



# Results of an Occupational Health Needs Assessment in Energy Impacted Communities

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## Background

### Current Wyoming Healthcare Issue:

- Major healthcare issues in Wyoming are high occupational death and injury rates.
- Wyoming had the highest US workplace fatality rate in 2007<sup>1</sup> and high occupational injury rates:
  - Many fatalities occurred in dominant Wyoming industries, including transportation, construction, and oil and gas
  - WY has an occupational injury rate higher than the national average<sup>2</sup>
  - Nonfatal occupational injuries can be severe, costly, and/or disproportionately unusual in nature<sup>3,4</sup>
- Such injuries often require specialized treatment, yet training focused on occupational injury treatment is not widely available for health professionals in the affected communities<sup>5</sup>
- Significant factors related to fatal occupational injuries have been identified<sup>1</sup>
- Less is known about severe non-fatal injuries<sup>1</sup>
- The WY Governor's Task Force on Workplace Fatality Prevention is focused on identifying root causes, safety measures and injury prevention
- However, no group is focused specifically on training healthcare professionals who are the first responders, first receivers, and providers who care for injured workers re-assimilating into the community
- Our long-term goal is to improve the care of injured workers in Wyoming and regions and states affected by energy and extractive industries
- This project is the first attempt at identifying relevant healthcare training needs of healthcare workers in the affected communities

## Objective

- The purpose of this project was to identify occupational health experiences and training gaps of healthcare providers.

## Methods

### Instrument Development

- Interviews with key informants, literature reviews, and internet searches were conducted to identify energy-related workplace injuries and potential training gaps for healthcare providers
- A panel of healthcare educators and survey experts revised the items to maximize the content and face validity of the instrument
- A 10-item survey was created
- IRB approval was obtained

### Pilot Testing

- Two rounds of pilot tests were conducted.
- Pilot Survey Round 1**
  - Objectives:
    - Determine the time needed to complete the instrument
    - Provide input on instrument readability and feasibility
    - Identify points of confusion and redundancy
    - Identify missing points and/or educational issues
  - Sampling method: a convenience sample of targeted professions
- Pilot Survey Round 2**
  - Objectives:
    - Assess the ease of administration
    - Identify additional problems with the instrument
    - Determine the issues of content and training format preference which future surveys and focus groups should target
    - Identify unaddressed points and/or educational issues
  - Sampling method: a snowball sampling method
    - An invitation to participate in the electronic survey was sent to an initial group of contacts in professional organizations in the state.

### Focus Groups

- Focus groups were conducted in conjunction with the annual meetings of the state pharmacy and nursing associations.

### Analysis

- Frequencies and other descriptive statistics were used to describe the responses.
- Thematic analysis of focus group data continues.

## Results

- Preliminary results (n=13) indicate that first responders and first receivers are interested in additional training (Figure 1).
- The two most preferred modes of training were or live workshops and internet or computer based module training that could be completed on the providers own time (Figure 2).
- The content areas of training identified in the survey and focus groups were similar with two exceptions.
  - Substance abuse and pain management
  - Communication with patients
- The pharmacist and nurse focus groups identified these other training areas:

Figure 1: Interest in Receiving Training (Content Areas)

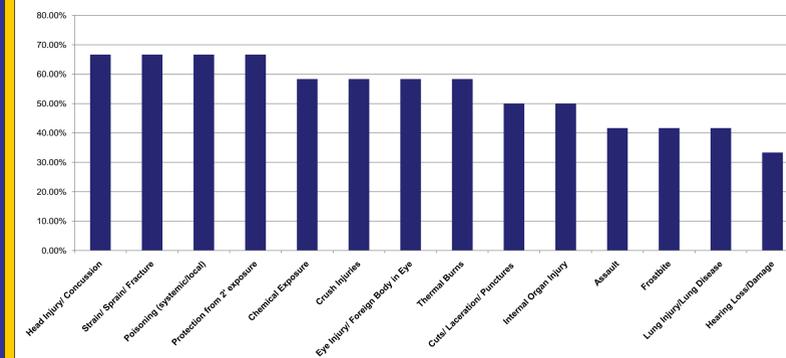
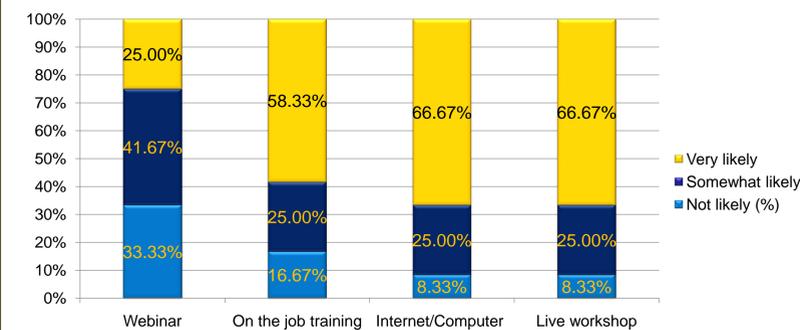


Figure 1: Interest in Mode of Training



## Discussion and Implications

- Local energy and mining injuries likely pose healthcare challenges that are not met by our current training system
- Faculty in the Colleges of Health Sciences and Business intend to meet identified healthcare training needs by developing an innovative interdisciplinary distance training system that:
  - Combines rural community, state and university resources
  - Incorporates content experts,
  - Targets first responders, first receivers, providers, and others caring for injured energy and mine workers
- A snowball sampling method prohibits full identification of the sampling frame and follow-up reminders. Thus, an overall response rate cannot be calculated
- Alternative methods of distribution of this survey will be tested in the future
- The number of respondents were small, but the responses mirror preliminary data obtained from focus groups and informal interviews
- Converging requests for training in substance abuse, pain management, and patient communication were unexpected
- These areas of training are logical given the opportunity for primary care providers to impact the lives of injured workers who are re-assimilating into the community

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### References:

- Anderson P and Conway G (2010) presentation, Casper, WY, Wyoming Governor's Workplace Fatality Prevention Task Force [WFPTF] Labor News Release. Retrieved from <http://www.bls.gov/iif/oshwc/osh/os/osnr0032.pdf>
- Bureau of Labor Statistics (2010). Oil and gas injuries fatal and non fatal occupational injuries. US Department of Labor. Retrieved from <http://www.bls.gov/iif/oshwc/osh/os/osar0013.htm>
- BBC Research and Consulting, November, 2000. The Health Care Needs Assessment of Wyoming Miners. Retrieved from <http://attorneygeneral.state.wy.us/miners.pdf>
- Clark S, Krueger KP, Soltesz SJ, Hunt DM, Lynch WD & Kobulnicky CJH, (2010), Wyoming Energy-Impacted Communities: Work-Related Injury Analysis. Annual Meeting of the American College of Occupational and Environmental Medicine. (poster presented on 2 May 2010)
- Hunt, Clark, Kobulnicky, et al., preliminary focus group results. Data on file contact [DHunt@uwyo.edu](mailto:DHunt@uwyo.edu)