuela, El Salvador, and Mexico. The male participant was a construction laborer. Four of the participants worked in the homecare industry, with three as direct service providers and one as a program director. One participant was a food service cook for a college. Three reported that they had experienced a painful injury at work within the prior 5 years. The ages of the participants ranged from 48 to 64 with the mean age of 53.

### Analysis

The focus group and some of the interview recordings were transcribed by the researcher. Additional notes from the researcher and the intern were reviewed. An outline of discussion themes was developed from the interview guide and these notes. Qualitative analysis of the data as it contributed to these themes was conducted by the researcher informally. Illustrative examples, quotes, points of concordance and disagreement, information and resources, etc., were drawn from the interviewees' comments as the researcher synthesized the interview content.

### Results

Below is a summary of the themes that emerged from these conversations, and diverse perspectives on those themes as shared by the respondents and selected by the researcher. The results also include the interviewees' suggestions for educational outreach, policy interventions, and further research related to those themes.

While focus group comments are included in the results below as appropriate, it is important to note that the focus group participants were different from most of the interview subjects in that they were manual workers themselves and they were almost all immigrants. These two factors are important context for their expressed perspectives. In general, their views on the medical system were negative, resulting, in part, from bad experiences. It has been observed that immigrants are

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<sup>2</sup> Her name is not provided here because she participated in the focus group.

less likely to have access to health care and are less likely to have substance use disorders.<sup>8,9</sup> These two trends, combined with a skepticism borne from bad experiences, suggests that immigrant workers may be protected from opioid addictions regardless of their higher injury rates. Indeed, in the focus group, workers discussed their experiences of painful back injuries and going to the doctor, being prescribed opioids, but refusing to take them or taking them for only one day. They believed that these painkiller medicines were more harmful than helpful. The representatives of the union-affiliated alternative medicine insurance provider also confirmed that the largely immigrant members of the hotel and restaurant workers union, UNITE-HERE Local 26, were very likely to use massage and acupuncture for musculoskeletal injuries, and the least likely of their union clients to have members in substance use disorder treatment.

### Medical care for painful work injuries

Several interviewees and the focus group members discussed their experience or knowledge of medical care for work-related injuries, mostly with reference to WC cases. Both “standard practice” and “best practice” were discussed. Insight into workers’ lived experience in receiving medical care for injuries is a key element in understanding what messages will resonate in educational interventions. Many key informants had direct knowledge of this medical care as health care providers themselves, or from the insurance reimbursement side, or as injured workers. There was significant agreement that opioids have been the standard treatment approach for many work injuries and that bad outcomes, including disability and opioid dependence, can be attributed to over-reliance on these drugs. There was concern that many workers were commonly prescribed opioids inappropriately, or that their initial prescriptions escalated in dose and duration despite lack of effectiveness in treating pain or in helping workers regain function.

Some respondents raised issues related pressures to work in pain, under-report injuries, and to utilize primary care and opioids outside of the WC system for work-related pain and injury. A portion of the respondents had less to say about these issues because their involvement in this world was through the WC system. As mentioned above, the focus group participants mentioned both unreported injuries and working in pain, mostly without the assistance of opioids.

Additionally, some respondents discussed their perception that in the wake of the opioid crisis, providers are reducing their prescriptions of long-term high dose opioids in response to several drivers including:

- required provider education about opioid harms and lack of demonstrated benefit for chronic pain
- practice guidelines advising against use of opioids for chronic pain
- prescription drug monitoring by the state and insurance companies
- medical case review
- personal and professional awareness of the addiction and use disorder potential of opioids
- patient concern and rejection of opioids
- fear of liability for facilitating substance use disorder.

However, some stated that these pressures on opioid prescribing were weaker for the injured worker population than for the general population and might not influence “legacy”<sup>3</sup> cases at all. Injured workers may be characterized as the patients who “legitimately need” opioids and who were perceived to be less likely to succumb to addictive behaviors. Indeed, while the WC Healthcare Services Board requires utilization review of claims to determine the medical necessity of treatment, respondents did not express confidence that utilization review had much impact in preventing long-term high dose opioid prescriptions unless the prescription specified expensive brand-name opioids. Providers generally want to help their patients achieve their goals. They may be sympathetic to patients’ requests for opioids in order to be able to go to work and get through the day. Dr. Kolodny thought that physicians might stereotype construction workers as hardworking and less addiction-prone, and therefore might more liberally prescribe opioids. (Physician rating of patients’ likelihood to use opioids inappropriately has been documented as a potent driver of prescribing practices.<sup>10</sup>)

With shifting prescribing practices, workers may face greater difficulties than in previous years working in pain with the “assistance” of opioids. However, as noted above, workers in physically-demanding jobs may encounter fewer barriers than others in “legitimizing” their need for prescriptions. An occupational health physician noted that if a worker tested positive for an opioid on a drug test and that worker had a “legitimate” prescription for opioids (including suboxone), that opioid use would not be questioned unless there was a potential issue of safety sensitive work. Thus, even in workplaces with pre-employment or random drug testing, long-term use of opioids for conditions such as low-back pain may be accepted.

Some respondents noted concerns about treatments that appeared to be used as substitutions for opioids. According to some respondents, steroid injections have become standard care for musculoskeletal work injuries, with workers referred to pain clinics that typically rely upon procedures such as injections as front-line treatment. One respondent discussed the escalating practice of prescribing gabapentinoids off-label, such as Lyrica (Pregabalin) for work-injury related pain and expressed concern about the side effects of these drugs. Some stated that the emerging focus on alternative procedures and non-opioid drugs for pain was driven by patient preferences and expectations, and less willingness by patients to address their health with more active approaches such as physical conditioning.

While the DIA’s Health Services Board, the American College of Occupational and Environmental Medicine (ACOEM), and the Centers for Disease Control and Prevention (CDC) all have treatment guidelines that advise against long-term prescription of opioids for chronic pain and work-related pain, many respondents expressed concern that these did not inform or penetrate the clinical practices of those treating injured workers.<sup>11-13</sup> Instead, there were many concerns expressed that the WC system inadvertently promoted poor care and opioid dependence. Many respondents spoke of the financial incentives for excessive reliance on billable procedures and pharmaceutical treatments under the “fee for service” model used in the WC system. Some respondents

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<sup>3</sup> “Legacy” cases were described as older claims where the injured worker was no longer in the workforce, was disabled, and was still receiving opioids, usually at high doses, for chronic pain.

mentioned their concern that there were unintended perverse financial incentives in place that promoted poor medical care that might result in opioid dependence and even disability in order to gain higher settlements (and legal payments).

An injured worker in Massachusetts may choose to see any physician who is willing to accept the very low scheduled WC reimbursement rates, but many physicians are not. Some interviewees thought that “better” providers may elect not to see injured workers unless they have figured out how to negotiate higher rates (as some have). As a result, many health care providers, including community health centers, refuse to treat patients for work-related claims and the patient has the challenge of finding someone who will.<sup>14</sup> If a worker receives an opioid prescription from someone who is not their regular provider, and then goes back to their primary care provider, the primary care provider may be hesitant to re-assess, or to question another provider’s treatment regime, and continue to renew the script. Alternatively, a worker using opioids may find that their provider or insurance company is unwilling to continue an opioid prescription, potentially motivating them to seek illicit street drugs instead. One provider interviewed for this study mentioned that one of his patients had followed this route. He was concerned, as were others, that restrictions on opioids might drive injured workers to seek heroin or fentanyl with potentially deadly consequences.

The challenges involved in securing evidence-based, coordinated, and cost-effective care in the Massachusetts WC system inspired the creation of the “Best Doctors Occupational Health Institute” in cooperation with the Associated Industries of Massachusetts (AIM) Mutual Insurance Companies, (<https://bestdoctors.com/workers-compensation/>) which aims to identify at risk patients/injured workers at time of injury and offer guidance to those claimants in securing clinically and cost-effective care that may reduce opioid dependence and prevent disability. Claims adjusters, particularly for the AIM Mutual Insurance Company, which is one of the largest WC insurance carriers in Massachusetts, use their screening tool to identify these potential cases. The claimants are then contacted by one of Best Doctors’ “nurse advocates” and offered their resources to facilitate care to clinical resources expert in managing complex pain conditions. According to the Best Doctors’ website:

*....an expert clinical focus on the most complex injuries and illnesses can lead to better outcomes for injured workers and have a significant impact on loss experience. A simple look at the high number of failed spinal fusions and **the overuse of opiates and other narcotics** are ample testimony to this unfortunate reality. Unlike standard WC practices, such as Utilization Review, Peer Reviews and Independent Medical Exams, Best Doctors’ in-depth medical review process doesn’t delay or deny treatment. Instead, it helps ensure the right diagnosis and treatment is provided as soon as possible.*

In keeping with the evolving evidence, insurers and clinicians agreed that early non-opioid multidisciplinary approaches to pain management and recovery were essential for injured workers.<sup>15</sup> However, they discussed several decisive barriers and disincentives for “best practices” in injury recovery and pain management. These barriers include a **lack of:**

- high-quality multidisciplinary comprehensive care practices that integrate physical and psychological approaches and Western and complementary medicine;
- insurance reimbursement for non-opioid approaches such as exercise coaching, cognitive behavioral therapy, and mindfulness;
- ways of addressing individual biopsychosocial factors, including pre-existing medical conditions, that are beyond the responsibility of WC and which may contribute to opioid dependence and disability;<sup>16</sup>
- time for attending to patients, particularly by primary care providers;
- occupational health/pain management training among primary care and other injury-care providers;
- efficient and adequate compensation for appropriate and comprehensive care and care coordination in the WC system;
- “performance drivers” and outcome measures in health care generally, and in treatment of injured workers, specifically;
- utilization of approaches that gauge functional improvement instead of less-helpful standard pain scales;
- focus on return to work or stay at work; and
- willingness on the part of patients to adopt non-drug strategies.

Boston Pain Clinic (<http://www.bostonpaincare.com/>) was identified as a pain management clinic that does offer comprehensive, multidisciplinary treatment (<https://youtu.be/GDIIpC-ykI0>), incorporating both high-tech procedures such as electrical stimulation and patient pain-management education such as through mindfulness classes. Nurse Mike Pringle of the Windham Group, one of the well-reputed providers and care coordinators for the DIA’s Alternative Pathway Pilot, discussed teaching pain self-management and an integrated and comprehensive approach that utilizes “many spokes” on the wheel of potentially helpful approaches. He also noted that

*Injured workers who have been using opioids for a long period of time face two problems. One is the residual pain from their occupational injury, and the other is their reliance on opiates. These two problems need to be addressed and managed simultaneously. It’s relatively easy to wean a person off their opiates in a brief period of time. The more complex problem is the pain, as pain is much harder to manage effectively, hence the mess we’re all in. Both problems need to be addressed using a multimodal multidisciplinary management plan.*

Thus, injured workers who have been using opioids face the dual challenges of opioid dependency and the underlying pain from the injury. They need treatment that addresses both. Some respondents noted that a lack of care coordination can lead to workers’ medical treatment “running off the rails” into expensive and ineffective care and, ultimately, greater disability. In response to this problem, one respondent spoke of efforts to identify “centers of excellence” for the medical treatment of work-related injuries to which patients in the WC system could be directed. Another respondent urged the adoption of a DIA billing code for care coordination.

Occupational health physician John Burress, of OccMed CIC, described his in-office approach that utilizes a comprehensive mind-body strategy to overcome patient barriers such as “catastrophizing” and unhelpful expectations about being pain-free, and practical self-management that was tailored to the needs of the construction industry. For example, he teaches “body awareness” and physical therapy exercises that construction workers can practice on their own in recognition that they are not usually able or willing to leave work (and give up a parking space) for therapy appointments. Time and travel for healthcare was also noted as an important barrier for construction workers aiming to reduce opioid dependence in *The Boston Globe* coverage of the DPH report.<sup>17</sup>

These noted barriers to best or better practice imply several avenues for improving medical practice for work injuries. Additionally, many respondents suggested pathways for improving care for injured workers. A few respondents mentioned the Washington State Department of Labor and Industries Centers of Occupational Health and Education (COHEs) model (similar to a Center of Excellence) and recommended that it be more or less adopted in its entirety. (See <https://www.lni.wa.gov/ClaimsIns/Providers/ProjResearchComm/OHS/>) Washington State has been identified as a leader in reducing opioid dependence and overdose rates in worker populations.<sup>18,19</sup> The COHE components identified by respondents as important include:

- required provider education on best practices in caring for injured workers and return to work
- identifying top providers and mentoring promising providers “into” top providers
- creating a network of qualified providers
- care coordination
- on-line claim filing, data sharing, and first report of injury
- guidelines for quality care and best practices in surgery, orthopedic care, catastrophic care and provider quality improvement initiatives with outcome reporting
- functional capacity assessment (in place of pain scales)
- “performance drivers,” aka payment incentives for prevention-oriented practices and outcomes reporting
- provider satisfaction surveys
- identifying and promoting emerging best practices.

Washington State differs from Massachusetts in several respects, including the fact that the state government is the sole compensation carrier in Washington. However, several of the COHE elements could be adapted to the Massachusetts context. Respondents suggested the following:

- development of medical continuing education credit-eligible education modules specifically for best practices in occupational health and treating injured workers aimed at primary care providers;
- in conjunction with the expected revised (higher) reimbursement rates for care provided under WC (currently underway), require education in best practices for treating injured workers, non-opioid treatment and pain management, opioid tapering and OUD treatment, and return-to-work and disability prevention;

- DIA medical provider reimbursement codes at adequate levels for care coordination; patient education and self-management training; and return-to-work discussions with the employer, supervisor and worker;
- recognition of medical Centers of Excellence that demonstrate best practices and excellent patient outcomes, as well as integrated multidisciplinary care;
- providing information to the DIA and providers on the “who, what, when, and where” of an injury prior claims processing;
- encouraging employers and employees to report injuries early to prevent development of more intractable chronic conditions;
- decision aids and shared decision-making combined with patient education about empowered and informed medical decision-making.

In summary, many respondents identified systematic factors contributing to the high rates and continued prescribing of opioids to injured workers, and also offered suggestions as to how to change practices and policies to address the problem. The stakeholder process that designed the DIA pilot project aimed at addressing some of barriers identified above was recognized by many respondents as positive and enlightened, but also inadequate and focused “on the back end.” In order to accomplish greater change to address the negative impacts of the financial incentives embedded in the WC system and to drive prevention further upstream, one respondent suggested that a coalition for reform of the WC system should be convened with the goal of multi-stakeholder advocacy for a more “Washington” type system. Additionally, education for all – workers, lawyers, providers, regulators, insurers, and employers -- aimed greater awareness of the harms of opioids and lack of evidence for their efficacy for chronic pain, or even post-operative pain, was also suggested. Recommendations for substance use disorder treatment for injured workers are addressed separately below.

### [Return to Work and Disability](#)

Several respondents named multiple challenges that physicians, workers and employers face when a worker returns to work after an injury. Overall, there was a sense that the decision to return to work (or stay at work) was one of the most challenging and conflictual aspects of the WC system and that these challenges might facilitate opioid dependence. For examples, workers’ lack of trust in the possibility for meaningful and safe return to work might result in workers not “revealing” to medical providers that they were feeling better, out of fear of losing compensation or being forced into an early return-to-work. This may result in reporting high pain scale ratings which would translate into high and continued opioid prescriptions. Indeed, this was one reason that pain scales were identified as obsolete and should be replaced by functional assessments. One form that this can take is to ask questions such as: What were you able to do last week? What can you do now? What do you hope to do this week? Which activities cause you more pain?

A concern was expressed was that return to work as modified duty would be either humiliating or stigmatizing for the worker, or designed to encourage them to quit, or dangerous or disadvantageous to a more complete recovery. One respondent offered: “If you want to see what kind of employer you have, experience an injury.” Several respondents expressed their belief that

many employers simply didn't have any "light duty" work and that construction work, in particular, couldn't be modified in a meaningful way. Some stated a belief that employers weren't interested in making the effort or didn't know how to identify safe and meaningful transitional or modified duty and were no more willing to modify hazardous work through ergonomic interventions post-injury than they had been before the injury. Thus, the returning worker over-doing it at work and exacerbating the pain or injury was identified as another challenge to injury recovery and opioid reduction. Along these lines, employers' failure to stay in touch with injured workers on leave and aggressive insurance "harassment" were also mentioned as discouragements to return to work.

Others stated that workers were unmotivated to return to work if they had potential disability claims. Several respondents noted the challenges for workers in getting by on the 60% of the worker's prior wage, which is what is available through the WC system. However, others stated that the replacement wage was an attractive alternative to work, particularly if the worker was older, held a particularly odious job, or was planning to find another job. One respondent believed strongly that some workers had pre-injury biopsychosocial risk factors which placed them at much higher risk for opioid dependence and compromised recovery. These included co-morbid medical conditions such as diabetes, smoking history, failed social relationships, history of physical or emotional abuse, a propensity to addictive behavior, poor workplace morale or behavior, or difficult and meaningless work. These factors were viewed as challenging or beyond the scope of the WC system and, also, beyond physicians' typical skill set, time, or capacity to address.

Another respondent added that both the injury and the WC system had a negative overall impact on the worker's well-being. These influences included: loss of income, strains on personal relationships, loss of identity, "bureaucratic humiliation," loss of physical conditioning, weight gain, stress, and depression. These factors could result in a downward spiral for the injured worker and added to the likelihood of disability, and, potentially, opioid dependence.

Additionally, several respondents believed that medical providers, who are charged with signing off on return to work ("fitness for duty"), were unprepared to determine accurately if and how a worker might return to work. This is because employers do not generally provide accurate job descriptions to physicians, workers may not correctly or completely describe the physical demands of their jobs, and providers rarely, if ever, undertake a "transactional" call. As Dr. Burress described it, the transactional call includes the worker, the supervisor, the employer and the physician in a discussion where there is mutual agreement and commitment to a return to work plan.

Dr. Jennifer Christian, a Massachusetts-based occupational health physician with expertise in disability prevention (who was not able to be interviewed for this study), was identified by some respondents as a significant resource for practical and comprehensive approaches to overcoming the multiple challenges in this area (see: <http://www.webility.md/christian-bio2.htm>).<sup>4</sup> Similarly, one interviewed insurance carrier representative perceived that the reason why his company experienced so few problematic opioid cases among the injured workers' claims was that the

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<sup>4</sup> The National Institute for Occupational Safety and Health has also collected helpful resources on this topic here: <https://blogs.cdc.gov/niosh-science-blog/2017/04/12/worker-recovery/>

company worked hard to facilitate return to work through accurate job descriptions, training employers on transitional work, and encouraging a trusting and helpful relationship and on-going communication with the injured worker.

### Employer and Union Policies and Practices

Respondents were asked to discuss their awareness of and perspective on employer and/or union policies and practices related to opioid impacts on workers and workplaces (in addition to the return-to-work issues discussed above). These included:

- employer drug-free workplace policies; disclosure of use
- drug testing
- last chance agreements
- working while in treatment
- employee assistance programs
- access to drug treatment and support for recovery through the workplace or union
- employer or union-sponsored training on substance use disorder issues
- workplace culture with regard to drugs and addiction, and
- primary prevention of opioid addiction through injury prevention.

Some of these programs and policies were in place, but many of these were viewed as potential policies and training topics in the context of workplaces with substantive policies in place about which employers can communicate with their employees. These subjects are discussed below.

### Drug Free Workplace Policies and Drug Testing

Most respondents across the board were supportive of drug-free workplace policies and drug-testing to support them. Employee drug testing may occur under the following circumstances:

- as part of pre-employment screening for new hires;
- in the unionized construction sector by agreement between employers and unions. The “geographic drug test” is administered jointly by unions and their contractors through the health and welfare funds. A drug-free test result qualifies the union member to be placed on any job in the region covered by the union-contractor agreement;
- randomly, for current employees working for companies that conduct random drug testing (most likely in construction), and for Department of Transportation designated jobs – primarily holders of Commercial Drivers Licenses (CDL) (<https://www.fmcsa.dot.gov/regulations/drug-alcohol-testing/what-tests-are-required-and-when-does-testing-occur>);
- following “reasonable suspicion” of drug use;
- post-accident where it was possible that drug use might have contributed to the accident;<sup>5</sup>

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<sup>5</sup> MassCOSH Executive Director Jodi Sugerman-Brozan noted that there are concerns among worker advocates nationwide that post-accident drug testing can be used by employers to intimidate workers from reporting injuries or filing WC claims. OSHA recently clarified in its record keeping rule revision that while post-accident drug testing is permitted, it may not be used in a retaliatory manner or in a way that would discourage reporting of hazards or injuries: [https://www.osha.gov/recordkeeping/finalrule/interp\\_recordkeeping\\_101816.html](https://www.osha.gov/recordkeeping/finalrule/interp_recordkeeping_101816.html)

- for employees who are in drug treatment programs to verify compliance with the program (either abstinence or MAT)
- Physicians may also require regular drug testing for patients they are treating with opioids to confirm that they are taking rather than selling the drug.

However, employee drug testing does not mean that employees who use opioids will necessarily be excluded from the workplace. As mentioned above, a drug test may not be reported as “positive” if the worker has a legitimate prescription for the drug and may even be excluded from the testing panel. (However, employers may also require workers to disclose opioid use if it could impair the worker in their duties, as in the case of “safety-sensitive work.”) Employers may also ignore positive results, especially for marijuana, if the tested individual is not subject to DOT regulations, and their performance is not impaired at work. The moving company operations director interviewed for this study said that his company only administers drug tests to drivers, as required by DOT rules, and not to other employees, and does not conduct pre-employment drug tests. Finally, testing panels (which drugs are tested for) may not include opioids or other drugs. Dr. Burrell discussed his life-saving intervention to revise the construction site agreement to include fentanyl in Harvard University’s drug screening panel for workers on their construction sites. (Harvard does not accept the geographic drug test – it requires all workers to be tested by Harvard upon starting on their sites.)

#### Last Chance Agreements and Working While in Treatment

Many interviewees, but not all, believed strongly that employers should accompany drug testing with “last chance agreements” or other contracts that allow workers to enter addiction treatment programs and return to work with expectations for job performance, including not using substances as verified by drug tests and a treatment provider signing off on program participation. A couple of respondents believed that employers need to protect the safety of other employees and their businesses by terminating employees who test positive for drugs. Several respondents, including the interviewed employer, stated that employers needed to maintain positive environments that encourage workers to self-identify when experiencing problems and to use employer-provided medical benefits and leave to obtain treatment and remain in supervised treatment while returning to work.

In addition to workers self-identifying as needing substance use disorder treatment, and requesting or taking leave as necessary, employees with substance use disorder problems may also be “caught” by random or “reasonable suspicion” drug tests. There are guidelines for determining what counts as “reasonable suspicion” of drug use – these and other guidelines for employers that help them abide by the law while protecting their businesses, are outlined in the “Employer Resource Toolkit: An Employer’s Guide to Substance Abuse and the Workplace,” produced by the law firm Hirsh, Roberts and Weinstein for the Mystic Valley Public Health Commission.<sup>4</sup> The representatives of this firm who were interviewed for this study believed that many employers are unaware of both their rights and their obligations under the law with regard to human resources decisions and substance use disorder. They encouraged employers to become more sophisticated on these issues given the pervasive use of drugs and alcohol in society, the

imminent legalization of marijuana, and the challenge of hiring and retaining qualified employees. In general, they agreed with other respondents that a positive workplace culture, and a projected openness to communication about challenges employees are facing, was the most helpful approach to prevent negative outcomes both for the employee and the business.

Many, particularly those respondents connected with the construction industry, stated that returning to work was an essential strategy to prevent addictions from becoming deaths. The Boston building trades are advocating for employers and project owners to allow workers in supervised treatment (primarily provided by Modern Assistance Programs) to return to work. Brian Doherty, of the Boston Metro Building Trades, characterized this approach as “a cycle of health” or “returning to health” rather than a downward cycle of addiction and despair resulting in unemployment, destroyed relationships, crime, overdose and death. Supervised treatment includes a regime of drug testing and attendance in therapy sessions and/or support group meetings such as Narcotics Anonymous with compliance reports sent to employers by the treatment facility. Modern Assistance Program staff were adamant that return to work while in supervised treatment was essential for recovery. They characterized their mission as returning workers to the job as soon as possible. However, one respondent stated that employers needed stronger legal liability protections in the event that an employee relapsed and, as a result of their impairment, caused an accident at work that harmed other employees – a potential legal case of “negligent retention.”

Few expressed concerns about workers working while using opioids as prescribed by a doctor or using the MAT suboxone/buprenorphine while working. DOT rules prohibit commercial drivers to be on methadone but have not yet weighed in on suboxone. Suboxone, which includes the opioid buprenorphine to “occupy” the opioid receptors that are creating the cravings, includes an antagonist to prevent the patient from experiencing a high from the drug. Dr. Kolodny was adamant that suboxone, taken as prescribed by a physician, would not interfere with any work, including “safety-sensitive work.”

Modern Assistance Program staff were less confident about this point. They believe that the ideal and the reality of suboxone are quite different. While suboxone and other MAT is a part of many of their patients’ treatment plans, they had concerns, based on their patients’ experience, that suboxone has side effects that might interfere with work; that it is linked to diversion, addiction and overdose; and that it is very often prescribed at very high doses. They and Kyle Zimmer of the Operating Engineers stated the opinion that addictive behaviors which accompany opioid dependence may be continued as the worker shifted to a dependence on suboxone and were occasionally made worse, because the detox from suboxone was perceived to be more lengthy and difficult than from opioids. However, other substance use disorder specialists interviewed for this study took the perspective that MAT is essential to prevent relapse and is, often, unfortunately, a lifetime commitment. Kyle Zimmer also expressed his view that taking suboxone would exclude construction workers from employment, as they would fail the required drug tests.

Indeed, MAT was the most controversial subject that arose during these interviews reflecting the larger debate about abstinence-based drug treatment vs. MAT approaches. Several providers used

the insulin analogy for MAT – saying that just as it’s unfortunate but necessary that diabetics take insulin their whole lives, so too: it’s unfortunate but necessary that those with OUD take MAT and continue to take MAT given that the opioid addiction has essentially caused brain damage. This analogy was completely rejected by other interviewees who said that while insulin was necessary, MAT was not, or certainly not necessary for extended time periods, and that MAT was just another addictive opioid pushed by the medical system with even more harmful effects. Two respondents described this view of MAT as “just another opioid” as stigma against MAT.

Some stated that substance use disorder professionals’ general perspective that people are weak and damaged and need MAT, may not resonate with workers who view themselves as only temporarily disabled by OUD, highly capable, determined to overcome addiction and return to work, and supported by unions and family. Educational programs aimed at workers will most likely have to tread carefully in the area of education around MAT and provide unbiased and compelling evidence about MAT. Some of the perspectives raised here, particularly by those affiliated with the construction sector, suggest that not all workers will be easily persuaded of MAT’s essential necessity, its harmless benefit, or its compatibility with work.

With regard to employer policies about MAT or opioids, some respondents offered the legal perspective that workers may work while on suboxone (or opioids) as long as they are under a provider’s supervision and as long as the drug does not interfere with work, safety-sensitive or otherwise. Employers (and the physicians contracted for occupational health services) would be able to ask employees to take a drug test if their behavior suggested that they were impaired. In Connecticut, if the job is listed on the Department of Labor website as one that is “safety sensitive,” employers may require drug testing.

However, one of the attorney respondents mentioned a case where the employee was asked to get a “fitness for duty” certification from his doctor following employer and fellow employee observations that the person’s behavior was compromised, perhaps by narcotics. Dr. Rielly explain that in his role as a physician for the Occupational Health Services of Massachusetts General Hospital, if a MGH employee’s or soon-to-be employee’s drug test was positive for opioids, and he or she had an opioid prescription, or if an employee had a CDL license, he would be likely to have a conversation with the treating physician to see if it was possible to reduce or eliminate the use of opioids in order to allow the person to do their job at MGH without impairment.

#### Employee Assistance Programs and Peer Support

EAPs got mixed reviews from respondents, who generally thought that EAPs vary in quality. Some perceived that EAPs were an important part of addressing substance use disorder issues in working populations, and that they could be very helpful to employers who wished to retain an employee struggling with either their own or a family member’s substance use disorder issues without getting directly involved. However, “forced referrals” by employers were identified as a controversial move because it makes continued employment contingent upon a help-seeking behavior rather than performance standards at work. Some respondents expressed that “standard” low-cost EAPs are not especially helpful due to their lack of ability to provide services themselves and their inability to get employees or family members into therapists’ offices in an

urgent timeframe. Some worker respondents also expressed their doubt that EAP services were truly confidential and that employers would learn why an employee called – a potent discouragement for those seeking substance use disorder treatment.

Ryan Falvey of Gentle Giant Moving Company was very positive about the EAP his company uses. He stated that they maintain a high level of confidentiality and help him with his human resources responsibilities (<https://kgreer.com/>). He expressed that they would be relied upon to help the company address any opioid use disorder issues among employees.

Modern Assistance Program is an EAP that was also positively perceived. In addition to their positive self-assessment, they also received positive reviews from Brian Doherty of the Boston Metro Building Trades. Modern Assistance is the EAP, mental health and substance use disorder treatment provider, “self” insurance, and case manager for the unionized construction trades (except for the Laborers and Carpenters) in and near Massachusetts, and for UNITE-HERE Local 26. As such, it operates as provider of wrap-around services from answering the first call from the worker or their family member, to approval for detox treatment, to in-house psychological counseling, to approvals for non-Western treatment modalities, to drug testing, to overall health case management, and support for the “cycle of health,” as mentioned above.

As the insurer and case manager, Modern Assistance can connect a person with opioid dependence issues to a residential detox treatment center near to their home and then provide the substance use disorder therapy following this “preparation.” The employee is also linked to peer support groups that are led by other members of the trades who are in recovery. Because Modern Assistance is also the insurer, covered employees who independently seek substance use disorder treatment services, such as by calling the number on the TV’s blue screen, will be re-routed from those treatment centers, which may not meet standards of care or may be difficult to assess their quality, (the Florida cure, etc.) to local high-quality treatment centers where their progress can be monitored.<sup>20,21</sup> In this way, Modern Assistance pro-actively assures the quality of treatment, prevents over-spending by the benefits funds, and supports the employee in getting the services that they need.

As an EAP, Modern Assistance answers employee calls and connects him or her to a therapeutic professional when they call, whenever they call, and will have an in-person appointment with usually that same staff member within 24 hours. Modern Assistance viewed this protocol as a baseline for evaluating EAPs: immediate connection with a qualified mental health professional followed by an in-person appointment within 24 hours.

Respondent Kyle Zimmer also assists members of his Local with access to problem-solving and treatment resources. He was trained by the Labor Assistance Professionals (LAP) (<https://www.laborassistanceprofessionals.com>) and was certified through their week-long LAP-C training program to assist members in getting the help they need and to provide peer support to union members. According to LAP’s brochure: “Labor Helping Labor,”

*We are dedicated to obtaining comprehensive alcohol and drug treatment and mental health services for our members at a reasonable and fair price. Second, we advocate for*

*member assistance program development within Labor, and for the recognition of the key role Labor plays in the treatment process and professional organizations. LAP is composed of those active and retired members of a trade union or a union management joint program who are involved in the actual provision or administration of employee member assistance programs with special emphasis on mental health, substance abuse or dependency issues.*

Mr. Zimmer discussed his ability to provide direct intervention to assist his members in obtaining the help they need and repairing their lives. He also emphasized the goal of returning an impacted employee to work and his role in advocating for that. His union also sponsors peer support groups and feels that peer support is essential for recovery. Mr. Zimmer also mentioned that it was critical that workers get connected with treatment programs that are appropriate for working people. He stated that if a construction worker found himself in a program with suburban teenagers or those without expectations of returning to work, it might be discouraging. A “one size fits all” message about treatment resources might turn off working people who retain negative views of addicts even as they face addiction themselves. For this reason, a healthcare interviewee thought that EAP and substance use disorder treatment resources should feature photos and testimony of working professionals in treatment.

#### Leave Policies

The OHSP report identified that workers in occupations without sick leave were over-represented among overdose cases. Sick leave or Family and Medical Leave (FMLA) or short-term disability leave might be used either for recovery from a work-related injury and/or to attend to one’s own or a family member’s substance use disorder treatment. In the construction sector, respondents noted that workers are only paid for days that they work, they work seasonally and periodically, and, as such, would be reluctant to take time off for recovery or to attend healthcare or substance use disorder treatment appointments during work hours. (It is not known what the impact of Massachusetts’ Sick Leave Act, in place since 2015 which requires employers to allow employees to accrue three days of sick leave, has had on the industry.)

Similarly, healthcare workers interviewed for this study reported that chronic short staffing in many medical settings meant that these workers would be very hesitant to take time off either for their own health or for a family members’ because of the burden that it would create for co-workers. One healthcare worker who now provides peer support for families struggling with substance use disorder reported that at the time she herself most needed time off work to help her daughter, she was unaware of her access to FMLA or other leave. This resulted in a severe work-life balance conflict that might have had dire consequences for her daughter had she not herself received support from a local group.

#### Training

None of the respondents had any knowledge of on-site employer-sponsored training about opioids. However, Modern Assistance and construction unions do sponsor training in trade apprenticeship programs on opioids and substance use disorder generally. The legal respondents recommended that employers train supervisors, in particular, on recognizing signs of addiction and on what constitutes “reasonable suspicion” of on-the-job employee drug use. One of the

insurers and an occupational health physician spoke of training employers on return to work strategies for injured workers. Mr. Falvey of Gentle Giant spoke about his company's staff training in active listening, emotional intelligence and how to give and receive feedback. He believed that this training helped imbue the company with an overall culture of communication and openness that would assist workers and supervisors in communicating about substance use disorder issues if necessary.

As discussed above, patient education and training is a key component of Dr. Burress' and Mr. Pringles' practices. Both stated it was very important to train patients on the arc of recovery and to actively involve them in the healing process, including self-help skills in overcoming challenges. Workers and their union representatives interviewed for this study, and the focus group participants, spoke of a significant need for a variety of occupational training, including both injury prevention and job skills. Home health aides spoke of challenges regarding assisting patients who might be addicted to opioids and their desire for more job training generally, particularly in the area of health and safety and interacting with physically or behaviorally-challenging clients.

#### Workplace and Substance Use/Use disorder "Culture"

Some respondents shared their view that while OUD remains highly stigmatized, opioids do not, either inside nor outside the workplace. One focus group participant said that opioids were so available that it would be impossible to know who was taking them for what reason – pain or "pleasure." Some respondents suggested, that for sectors such as food service/restaurant and construction, opioids (and other drugs and alcohol) may be normalized. This means that employee drug and alcohol use may be either passively encouraged or ignored by employers who are eager to maintain a skilled workforce. This attitude may be shared by fellow employees who feel that it's not their business as long as their co-worker does their job.

Some respondents suggested that for workers, an opioid dependency may only be viewed as problematic if it is also accompanied by addictive or abusive behaviors, or if the person self-identifies their use of opioids as problematic, regardless of issues of physical dependence. It is partly because of this perspective that, despite clinical guidelines to the contrary, opioid prescribing for work-related pain may be deemed appropriate medical care even if it results in dependency and disability. Workers as patients may assert that they need opioids and that it is the right to continue a prescription. Insurance companies may question expensive and ineffective medical treatment, but may not question opioid treatment, per se. Stigma about discussing pain, injury, and opioid dependence also all conspire, some respondents observed, to prevent open discussion about addiction and treatment to deal with both pain and opioid dependence.

#### Injury prevention

Mr. Pringle, the Care Coordinator who is heavily involved in assisting opioid-dependent injured workers, was adamant that employers need to do more to prevent injuries. While his attention and concern for primary prevention was shared by the focus group members, a significant number of other respondents expressed resignation about the inevitability of injuries or stated that there was little that employers could do. Factors that were mentioned as barriers to injury prevention included:

- the nature of construction or assembly work precluded ergonomic intervention
- aging workforce meant that people’s bodies wore out at work instead of in retirement
- a general lack of fitness for duty in the workforce
- workers’ fear of retaliation for reporting hazards or injuries
- reactive versus pro-active attention to problems
- small businesses didn’t have the resources or knowledge to make modifications themselves, or to hire experts to advise them.

In construction, in particular, there was an assumption that injury risk was a part of the job. For example, Modern Assistance staffers discussed that the message for construction apprentices was “When you are in the doctor’s office—not if, but when, because you are going to experience an injury—you need to know the dangers of opioids....” They also mentioned that construction’s “boom and bust” cycles meant that workers will “postpone” attention to their bodies in order to keep working in times when jobs are scarce. During boom cycles, workers will remember the bust coming and will feel the same pressure.

Dr. Burress mentioned that being older was particularly challenging in construction because the job doesn’t change even though older workers are experiencing sarcopenia (loss of muscle mass due to aging process). To prevent injuries, he stated that workers needed wellness education about achieving and maintaining fitness, nutrition, and adequate sleep. Some respondents endorsed construction employers’ stretch and flex morning warm-ups as positive, if limited, interventions, although there were also sentiments that such activities were “counter-cultural” in the construction environment.

Some healthcare respondents stated that hospital understaffing was a systematic business strategy that resulted in injuries and that hospital interventions to prevent injuries, such as “no-lift” policies or minimum staffing requirements were often undermined by chronic understaffing relative to patient care requirements. Similarly, home health aides shared their perspective that financial considerations took precedence over providing training, tools and equipment, or adequate staffing to prevent injuries. They were eager to advocate for ergonomics regulations that required employers to make efforts to prevent injuries and that encouraged workers to report hazards and injuries, rather than intimidating them from reporting. One respondent agreed that home health care was an inherently dangerous job and thought that there needed to be more funding for social services agencies to facilitate an investment in safety.

Mr. Falvey stated that his company helped to prevent injuries by hiring athletes, encouraging on-going physical activity, training workers to be careful, abiding by OSHA requirements, and providing in-house chiropractic care. He also noted that employees often only work a few days a month, limiting their exposure to heavy work. One respondent mentioned that she had observed the effectiveness of robust health and safety committees in reducing hazards and that there were employers who made efforts to eliminate ergonomic hazards. An embedded safety culture and regular communication about safety was also identified as an important employer intervention by another respondent.

## Messages for workers

Respondents provided their perspective on useful messages to workers in order to help them avoid opioid dependence and addiction. Many of these messages concerned the doctor's office. Many respondents blamed the opioid crisis on prescribing practices and the pharmaceutical companies that encouraged them. Dr. Kolodny, in his interview and in his published seminal article on public health perspectives on the opioid crisis, described the underlying problem of excessive "exposure" to opioids. This framework fits well with an occupational health framework that also links injuries to risks related to exposures to hazards.<sup>22</sup>

There were several respondents who thought that workers need to know about the financial incentives that contributed to the crisis and to know how to advocate for themselves in the doctor's office. For example, several respondents suggested that patients ask questions of their doctors with regard to pain prescriptions, and that they should overcome their hesitancy to question doctors. As one put it, "Just because the person has an MD after their name, doesn't mean that you can't ask questions." These questions could include "Is this addictive?" "What are the side effects?" "What's an alternative?" On the other side, some stated that providers needed to be much more assertive with their patients in saying to them "This is all you are getting" with regard to pain medication.

Two other subjects that respondents thought that workers should be educated about are access to substance use disorder treatment and reducing stigma around both addiction and injuries. As mentioned above, several thought that messages about getting help needed to be positive and tailored to workers in recognition that they were (or had been) working, were valuable, were positive contributors to society, and were professionals – and would be again. (These messages would also need to avoid stigmatizing others.) Some healthcare respondents stated that addiction was particularly stigmatized among healthcare workers, especially those who themselves cared for patients with overdoses or substance use disorder issues.

Many of the potential messages to workers in the workplace would be communication of employer policies. For example, important messages from employers to their employees would be about:

- recognizing signs of addiction and getting help
- leave and benefits applicable to drug treatment for themselves or family members
- encouragement to report hazards and injuries
- management commitment to reduce hazards
- assurance about returning to work post-treatment for either injuries or addiction
- alternatives to work culture that revolved around alcohol and drugs
- EAP and peer support services
- availability of Narcan in the workplace.

Employers should have these policies and practices in place to support these messages.

Some additional potential message subjects that were suggested included:

- MAT
- the potential pitfalls of the WC system (as discussed above)
- the importance of general health and fitness
- opioid addiction is a disease that has treatment (rather than a moral failing of “junkies” or “addicts”)
- evidenced-based alternatives to opioids
- that recovery takes work and commitment
- realistic perspectives on pain and possibility of living life with pain
- financial incentives for unnecessary or harmful medical treatment in the healthcare system generally.

## Discussion and Conclusions

These 18 key informants and 8 focus group participants provided rich and essential background to the issues involved in workers using opioids, based on their varied experiences and roles. They reinforced that, in many ways, workers are not different from the general population in that they have been over-exposed to opioids through the healthcare system. Some participants expressed that opioids, both pharmaceutical and illicit, are pervasive and available. They also expressed that those who have become dependent face many barriers in achieving freedom from addiction. Messages aimed at reducing stigma, increasing access to treatment, and promoting hope are likely to resonate with employed individuals just as they do with others.

However, in many important respects, those interviewed shared the perspective that workers’ situation is different than those who are not in the workforce. In some cases, workers may have begun taking painkillers in order to be able to do physically-demanding jobs. In cases where a work injury results in a pain-related WC case, the WC system was identified as a healthcare and legal system that may unintentionally promote opioid dependence through perverse incentives for both disability claims and medical treatment that promotes opioid use. Although delays in the resolution of cases and claims denials have been suggested by others as potential factors increasing opioid dependence, these issues did not arise in the interviews (which does not mean that they aren’t important issues.)

Respondents also identified the WC system as a potential arena for action to reduce opioid dependence through education and policy changes aimed at all “players” in the system. The Opioid Alternative Pathway Pilot is an example of an effort to do that. Respondents identified many more concrete education projects that could be undertaken through the WC system such as required provider education. Outside of the WC system, but within the world of work, resources such as EAPs, were identified as key to assisting workers in getting help. Finally, work, itself, was identified as key to recovery from both injuries and opioid dependence and many policy and educational aims were identified to facilitate return to safe work for those in recovery.

Worker education about opioids is more likely to result in behavior changes if it is tailored to workers’ needs and experiences. This study found that worker experience of the WC system is a key issue that should be addressed in opioid education programs. Additionally, worker education

programs may wish to acknowledge the challenges that workers in jobs with heavy physical demands face every day, and that these may get more difficult with age and time. To be sensitive to workers' experience, opioid education aimed at workers will need to include a focus on these challenges and the positive and potentially negative impact of work on their health and well-being.

All respondents wished to play a positive role in reforming structural factors or providing education or services that could "bend the curve" on the opioid epidemic. Nevertheless, many of the structural factors embedded in the legal, medical, and economic system that are at the root of at least a portion of the epidemic, such as the absence of an ergonomics standard, the "just take a pill" culture, the pharmaceutical industry's aggressive marketing practices, and the decline in the number of occupational health specialty practices, are extremely intractable. The immensity of the challenge caused several respondents to express despair at reversing it even as they had a passion for attempting it. Nevertheless, it is clear that there is no absence of will to make change on the part of these advocates and the ideas for doing so are also abundant.

This study has obvious strengths in that it is the first qualitative research study to investigate the opioid crisis from the perspective of work and work injury. It contributes the voices of multiple, diverse stakeholders with unique experience and perspectives on a range of topics. Respondents were in concordance on many topics and also expressed different opinions. This diversity, to some degree, validates the findings despite a research approach vulnerable to interpreter biases. Feedback on this report from some of the key informants has helped to sharpen the report's language and provide clarity on the issues.

Several important perspectives were missing from this investigation, including those of (more) employers, construction union apprentice program directors, safety professionals, non-union employment sector representatives, and experts such as Dr. Jennifer Christian. As a result, selection bias is a potential limitation of the report. Given the time and budget limitations, the analysis of the interviews was also highly constrained. It is possible that respondents' statements have been inadvertently misunderstood or misconstrued by the author. While action on the opioid crisis is urgent despite scientific uncertainty, policy and program makers should exercise caution in interpreting this report's findings, given these limitations.

## Preliminary Recommendations for Educational Interventions for Consideration

### Educational Intervention for Workers

Those seeking to develop opioid awareness programs aimed at the unionized workforce would most likely benefit from consultation with staff of Modern Assistance Program and with the individual Massachusetts union locals providing apprentice training and member support around substance use disorder. They are keenly aware of the training opportunities and messages likely to resonate with union members. Construction unions around the country are also undertaking educational programs around opioid use and support services and these could also be drawn upon in developing educational interventions aimed at the construction trades. The Labor Assistance Professionals (<https://www.laborassistanceprofessionals.com/>) mentioned above will be especially helpful, including with sectors other than construction. Other resources include those assembled by the Center for Construction Research and Training which has been a leader on this issue (see <https://www.cpwr.com/research/opioid-resources>).

Education aimed at non-unionized workers will be very different from education sponsored by or in partnership with unionized workers. Messages to non-union workers will have to take into account that these workers may not have employer-sponsored health benefits, member/labor/employee assistance programs, job security, sick or medical appointment leave, adequate wages, or safety training. Education aimed at this group may emphasize the availability of resources through public health agencies and non-profit organizations. It may also need to focus on workers' rights issues such as the rights of workers under the Americans with Disability Act, the right to a safe workplace, and the right to Workers' Compensation. They may need to know about legal assistance and MassCOSH if they need advocates to help them get their jobs back after an injury or addiction recovery. In addition to MassCOSH, the National Council for Occupational Safety and Health (<http://coshnetwork.org/>) will also be a resource.

Other than partnership with a union or employer to provide education, opportunities for training non-union workers may be limited. Union-based peer and recovery support groups may open their doors to non-union workers as a community service. Associations of employers, such as the Homebuilders of Massachusetts (<https://www.hbrama.com/>) or the various Chambers of Commerce, may be willing partners and they are already alerted to the urgency of the issue as is evident from their communications. Workers centers such as the Restaurant Opportunities Center United and Community-Labor United may also offer education programs. Vocational education is also a potential venue for health messages.

MassCOSH has been contracted to develop and pilot peer training for workers. This process will help develop curricula, materials, and approaches that can contribute to scaled up educational opportunities.

Opioid awareness and action topics likely to resonate with workers include

1. General opioid awareness
  - a. What are opioids?
    - i. Common prescription and non-prescription opioids
  - b. How they work
    - i. Opioid receptors and “pain killing”
    - ii. Narcotic effects
  - c. “Side” effects
    - i. Dependence and withdrawal; addiction
    - ii. Others
  - d. Overdose (respiratory suppression)
    - i. Combinations with muscle relaxants, tranquilizers, gabapentin
    - ii. How naloxone works
2. Dangers
  - a. History and status of the epidemic generally and in MA
  - b. Addiction risks
    - i. What is OUD; Signs of addiction
    - ii. Transition to misuse and non-prescription opioids
  - c. Exposure to workplace opioid-related hazards: sharps injuries, bloodborne pathogens, fentanyl, violence, psychological trauma
3. Opioid dependence and workers and work injury
  - a. Injury rates, under-reporting, working hurt
  - b. Over-prescribing in WC
  - c. Overdose deaths among workers
  - d. Lack of evidence of effectiveness; evidence of harm
  - e. Appropriate use and treatment guidelines
  - f. Alternative pain treatments and strategies
    - i. Evidence-based pain management
  - g. Integration of pain management and OUD treatment
  - h. The role of work in recovery from both injuries and addictions; return to work; disability prevention
4. Access to quality substance use disorder treatment resources and peer support for working people and their family and friends
  - a. EAPs
  - b. Peer programs
  - c. Narcotics Anonymous and community support groups
  - d. MAT
  - e. Opioid tapering and abstinence
  - f. How to assess quality in treatment
  - g. How to help someone struggling with OUD
5. Employment Rights and Employer Policies
  - a. Rights to a safe workplace, workers comp, sick leave, non-retaliation for hazard reporting

- b. Family Medical Leave Act and Americans with Disabilities Act
  - c. Their employer’s policies and practices on relevant subjects (EAPs, leave, injury prevention and reporting, drug-free workplace, etc)
  - d. Medical privacy and safety-sensitive work
  - e. Drug testing
  - f. Navigating the WC system
6. Shared/informed medical decision-making; Talking with providers about pain treatment and evidence-based medicine
  7. Injury prevention and ergonomics
    - a. Fitting the task to the worker; physiological limits
    - b. Aging in the workplace
    - c. Limitations of “safe lifting” and stretch and flex
    - d. Participatory ergonomics processes and interventions specific to their sector/workplace
  8. General wellness
    - a. Weight loss, physical conditioning, and smoking cessation
    - b. Mental health and stress

#### Employer Education

Workers will benefit from employer-sponsored education programs, particularly those that are comprehensive of employer policies on drug-free workplace, return to work, safety and injury prevention and reporting, workplace rights and responsibilities, access to benefits and EAPs, and recognizing signs of addiction and how to respond. Supervisors will need specific training in recognition of their front-line role in assuring a safe workplace, facilitating meaningful and safe return to work, working with employees to reduce injury risks, and assisting struggling employees in getting help. A “toolkit” could be developed to assist employers, particularly smaller ones, in developing such programs and policies. This could be developed as part of the MA DPH Working on Wellness program. As with the Mystic Valley Public Health Coalition’s toolkit – this guide would need to address issues of legal liability for employers as well as employment law relevant to these issues, such as how to address employee drug use without running afoul of the Americans with Disabilities Act. The Grayken Center for Addiction at Boston Medical Center has developed materials for employers (<https://www.bmc.org/addiction/employer-resource-library>).

#### Provider Education

Occupational health physicians in Massachusetts, including Dr. Burress and Dr. Rielly, might be tapped to lead provider education initiatives and to promote continuing medical education for primary care and emergency providers related to treating injured workers and return to work. Relevant training courses currently exist, such as the ACOEM course: <http://learn.acoem.org/products/1007/getting-your-patients-back-to-work-work-disability-prevention-for-clinicians>. Incentives for taking courses should be explored. Required opioid awareness training for physicians should include discussion of injured workers and evidence-based approaches to pain management and reducing opioid dependence. Public health authorities might

also support “academic detailing”<sup>6</sup> to promote best practices in caring for those with work-related pain. Washington state’s COHE program has demonstrated effectiveness and has been credited with reducing the toll of opioid overdose in Washington State – it can serve as a guide for provider education and mentoring in MA. As mentioned above, increased reimbursement rates for WC insurance claims might come with some education requirement.

Non-opioid work-related pain treatment might be supported by a shared decision-making approach that is assisted by a work-related chronic pain treatment “decision aid.” Shared decision making in healthcare is viewed as an overall value-based and empowering approach to improve care quality and satisfaction and reduce costs. (See [https://www.samhsa.gov/sites/default/files/programs\\_campaigns/recovery\\_to\\_practice/shared-decision-making-changing-the-conversation.pdf](https://www.samhsa.gov/sites/default/files/programs_campaigns/recovery_to_practice/shared-decision-making-changing-the-conversation.pdf); <http://www.choosingwisely.org/>; <https://www.ahrq.gov/professionals/education/curriculum-tools/shareddecisionmaking/index.html>; and <https://effectivehealthcare.ahrq.gov/topics/back-pain-treatment/consumer>).

#### Other Education

Respondents mentioned on-going efforts by the Massachusetts Bar Association Opioid Prevention Task Force to develop educational videos and materials aimed at the many stakeholders in the WC system. This work could be supported by public health, non-profit, and academic stakeholders. Health and safety education and training, including the prevention of painful injuries, could be led by MA DPH Occupational Health Surveillance Program and draw on the many local and national resources available including the Center for the Promotion of Health in the New England Workplace at University of Massachusetts Lowell.

#### Future Research

In addition to gaining background important for the development of educational programs, this assessment can also inform future research, including the following topics:

- examination of sector-specific dynamics and resources including non-union construction and food and beverage;
- surveys of employer policies and practices;
- surveys of worker knowledge, beliefs, and attitudes;
- intervention effectiveness of prevention-oriented employer policies and employee training;
- evaluation and promotion of EAP quality;
- intervention effectiveness of educational and health care policy interventions among medical providers; and
- program evaluation of the DIA’s Opioid Alternative Pathway Pilot.

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<sup>6</sup> Traditional “detailing” is a pharmaceutical company marketing practice where a company representative provides educational materials to physicians, often in their offices, that encourage prescribing. Academic detailing is non-conflicted peer education.

## Acknowledgements

The author of this report acknowledges the generosity of the participants in their time and engaged participation. She also gratefully acknowledges the on-going guidance of Drs. Letitia Davis and Laura Punnett and the assistance of Clara Keyrouz, Devan Hawkins, Dr. Bill Shaw, Jodi Sugerman-Brozan, and Jamie Tessler. The Massachusetts Department of Public Health provided funding for this work as part of prevention efforts funded by the Centers for Disease Control and Prevention.

## Bibliography

1. Harik V, Janiszewski M, Allen N. Analysis of Opioid-Related Overdose Deaths on Cape Cod, 2004-2014: Implications for Trades/Service Workers and the Straight-To-Work Population. Barnstable County Regional Substance Use Council, Barnstable County Department of Human Services, <http://www.bchumanservices.net/library/2018/02/BCDHS-Death-Certificate-Analysis-Final-Report-10-5-17-Update-1.pdf> (17 October 2017, accessed 23 April 2018).
2. Funaiolo P, Dustin L, Spencer P. Mystic Valley Public Health Commission: Substance Abuse and Trade Labor.
3. Mystic Valley Public Health Commission. Opioid Overdose and the Trades PSAs, <http://www.mysticvalleypublichealth.org/?s=trades>.
4. Mystic Valley Public Health Commission. Employer Resource Kit: An employer's guide to substance abuse and the workplace. 2018.
5. Young C. New pilot aims to curb opioid addiction among injured workers. State House News Service, 8 December 2016, [http://www.lowellsun.com/breakingnews/ci\\_30643182/new-pilot-aims-curb-opioid-addiction-among-injured](http://www.lowellsun.com/breakingnews/ci_30643182/new-pilot-aims-curb-opioid-addiction-among-injured) (8 December 2016, accessed 30 April 2018).
6. MA Division of Industrial Accidents. Opioid Alternative Treatment Pathway Announcement. Mass.gov, <https://www.mass.gov/news/opioid-alternative-treatment-pathway-announcement> (accessed 8 August 2018).
7. Walter AW, Morocho C, King L, et al. Preventing Opioid Use Disorders among Fishing Industry Workers. *Int J Environ Res Public Health* 2018; 15: 648.
8. Derosé KP, Escarce JJ, Lurie N. Immigrants And Health Care: Sources Of Vulnerability. *Health Aff (Millwood)* 2007; 26: 1258–1268.
9. Salas-Wright CP, Vaughn MG, Clark Goings TT, et al. Substance use disorders among immigrants in the United States: A research update. *Addict Behav* 2018; 76: 169–173.
10. Pomerleau AC, Schragger JD, Morgan BW. Pilot Study of the Importance of Factors Affecting Emergency Department Opioid Analgesic Prescribing Decisions. *J Med Toxicol Off J Am Coll Med Toxicol* 2016; 12: 282–288.

11. Health Care Services Board MA Department of Industrial Accidents. Massachusetts treatment guidelines/protocols. Mass.gov, <https://www.mass.gov/service-details/massachusetts-treatment-guidelinesprotocols> (accessed 4 April 2018).
12. ACOEM Task Force on the Use of Opioids. Principles for Ensuring the Safe Management of Pain Medication Prescriptions, [http://www.acoem.org/uploadedFiles/Public\\_Affairs/Policies\\_And\\_Position\\_Statements/Guidelines/Guidelines/2016%20-Revised%20Principles%20for%20Ensuring%20Safe%20Management%20of%20Pain%20Meds%20for%20Posting.pdf](http://www.acoem.org/uploadedFiles/Public_Affairs/Policies_And_Position_Statements/Guidelines/Guidelines/2016%20-Revised%20Principles%20for%20Ensuring%20Safe%20Management%20of%20Pain%20Meds%20for%20Posting.pdf) (2016, accessed 20 December 2017).
13. Centers for Disease Control and Prevention. CDC Guideline for Prescribing Opioids for Chronic Pain, <https://www.cdc.gov/drugoverdose/prescribing/guideline.html> (2017, accessed 8 August 2018).
14. Azaroff LS, Davis LK, Naparstek R, et al. Barriers to use of workers' compensation for patient care at Massachusetts community health centers. *Health Serv Res* 2013; 48: 1375–1392.
15. Work Wellness and Disability Prevention Institute. Chronic Pain Managing Without Opioids (Dr. David Tauben), [https://www.youtube.com/watch?time\\_continue=205&v=arWR7atTEil](https://www.youtube.com/watch?time_continue=205&v=arWR7atTEil) (accessed 3 April 2018).
16. Gliedt JA, Schneider MJ, Evans MW, et al. The biopsychosocial model and chiropractic: a commentary with recommendations for the chiropractic profession. *Chiropr Man Ther*; 25. Epub ahead of print 7 June 2017. DOI: 10.1186/s12998-017-0147-x.
17. Freyer FJ. Study links opioid deaths to workplace injuries - The Boston Globe. *BostonGlobe.com*, <https://www.bostonglobe.com//study-links-opioid-deaths-workplace-injuries/RL0MF2br6JHDDgyiPpMYfM/story.html> (accessed 8 August 2018).
18. Franklin GM, Mai J, Turner J, et al. Bending the prescription opioid dosing and mortality curves: impact of the Washington State opioid dosing guideline. *Am J Ind Med* 2012; 55: 325–331.
19. Franklin G, Sabel J, Jones CM, et al. A Comprehensive Approach to Address the Prescription Opioid Epidemic in Washington State: Milestones and Lessons Learned. *Am J Public Health* 2015; 105: 463–469.
20. Armstrong D, Allen E. Union workers feel trapped in addiction treatment as benefits are drained. *The Boston Globe/STATnews*, 10 November 2017, <https://www.statnews.com/2017/11/10/addiction-treatment-unions/> (10 November 2017, accessed 3 April 2018).
21. Segal D. Addiction Inc. *The New York Times*, 27 December 2017, <https://www.nytimes.com/interactive/2017/12/27/business/addiction-inc.html> (27 December 2017, accessed 3 January 2018).

22. Kolodny A, Courtwright DT, Hwang CS, et al. The Prescription Opioid and Heroin Crisis: A Public Health Approach to an Epidemic of Addiction. *Annu Rev Public Health* 2015; 36: 559–574.

## Appendix

### Focus Group Interview Guide

- 1) Massachusetts is experience and epidemic of painkiller addiction and overdose. How do you think work might be contributing to this?
  - a. Causes of pain and injuries
  - b. Other work factors
- 2) Why do workers use opioid painkillers?
  - a. Specific to this industry
- 3) In what ways is opioid use a problem for workers in this industry?
- 4) What typically happens when a worker develops a back injury or has another serious injury that causes pain as a result of work?
  - a. Reporting and not of injuries and pain and hazards/conditions
  - b. Working hurt
- 5) What kind of medical treatment do workers receive as a result of injuries?
  - a. Experiences in clinical settings
  - b. Prescriptions
- 6) How does the Workers Comp system prevent or promote reliance on prescription painkillers?
- 7) How do employers try to prevent pain and injuries at work?
- 8) How do employees try to prevent pain and injuries at work?
- 9) What kind of resources are available to employees at your work to deal with a work disability or concerns about addiction to opioids?
  - a. Employee Assistance Programs
- 10) What kind of drug policies are in place in your industry?
  - a. Drug testing
- 11) What education/training have you received at work related to opioids or other substances?
- 12) What do you think would be good strategies to prevent opioid addiction among workers?
  - a. Injury prevention
  - b. Addiction prevention
- 13) What do you think workers need to know about opioids?
  - a. Connection with work
  - b. information and resource needs
- 14) What do you think would be effective messages for this worker population to help prevent addiction?
- 15) What kind of policies and programs do you think are needed to prevent work-related opioid use?
  - a. State and employer level

### Key Informant Interview Guide

- 1) What your concerns regarding how workplace experiences may play a role in the opioid crisis?

- a. With regard to a specific worker population
- 2) How is the opioid crisis impacting your industry/agency/profession?
  - 3) What do you think are the main causes of work-related pain and injuries for this population?
    - a. How could pain impact this population's work experience?
  - 4) Some research has suggested that workers under-report injuries and chronic pain that might relate to work or interfere with work. What factors do you think contribute to this under-reporting?
  - 5) What efforts are in place to prevent pain and injuries related to work in this population?
    - a. What efforts should be in place?
  - 6) Reports and articles have reported that some workers work through injuries, either in pain or with prescription pain medication. To what extent do you think this is true for your industry?
    - a. What contributes to workers "working hurt"?
  - 7) What other factors might contribute to workers using pain medications?
  - 8) What do you think are the barriers to workers in your industry accessing effective non-opioid treatment for pain?
  - 9) In what ways do think the Workers Compensation system may promote or prevent opioid addiction among injured workers?
  - 10) What resources do workers have available to deal with concerns about their prescription painkiller use?
    - a. Employee Assistance Programs
  - 11) What workplace policies in your industry address use of opioids?
    - a. Education/training
    - b. Drug testing
  - 12) What do you think would be effective strategies to prevent opioid addiction in this population?
    - a. Injury prevention
  - 13) What do you think are the important knowledge gaps about work and opioids?
    - a. information and resource needs
  - 14) What do you think would be effective messaging and framing for this worker population?
  - 15) What kind of policies and programs do you think are needed to prevent work-related opioid use?
    - a. State and employer level