

OSC 10
Ohio Safety Congress & Expo

The rise of serious injuries and how to fight back
473
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Tuesday, March 30, 2010 10:45 to 11:45 a.m.

Today's Presentation

- **The Increase in Serious Incidents – A Data Review**
 - **Old Paradigms and New – Rethinking Our Game Plan**
 - **Workplace Impact – Areas of Risk in Your Organization**
 - **Strategies to Consider – Fighting Back**

What the Numbers are Saying Now

National Council on Compensation Insurance (NCCI)

- **Cost of WC claim has doubled over the past decade (1997-2007)**
 - ✓ But WC costs per worker increased by only 26%
 - ✓ Frequency continues to decline (38%); nearly 20 year pattern
- **The good news - Safety programs are working to reduce incidents**

What the Numbers are Saying Now

National Council on Compensation Insurance (NCCI)

- **Significant increases in average indemnity and medical costs (1995-2005)**
 - ✓ Indemnity costs up 88%
 - ✓ Medical claims up 137%
 - ✓ Lower cost claims have decreased, higher ones are up

What the Numbers are Saying Now

Percent Change In Days-Away-from-Work Cases

	1	2	3-5	6-10	11-20	21-30	31+
1995	16.9	13.4	20.9	13.4	11.3	6.2	17.9
2005	14.3	11.6	19.0	12.7	11.5	6.5	24.2
% Change from 1995	-15.4	-13.4	-09.1	-5.2	+1.8	+4.8	+35.2

Source: Manuele – Advanced Safety Management, 2008

What the Numbers are Saying Now

Percentage Change in Days Away from Work Cases

Year	% 11-20 Days	% 21-30 Days	% 31+ Days
1995	11.3	6.2	17.9
2005	11.5	6.5	24.2
2008	11.7	6.8	26.0

Source: BLS Data

Impact of the Aging Workforce

- Total injury rates are slightly lower among more experienced workers
 - ✓ Though more experienced workers take longer to recuperate or experience more frequent fatal injuries.
- Frequency often declines in a recession
 - ✓ More experienced workforce due to layoffs
 - ✓ Fear of reporting an injury
 - ✓ Concern about being off work

Impact of the Aging Workforce

Percentage Distribution of Non-fatal Injuries vs. Percentage of Workforce

Age Group	% Total Injuries	% of Overall Workforce
16-24	12.9	14.3
25-34	22.2	21.6
35-44	23.3	22.7
45-54	24.2	23.3
55-64	13.2	14.0
65+	2.6	4.0

Source: 2008 BLS Data

Impact of the Aging Workforce

Percentage of Days Away from Work Cases

Age Group	% 11-20 Days	% 21-30 Days	% 31+ Days
All Ages	11.7	6.8	26.0
16-24	11.4	10.3	14.3
25-34	11.5	6.2	20.9
35-44	11.5	7.0	27.6
45-54	11.6	7.4	30.1
55-64	12.3	7.6	32.9
65+	13.2	8.3	35.6

Source: 2008 BLS Data

Impact of the Aging Workforce

Median Days Away from Work

- 20-24 = 5
- 25-24 = 6
- 35-44 = 9
- 45-54 = 10
- 55-64 = 12
- 65+ = 15
- All Workers = 8

Source: 2008 BLS Data

Rethinking the Paradigms

- Heinrich was wrong with the injury pyramid
 - ✓ 300/29/1 ratio has been proven incorrect
 - ✓ Mistaken assumption that frequency reduction leads to severity reduction



Rethinking the Paradigms

- Heinrich was also wrong with the “domino theory”
 - ✓ “first proximate and most easily prevented cause”
 - ✓ Often leads to “operator error” as only cause
 - ✓ Limits incident investigations/root cause analysis



Rethinking the Paradigms

➤ Pareto's Law

- ✓ The law of the "trivial many and the critical few"
- ✓ Also known as the 80/20 Rule
- ✓ 20% of the units represent 80% of the financial impact and source of improvements
- ✓ Too much time on the 80% gives minimal ROI



Rethinking the Paradigms

➤ Deming's Rule

- ✓ "85% of the problems in any operation are within the system and are the responsibility of management, while only 15% lie with the worker"



Rethinking the Paradigms

- Do we have it backwards?
 - ✓ In our efforts to reduce frequency, have we neglected severity?
 - ✓ Did we think severity would "take care of itself".
- We have made great strides in the past 30 years at reducing injuries/illnesses
- Then why are serious injuries on the rise?
- And what can we do about it?

Rethinking the Paradigms

- With increase in costs and types of injuries, we must revisit our methods
 - ✓ Particularly as the experienced workers begin to predominate our workforce
- United States Workforce Aged 55+
 - ✓ 18.2 million in 200
 - ✓ 25.2 million in 2008
 - ✓ 31.9 million in 2025
 - ✓ 38% increase in past 10 years/75% increase in past 25 years

In the Workplace

Likely Problem Areas

- Fatalities
- Musculoskeletal disorders
- Sprains and strains
- Co-morbidities

In the Workplace

Fatalities 2008 Total 5,071



- Transportation – 40%
- Contact – 18%
 - ✓ Struck By – 10%
 - ✓ Caught In/Between – 8%
- Falls – 13%
 - ✓ Falls to lower level – 11%
 - ✓ Falls on same level – 2%
- Assault/Violence – 16%
- Exposures – 9%

Source: BLS 2008 Data

In the Workplace

Fatalities by Age Group

		Percent of Total	Percent of Workforce
16-24	=	8.4%	14.3%
25-34	=	16.5%	21.6%
35-44	=	21.4%	22.7%
45-54	=	25.0%	23.3%
55-64	=	17.4%	14.0%
65+	=	11.0%	4.0%

Source: BLS Data 2008

In the Workplace

Injuries by Event

- Repetitive motion injuries was the event with the highest median days away for all industries at 18
- Sprains and strains accounted for 39% of injuries requiring days away from work.
 - 45% of those injuries were from overexertion
- Overexertion accounted for 48% of injuries to those in health-care related occupations

In the Workplace

Musculoskeletal Disorders

- Accounted for 39% of all injuries requiring days away from work
- These injuries required a median days away rate of 10 – 2 above the average
- The transportation industry had the highest number of MSDs – most injuries involved the shoulder and knee.



In the Workplace

Chronic Disease in America

- 133 million Americans have one or more chronic medical conditions
- 75% of all healthcare expenditures are for chronic medical conditions
- People with chronic medical conditions spend five times more in medical care than those without

In the Workplace

Leading Causes of Death in America

1. Heart disease
 - ✓ 910,000 people die each year
2. Cancer
 - ✓ 1/3 from poor nutrition, no physical activity, overweight/obesity
3. Stroke
 - ✓ Causes 1 million disabilities per year
4. Chronic Respiratory Disease (COPD)
 - ✓ 51% report work limitations
5. Diabetes
 - ✓ 88 million disability days per year

In the Workplace

- Additional impact from co-morbidities
 - ✓ Makes diagnosis more difficult
 - ✓ Makes it harder to determine work-relatedness
 - ✓ Makes treatment more complex and time-consuming



Developing a Plan of Action

1. Complete a demographic study of your workforce
 - ✓ Are you typical?
 - ✓ Future trends
2. Review your incident history and patterns
 - ✓ Minimum of 5 years
 - ✓ Pay close attention to severity

Developing a Plan of Action

3. Look at incident investigations process/reports ("operator error"?)
4. Talk to HR about medical issues
 - ✓ Determine possible co-morbidities
5. Gather a work group
6. Focus on areas of likely problem areas

Strategies and Solutions: OSHMS

- Comprehensive Occupational Safety and Health Management System
- Utilizes Continuous Improvement Model (PDCA)
- Key foundation to any significant improvements in incident management



Strategies and Solutions: OSHMS

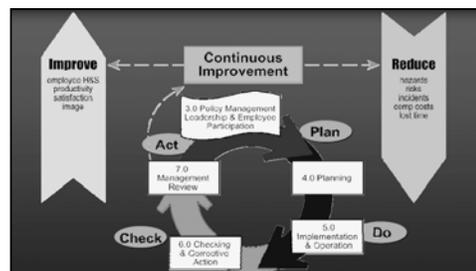
Operational System Models

- ANSI/AIHA Z10-2005
 - ✓ ANSI is a Guidance Document – allows for self-certification
- OSHAS 18001:2007
 - ✓ OSHAS is a Certification Standard – certification comes from a third party registrar
- Requires a full-scale commitment from management to implement
- Important way to benchmark your EH&S program

OSHMS ANSI/AIHA Z10-2005

- 1.0 – Scope, Purpose, and Application
- 2.0 – Definitions
- 3.0 - Management Leadership and Employee Participation
- 4.0 - Planning
- 5.0 – Implementation and Operation
- 6.0 – Evaluation and Corrective Action
- 7.0 – Management Review
- Appendices A-K

OSHMS ANSI/AIHA Z10-2005



ANSI/AIHA Z10-2005 Gap Analysis

- Many companies finding similar problem areas
- Safety through design
 - ✓ Lack of formal risk assessments
 - ✓ Hierarchy of controls
 - ✓ Purchasing Agreements
- Limited management of change (MOC) processes
 - ✓ Use of contractors
 - ✓ Outage work
 - ✓ Unusual operations

Strategies and Solutions: Incident Investigations

- “The quality of incident investigation is one of the principal markers in evaluating an organization's safety culture.”
- “...incident investigations...a prime source of selecting leading indicators for improvements...”
- Remember Deming's Rule?

Source: Manuele

Strategies and Solutions: Incident Investigations

- Comprehensive program with clear policies and procedures
- Forms that are user-friendly
- Training for all levels of staff
- Oversight of process (Safety Committee?)
- Investigate everything!!
- Comprehensive follow-up of corrective action plan

Strategies and Solutions: MOC Process

- Identify unusual and non-routine work for formal MOC process
 - ✓ Define the purpose
 - ✓ Establish accountability levels
 - ✓ Specify criteria that trigger process
 - ✓ Establish clear procedures for staff to use process
 - ✓ Outline criteria and responsibilities for reviews
 - ✓ Determine procedures to be followed
 - ✓ Establish process to evaluate results

Source: Manuele

Strategies and Solutions: MOC Process

- Use of external contractors
 - ✓ Better vetting process and procedures
 - ✓ Formal pre-job planning/safety analysis
 - ✓ Increased on-site contractor management
 - ✓ Removal from vendor list as appropriate
- Non-routine and unusual work
 - ✓ System for identifying that kicks up a review
 - ✓ Pre-planning meetings
 - ✓ Monitoring

Strategies and Solutions: MOC Process

- Introduction of new technology and equipment or opening up new facilities
 - ✓ System that kicks up a review
 - ✓ Incorporate EH&S Department into the process
 - ✓ Formal risk analysis at beginning to identify hazards
 - ✓ Workgroup develops plan for corrective action prior to use and implementation

Strategies and Solutions: Robust Wellness Programs

- Targeted areas from HR data
- Focus on most common chronic conditions
 - ✓ Smoking, weight management, diet and nutrition are nearly universal
- Focus on off-the-job health and wellness
- Simple items like measured walking trails
- Benefit plans that support prevention

Strategies and Solutions: Slip, Trip and Fall Prevention

- Housekeeping, housekeeping, and more housekeeping!!
- Color contrast on ramps, surfaces, and stairs
- Reduce your facility's fall protection minimum height
- Establish a balance exercise program



Strategies and Solutions: Revamping Training Programs

- Adults learn differently/respond positively to opportunities to practice
- Methods that work for children can't be replicated in adults (open head, pour in knowledge)
- Use frequent, hands on refreshers
- Relate content to past learning experiences
- Move at an acceptable pace
- Learn smaller pieces of information at a time

The Rise of Serious Injuries – And How to Fight Back

Thanks for your attention!!

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