



WTP Evaluation Community of Practice

Training Follow-Up: Grantee Examples of Data Collection Methods

November 30, 2017

Facilitator: Demia Wright, NIEHS WTP

Overview of Webinar

Introductions

- Name and Title

Grantee Presentations:

- **Carol Rice, PhD**; University of Cincinnati (UC)/Midwest Consortium (MWC) for Hazardous Waste Worker Training
- **Kevin Riley, PhD**; University of California Los Angeles – Labor and Occupational Safety and Health Program (LOSH)/Western Regional Universities Consortium (WRUC)

Questions and discussion

Questions and ideas for NIEHS

Purpose of the Evaluation Community of Practice

Create a community of practice that allows WTP grantees to share evaluation methods and lessons learned, and provide feedback to NIEHS on moving evaluation forward for the program.



Grantee Presentations

Carol Rice

Kevin Riley



Discussion and Questions



Questions and ideas for NIEHS

Suggestions for Future Topics from March Call

- Capturing outcomes and follow-up (*need more?*)
- Collecting more outcome-oriented evaluations
- How do grantees use data from "smile sheets"
- Share evaluation efforts and frameworks of each grantee to facilitate group projects or networking
- How to document barriers trainees face when back at the workplace
- Sharing instruments/surveys
- Use of common measures
- How to use the economic impact analysis model in other programs
- Presentation from Ruth Ruttenberg:
 - Prior work around cost-benefit analysis of OSHA-10 classes.
 - Current evaluation on impact of trainers on workplaces and community.

Idea

How can we take advantage of the May Trainers' Exchange?

Resources

- Training Evaluation web page
<https://tools.niehs.nih.gov/wetp/index.cfm?id=92>
 - 2012 Evaluation Profiles
 - Logic Model
 - Evaluation guidance document and instruments (1997)
- Journals and Conference List document
 - Available upon request



Email me if you are interested in presenting
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Thank you!

Midwest Consortium for Hazardous Waste Worker Training

Supported by NIEHS 5U45ES006184-26
Hazardous Materials Worker Health and Safety Training(U45)



- ▶ ND—Three Affiliated Tribes
 - ▶ MN—University of Minnesota*
 - ▶ WI—Lakeshore Technical College*
 - ▶ MI—Emergency Response Solutions Int'l*
Citizens Environmental Alliance
Green Door Initiative
 - ▶ IL—University of Illinois* (Urbana-Champagne)
 - ▶ IN—Environmental Management Institute*
 - ▶ OH—Greater Cincinnati Occupational Health Center*
 - ▶ KY—YouthBuild Louisville*
 - ▶ TN—University of Tennessee*
Fisk University
-
- ▶ * conduct refresher training
 - ▶ All centers may have repeat participants

Goals during this presentation:

Using feedback from repeat participants to assess impact

- ▶ Identify why specific approaches were selected to collect impact data
- ▶ List uses of collected information
- ▶ List themes from refresher program feedback
- ▶ Show examples of the items in selected themes
- ▶ Identify advantages/disadvantages of approach



Data collection challenges

Issue

- ▶ Takes time away from training
- ▶ Cost of routine data
- ▶ Follow up after training
 - ▶ Verbal impacts must be written
 - ▶ IRB
 - ▶ personnel cost

Status

- ▶ Constant concern from trainers. Show value to trainer
- ▶ Entry (paper), review, use ongoing
 - ▶ Electronic capture difficult for many centers; on-site restrictions
- ▶ Reminders
- ▶ Conducted as needed
- ▶ Currently very limited budget



How can we be efficient?

- ▶ Use cannot be documented by participants at initial training
- ▶ Focus on refresher or repeat participants
 - ▶ Site worker Refresher:
 - ▶ Year in Review exercise discussion (site workers)
 - ▶ Other 'on the side' discussions
 - Participants tell stories that can be written by the facilitator
 - Repeat community participants provide feedback
 - ▶ Formal part of all Refresher or repeat participant evaluation feedback
 - ▶ QUESTION: In the past year, how have you applied your training at work or in your community?
 - Extract specific examples
 - Summarize over time



Examples: Individual reports of use=impact

At work (from form entry)

- ▶ Reported by site worker participants:
 - ▶
 - ▶ Following refresher training we ensured work boots and safety glasses are worn at all MNDOT facilities including transfer stations and shop.
 - ▶
 - ▶ We have used reminders to promote good safety practices and used the training to help with facility audits and training of officers on their role during a hazmat situation.
 - ▶
 - ▶ We have taken power tools and equipment out of service if defective, ladders, damaged cords, seat belts, etc.

In the community (from verbal report or form entry)

- ▶ An individual Emerg. Response Team (ERT) member at Livonia reports using a garden hose to extinguish a house fire, while at the same time waking up sleeping kids and the father. He learned these skills during the 40-hour ERT Refresher.
- ▶ Five past participants reported making workplace decisions more safely after training, as well all trainees discussed safety issues with coworkers and the majority effectively used equipment more safely. These changes in the workplace would not have happened without past community training.
- ▶ I've been living a greener lifestyle.



How do we use the feedback?

- ▶ Individual impact statements
 - ▶ Included in biweekly Newsletter
 - ▶ Provided to NIEHS for use in justifications
 - Progress Report, Annual Report, when requested
 - Organized by Kirkpatrick level
 - ▶ Marketing
 - Include in 'value of training' promotional pieces
 - Provided to the employer to document value



...how we use, continued

□ Identify training needs

- ▶ According to the resident, “the toxics release reduction and other information that I received at the Fisk workshop really helped me to decipher all the technical jargon that I saw about compressor stations.” But what really had the most profound impact on her was, “the workshop’s call-to-action approach that encouraged participants to use what they had learned” to identify ways to reduce toxics in their respective communities.
- ▶ Result: developed training materials on Natural Gas Compressor Stations

□ Competitive Renewal to document use of training

□ Categorized responses being prepared for publication submission



Current Refresher Programs

- ▶ 8-hour site worker
 - ▶ Several formats
- ▶ 8-hour emergency responder (for op- or tech-level)
 - ▶ Several formats
- ▶ 8-hour confined space rescue
- ▶ 40-hour industrial emergency response team
 - ▶ Includes
 - ▶ 8-hour emergency responder
 - ▶ 8-hour confined space rescue



Summary of refresher feedback

- ▶ 2015-2016
- ▶ 994 responses to the question: In the past year, how have you applied your training at work or in your community?
 - 2,095 emergency responders
 - 804 site workers
 - 841 confined space rescue

- ▶ Ruth Ruttenberg reviewed all and identified the following themes
 - ▶ Actions taken to improve safety and health
 - ▶ Awareness increased
 - ▶ Emergency Response improvements
 - ▶ Equipment made safer
 - ▶ Procedures improved to promote Safety and Health
 - ▶ Training enhanced
 - ▶ Other
 - ▶ Events that occurred and improved results

- ▶ Preparing to evaluate 2016-2017 data set



Example:

- ▶ **Actions taken**
 - ▶ Communication improvements
 - ▶ Decontamination improvements
 - ▶ Emergency Action Plan written
 - ▶ Ergonomics improvements
 - ▶ Hazard analysis
 - ▶ Hazard identification



Example:

- ▶ Awareness increased
 - ▶ Chemicals, hazardous materials, wastes
 - ▶ Electrical
 - ▶ General awareness and knowledge
 - ▶ Radiation
 - ▶ Rail
 - ▶ Regulations
 - ▶ Slips, trips, falls
 - ▶ Team work
 - ▶ Trenching



Example:

- ▶ **Procedures improved**
 - ▶ Confined space
 - ▶ Lock out/Tag out
 - ▶ Maintenance
 - ▶ Routine, cleaning, inspections
 - ▶ Taking faulty equipment and tools out-of-service
 - ▶ Monitoring
 - ▶ Planning
 - ▶ Standard Operating Procedures
 - ▶ Emergency Response
 - ▶ Storage
 - ▶ Taking Time
 - ▶ Ventilation



Summary--+ / - of using feedback

- ▶ Using a standardized item for all refresher/repeat participants
 - ▶ +Provides feedback in settings where training should be used
 - ▶ +Same, standardized item used on evaluation forms
 - ▶ +Is relatively efficient to collect
 - ▶ +Provides insights into what has been accomplished to reduce hazards or risk of exposure
 - ▶ +Opportunity for resident feedback on use
 - ▶
 - ▶ -Requires review to identify themes
 - ▶ -Cannot assess underreporting of actions taken
 - ▶ -Cannot assess validity of report
 - ▶ -Using our data format (no personal identifier computerized)
 - ▶ Cannot link data from year to year, by person
- ▶ Anecdotal impact reports
 - +Personalized by participant
 - -Facilitators must take time to write up



Summary

- ▶ Presented information to
 - ▶ Identify why specific approaches were selected to collect impact data
 - ▶ List uses of collected information
 - ▶ List themes from refresher program feedback
 - ▶ Show examples of the items in selected themes
 - ▶ Identify advantages/disadvantages of approach
- ▶ Look forward to comments, suggestions, questions



Training Effectiveness: Impact at the Workplace

Kevin Riley

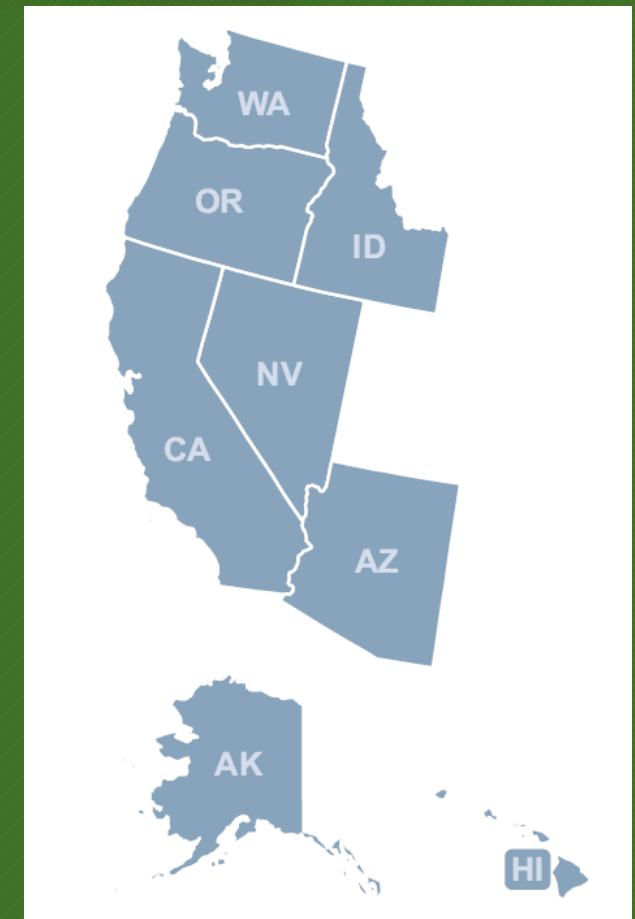
Western Region Universities Consortium (WRUC)

November 30, 2017

Western Region Universities Consortium

WRUC members:

- UCLA-LOSH
 - UC Berkeley-LOHP
 - Arizona State University
 - University of Washington
- Training throughout Western U.S. (EPA Regions IX and X)
 - Open-enrollment and contract courses—workers and supervisors in both private and public sectors



WRUC Impact Evaluation Goals

- Assess impact of hazmat/ER training in terms of:
 - Safer work practices
 - Improvements to safety programs and procedures
- Consideration of actions at both the individual and organizational levels
- Include acknowledgment of challenges faced in making changes at the workplace

Methodology

- Target trainees in core hazmat and ER courses:
 - 40-hour HAZWOPER / Refresher
 - 24-hour Hazardous Waste Operations / Refresher
 - HAZWOPER Site Supervisor
 - Hazmat Transportation
 - Emergency Response Operations
- Survey Monkey questionnaire sent 3-6 months following training; follow up by phone

Response Rate

During the 2016-17 grant year...

- Distributed to 473 trainees in 28 courses
- Responses from 80 individuals
- Response rate = 17%

Respondent Industries

What business or industry sector best represents your company or agency?	Pct.
Government	18%
Construction	15%
Environmental Services	12%
Education	10%
Manufacturing	9%
Waste Treatment, Storage, Disposal	8%
Utility	6%
Healthcare	5%
Public Safety/ER Response	5%
Mining	3%
Transportation	1%

Official H&S Responsibilities

Do you have any official safety and health responsibilities at your workplace?	Pct.
Participate in emergency response planning	35%
Conduct inspections and/or audit facilities	33%
Develop or implement safety plans and procedures	30%
Participate on health and safety committee	29%
Maintain hazard reporting system (near misses, etc.)	27%
Represent coworkers as union steward or H&S representative	3%

Knowledge and Skills Gained

	Pct. Agree or Strongly Agree
The training taught me new things about hazardous materials and/or hazardous waste	90%
The training helped me to recognize hazmat-related hazards in my job	89%
The training taught me skills I can use in handling hazardous materials in my job	90%
The training prepared me to safely respond to hazardous spills in my job	86%

Knowledge and Skills Gained

“As a Safety Officer, this class enhanced my knowledge as it relates to residential construction and related chemicals.”

“How to better prepare site safety plan and uniform emergency response action plan.”

“History of the EPA, how to obtain samples and how each type is identified, respiratory protection up to and including SCBA, how to contain spills.”

“I see lots more things as hazardous and potentially dangerous based on the training.”

Actions in the Workplace

Did you or your organization take any measures to improve safety at the workplace following training?	Pct.
Shared knowledge or skills with coworkers or supervisors	59%
Changed how you or your coworkers use Personal Protective Equipment	31%
Created or updated your safety plans	29%
Changed the work environment in some other way to make it safer	28%
Changed a policy or procedure at the workplace	21%
Purchased new equipment for your workplace	19%
Reached out to others outside your direct field of work	16%
Other	12%

Actions in the Workplace

“Completed job hazard analysis on lead/acid battery handling and SF₆.”

“I shared information with the crew and supervisor to update safety plans to improve the one we have.”

“Regarding chemical procedures for treating wells, we reviewed the procedures and made the necessary changes to make the jobsite safer than before.”

“Explained the significance of silica exposure in the workplace and had masks brought to the field.”

Challenges Faced

Have you or your organization faced any challenges in trying to make changes in your workplace following training?	Pct.
Lack of support from supervisors or upper management	15%
Not enough time for you or your coworkers to focus on safety plans or policies	11%
Not enough funding to invest in new equipment or PPE	9%
Don't know what steps you can take to make your workplace safer	9%
Don't have access to safety plans or policies at your worksite	4%
Other	14%

Challenges Faced

“Work schedules too long and excessive lately.”

“Most changes in the workplace to make the environment safer take a while due to chain of command.”

“At times, management wants a person out in the field immediately without knowing that it takes time preparing the equipment/preparation.”

“Coworkers do not appreciate extra precautions in the workplace. Upper management has been reluctant to have PPE readily available.”

Emergency Response Activities

“Annual training drill and an ammonium hydroxide spill.”

“Mercury spill cleanup.”

“Hydrogen sulfide gas investigation.”

“We had a diesel fuel release on a walkway/driveway. I used my training to direct cleanup and remediation performed in-house and through an outside contractor.”

Considerations

- Value of quantitative data → Ability to see patterns, track responses over time
 - Desire to compare findings across industries and sectors, geography, H&S responsibilities, etc.
- Challenges of follow-up → How to increase response rate?
- How to use these findings to improve our programs and/or inform the efforts of the NIEHS WTP?

Thank you!

Kevin Riley

UCLA-LOSH / Western Region Universities Consortium

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