

**NORA TOWN HALL MEETING
SALT LAKE CITY, UT
FEBRUARY 27, 2006**

ROUND TABLE DISCUSSION: Agriculture, Forestry, and Fishing

1. Issues:
 - a. Auger misuse
 - b. ATV accidents
 - c. Irrigation
 - d. Farm-related injuries/death
 - i. Not having proper license to operate machinery
2. What can be done to reduce farm related injuries?
 - a. Use of helmets
 - b. Types of injuries
 - i. Livestock/Animal- Kicks, bites, crush injuries, falls
3. Encouragement of training to reduce injuries
4. Farm bureau- 32,000 contacts/members
5. Farm safety program since 1987
6. Farm safety training- 2 hours minimum
 - a. What is involved in training?
7. Issues- getting farmer's more interested in safety/ training getting better now (trick down from managers/owners)
8. Farmers working alone
9. Distance from Emergency response
10. Handling of Animals and Reduction of injuries
11. Reduction of Off Highway Vehicle injuries
12. Safety engineering and training regarding farm equipment and Power Take Off
13. Proximity of Emergency response/time to response
14. Handling storage of Ammonium Nitrate and reduction of terrorist activities
15. Chronic Health Effects from Inorganic/organic chemicals and/or pesticides
 - a. Biological concerns- Fungi, mold and toxins as by-products
 - i. Mycoses from soil/dust exposure
 - ii. Hypersensitivity reaction
 - iii. Pulmonary irritants
 - iv. Sentinel surveillance
16. Attention of physicians to identify occupational related illnesses for farmers
17. Lack of health prevention for small business/farms
18. Large Farms v. small farms:
 - a. Is there a small difference in safety/accidents
 - b. What can be done
19. Increasing community participation in Health and safety education and promotion
 - a. how
 - b. communication
20. Increasing Health Care Providers awareness of inquiring/reporting occupational/farm related illnesses and injuries.
21. Ergonomic factors
 - a. Back injuries, etc.
 - b. How to reduce
22. Hearing conservation.

- a. farmers around loud equipment/radios
- 23. Topics of concern
 - a. Handling of animals
 - b. Off highway vehicle (OHV) accidents
 - c. Restricting chemical exposures and evaluating effects on workers and families
 - d. Replacement of filters on farm equipment (ie tractors etc.:
- 24. Big farm vs small farms
 - a. Big has its advantages:
 - i. Better equipment
 - ii. Better maintenance
 - b. Remove safety guards on PTO increase injuries
 - c. Complacency with equipment
 - d. Training very important issue

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ROUND TABLE DISCUSSION: CONSTRUCTION

Immigration Issue, Cultural and Language – particularly subcontractors

Illegal workers get deported – remaining workers extra workload/stress/fatigue

Increase in injury rate (stitches etc.)

Training Issues – Particularly Safety Turn Over causes training to lag behind. Also language issues are inhibitive. No on the site training (tool box meetings) with respect to exposures / procedures / other safety issues.

Safety...not perceived as cool/macho,

Petroleum industry – workers are there for along time, money is available for training programs and enforcement. Construction industry is complete and not growing financially to support training and safety to the degree of petroleum industry.

Behavior based Safety is effective when work culture is proactive and supportive of co-workers. Workers perceive programs as “program on the month” and wait for it to blow over it. Needs support from top down.

Existing laws for training/implementation/enforcement.....but violations occur...not being implemented/practiced effectively.

Training does not matter, safe work practices are not in common use with workers on a day to day basis

Disconnect between training and implementation

Culture/language

Salary vs. hourly....salary workers end at 8 hour day....hourly workers continue without supervision for hours a day

Accidents to student workers... guidance for schools / Temp workers (seasonal)

Younger workers

Putting people in more danger by following the rules. Need tailoring of rules for industries / companies / jobs ... for example HAZWHOPPER

Scale down procedures / rules / for small companies

Fixed price contracts not conducive to compliance with all regulations, OSHA, DOD, DOT, USHA, etc – over regulation – expensive to comply

Not enough education / technical knowledge for self police, small start up companies...not enough resources for self police

Compliance is not optional despite being irrational, bight the bullet to avoid liability, also for customer good will

What is the effect of super size regulation on small contracts, small companies (cost)

Flow chart for safety protocol, instead of blanket regulation

More expensive to gear up for safety than the job costs

Hispanic work force...big problem that no one wants to deal with

Daily dose of English approach to help learning

TOP ISSUES:

Common sense to common knowledge – convey that it is in your own best interest to be safe (research how to change safety behavior and compliance)

Super sized and complex Regulations – laymen’s terms / need a specialist to cover basis

Standardize MSDS and make available to everyone on website

Leave confined space regulations as is....leave for general industry

Accuracy of reporting...do not trust, accountability

Study on how the metrics are measured

Principal Investigator/Program Director (Last, First, Middle): Kurt Hegmann, M.D., MPH

Reports are effecting worker comp / insurance / ...NIOSH should work with insurance companies to keep inflation of rates...have insurance companies take role in safety investigations

Over regulation of certification for equipment operation...OSHA and MSHA

Lack of support for lead/mold/asbestos/etc testing follow up, who is collecting/researching all the data that is collected and documented by companies as required by regulations companies need something to show employees that all this data collection is worthwhile and important

Noise issues....exemptions for hearing testing

Try to give incentives for quiet machinery

Residential Construction falls / Enforcement

Companies cannot register for business license (or renew) with proof of workmen's comp and other certifications.

Older workers been working longer with exposure without proper protections.....study of older workers

Renovation work on meth lab homes

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ROUND TABLE DISCUSSION: Healthcare and Social Assistance Roundtable

Christina Vokt, RMCOEH

Jan Smith, Questar

Agnes Greenhall, IHC Primary Children's

Judith Pratt, Weber State

Ken Johnson, Weber State

Christy Forrester, NIOSH

Teri Polermo, NIOCH

Tolmie Wachter, ARUP

Brent Stephens

Areas of discussion:

Top Priorities:

1. Musculoskeletal Disorders
2. Stress
3. Shift work/long working hours
4. Supportive workplace health and safety culture
5. Hazardous chemical exposure – particularly hazardous drugs
6. Workplace violence – particularly in neuropsychiatry settings
7. Economic Research into healthcare coverage for all workers
8. Known and emerging workplace infections
9. PPE – healthcare specific
10. Aging workforce

Outcomes and Barriers

Musculoskeletal

- Best practices for lifting procedures in healthcare
- Evaluating increasing number of bariatric (over 300 lbs) patients with number of MSD injuries
- Developing engineering controls for bariatrics or other special patients (such as burn unit) where conventional patient lifting devices are not appropriate
- Evaluate impact of productivity and MSD injuries and prevention programs
- Evaluating the effectiveness exercise or stretch and flex programs work in the healthcare setting

Stress

- tools to measure stress in the workplace (barrier is that stress may be subjective and cannot separate home vs. work stress)

Shift work/long working hours

- Is there an effect of long working hours or shift work on HS including injuries and illness; interventions and effectiveness of interventions

Outcomes

- May not fall under NIOSH preview
- Who pays for what (personal responsibility, government)?
- Need to know what works and what doesn't [promotion research, synergy b/t health and safety and HR, etc., C/E ratios – good outcomes for the \$, rewards for good health)?
- NOISH accumulating research in different areas

-What would be the steps to reducing, ultimately, worker injuries (accumulating research in different areas, stress work exposures, shift hazards, environment, lifting/catching, determining what really works).

Barrier

-Shift work – harder in less controlled work settings

Nationalized Medicine

-How would we:

-work;

-courage of all workers and productivity;

-is healthcare a right or a benefit;

-impact on the workforce of nationalized medicine;

-healthier workforce?

Barriers

-political, financial, social

-Economic research into possible benefits of increasing productivity and having a healthier workforce; barrier this may be outside of the realm of NIOSH

Workplace violence

-What preventive programs work best in the healthcare setting (patients, family, worker/worker, ED setting, and neuropsychiatry setting)

-How well is it being measured?

-Home Health

-Barrier – many different types

Aging

-How do we keep the aging workforce productive for delayed retirement?

-Re-training – keeping knowledge in workforce.

Barrier

-cultural attitudes

-worker not wanting to retain

PPE

-Best practices for selecting PPE for hazardous drugs such as chemo

-Researching effectiveness of respirators in relation to bioaerosols

Industry outsourcing healthcare

-No onsite care

Nursing physically demanding – high turn-over

Longer 12 hour shifts-working hour bodies aren't used to

Mandatory overtime (safety, health)

Lifting injuries

UE injuries-overuse/ergonomic issues, i.e. US assistant

Imported workers and different body types

-ergonomic issues

Bariatric patients (burns, ICU, etc)

-transfer and care issues

Violence at home or work

-non-traditional settings

-inner city challenges

-aging of population

Corporate Healthcare

-costs

-retire benefits

How are employees taking care of themselves?

- incentives
- what should they pay for?
- how do we show that prevention saves?
- Absenteeism
- difficult to separate what happens at work and home healthcare?
- Presenteeism (whose responsibility)?
- society, employer
- New areas for research
- stress
- way beyond mental and physical
- personal issues coming to work sick
- combined sick/vacation time
- only 3 opportunities than must have plan person fitting to organization and vice versa

Healthcare for working poor

- PCN
- Whose responsibility (community-sponsored grants, fundraiser, national health insurance)
- Implications for WC
- Quality
- Waiting time
- Germany 1811
- Canada and Great Britain
- Coverage of basic services
- Practicing medicine to avoid litigation

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ROUND TABLE DISCUSSION: MANUFACTURING**

Topic: Accommodating the needs of the aging workforce

- MSDs
- ADA
- TLVs
- Earning potential decreases but Health Care costs are increasing
- Obesity, Diabetes
- Trip/fall hazards
- Illumination
- Control of workplace hazards

Topic: Updating “old” or aging machinery

- Guarding
- Ergonomics
- Safety/injuries/upgrades

Topic: Training and Education

- Don't come equipped with OHS knowledge
- How to train/educate/communicate
 - o With old and young workforce
 - o Hearing, vision, illumination

Topic: Professional Training

- Professional individuals don't have experience with application and workplace factors
- Training and education need to look at the future for training
 - o How do you reach the broad spectrum of workers (i.e., age 18-65)

Topic: Accommodating the diverse work population

- Language barriers
- Cultural differences
- Time is needed for training
 - o Ongoing issue
 - o Safe work place culture

Topic: Off the job activities

- How do we change the mind set to look and encourage employees to have a “safe-life” culture at home as well as at work.

- Lost time
- Insurance costs
- Wellness
- Lifestyle issues (i.e., smoking, education, fitness, nutrition)

Topic: Lifestyle (Wellness) OHS training

- Costs, injury, born by company
 - o Lost time
 - o Insurance

o Physical and mental

Topic: JIT/Lean Manufacturing (Competitiveness)

- Inventory is an inefficiency
- H.S. pays
- Trained “low skill” workforce
- Major impact when someone hurt
- Lost time due to injury is effected by JIT
 - o Strikes, sick workers, etc.
 - o Current systems are disrupted more by these issues because of the structure (JIT, lean manufacturing)
 - o “Ripple effect” More trained workers vs. “low skill” workers.
 - o Outsourcing because of cost at the expense of the worker
 - o How do we control cost to keep jobs here?

Topic: Nano Technology

- EPA concerns
- Biotech
- New hazards?
- Will it change MDSs, hearing loss, vision, robotic?
- How will we monitor and measure on nano scales?
 - o Keep up with measuring PP Billion
 - o Gases, vapors

Topic: Carpal Tunnel Syndrome

- What is causing it?

Topic: Industrial Hygiene

- Full time monitoring of all hazardous gases and chemicals
- Compliance with TLVs – difficultly measuring low level exposure will available technology

Topic: Titanium Oxide

- Documentation already available from NIOSH and should be available within next month or so
- Recommend f/NIOSH inc Nanotech issues

Topic: Workers Comp/In House Treatment

- Legislation on first-aid measure and reporting injuries/illnesses at work
- Appears to be evolving into a type of “socialized medicine”
- Workers who are starting new jobs and shortly after reporting injuries
- Comp costs are changing because of legality and cultural issues
- Root cause analysis
 - o 1st aid vs. emergency care
- Ethics
- Work relate???
- In house treatment
- Reporting
- Inheriting Previous Claim- wellness

Topic: At home exposure from workplace hazards

- Bringing home chemicals on clothing, etc.
- Family exposure from mfg.

Topic: ANSI/AIHA, OSH Management systems

- How effective are the management systems in controlling safety issues
- ISO 14000, 18000
- Are we just paper pushers
- Efficacy? How is this measured, what is the metric to gage the progress and efficacy.
- Legitimacy in management/industry?
- Many standards are being required by buyers.
- Management standards seem to have improper integration into the system and show little benefit to the company on as a whole
- Can be viable assets to a company, but we need better strategies and training to implement them
- How to measure?
- H & S pays
- How do we have "Value Added Impact"
 - o \$\$\$\$\$\$\$
 - o Best Practices
 - o How do we quantify cost vs. benefit
- Demonstrate how health and safety benefit at the bottom line \$\$\$

Topic: Why don't Programs exist for skilled Health and Safety management

- Education and Training OHS professional
- Credentials
- Diversified education
- Training on standards and regulations
- Ergonomics, Human Factors, Safety, IH, Chemistry
- Need to train how to integrate information into the job

- What about a comprehensive program to develop a base of knowledge
- Safety professionals seem to lack skills when they "start out"
- Higher education doesn't allow for a "diverse" curriculum
- PROVIDE INTERNSHIPS FOR STUDENTS AND FACULTY TO GIVE THEM EXPERIENCE THAT CAN BE APPLIED
- NIOSH is working to change the current educational status

Topic: Education/Communication

- Personal health concerns conveyed to supervisor
- Confidentiality/ HIPPA
- Employers buying "farm" for lack of communication of employee health concerns (pres. Meds, wellness.....)

Topic: Preexisting conditions (Language and Communication)

- Personal Health Status
- Employees need to communicate their health problems with a company so they don't chase down wrong causal pathways
- HIPPA regulations
- Employees hiding current health status and employers are eating the costs

- Wellness, nutrition
- Many of these issues are related to management
- These things need to be measured and published so others can see the benefit of comprehensive health and safety management paradigms
- Corporate Culture

SUMMARY OF SELECTED TOPICS

- Ageing workforce issues (#1)
- On vs. off the job wellness compared to Workers Comp Costs (#2)
- Workers Comp Costs (#2)
- MSDs (#3)
- JIT/Lean Manufacturing (relating to lost work and injury, impeding production, competitiveness, outsourcing) (#4)
- OHS Management Systems
- Educating OHS Professionals (#5)
- Education/Training @ Company Level (#6)
- Nano and emerging technology, Biotechnology (#7)

Research that will help

Other miscellaneous ideas, etc

Mineral fibers (asbestos.....)

Early recognition pulmonary issues

Silicosis

Synergistic effect- hearing loss- carbon monoxide

Ergonomics, easier guidance development

EM fields

DC Fields- high amp low voltage

Occupational health and safety success/failure

(Wellness program vs life after work (farming, etc)

Benchmarks

Year of reporting injury

Team vs individual bonus structure

BRIDGE labor and management

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ROUND TABLE DISCUSSION: MINING**

- I. Disease and Injuries
 - a. Whole body vibration – NIOSH Research (Spokane)
 - i. No data standards
 - ii. Ergo issues
 - iii. Impact Tools
 - iv. Heavy Vehicle/Machinery
 - 1. Many vehicle sales to not provide vibration listings
 - 2. ASTM/ANSI standards
 - 3. Machinery Retrofits
 - 4. Manufacturer requests for safety
 - b. Quieter Machinery – see above issues
 - c. Effective 2-way Communication for underground
 - i. Emergency- power is dropped
 - ii. Wireless
 - iii. Resistant to Infrastructure Failure
 - d. Tracking Devices (personal)
 - e. Escape opposed to barricade procedures
 - i. Self-contained self rescuer
 - ii. Change Mind set to escape first rather than refuge
 - iii. Last resort---Rescue Chamber
- II. Research requests
 - a. Building collapse----mining
 - b. Notification—Evac procedure technology
 - c. Increase lifetime of rescue equipment
 - i. Subjective- every time different
 - ii. Notification process/system
 - iii. Open vs underground
 - iv. Technology efficiency of communication
 - d. Expousure
 - i. Dust (coal, silica, mixed, nulsance, etc:
 - ii. Quicker sampling data real-time
 - iii. Toxicological model for work shifts
 - 1. extended shifts
 - iv. target specificity versus cost
 - v. specificity
 - vi. diesel
 - e. Subjectiveness of self contained self rescue units
 - f. Earlier/easier recognition of dust/respiratory exposures
 - i. Faster sampling
 - ii. Real time technology---instant results
 - iii. Acute Toxic Modeling. 12 hour shifts
 - 1. dust
 - 2. particulates
 - 3. Whole mine
 - 4. Not too specific, but can determine if past limits
 - iv. Personal dust monitors

- v. Diesel, carbon, etc. specificity
- g. Sulfuric acid (mists) sampling procedures
- h. H2S certification
 - i. Respirator/helmet air powered unit
 - 1. significant reduction-not recognized engineering controls-approve)
 - ii. Governing bodies need to recognized in-helmet sampling is different than out of helmet exposure
 - i. End of Source life indicators for canisters
 - i. Acid gas
 - ii. Particulates
 - iii. Gas expires before others
 - j. Welding fumes
 - i. Helmets in conjunction with gas mask
 - ii. Magnanese fine fever Parkinson's
 - iii. field vs shop ventilation
 - iv. hex chrome
 - v. User friendly
- III. Populations at Risk-Research
 - a. Circadian rhythm and shift rotation (12 hour)
 - i. Young v Older
 - ii. Day – PM rotation impact
 - iii. Cardiac research
 - iv. Job specific
 - v. Immediate v long term effects
 - vi. Alertness
 - vii. Holidays
 - viii. Behavior/psychosocial
 - b. Aging workforce
 - i. Younger generation industry awareness and physical performance/injury/expectations
 - ii. Identity solutions other companies are using drug abuse..... behavioral studies
 - iii. Immigration communication
 - 1. language and culture
 - c. Education – Mining
 - i. Physical fitness levels for new employees
 - ii. Behavior modification
 - 1. What will work to draw new employees
 - 2. hard to find quality new employees
 - 3. Work ethic
 - iii. Drug education
 - 1. Workers comp
 - 2. High levels of drug abuse
 - d. English as Second Language
 - i. Training
 - ii. Safety
 - e. Leadership. Training and accountability
 - i. First line supervisors
 - ii. Expanded role increase

- iii. New miner training..behavior
- iv. Mining inspectors
- f. New employees
 - i. Highest risk
 - ii. Training
- g. Cost-benefit studies on wellness programs. More Proactive
 - i. Occup. Injuries
 - ii. Occupational wellness
 - iii. Workers comp
- IV. Training- core skills
 - a. Supervisor, leadership
 - b. Entry level, various education levels
 - i. Non traditional training
 - c. Tools to meet job responsibilities
 - d. Industry awareness- recruiting
 - e. Employee wellness program- cost vs benefit analysis to determine risk of employee health/ injury
 - f. ROI model- cost vs benefit value
 - i. data source
 - ii. "soft science" vs hard numbers
 - iii. \$ minimal vs. topline
- V. OSH Programs/research that did Not work.
 - a. Choices b/n second bog and wellness
 - b. Behavior base wellness
 - i. Hide injuries
 - 1. results in increased injury
 - 2. management says injury is employees/employers fault
- VI. Miscellaneous
 - a. Mineral fibers
 - i. Asbestos
 - b. Early detection of pulmonary disorders
 - i. Chronic bronchitis, silicosis, fibrosis, etc.
 - ii. Employee responsibility to go in ASAP
 - c. CO exposure
 - d. Hearing loss
 - e. Other studies

 - f. Ergonomics- easier to use guides
 - g. Electromagnetic field

Priorities

1. Effective communication
2. Ergo-Whole body vibration

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ROUND TABLE DISCUSSION: MULTICULTURAL WORKER CONCERNS**

Issues:

- Dynamics of workplace have changed dramatically
- Large increase in the percentage of foreign-born workers
- Traditional training (classroom-based, regulation-based) is not effective with a multicultural/multilingual workforce
- Must give information to workers in a language they can understand and in a culturally sensitive way
- Employers must be educated in the need to train foreign-born workers adequately in their native language/culture and the OSHA regulations for safety must be enforced for multilingual employees
- No current business model is being promoted to show the integration of multicultural sensitivity, economic success, and improved overall safety
- No current training programs exist to address the need for multilingual, multiethnic candidates for the field of health and environmental safety

Priorities

- NIOSH must research the changing ethnic demographics of the American workforce must know accurate statistics on the ethnicity of workers and accident reports must influence OSHA and current regulations based on research results
- NIOSH should propose a Business Model based on researching "Best Practices" of successful companies (Miliken, etc.) who have integrated multicultural/multilingual approaches for employees and have better safety record and overall economic success. Address multicultural/multilingual training that is site-specific
- Address recruitment of bilingual/ethnically diverse candidates for health and safety positions
- NIOSH should partner with professional training organizations to promote culturally sensitive and multilingual workplace solutions to the above mentioned issues

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ROUND TABLE DISCUSSION: Musculoskeletal Disorders

- 1) Introduction of members in group
- 2) Treatment aspects of MSD, short term, PT what type works, on site PT
 - a) Keep people at work or back to work faster
- 3) Prospective study Case-Control to see what works
 - a) Physical, mental, emotional barriers to returning to work
- 4) Aging workforce and underground mining, what can we do that is proactive/preventive to MSD. Find a better way to perform and alleviate injuries. Ability testing for jobs that are to be performed.
 - a) Modeling for older workforce
 - b) Ability test for job suitability
 - c) Functional testing on regular basis
 - d) Prevention
- 5) Warehousing- Racking
 - a) Ability to perform job
 - b) Repetitive injury to same person
 - c) Person as limiting factor
- 6) Order Fulfillment ways to limit the job to prevent further injuries from repetitive motion of filling orders. Picking items from a bin. Exercises to reduce the injuries. Aging workforce, is there a time to remove the workers from the job based on age. After all modification have been done to job what can be done to help worker.
- 7) Screening for CTS, figure out causality so know how to accurately treat.
- 8) Language barriers lead to over motivation and willingness to work, due to cultural differences, explaining consequences, warm-up exercises.
- 9) ERGO Tool validation, (analytical tool)
- 10) Work methods studies (how does the job actually get done, quantify the differences from worker to worker) based on actual outcomes. (Fitting the worker to the work)
- 11) Training(was it effective)
- 12) Psychosocial factors that play a role Do we treat the mental issue or the job injuries?
- 13) Get managers (first line) to buy in to the idea of doing it the best way instead of getting it done the fastest.
- 14) Follow through on ergo implementation. Senior management saying it is important first line managers don't get it.
- 15) Technology Input
- 16) Replace injured with temp duty as long as they can follow the procedure.
- 17) New school of thought vs. Old school of thought
- 18) Inherited problems
 - a) Physicals we do it for athletes
 - b) Verifiable factors
 - c) ADA vs ERGO vs Workers Comp
 - d) Monitoring internet downloads
 - e) Criteria for studies
- 19) Studies
 - a) Help companies do their own
 - b) Dissemination of results

- c) Emphasis of study
 - d) Transient workforce
 - e) Study to practice results
- 20) Early intervention is the key to preventing the long term effects of MSD. Get the job done, injuries will cost management.
 - 21) Payback methods to waiting for employee to return to work. Informational deficit, what are the real costs?
 - 22) Testing to make sure employees can still do the job. How often do we retest?
 - 23) Ergo model for aging worker. Fitting workers to the job.
 - 24) Reward proper work attitude financially?
 - 25) Quality work study, transient work force limits this. It is hard to due a long term study that provides meaningful results. No case control available.
 - 26) Study design integrity is the most important factor. Randomization is the key. Need to discover any possible confounders. Bias created when you select company to participate in study, good company is more likely to be willing to participate than a not so good company.
 - 27) Is there a Return on Investment? Provide guidance on how to design a good quality study that provides quality data and analyze it properly.
 - 28) Prevention what can we do to prevent CTS, epicondylitis, rotator cuff and upper back injuries in aging work force.
 - 29) Problem solving what are the steps to determine?
 - 30) Work place is not the same as it used to be because of technology. The human body has not change to keep up with the technology. We are expecting more out of a worker in the 8 hours now than we did years ago, due to technology. There is a higher expectation and higher demand in what is done in the 8 hour work day. Socially and physically we are moving opposite of technology. Where does technology actually become a deterrent to the work and job?
 - 31) Are the best studies actually the ones that are being published? Is "who you know" playing an important role where it shouldn't.
 - 32) Communication, do you wait to give the information until you have all the information and it becomes outdated, or give out the early data and risk providing misinformation that could cause undue changes.
 - 33) Case study efforts: helps to set up the study to get appropriate information to decision makers.
 - 34) Does out sourcing or in house health care make a difference on how healthy the workforce is at your facility? Are there more or less injuries in the workforce due to out sourcing? If you have an on site wellness center are the workforce actually more fit and healthier? Is there a cost benefit to doing this? Is there a trust issue involved?
 - 35) When you train teams of workers in ergonomics do you see better results as compared to just the recognized erg expert?
 - 36) Differences in opinion on how you treat CTS Treatment then surgery or surgery right away
 - 37) Is an OSHA standard desired? If so is a performance or specification standard desired

 - 38) Ergo issues can't be controlled with a number (specification standard). How do you put a number on how much pain a person can take and still perform their job function? Better to have an Occ Doc on site to provide a thorough assessment than to be seen by your family physician for 15 minutes.
 - 39) Everybody is different, no 2 are alike, need a large study to detect and have a significant OR. How big is "large". It all depends on the outcome you are looking for

and how big the effect is. Need to know the background prevalence in the community. How long does it take to get CTS? Study needs to go for a long time, in excess of 2 years to actually discover true results.

40) How many times do you inherit someone with a condition from a previous job? Is it cost effective to provide a thorough physical prior to highering an employee to determine what you are "buying" from other employers? When do you (the company) set limits? ADA vs Workers Comp

41) Management wants to fit worker to job and not vice versa and not hire workers that may be more likely to suffer from MSD.

42) A website that provides how to set up a good study would be helpful to employers. Educate the end user on how to read and interpret the results and get the necessary info out of the research. When to give out the information from a study and how to put results into practice

43) NIOSH prioritize the funding into areas of interest based on monitoring what documents are being downloaded by the workforce and information requested.

44) Official positions based on the best information at the current time that medical science can offer on work causation or contribution to the following debilitating, expensive, and costly workers' conditions

- a. Shoulder impingement syndromes
 - b. Rotator cuff tears
 - c. Lateral epicondylitis
 - d. Carpal tunnel syndrome
 - e. Mechanical, cervical-thoracic-lumbar strain syndromes
 - f. Degenerative disc disease (finding on MRI) Desiccated discs
 - g. Degenerative osteoarthritis of facets, knees, ankles
- 45) Official national policy on appropriate use of chronic narcotics for injured workers addressing the following:
- a. For what conditions
 - i. Backstrain
 - b. For what age groups
 - c. For how long and for what conditions
 - d. If these are given, what is the expected dosage and escalation?
 - e. For how long are these expected to be given?
 - f. What occupations should employers-employees be aware of using these medications without putting themselves or others at risk
- 46) Official study as to the most fair and cost effective way to establish impairment settlements for the residual that many workers are left with after an industrial injury.

Musculoskeletal Syndrome Disorder

Information Availability:

- Payback
- Informational deficient – what are the real costs?

Training:

- What
- When
- How

Transient Workforce

- Hard to do good study without long term stability of workforce

Trade Groups

Study Design Integrity

- Determine factors
- Trust – company and researcher

Management – what is the ROI?

Problem solving:

- What are the steps to determine predetermine the problem prior to analysis
- Good quality data to analyze
- What is the proper number for a study?

Technology:

- Human not factored – engineer
- More human limitations
- Guidance on how to design the study:

Communication – information to practitioners

- How
- when

Help to set up studies and to get appropriate information to decision

Effective of outsourced operations:

- on-site
- Off-site
- Personal touch effect –on-site
- Effect of outside consultant training EEs vs. on-site trainer

Ergonomics Teams:

- Cost effective
- Effective

What is most effective?

- Consultant
- Trained team
- Minimally trained team that is motivated

Specifications – studies to determine what is right:

Company and research

- How to set up a study
- What are the benefits

Treatment – Physical Therapy:

- On-site PT – keeping at work
- Clinical
- Prospective five studies

Physical and mental barriers – return

Aging workforce – physical fit

- Modeling for older workforce
- Ability test for job suitability

- Functional testing on regular basis
- Prevention

Warehousing – Racking:

- Ability to perform job
- Repetitive injury to some person
- Person as limiting factor

Mechanism of injury

-test methods

Language barrier

-over motivated

-cultural difference

-Analysis- Ergonomic tool validation

Work Methods:

- Training
 - Video
 - Hands on
 - Evaluation of action
 - Quantify to best practice
 - Mental focus
 - Distractions – I – POD
-
- Psychosocial factor

Work place

- Management
- First line
- Upper management – transmit mission
- Follow up on message – follow through
- Trust by EE's or system

Technology input:

- Manual labor
- Technology fiek
- New school vs. old school

Early intervention:

- Recognize symptoms

Inherited problems:

- Physical we do it for athletes
- Verifiable factors
- Studies to practice
- ADA – vs. – Ergo vs. – co. comp
- Mariten Internet download
- Criteria for studies

Studies:

- Help to companies – to do their own
- Dissemination and results

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- Emphasis of study
- Transient workforce
- Study practice – results
- Ageing workforce
- How long can they go
- Work analysis tools

Treatment mobility:

- NIOSH facilitate communications
- Monitor communications - Google
- Effectiveness
- payback

**NORA TOWN HALL MEETING
SALT LAKE CITY, UT
FEBRUARY 27, 2006
ROUND TABLE DISCUSSION: PUBLIC AND PRIVATE SERVICES**

Funding for disease caused by public service/safety workers—fire fighters, police officers

Occupational exposure hazards (meth labs, asbestos, etc.)

Workers Compensation—how do we help these people without the studies and data to support their claims?

Are these exposures (chemicals, noises, diseases, eye strain, PPE, physical risks) that public service and safety workers are exposed to going to cause long term health problems?

What can NIOSH do to fund these types of studies to help solve problems?

Issues of Concern:

Meth Exposure and clandestine drug labs—exposure for police officers

Firefighter Exposures—all chemicals, smoke, etc.

Asbestos exposure and related training—specifically in schools

Long term, low level chemical exposures in the workplace/labs—what are associated hazards/problems

PPE Safety—Products (ie latex gloves, cleaning supplies)

Hearing loss-especially in youth/lack of hearing protection—relates to youth lifestyle: music, football games, dances, concerts, etc. lead to them having hearing loss problems in the future as they enter the workforce.

Car fume exposures in transportation workers—exhaust, CO2, etc.

Constant noise—low levels

Insulated air circulation systems and clean rooms—associated with TB outbreaks and other communicable diseases (bacteria, fungus, viruses)

Mold Exposures—concern with variable responses

Eyestrain—use with computers, video monitors, etc. (headaches, etc.)

Musculoskeletal injuries (fire fighters, paramedics, police officers, etc.)—more injuries in training than seen in the field, funding for better training that minimizes injuries

Violence—(most prevalent in food service industries: fast food, drinking establishments, and hotels)

Stress in the workplace and how to handle it, especially in public service—officers, dispatchers, fire fighters

Recreation facilities—lots of accidents, injuries, and deaths (not so much in Utah) but in other places)

Expectations and Barriers for Issues:

Stress

Barriers:

How do you define and measure stress levels?

Individuality of people—personal ability to handle stress

How long do you watch and monitor individuals?

How do we fund all this?

Outcomes:

How to recognize stressed employees

Training—stress management programs
Ongoing safety net
Learning best methods for dealing with stressed employees-
guidelines

Meth and Clandestine Drug Labs

Barriers

How do we pinpoint what chemicals are causing what disease
-study the drug cookers who are always around
chemicals?
Lifestyle choices lead to confounding data when studying actual
meth users/cookers
Finding the population that will allow the study

Outcomes

We want to know what exposures (what chemicals, what
levels, how long) can cause cancer and to whom? Who is at risk?
Who was exposed, registry of individuals present at scene
NIOSH Prioritize Funding—Line Item Specific Funding for
Specific Studies
NIOSH to set aside funding for epidemiologic studies

- 1) population most exposed—those that live in environment
- 2) Infer from that what others might be subjected to, and possible
outcomes associated with that
- 3) By doing so we can narrow down the study to those who are
actually at risk, actually have exposure, etc.

Firefighters and Exposures

Barriers

Money
Finding a population large enough to support statistics and
findings
Different areas have different exposures

Outcomes

Exposures and relation to long term and chronic diseases

NIOSH Funded prospective cohort study—also with prioritized
line-item specific studies

Computer Work

Barriers

Little uniformity in computer work: different monitors (screens)
being used, posture, distance, number of hours, etc.
Unsure if methods that have been tried are actually effective
People won't report problems for fear of losing their jobs

Outcomes

Better understanding of work-related ergonomics (already lots
of studies, data)

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How do we prevent people from developing eyestrain, muscle tension, neck soreness, etc.

People blink less when staring at a screen, causes dryness, how can this be prevented?

Funding for mandatory job reforms to alleviate this problem

Do the intervention programs we've already developed work?—Funding for study on preventive interventions that are effective

Hearing—Long Term Low Level Exposures and Pre-Employment Hearing Loss and Non-Work Related Hearing Loss

Barriers:

This has already been established as an issue and data is already available, it just needs to be enforced and implemented, especially in the area of training

Outcomes:

School program to monitor hearing, educational program to prevent hearing loss—providing schools with necessary tools needed to accomplish this

Education about hearing loss to the general public

**NORA TOWN HALL MEETING
SALT LAKE CITY, UT
FEBRUARY 27, 2006
ROUND TABLE DISCUSSION: SMALL BUSINESS**

- Affordability
 - o Small businesses have limited resources and cannot afford to implement programs
 - EPA has MAC standards that influence occupational health
 - Coordinate research to address both Occupational and Environmental research and concerns
- Simple, canned programs that are easy to access (via web)
 - o Programs for Ergonomics
 - o Programs for Safety
 - o Programs for Psychosocial issues
 - o Programs for Work Organizational factors
- Canned programs need to be researched, constructed, evaluated and disseminated
- Easy implementation of tools/canned programs
- Health Promotion in small business
- Do problems differ between Small Businesses and Big Businesses?
 - o Lack of knowledge
 - o Lack of ability to implement controls
- Access to employees of small business
 - o Fear of being highlighted, being in trouble
- Why do small businesses stay small?
 - o Psychological makeup of employees different than large businesses?
 - o Non economic factors influencing size of the company, such as work organizational issues
- Potential areas in Small Business to make Significant improvements in Occupational Health
 - o Auto Body Refinishers
 - o Decorative Chrome shops
 - o Plastic Reinforced Concrete manufacturers
 - o Restaurants
 - o Home Health care
- Why is there so many turnovers in small business? Are they due to health implications
 - o Individuals within companies/industries
 - o Companies within industries
- Substance Abuse within Small Business

**NORA ROUNDTABLE
TRAINING**

Introductions:

Hannah Edwards-Facilitator

Steven Peart

Greg Lahr

Mike Marshall

Carol Stephenson

Dean Wood

Sharon Davis-Scribe

Dagan Wright

Kate McNeill

Eldon Romney

BRAINSTORMING

safety: road construction—no jumpseat in any of the equipment

simulators on the market, least expensive equipment is \$1M

no safe way to train on the equipment

short term equipment use

different issues for different situations/environments—emergency reaction,

working on different grades

How do you make sure that you are trained and qualified for different situations?

Does simulator accurately depict real situations? Are simulators effective? How

to simulate experience?

possible solutions: redesign cab so that trainer can ride alongside? NO, nowhere

for another seat to go; share simulator;

Simulator at Kennecott

How to get people to work the way they are trained: training effectiveness

How to determine if training is effective? Weeks following training observe and

make positive comments about how workers are following procedures. Retrain,

discipline

As employer, must provide EFFECTIVE training

Health Behavior Theory: disconnect between what people know and what they

do

Behavior: any research other than private? Not done by someone without business based motives?

Tell employees WHY they are required to wear safety equipment

Teach about asbestos, still don't follow safety procedures

Teach about long term effects using real life examples: breathing through a straw

Immediate vs long term behavior

limited research available about the effectiveness of training

government develops programs that aren't accessible; no common public domain for access

programs not applicable to all cultures and workplaces

training must be customized

not every word translate accurately from Spanish to English

How to train for multi-cultural populations?

Focus training in 3 tiered program:

what do people bring to training based on their experiences and personalities?

what format/media works best?

what happens when they walk out of the classroom? most get the main message, but

what happens in a week or a month; what allows them to apply what they've learned?

Choose crew members effectively and others will follow; supervisor must care about

safety or crew will not act safely; Community based model; workers don't speak up when

they see an unsafe act or condition—must have culture that is open to communication

BBS—not a guideline from foundation on how to build from the beginning

must start at the foundation and start from management

management trying to save time and money and don't adequately train for safety

effective system: everyone treated with respect good client repoire; cultural attitude of

safety

How to get beyond anecdotal study?

We train the messenger, not the boss; management doesn't understand what has to be done

would it be more effective to start out training management
historically NIOSH is focused on training workers, not management
must be a change from BOTH directions

Empowerment Evaluation: get workers and management to work together

Bandaid approach: how to convince management that it is worth the time and effort?

Safety has good value; must show management the figures; onsite training is valuable;
behavior modification phase (safety person); is upper management supporting all
phases of the process?; the best CEO is not necessarily the nicest guy

Computer based training: can you verify that it was actually taken and that it got through
to the worker? Can be very effective; who is the audience; what are the best tools to
reach your audience?; How do we know that they are effective?

If you're the safety guy and you're frustrated, there's something wrong higher up; safety
projects need support; safety professionals aren't always properly utilized and
supported; must have spirit of cooperation; must have common goal of safety; report
near misses; how to change with a transient workforce?;

How can NIOSH be more effective? Put out a study to prove the effectiveness of safety
programs because they have higher credibility; will convince supervisors and managers
that safety is important; must get supervisors and managers to participate in safety
training

Concerns with law vs reality: fall protection required at certain height; should have full
face breathing mask to gas up car, is this enforced?; is the concept of promoting best
practices gained from industry?; if we put a series of case histories of best practices
together and show that they work, would this be effective as a training tool?; are best
practices simply to meet compliance?; best practices vs regulations—how do you decide
which has the highest risk factor?; how to establish credibility and translate that to what
is effective?: how to get employer to buy into the system?

Records show that new employees within one year had 2x accident rate of experienced
employee; transferred people had same accident rate as brand new employees; studies
show that new employees have higher accident rate; day laborers disproportionately
injured; where do those types of injuries happen?; minimum standards established by
company—employee will accept minimum amount required; workers follow work culture
of new facility; unique hazards at each facility; need an orientation for new workers to
identify unique hazards; changing work fronts at construction facilities; training workers
to deal with changes is very important; teach workers to be more critical thinkers instead
of just regurgitating information—train people to be decision makers; teach workers how
to find the answer; clear channels of communication without fear or ridicule; ongoing
training and communication sessions; effective trainer took time each day to discuss
issues and keep communication lines clear; upper management must show real interest
in workers—this changes the attitude of the workers;

Model for management to evaluate themselves

Mom and Pop businesses-better or worse safety records?; training needs? OSHA has
consulting services for small employers (250 or less); what are they doing now?; people
don't understand the role of OSHA and NIOSH and what services are available; what do
companies perceive as their needs?; is annual retraining effective; are inspections
effective to stop accidents?; training mandates by MSHA;

What outcomes would we like to see?

best practices: what are best practices for different sizes of organizations? data base
system for people working in the field to access information—what's required and what
works?

where are resources? public domain training that is readily accessible; place for people to give feedback

training is only effective if you're training towards a goal; need specific procedure to fit needs—work from generic procedure and alter it to meet your needs

BBS guidelines established

tension among research community involving BBS; ways to encourage management to present it effectively; approach the problem from many perspectives; recognize positive as well as negative; employers have obligations to employees and vice versa

Documentation of training is essential to protect from citations; retrain until behavior trains; sometimes a zero tolerance system is essential; supervisor doesn't need to be a babysitter; employer must do everything they can to ensure safe practices; discipline is necessary to ensure effectiveness; no civil penalty for worker

Do employers need assistance to document training? Tracking method for employer to use

Does NIOSH have rights to enter? They do, but they want to stay as a resource and not be seen as a regulatory agency; how effective are citations in changing workplaces?

How effective is a consultation program? Will employers support a consultation program? Should OSHA provide more money for consultation instead of compliance?

Need to change approach to get out of plateau.

How do you know that consultation efforts are effective? Maintain relationships with facilities and keep revisiting the site until problems are abated

Similar industries: how effective is MSHA training, how does it compare to construction sites?

Prioritization list:

Effectiveness of BBS training?

What kind of training best meets people's needs? Methods? Tools? Simulators? People (personalities)? (Equipment operator training? Should manufacturer provide a training model?)

Effectiveness of Management Training?

Practical application of regulations?

Culturally sensitive/appropriate workplace?

Access to public domain information generated through grants and cooperative agreements?

How do journal articles get out to the practitioners?

How to assess what companies of different sizes are currently doing and what works?

How to assess training and experience of transient or temporary workers? Training for short term?

What kinds of evaluation methods are available to assess safety? Interview process?

Different approaches?

Assess effectiveness of OSHA consultation

How to get feedback from employers on effectiveness of suggested methods?

Best Practices?

1. How to evaluate effectiveness of training and evaluation
2. what is the effectiveness of management/owner training
3. access to public domain research
4. what is the effectiveness of BBS
5. what tools, methods, and resources work best? Best practices?
6. how to assess what companies of different sizes are currently doing and what works
7. practical applications of current regulations

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8. how to assess the effectiveness of OSHA consultation

NORA TOWN HALL MEETING

SALT LAKE CITY, UT

FEBRUARY 27, 2006

ROUND TABLE DISCUSSION: TRANSPORTATION/UTILITIES/WAREHOUSING

Eric Wood, Kent Servoss, Ron Hall, Jack Stickney, Mauren, Mortaugh, Raylene Thueson, Delon Hull - John Kannas (scribe)

- 1) What NIOSH is working on:
 - a) Transportation Security
 - b) Mining transportation vibration
 - c) Airline flight attendant miscarriages
 - i) sarcadian rythms, cosmic radiation, IAQ, stress
- 2) Group concerns (Brainstorming)
 - a) Utilities – all services for city –
 - i) heavy equipment, tree chippers, dump trucks, snow plows, backhoes, sewer cleaning services.
 - ii) High voltage protection, heights.
 - iii) 12 hour shifts and on-call hours
 - iv) PPE – 3 gloves per hand
- 2) Warehouse:
 - a) Shiftwork – fatigue
 - b) Changing Environmental Factors
 - i) rain, snow, heat, cold
 - ii) insect borne disease (deet)
 - c) Ergonomics and lifting concerns
 - i) low back
 - ii) shoulder, arm
 - iii) solutions: smaller containers, smaller products, conveyors, engineering controls
- 3) Health interaction with performance
 - a) HPDP – health promotion/disease prevention
 - b) health eating / exercise
 - c) unhealthy people = greater fatigue, more injuries, absenteeism
- 4) Health
 - a) Impact on injury/safety
 - b) Health risk factors
 - i) Diet
 - ii) Cholesterol
 - iii) Obesity
 - c) Drivers
 - i) Sleep apnea- risk factors
- 5) Screening – post offer
 - a) test to see if aptitude for warehouse environment

 - b) test for grip strength
 - c) test for lifting
 - d) PTs give recommendations
 - e) Instruments for predicting risk of injury
 - f) Risk factors – injury, disease
 - g) Return to work/fitness or duty
- 6) Return to work – modified duty
- 7) Psychological impact from injury, other workers, and employer

- 8) Wellness programs – EAP, concerns with confidentiality, limits to benefits, accessibility,
- 9) Outside of work factors – family problems,
- 10) Bus Drivers:
 - a) lack of physical activity, bad eating habits, medical (circulatory, low back, knee, heart disease, high cholesterol), aging workforce
 - b) Weight gain at onset
 - c) Obesity
 - d) Diet
 - e) Lifestyle
 - f) Exercise
 - i) time for exercise
 - g) ergonomic
 - h) circulatory problems
 - i) UTA has fitness room, but not well used
 - j) Health / Wellness programs – incentive for completing surveys, screening, counseling, completing 5K - 10K, drinking water, smoking cessation, workers concerned that no longer a cash program
 - i) Diet
 - ii) Exercise
 - (1) Fitness programs
 - iii) Incentive based
 - (1) \$\$\$\$\$\$
 - (2) Health reimbursement acct.
 - iv) Smoking cessation
 - v) Motivation
 - (1) What works?
 - (a) Age based
 - (b) demographics
 - k) MSK
 - l) Fatigue
 - m) Whole body vibration – LBP – CTS
 - n) OTC drugs use, RX
 - o) Aging
 - p) Wellness
- 11) Smoking problems:
 - a) in warehouse younger workers, blue collar higher rate
 - b) smoking cessation – incentives, how to motivate
 - c) big problem – workers have slower recovery, more injuries, CVD,
- 12) Motivation?
 - a) what works and doesn't work – very broad
- 13) Aging Workforce:
 - a) CHOL
 - b) CVD (heart)
 - c) H1 risk co-morbidities
- 14) Teen workers:
 - a) H1 risk safety
- 15) Shift work:
 - a) Fatigue
 - b) Health

- c) Injury
- d) Lifestyle
- e) Patterns
- f) Meds
- g) Diets
- 16) Health/wellness:
 - a) Injury rates
 - b) Absenteeism/presenteeism
 - c) Medical conditions (DM, CHOL, HTN)
 - d) Fitness, healthy workers, diet, activity/exercise
 - e) Secretary vs. active lifestyle workload
- 17) Ergonomics:
 - a) Warehouse – MSK
 - b) Transport – MSK, safety
 - c) Task, position, variety, training
 - d) Engineering
- 18) Training:
 - a) Employment: culture of safety
 - b) Tools that work/programs
 - c) Sensitivity to culture/language
 - d) Literacy
- 19) Psychological impact injury
 - a) Work place interactions
 - b) Return to work
 - c) Peer to peer interactions
 - d) Wellness
 - e) EAP's
 - i) Accessible
 - ii) Costs
 - iii) confidentiality
- 20) Top Concerns
 - a) Shiftwork – fatigue, health (eating), psychological, injury, lifestyle, patterns, meds, shift rotations

 - b) Health / Wellness – injury rates, absentism/presentism, medical (diabetes, CVD, cholesterol), incentive programs (fitness, diet, activity/exercise, smoking cessation), sedentary v. active lifestyle
 - c) Ergonomics – warehouse MSK, transportation MSK, task changes, position, training, engineering controls, cost/benefit of engineering controls, psychological
 - d) Training and Safety culture – empower worker, prevention strategy, cultural/language sensitivity, literacy
 - e) Screening (post offer) – concern with privacy, look for risk factors (disease and injury), adjust work stations, fit for duty, return to work
 - f) Environmental concerns – heat, cold (storage rooms), changing environment (weather), insect borne infectious disease
 - g) Aging of workforce – high risk co-morbidities
 - h) Young workforce – high risk activities, lifestyle
 - i) Drivers – MSK, fatigue, whole body vibration (low back pain), aging, wellness

Transportation / Utilities / Warehousing
Top Concerns

Principal Investigator/Program Director (Last, First, Middle):

- 1) Shiftwork – fatigue, health (eating), psychological, injury, lifestyle, patterns, meds, shift rotations
- 2) Health / Wellness – injury rates, absentism/presentism, medical (diabetes, CVD, cholesterol), incentive programs (fitness, diet, activity/exercise, smoking cessation), sedentary v. active lifestyle
- 3) Ergonomics – warehouse MSK, transportation MSK, task changes, position, training, engineering controls, cost/benefit of engineering controls, psychological
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