Opioids and the Workplace Prevention and Response Train-the-Trainer and Leadership Training Mixed Methods Follow-up Evaluation

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Abstract

Objectives: This study was designed to evaluate the outcomes of a national summer 2020 ‘Opioids and the Workplace’ Prevention and Response (OWPR) Train-the-Trainer (TTT) and Leadership training tool and program at 6-month follow-up. The TTT program goal is to help instructors plan and conduct education and training on opioids and the workplace awareness. The Leadership program goal is to help trainees, who are in a position to take organizational level actions, implement policies, and programs related to opioid and substance use and injury prevention.

Methods: Trainees were from various backgrounds, such as labor unions, academic consortiums, health and safety professionals, government, and community organizations. About 6 months following each individual course date a follow-up survey was sent to each available participants’ e-mail (n = 53 TTT, n = 28 Leadership) with a response rate of 47.2% for the TTT (n = 25) and 63.2% for Leadership (n = 12). Trainees were asked about individual or workplace level actions taken; any obstacles that prevented them or their coworkers from being involved in or conducting activities; if the OWPR training tool was used in their workplace for a training program; and whether the pandemic impacted their ability to address opioids in the workplace.

Results: Among TTT trainees, about half of follow-up survey respondents from the 2020 training reported planning and conducting training and education, reaching out to coworkers to see how they are doing, sharing factsheets and information from the opioid training with coworkers, and re-focusing on self-care. Among Leadership trainees, about two-fifths of follow-up survey respondents from the 2020 training reported sharing factsheets and information from the opioid training. Some trainees described the COVID-19 pandemic as limiting their ability to take actions in addressing opioids and the workplace.

Conclusions: Evidence supports that the ‘Opioids and the Workplace’ Train-the-Trainer program and materials have contributed to helping trainees plan and conduct opioids awareness training at their
organizations. Evidence supports that the Opioids in the Workplace Leadership program helped contribute to trainees taking workplace level actions to implement policies and programs.

**Keywords:** program planning and evaluation; training; worksite safety and health

## Introduction

There appear to be important connections between the opioid epidemic and working conditions and workplace policies (Hawkins et al., 2019). Industries with high risk of injury and illness have significantly higher rates of opioid use disorder and overdose death, such as construction and fishing workers. Workers with chronic pain may be more likely to seek pain medication, such as opioids, which is a pathway to possible opioid disorder and overdose death. Preventing workplace injury and illness, and worker education and training, are strategies for addressing opioids and the workplace (Connecticut Department of Public Health, 2018). The National Institute of Environmental Health Sciences (NIEHS) Worker Training Program (WTP) recognized the need for occupational health and safety training programs to help address the opioid epidemic by raising awareness among workers, unions, and employers (National Institute of Environmental Health Sciences Worker Training Program, 2018). WTP piloted their awareness level Opioids and the Workplace Prevention and Response (OWPR) training program and materials in the summer of 2019 in four training programs (National Institute of Environmental Health Sciences Worker Training Program, 2019).

OPWR training programs were designed to address different levels of prevention for opioids in the workplace, such as primary, secondary, and tertiary prevention (David et al., 2018). Examples of primary prevention included preventing injuries and other workplace exposures that might contribute to overdose risk and health and safety committees or programs; secondary prevention included support for treatment, return to work accommodations, and paid sick leave; and tertiary prevention included access to substance use disorder treatment and recovery, employee and peer support programs, and naloxone training.

OWPR awareness piloted trainings were found to be effective in raising awareness and knowledge among trainees (National Institute of Environmental Health Sciences Worker Training Program, 2019). However, a 6-month follow-up of the OWPR awareness trainees found that their ability to take organizational or workplace level actions were limited, with the exception of planning and conducting training and education (Persaud et al., 2021). There was a need among trainees for instructor and leadership OWPR programs focused on increasing confidence in conducting awareness level OWPR training and in taking actions to implement substance use and injury prevention workplace policies and programs.

Therefore, in the summer of 2020, WTP piloted five Train-the-Trainer (TTT) courses and two Leadership courses as part of the OWPR program (E. Persaud et al., under peer review). The trainings were held online due to the COVID-19 pandemic and the need to use methods consistent with social distancing. Pre–post-training evaluation showed that the TTT course can contribute to participants being able to conduct awareness level opioids and the workplace training, and the Leadership training program can help participants introduce policies and programs at their organizations to address substance use and injury prevention.

Using Kirkpatrick’s four levels of evaluation model, the current study was designed to evaluate Level 3, that is, behaviors and actions taken as a result of the training (Kirkpatrick and Kirkpatrick, 2016). Levels 1 and 2, which focus on the trainees’ reactions and learning, respectively, are addressed elsewhere in a pre–post-test evaluation of the courses (E. Persaud et al., under peer review). The findings of Levels 1 and 2 suggest the training has improved trainee knowledge and the current study evaluates the outcomes of the OWPR TTT and Leadership program at 6-month follow-up for Level
3 findings. It is first hypothesized that the TTT training program will be effective in helping instructors plan and conduct education and training on opioids and the workplace awareness. Second, it is hypothesized that the Leadership training program will be effective in helping trainees, who are in a position to take organizational level actions, implement policies and programs related to opioid and substance use and injury prevention. Lastly, we hypothesize that the COVID-19 pandemic has impacted trainees’ abilities to address opioids in the workplace, substance use, and injury prevention during the 6-month follow-up timeframe.

Methods

Pilot training programs

The TTT was piloted by five organizations in summer 2020 across the US online: by the New Jersey and New York Hazardous Materials Worker Training Center and Rutgers University (Rutgers); The New England Consortium (TNEC); the United Steelworkers (USW) Tony Mazzocchi Center; Make the Road New York (MRNY); and the United Association of Plumbers and Pipefitters (UA). The Leadership training was piloted online in September 2020 by ORCHSE Strategies (ORCHSE) and the City of Concord, New Hampshire (Concord). The lengths of training time varied by organizer and date. The TTT for Rutgers was 4 h, TNEC 3 h, USW 7.5 h per day for 2 days, MRNY 4 h, and UA 6.5 h per day for 2 days. ORCHSE Leadership training was 5 h and Concord was 3 h per day for 2 days. The trainees came from different locations throughout the USA and Puerto Rico, with the exception of one participant in the ORCHSE program identifying as residing in Egypt. The TTT participants were selected by their organizations as they were involved in training and education. Leadership participants were selected by their organizations as they were involved in implementing workplace policies and programs. Trainees’ personal experiences with opioid use or prior knowledge of opioids were not a factor in their selection for training.

The TTT OWPR content was divided into reviewing the sections of the awareness 2019 piloted training, which focused on the background of the epidemic; fentanyl and synthetic opioids; understanding opioid use disorder; stigma; prescription opioids; related infectious disease; occupational exposures; opioids and work; prevention: identifying program gaps and risk factors; employee assistance and peer assistance programs; and workplace substance use prevention programs. The TTT courses included an instructor manual, which reviewed information on how to use the manual, including shortening training duration, training techniques, conducting group activities, evaluation, and how to prepare for stigma. The TTT was the same content as the 2019 awareness course but included additional material on how to conduct training of the content. The Leadership program was a different set of slides compared with the other OWPR programs, that included additional slides on primary prevention activities and discussion of policies and programs that can be implemented to address opioid use, addiction, and injury prevention.

Follow-up evaluation of trainees

At each pilot training in the summer of 2020, e-mail addresses were collected from the trainees by the site organizers during course registration and were provided to the researchers by the same site organizers. Six months (±1 week) after the completion of the training course, a follow-up survey was sent to each available trainees’ e-mail (n = 53 TTT, n = 28 Leadership) with a consent form and link to a Qualtrics software produced survey. Each trainee received one e-mail the first Monday 6-month post-training, and then two subsequent reminders the following Mondays, with the exception of MRNY, as their trainees fully completed the survey in the first week.

The surveys were confidential and voluntary, and were preceded by a consent form which detailed the possible risks of the study to the participants. Once a participant consented, the survey questions were then made available to them.

The evaluation follows the Worker Training Programs’ Logic Model of using the outputs of training materials to train workers on recognizing workplace hazards and understanding how to take actions to increase worker empowerment as an intermediate outcome (National Institute of Environmental Health Sciences, 2012). The follow-up of trainees was intended to better understand how trained workers have used the programs to take actions.

Follow-up survey

The survey for trainees took approximately 10 min to complete. TTT questions included their main role or job title in the company or union; individual or workplace level actions taken; any obstacles that prevented them or their coworkers from being involved in or conducting activities; if the OWPR training tool was used in their workplace for a training program; and whether the pandemic impacted their ability to address opioids in the workplace. Leadership questions included their main role or job title in the company or union; workplace level actions taken; any obstacles that prevented
them or their coworkers from being involved in or conducting activities; and whether the pandemic impacted their ability to address opioids in the workplace. ‘Individual actions’ are defined as behavior a trainee may take following the OWPR training that are personal, such as sharing factsheets and information from the OWPR training with coworkers. ‘Workplace actions’ are organizational issues trainees may attempt to address following the OWPR training, such as planning and conducting training and education. The Leadership program did not collect ‘individual actions’ and focused on ‘workplace actions’ as the trainees were all managers or supervisors within their organization responsible for policies and programs. For example, the Leadership training has ‘shared factsheets and information from the opioid training’ as a ‘workplace action’. As the trainees are those in organizational leadership positions, the sharing of factsheets and information differed as it was for dissemination in the organization rather than with coworkers or other individuals.

At the end of both the TTT and Leadership surveys, the respondent was asked if they would participate in a 10-min structured phone interview to provide more details on actions taken since the summer 2020 pilot trainings, which was voluntary and confidential. The responses were collected using a digital tape recorder and transcribed by the study researcher. No identifying information was collected during the interviews other than the training they participated in and background of their work title or primary responsibility. The survey and interview items were developed through an iterative process with the study evaluators, the pilot program instructor, NIEHS WTP staff, and the National Clearinghouse for Worker Safety and Health Training. The survey and interview instruments are described in detail in Supplementary Tables S1 and S2 (available at Annals of Work Exposures and Health online).

IRB approval
The study was reviewed by the State University of New York (SUNY) Downstate Health Sciences University Institutional Review Board and granted an exemption under study number 1605399-3.

Data analysis
Quantitative and qualitative data were compared using a mixed method convergent design (Creswell, 2016). Quantitative data collected from the closed-ended survey items were tabulated for frequency of responses by participants on questions pertaining to main role or job title in their company or union, individual level actions taken since the training, and workplace level actions taken since the training. The responses were presented as percentages to compare pre- and post-response frequencies for each survey item.

Qualitative data collected were analyzed by grouping responses to open-ended survey items and interviews by topic. The responses to specific open-ended survey questions were grouped together. Those responses to questions were grouped together. Grouped responses were reviewed for similar answers that could be identified as common themes within the categories of individual level actions, workplace level actions, obstacles, and future plans.

The qualitative and quantitative analyzed data were integrated together into a joint table for comparison of the common themes and the responses observed in the surveys and interviews.

All quantitative analyses were performed using IBM SPSS Statistics Version 27.

Results
Trainee surveys
Of the 53 TTT participants with valid e-mails, 25 (47.2%) responded and completed the survey. Due to confidentiality of the survey, the responses are not linked to any e-mail addresses. Therefore, the full registration e-mail lists are used during follow-up, and have led to some TTT follow-ups having more participant e-mails than training attendance, such as for the USW program. Full registration lists were used because due to confidentiality the exact participants who participated were not able to be determined. Participant recruitment was based on registration e-mail lists from the pilot trainings, rather than the attendance list of trainees. Five of those 25 completed TTT survey respondents volunteered for the interview (20.0% of survey respondents, or 9.4% of those with valid e-mails) (Supplementary Fig. S1, available at Annals of Work Exposures and Health online).

Similarly, for the Leadership training participants, the full registration e-mail lists are used during follow-up and have led to some follow-ups having more participant e-mails than training attendance, such as for the ORCHSE program. Due to the valid e-mails compared with attendance varying substantially, the following analysis of response rates for Leadership will use the attendance of courses instead of valid e-mail counts, as all training participants e-mails who attended can be accounted. Of the 19 participants, 12 (63.2%) responded and completed the survey. One of those 12 respondents volunteered for the interview (8.3% of survey respondents, or 5.3% of training participants) (Supplementary Fig. S2, available at Annals of Work Exposures and Health online).
Most TTT trainees responding to the follow-up survey were from unions or non-profits. Most respondents (n = 19, 76.0%) selected a ‘trainer’ role versus not selecting any ‘trainer’ role (n = 6). A participant may select more than one role or job title and therefore the number of trainees (n = 25) is lower than the amount of role or job titles (see Supplementary Table S3, available at Annals of Work Exposures and Health online).

Most Leadership trainees responding to the follow-up survey were either directors, supervisors, or environmental health and safety professionals (see Supplementary Table S4, available at Annals of Work Exposures and Health online).

Individual level actions taken
Among TTT trainees, about half of follow-up survey respondents from the summer 2020 training reported reaching out to coworkers to see how they are doing, sharing factsheets and information from the opioid training with coworkers, and re-focusing on self-care (see Table 1). About one-third reported sharing information about opioids and the workplace in their community and participating in organizational programs geared to improve safety and health or avoid opioid use. Only three of the 25 respondents stated that they had not taken any of the listed actions since the training.

Workplace level actions taken
Workplace level actions among TTT trainees (Table 2) were reported less frequently than individual actions by trainees (Table 1), with the exception of planning and conducting training and education (reported by 48%). Planning and conducting training and education were the most reported workplace level action (n = 12). The OWPR training tool was used by nine TTT respondents (36.0%) in either its full or a modified format in their workplace for a training program. Eight of the 25 respondents reported not having been involved in any of the listed workplace level actions.

Among Leadership trainees, about two-fifths of follow-up survey respondents from the summer 2020 training reported sharing factsheets and information from the opioid training. One-third reported conducting workplace mental health programs and making improvements to the safety and health program or committee. However, one-third also reported not having been involved in any of the actions listed since the training (Table 3).

See Supplementary Table S5 (available at Annals of Work Exposures and Health online) for comparisons between trainers and non-trainers and leadership role versus non-leadership role. TTT respondents included 19 trainers and 6 who were not trainers. In addition, 6 were in a leadership role and the remaining 19 were not in a leadership role. Leader roles were considered supervisors, managers, and elected officials based on available response. In part, due to the small sample size, there were no statistically significant differences in reported individual or workplace level actions by trainer role or leadership role among TTT trainees. However, a higher proportion of trainers reported one action (‘Shared information about opioids and the workplace in my community’) than non-trainers, with a borderline level of statistical significance (P = 0.057).

Table 1. TTT individual level actions: ‘I have taken the following actions since participating in the training in 2020’ (answer all that apply) (n = 25).

| Individual level action                                                                 | N   | %  |
|----------------------------------------------------------------------------------------|-----|----|
| Reached out to coworkers to see how they are doing                                    | 14  | 56.0|
| Shared factsheets and information from the opioid training with coworkers              | 13  | 52.0|
| Re-focused on self-care: exercise or movement, sleep, healthy eating, social interaction, and relaxation | 13  | 52.0|
| Shared information about opioids and the workplace in my community                    | 9   | 36.0|
| Participated in organizational programs geared to improve safety and health or avoid opioid misuse | 7   | 28.0|
| Recognized/addressed my own risky behaviour                                           | 6   | 24.0|
| Took a stand against stigma in the workplace                                         | 5   | 20.0|
| I have not taken any of the actions since the training                                 | 3   | 12.0|
| Increased reporting of job hazards                                                    | 2   | 8.0 |
| Other                                                                                  | 1   | 4.0 |

Interview results
Five trainees from the summer 2020 pilot TTT programs agreed to be interviewed. The interviews lasted on average 10 min (range = 6–14 min). Two interviewees were from the UA course, and one interviewee was from the MRNY, Rutgers, and USW courses, respectively.
The majority of interviewees described confidence in discussing opioids since the training, and had favorable opinions of their respective courses and delivering training themselves.

‘As a community health worker, to be able to share that information with the students and explain the impact they can create, the positive impact they can create in the community is huge. To have a better understanding about how people can get support in their workplaces…I feel more confident when I am talking to them and providing information.’

‘It has been disseminated to all our local unions.’

‘From a training department stance we take the class that was given, which was an excellent class, and we just disseminated it out to the local unions, as far as the train-the-trainers, to make people aware of it.’

Participants mentioned the connections between the COVID-19 pandemic and opioid use and how it impacted the delivery of training:

‘It’s good to bring awareness to a really important issue, especially during a pandemic, where there is a lot of stressors, and isolation and that lends itself pretty well to substance abuse, and so it’s kind of breaking down the stigma and the isolation we have around it, and just

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**Table 2.** TTT workplace level actions: ‘I have been involved in the following actions at work since participating in the training in 2020’ (answer all that apply) (*n* = 25).

| Workplace level action                                                                 | N  | %  |
|---------------------------------------------------------------------------------------|----|----|
| Planned and conducted training and education                                           | 12 | 48.0 |
| I have not been involved in any of the actions since the training                      | 8  | 32.0 |
| Improvements to the Safety & Health Program/Committee                                  | 5  | 20.0 |
| Conducted ergonomic evaluations of high-risk jobs                                      | 2  | 8.0 |
| Evaluated OSHA Logs/worker compensation data to identify high-risk jobs, or to examine injury trends | 1  | 4.0 |
| Conducted worker interviews/surveys to identify high-risk jobs                         | 1  | 4.0 |
| Evaluated use of employee assistance programs                                          | 1  | 4.0 |
| Reviewed/amended punitive workplace substance use programs                              | 1  | 4.0 |
| Other                                                                                 | 2  | 8.0 |
| Started a member assistance or peer advocacy program                                    | 0  | 0.0 |
| Started a Naloxone program at the workplace                                            | 0  | 0.0 |
| Negotiated improved collective bargaining language on opioids in the workplace         | 0  | 0.0 |

**Table 3.** Leadership workplace level actions: ‘I have been involved in the following actions at work since participating in the training in 2020’ (answer all that apply) (*n* = 12).

| Workplace level action                                                                 | N  | %  |
|---------------------------------------------------------------------------------------|----|----|
| Shared factsheets and information from the opioid training                              | 5  | 41.7 |
| Improvements to the Safety & Health Program/Committee                                  | 4  | 33.3 |
| Conducted workplace mental health programs                                             | 4  | 33.3 |
| I have not been involved in any of the actions since the training                      | 4  | 33.3 |
| Conducted ergonomic evaluations of high-risk jobs                                      | 3  | 25.0 |
| Evaluated workplace stress                                                             | 3  | 25.0 |
| Planned and conducted training and education courses                                   | 3  | 25.0 |
| Evaluated OSHA Logs/worker compensation data to identify high-risk jobs, or to examine injury trends | 2  | 16.7 |
| Developed approaches to address stigma in the workplace                                | 2  | 16.7 |
| Reviewed or improved benefits offered in the workplace to address mental health/substance use treatment | 2  | 16.7 |
| Conducted worker interviews/surveys to identify high-risk jobs                         | 1  | 8.3 |
| Evaluated to what extent employees are using or benefiting from employee assistance programs | 1  | 8.3 |
| Other                                                                                 | 1  | 8.3 |
| Started a member assistance or peer advocacy program                                    | 0  | 0.0 |
| Reviewed or amended punitive workplace substance use programs                          | 0  | 0.0 |
| Started a Naloxone program at the workplace                                            | 0  | 0.0 |
| Negotiated improved collective bargaining language on opioids in the workplace         | 0  | 0.0 |
getting to just talk about this issue with colleagues and
co-workers who were in the class.’

‘We definitely would have been on a different trajec-
tory if the pandemic hadn’t happened. We wouldn’t be
doing all these COVID-19 trainings, we would have the
capacity to do opioid training and to prioritize that.’

Some trainees mentioned how they were able to continue
training and adjust as ‘we were able to work remotely’
and ‘we haven’t stopped’. However, some interviewees
discussed obstacles encountered in taking actions both
individually and at the workplace, and that due to the
pandemic and lack of resources they have ‘not given too
much light to this issue’:

‘COVID... and we work with very poor communities,
and the focus has been on basic needs, food security,
health insecurity, and other needs. Not really about the
training being bad or good, the training was good, it is
just the timing, the country and the worries people have
now.’

‘It’s really just been time. It’s not because I have for-
gotten, it’s just been put on the back burner...right now
the biggest obstacle is the time.’

One Leadership trainee participated in an interview. The
interviewee described that ‘I like the format as much as
possible given the pandemic restrictions’, and how they
have been ‘changing our hiring policies around with
people with convictions with substance related jus-
tice involvement’, ‘started offering how to administer
Narcan and Naloxone to employees’, and ‘a course on
stress in the workplace as it relates to the pandemic’. The
interviewee described how they are more likely to hire
people with prior criminal justice system involvement.
The trainee said it has ‘helped us look at things differ-
cently’, but mentioned ‘pandemic fatigue’ and ‘people do
not have the bandwidth to do another thing’ as the lar-
gest obstacles.

A joint display of TTT and Leadership qualitative
and quantitative results is shown in Tables 4 and 5, re-
spectively. The joint display organized trainee results by
actions taken, obstacles faced, and further plans. The
TTT and Leadership qualitative and quantitative results
are consistent with each other.

Discussion

Our findings support our hypothesis that the Opioids
in the Workplace Train-the-Trainer program and materi-
als have contributed to helping trainees plan and con-
duct opioids awareness training at their organizations.
Similarly, our findings support our hypothesis that the
Opioids in the Workplace Leadership program helped
contribute to trainees taking workplace level actions to
implement substance use and injury prevention policies
and programs. The COVID-19 pandemic impacted the
TTT and Leadership trainees’ abilities to address opioids
in the workplace, substance use, and injury prevention
primarily due to limited resources and time restrictions.

Planning and conducting training were most likely
highly reported because the trainees were mostly in-
structors themselves. Individual actions are not
dependent on workplace leadership involvement; there-
fore, there are likely few restrictions on the trainees’
ability to take such individual actions. Most TTT par-
ticipants were not in a leadership role; therefore, they
may have had a lack of influence in policy and program
decision making.

Qualitative results suggest that the COVID-19 pan-
demic played a large role in limiting workplace level
actions and addressing opioids in the workplace. In
addition, lack of resources and time due to the COVID-
19 pandemic may have further contributed to a lack of
implementing policies and programs among trainees
who may otherwise have been in a position to take such
actions at 6-month follow-up.

Future plans among TTT participants generally fo-
cused on further training on opioids and integrating
opioid awareness into broader topic courses. Future
plans among Leadership participants generally focused
on continued training and sharing factsheets, with an
emphasis on mental health. There was an interest among
trainees to implement peer support programs and to re-
vise policies.

Limitations of the current study include an inability
to link trainee e-mail addresses with survey responses
due to confidentiality concerns. Due to e-mail addresses
not being linked to trainees, the full registration lists pro-
vided by site organizers were used to contact trainees for
follow-up surveys and interviews. Therefore, more e-mails
were sent than actual class attendance. While it is un-
likely a participant would complete the survey without
having attended the course, it is still possible. The only
method of contact was through e-mails, and participants
who may have limited internet accessibility and techno-
logical comfort may not have responded. There may be a
relationship between non-completion and the constructs
of the evaluation, which limits the interpretation of the
findings. Further studies should ensure e-mails provided
for follow-up are limited to those who participated in the
class. In the Leadership training follow-up survey, the item
regarding training activities used in those who utilized the
OWPR training tool was removed to shorten the survey
and focus on policy and program changes. However,
if such an item could be included in future training
follow-up surveys, it would provide useful information,
| Topic                                 | Quantitative                                                                 | Qualitative                                                                 | Interviews (five trainees)                                                                 |
|---------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Individual actions                    | - >50% reported ‘reached out to co-workers to see how they are doing’ and ‘shared factsheets and information from the opioid training with co-workers’ and ‘re-focused on self-care’ | - Trainees reported sharing information and education and reaching out to coworkers | - Training helped raise awareness and confidence in educating others                             |
|                                       | - ~1/3 of respondents ‘shared information about opioids and the workplace in my community’ | - Trainees provided details on addressing mental health outreach and programs | - Providing training programs                                                                  |
|                                       | - Trainees reported sharing information and education and reaching out to coworkers | - Disseminating information to peers, family, and community                  | - Disseminating training through their union or organization                                    |
|                                       | - Trainees provided details on offering opioid training and integrating opioid content into broader topics | - No discussed example of changing workplace policies or programs related to opioid and substance use | - No obstacles as organization had capacity                                                    |
| Workplace actions                     | - ~50% reported ‘planned and conducted training and education’                 | - Being part of health and safety committees to address opioids and mental health | - Union challenges in bargaining                                                               |
|                                       | - 20% reported ‘improvements to the safety & health program/committee’       | - The COVID-19 pandemic disrupting training activities                        | - COVID-19 prioritizing needs and resources                                                     |
|                                       | - 36% of respondents reported using the ‘Opioids and the Workplace’ training tool in their workplace for a training program | - Lack of time and resources                                                   | - No obstacles as organization had capacity                                                    |
| Obstacles in actions taken            | - 12.0% have not taken any of the individual level actions since the training | - Challenges of online training delivery                                       | - Implement opioid training into mental health program                                         |
|                                       | - 32.0% have not been involved in any of the workplace level actions since the training | - The COVID-19 pandemic disrupting training activities                        | - Not focused on opioids, lack of resources                                                    |
| Future plans                          | - Action planning activity used 33.3% of the time in training                 | - Intend to plan and conduct training                                         | - Disseminate information and continue training                                              |
|                                       |                                                                              | - Incorporate into health and safety discussions during bargaining            |                                               |
Table 5. Leadership joint display table of qualitative and quantitative results.

| Topic                  | Quantitative                                                                 | Qualitative                                                                 |
|------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------|
|                        | Survey (close-ended questions)                                              | Survey (open-ended questions)                                                | Interviews (one trainee)                                                   |
| Workplace actions      | - 41.7% reported ‘shared factsheets and information from the opioid training’ | - Sharing factsheets and information                                          | - Changed hiring policies to accept persons with convictions related to SUD |
|                        | - 1/3 reported ‘improvements to the safety & health program/committee’, and ‘conducted workplace mental health programs’ | - Provided training, including training on stress for pandemic burnout        | - Using non-punitive policies for those in need of treatment and recovery  |
|                        |                                                                             | - Evaluated EAPs for interventions                                             | - Conducted naloxone training with opioid awareness                       |
|                        |                                                                             |                                                                              | - Course on stress in the workplace as it relates to the pandemic and focusing on mental health |
| Obstacles in actions taken | - 1/3 of respondents have not been involved in any of the workplace level actions since the training | - Resources and focus spent on COVID-19 rather than opioid programs          | - Pandemic fatigue                                                         |
| Future plans           | - Two trainees used the ‘Opioids and the Workplace’ training tools          | - Continued mental health training and sharing factsheets                     | - Expand beyond opioids to substance use disorders                        |
|                        |                                                                             | - Policy updates                                                             |                                                                              |
|                        |                                                                             | - Peer support implementation                                                 |                                                                              |
and would allow for comparison with qualitative results in a joint display table. TTT and Leadership interview response rates were low, possibly due to the interview link appearing in the survey completion message. Placing the interview link in the initial recruitment e-mail along with the survey link may increase response rates for the interview. Survey findings for improvements to the safety and health program or committee suggest actions were taken by some in the TTT and Leadership program to address primary prevention. However, there was a lack of discussion on primary prevention, for example prevention of pain and injuries, and the development and use of health and safety committees and programs. Interview questions that review actions related to primary prevention may be helpful in further evaluations.

Strengths of the study include a higher response rate to the TTT and Leadership 6-month follow-ups compared with the summer 2019 pilot trainees 6-month follow-ups. Response rates may further improve if the survey was shortened. The study used the collection of both qualitative and quantitative data, and integrated the data to generate findings and recommendations. This is, to the authors’ knowledge, the first study to evaluate the impact of a national instructor and leadership training program on opioids and the workplace by assessing actions taken following training.

Conclusion

We conclude that the Opioids in the Workplace Train-the-Trainer program and materials have contributed to helping at least some trainees plan and conduct opioids awareness training at their organizations. Similarly, we conclude that the Opioids in the Workplace Leadership program helped contribute to at least some trainees taking workplace level actions to implement substance use and injury prevention policies and programs. The TTT and Leadership training programs may also benefit from evaluation of longer-term outcomes to determine if more time is needed to take workplace actions and if the COVID-19 pandemic has continued to impact some trainee organizations ability to take actions.

Supplementary Data

Supplementary data are available at Annals of Work Exposures and Health online.

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Conflict of interest

Dr Persaud received financial compensation to perform ‘Opioids and the Workplace Training Evaluation’ as a consultant to MDB, Inc. The original source of the funds was the National Institute of Environmental Health Sciences. The time period of the funding was 20 September 2020 to 19 September 2021. Dr Persaud is continuing to evaluate the program for MDB, Inc. at the time of submission. Ms Weinstock is a senior staff member of MDB, Inc. and the program manager for the contract under which the work was performed at the time of submission. All other authors have no conflict of interest to declare.

Data availability

The data and documentation for how the analyses have been performed can be provided by contacting the corresponding author.

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