

REVIEW PROTOCOL FOR SUBSTANCE USE DISORDER AND THE WORKPLACE TOPIC AREA

Highlights

- The objective of the Substance Use Disorder review is to determine the quality of existing causal evidence of (a) strategies that aim to improve the health, safety, or employment outcomes of individuals with substance use disorders (SUD), and (b) employer-based strategies to improve workplace efforts to support employees with SUD. Examples include efforts to assist those experiencing SUD with obtaining and maintaining employment and employer efforts to address safety concerns related to substance misuse and productivity loss.
- This review also assesses the quality of existing causal evidence of interventions that help contribute to building the behavioral health workforce to provide treatment for SUD and to support recovery efforts.¹
- Studies included in this review were identified by two research efforts commissioned by the Chief Evaluation Office, Department of Labor: *Workers' Compensation and the Opioid Epidemic: State of the Field in Opioid Prescription Management* and *National Health Emergency Demonstration Grants to Address the Opioid Crisis: Literature Review*.^{2,3}

Introduction

The United States is in crisis as it attempts to address the wide-ranging and growing needs of persons with SUD, driven by both the opioid epidemic as well as the ongoing misuse of other drugs and alcohol.⁴ This crisis has been exacerbated by the COVID-19 pandemic, with overdoses reaching an all-time high in 2021.⁵

The prevalence of SUD has affected employers in several ways, including loss of productivity due to employee absenteeism and a shortage of workers due to previous justice-system involvement or drug-screening policies. In addition, employers are also concerned about safety and workplace injuries related to substance misuse as well as the healthcare costs associated with SUD. Moreover, with the

¹ As defined by the Substance Abuse and Mental Health Services Administration (SAMHSA), the “behavioral health workforce” functions in a range of prevention, health care, and social service settings. See <https://www.samhsa.gov/workforce> for additional description.

² Ben-Shalom, Y., McIntyre, M., Pu, J., Shenk, M., Zhu, W., & Shaw, W. (2020). Mathematica and University of Connecticut Health Center. *Workers' Compensation and the Opioid Epidemic: State of the Field in Opioid Prescription Management*. Chief Evaluation Office, U.S. Department of Labor.

³ Vine, M., Staatz, C., Blyler, C., & Berk, J. (2020). Mathematica. *The Role of the Workforce System in Addressing the Opioid Crisis: A Review of the Literature*. Chief Evaluation Office, U.S. Department of Labor.

⁴ Vine, M., Staatz, C., Blyler, C., & Berk, J. (2020). Mathematica. *The Role of the Workforce System in Addressing the Opioid Crisis: A Review of the Literature*. Chief Evaluation Office, U.S. Department of Labor.

⁵Health Resources and Services Administration/National Center for Health Workforce Analysis; Substance Abuse and Mental Health Services Administration/Office of Policy, Planning, and Innovation. (2015). *National Projections of Supply and Demand for Behavioral Health Practitioners: 2013-2025*. Rockville, MD: National Center for Health Workforce Analysis.

growing need for treatment services, a shortage of behavioral health workers who can help address the needs of people with SUD has emerged, particularly in rural and underserved communities.⁶ Employment can help people with SUD stay on the path to recovery, but many struggle to find and keep jobs due to previous criminal system involvement, mental or physical health problems, or limited skills and work experience.⁷

The objective of this evidence review is to determine the quality of the causal evidence of interventions, including programs, policies, and strategies that include aims to improve health, safety, and employment outcomes of individuals with substance use disorders (SUD) and strengthen workplace efforts to support employees with SUD. Reviews of causal studies in this topic area focus on the following outcomes and domains:

- **Employment and earnings**, including but not limited to measures such as employment rate, tenure on the job, consecutive months employed, and wages
- **Employer benefits receipt**, including but not limited to nonwage compensation received from employers such as health insurance, vacation and sick leave, workers compensation, disability leave
- **Public benefit receipt**, including but not limited to unemployment insurance, Temporary Assistance to Needy Families (TANF), Supplemental Nutrition Assistance Program (SNAP), Medicaid/Medicare, Supplemental Security Income/Social Security Disability Insurance
- **Health and safety**, including but not limited to whether workers are free from illness or injury and are in a state of physical, mental, and social well-being in the workplace
- **Growth of behavioral health workforce**, including but not limited to an increase in workers in behavioral health, including peer support counselors

Eligibility Criteria

To identify studies for review, CLEAR used literature reviews conducted for two other research efforts commissioned by the Chief Evaluation Office, Department of Labor: *Workers' Compensation and the Opioid Epidemic: State of the Field in Opioid Prescription Management* and *National Health Emergency Demonstration Grants to Address the Opioid Crisis: Literature Review* (see Appendix A for details).^{8,9} The

⁶ Health Resources and Services Administration/National Center for Health Workforce Analysis; Substance Abuse and Mental Health Services Administration/Office of Policy, Planning, and Innovation. (2015). *National Projections of Supply and Demand for Behavioral Health Practitioners: 2013-2025*. Rockville, MD: National Center for Health Workforce Analysis.

⁷ Martinson, K., McDonald, D., Berninger, A., & Wasserman, K. (2021). *Building Evidence-Based Strategies to Improve Employment Outcomes for Individuals with Substance Use Disorders*. OPRE Report 2020-171. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

⁸ Ben-Shalom, Y., McIntyre, M., Pu, J., Shenk, M., Zhu, W., & Shaw, W. (2020). Mathematica and University of Connecticut Health Center. *Workers' Compensation and the Opioid Epidemic: State of the Field in Opioid Prescription Management*. Chief Evaluation Office, U.S. Department of Labor.

⁹ Vine, M., Staatz, C., Blyler, C., & Berk, J. (2020). Mathematica. *The Role of the Workforce System in Addressing the Opioid Crisis: A Review of the Literature*. Chief Evaluation Office, U.S. Department of Labor.

CLEAR team evaluated each study included in the literature reviews against the following eligibility criteria:

1. **Does the research examine interventions designed to improve health, safety, or employment outcomes for people with SUD?** To be eligible for review, the research must examine interventions that have a focus on SUD with specific health, safety or employment-related outcomes.
2. **Is it a study of effectiveness?** To be eligible for review, the research must use quantitative methods to assess the effectiveness of the intervention. Implementation studies that also include impact analyses, which received a high causal evidence rating from CLEAR, may be included if they meet the other eligibility criteria.
3. **Does the research examine a population of interest?** To be eligible for review, the research must examine the impact of an intervention on any group of adults (age 18 and over). This includes economically disadvantaged individuals, unemployed workers, under-employed workers, dislocated workers, incumbent workers, or individuals with disabilities.
4. **Does the analysis include at least one outcome of interest?** The goal of this review process is to determine the extent of the causal research evidence on the effectiveness of approaches to improve employment outcomes of those with SUD, to support workers with SUD, and to improve employer outcomes such as worker safety and avoidance of productivity loss. Also of interest is the extent of the causal research evidence on the effectiveness of approaches to expand the behavioral health workforce to address health needs of those with SUD.
5. **Was the research conducted in a relevant time and place?** All research must have been conducted using data from the United States, including the 50 states, the District of Columbia, territories, and tribal entities. The research must have been released between 2008 – 2022, the same timeframe the literature searches were conducted.
6. **Was the study published in English?** All research studies must be published in English to be considered for inclusion in CLEAR.

The CLEAR team reviews studies that meet these criteria according to the CLEAR Causal Evidence Guidelines, Version 2.2. The full set of guidelines is available at <http://clear.dol.gov>.

Causal Evidence Guidelines Specific to the Topic Area

Attrition in randomized controlled trials (RCTs). The causal research in this topic area includes studies with both experimental and nonexperimental designs. CLEAR assesses the quality of evidence for RCTs using standards adapted from those of the Institute of Education Sciences' What Works Clearinghouse.¹⁰ RCTs can receive a high causal evidence rating if there are no obvious confounding factors to the design and if the level of attrition is low. This topic area uses a conservative attrition standard, based on the assumption that attrition in studies of employment and training programs might be linked to participants' labor market or educational outcomes. If CLEAR determines that an RCT cannot receive a high causal evidence rating, it uses the CLEAR nonexperimental causal evidence guidelines to review the study.

Control variables for nonexperimental designs. CLEAR causal evidence guidelines for nonexperimental studies were developed in consultation with a technical working group of methodological experts. The

¹⁰ See <http://ies.ed.gov/ncee/wwc/InsidetheWWC.aspx> for details.

guidelines cover most nonexperimental designs, including fixed effects, difference in differences, instrumental variables, and regressions. Nonexperimental designs and RCTs with high attrition can receive a moderate causal evidence rating if they include adequate controls and can demonstrate or adjust for anticipating the intervention and confounding factors. To meet the requirements for a moderate causal evidence rating, nonexperimental studies and RCTs with high attrition in this topic area must include statistical controls for the following:

- Age
- Race/ethnicity
- Gender
- A pre-intervention measure of each outcome of interest. If the outcome of interest is the bold term, then the study must control for:
 - **Education.** Must control pre-intervention (baseline) education level *and* socioeconomic status.¹¹
 - **Employment.** Must control for employment rate *or* earnings *greater than one year before program participation*, to guard against the Ashenfelter dip (see CLEAR Causal Evidence Guidelines, Version 2.1, for a discussion).
 - **Earnings.** Must control for previous earnings *greater than one year before program participation*.
 - **Public benefit receipt.** Must measure pre-intervention (baseline) public benefit receipt *or* socioeconomic status.

Regression methods that incorporate a matching design, which uses statistical methods to create a comparison group that is as similar as possible to the group receiving the program, must match on each of the control variables listed above, or must include them as controls in the regression. This topic area can also include analyses conducted at the group level (an aggregation of entities, such as institutions, employers, or communities). For group analyses, it is typically necessary to include group-level controls for the same variables as in the individual analyses.

¹¹ Another term for this is *degree of financial disadvantage*. This criterion is met if measures in at least two of three domains are included (income, benefit receipt, and education).

APPENDIX A: LITERATURE SEARCH

The literature for this topic area review was identified through two other DOL-funded literature reviews. These include: *Workers' Compensation and the Opioid Epidemic: State of the Field in Opioid Prescription Management* and *The Role of the Workforce System in Addressing the Opioid Crisis*. The two research projects are described briefly below.

Workers' Compensation and the Opioid Epidemic: State of the Field in Opioid Prescription Management presents three topics related to employment and opioids: effective and promising practices for providing employment services to people with opioid use disorder; employer best practices for preventing negative effects of opioid use disorder in the workplace and creating recovery-friendly workplaces; and finally key considerations for developing the health care workforce that is addressing the opioid crisis. To identify the descriptive, process (and implementation) and impact studies considered for this literature review, the authors consulted several databases, including Business Source Corporate Plus, Cochrane Database of Systematic Reviews, SocIndex, MEDLINE, and PsycINFO. The authors also engaged subject matter experts within the Department of Labor, Department of Justice and the National Institute of Drug Abuse, the Substance Abuse and Mental Health Services Administration, and the Administration for Children and Families. The literature review identified 19 studies within a time frame of publication of the ten years between 2008-2018.

The Role of the Workforce System in Addressing the Opioid Crisis: A Review of the Literature identified Programs that aimed to curb opioid prescriptions and opioid dependence. This review specifically aimed to identify approaches that had a direct goal of reducing opioid prescriptions and would be potentially applicable in a workers' compensation setting. Using keywords ("((opioid* n/2 prescri*) OR "opioid management") AND ("evidence-based" OR program* OR implement* OR Initiative OR intervention OR evaluation OR demonstration OR pilot OR strateg* OR practice OR model OR guideline OR "worker* compensation") AND (Impact* OR effect* OR efficac* OR benefit* OR improv* OR progress OR growth OR increas* OR decreas* OR reduc* OR gain OR declin* OR success* Or assess* Or evaluat*)," the review identified a total of 134 studies which were both causal (impact) and also descriptive studies. The authors also consulted with subject matter experts from Department of Labor and consulted a number of websites (International Association of Industrial Accident Boards and Commissions (IAIABC), the Workers Compensation Research Institute (WCRI), the American College of Occupational and Environmental Medicine (ACOEM), the National Council on Compensation Insurance (NCCI), and the California Workers' Compensation Institute). More than half of the studies (72 of 134) fell into one of three intervention categories: prescription guidelines (25), PDMPs (24), and dispensing limits (23). Also, a relatively large number of studies in the multifaceted interventions (17) and provider education (15) intervention categories. Most of the studies included in this review were published between 2014 and 2019.

The studies included in this evidence review are listed below.

Aklin, W. M., Wong, C. J., Hampton, J., Svikis, D. S., Stitzer, M. L., Bigelow, G. E., & Silverman, K. (2014). A therapeutic workplace for the long-term treatment of drug addiction and unemployment: Eight-year outcomes of a social business intervention. *Journal of Substance Abuse Treatment, 47*(5), 329-338.

Cao, D., Marsh, J. C., Shin, H.-C., & Andrews, C. M. (2011). Improving health and social outcomes with targeted services in comprehensive substance abuse treatment. *The American Journal of Drug and Alcohol Abuse*, 37, 250–258.

Coviello, D. M., Zanis, D. A., Wesnoski, S. A., & Domis, S. W. (2009). An integrated drug counseling and employment intervention for methadone clients. *Journal of Psychoactive Drugs*, 41(2), 189–197.

Evans, E., Hser, Y.-I., & Huang, D. (2010). Employment services utilization and outcomes among substance abusing offenders participating in California's Proposition 36 drug treatment initiative. *Journal of Behavioral Health Services & Research*, 37(4), 461–476.

Foley, K., Pallas, D., Forcehimes, A. A., Houck, J. M., Bogenschutz, M. P., Keyser-Marcus, L., & Svikis, D. (2010). Effect of job skills training on employment and job seeking behaviors in an American Indian substance abuse treatment sample. *Journal of Vocational Rehabilitation*, 33(3), 181–192.

Lones, C. E., Bond, G. R., McGovern, M. P., Carr, K., Leckron-Myers, T., Hartnett, T., & Becker, D. R. (2017). Individual placement and support (IPS) for methadone maintenance therapy patients: A pilot randomized controlled trial. *Administration and Policy in Mental Health*, 44(3), 359–364.

Martello, J., Cassidy, B., & Mitchell, A. (2018). Evaluating emergency department opioid prescribing behaviors after education about mandated use of the Pennsylvania Prescription Drug Monitoring Program. *Journal of Addictions Nursing*, 29(3), 196–202.

McCalmont, J. C., Jones, K. D., Bennett, R. M., & Friend, R. (2018). Does familiarity with CDC guidelines, continuing education, and provider characteristics influence adherence to chronic pain management practices and opioid prescribing? *Journal of Opioid Management*, 14(2), 103–116.
<https://doi.org/10.5055/jom.2018.0437>

Petry, N. M., Andrade, L. F., Rash, C. J., & Cherniack, M. G. (2014). Engaging in job-related activities is associated with reductions in employment problems and improvements in quality of life in substance-abusing patients. *Psychology of Addictive Behaviors: Journal of the Society of Psychologists in Addictive Behaviors*, 28(1), 268-275.

Stanek, J., Renslow, M., Kalliainen, L. (2015). The effect of an educational program on opioid prescription patterns in hand surgery: A quality improvement program. *Department of Plastic and Hand Surgery, Institute for Education and Research*, 40, 341-346.

Svikis, D. S., Keyser-Marcus, L., Stitzer, M., Rieckmann, T., Safford, L., Loeb, P., Allen, T., Luna-Anderson, C., Back, S. E., & Cohen, J. (2012). Randomized multi-site trial of the job seekers' workshop in patients with substance use disorders. *Drug and Alcohol Dependence*, 120(1-3), 55-64.

Tuten, M., Shadur, J. M., Stitzer, M., & Jones, H. E. (2017). A comparison of reinforcement-based treatment (RBT) versus RBT plus recovery housing (RBTRH). *Journal of Substance Abuse Treatment*, 72, 48-55.

Webster, J. M., Staton-Tindall, M., Dickson, M. F., Wilson, J. F., & Leukefeld, C. G. (2014). Twelve-month employment intervention outcomes for drug-involved offenders. *American Journal of Drug & Alcohol Abuse*, 40(3), 200-205.

Weiner, S., Price, C., Atalay, A., Harry, E., Pabo, E., Patel, R., Suzuki, J., Anderson, S., Ashley, S., & Kachalia, A. (2018). A Health System–Wide Initiative to Decrease Opioid-Related Morbidity and Mortality. *The Joint Commission Journal on Quality and Patient Safety*, 45(1), 3-13.

Wen, H., Schackman, B., Aden, B., Bao, Y. (2017). States With Prescription Drug Monitoring Mandates Saw A Reduction In Opioids Prescribed To Medicaid Enrollees. *Opioid Prescriptions*, 36(4) 733-741.

Witt, T., Deyo-Svendsen, M., Mason, E., Deming, J., Stygar, K., Rosas, S., Philips, M., Dabrh, A. (2018). A model for improving adherence to prescribing guidelines for chronic opioid therapy in rural primary care. *Mayo Clinic*, 2(4) 317-323.

Wong, R., Carroll, W., Muttreja, A., Garcia, V., Taub, E., Fernan, A. (2019). Improving opioid management and resource utilization in an internal medicine residency clinic: A before-after study over two Plan-Do-Study-Act cycles. *Pain Medicine*, 20(10), 1919-1924.

Young, L., Crausman, R., Fulton, J. (2018). Suboptimal opioid prescribing: A practice change project. *Rhode Island Medical Journal*, 101(2), 41-44.