UNION PACIFIC RESEARCH UPDATE

FATIGUE, SLEEP DISORDERS AND RELATED HEALTH ISSUES
RESEARCH AGENDA

• Assess the relationship between safety and risk factors such as: fatigue, sleep disorders, stress, depression, obesity, etc.
• Part of UP FRMS
• Create evidence-based interventions
• Partnerships with Labor and Regulators
• Bottom-line Implications: Improve employee health and safety while reducing medical costs, absenteeism and presenteeism.
INTRODUCTION

- Behavioral Health: 2003 WHO study (Wang, et al) suggests that depression most highly significant factor in accident and injury.
- Depression expected to become #1 cause of disability world-wide.
- Wellness Inventory (Pfizer) UP studies indicate behavioral issues (depression, stress, anxiety) are most costly in presenteeism, absenteeism and medical costs.
- Fatigue: Sleep Deprivation & Sleep Disorders are a societal issue impacting the work place: NSF reports 74% of Americans do not get enough sleep each night.
Sleep Disorders - Uservices

- Objectives:
  - Assess percentage of TE&Y at risk for excessive daytime sleepiness
  - Demonstrate viability of sleep assessment as part of re-certification process

- Methods
  - N= 437
  - Epworth Sleepiness Scale
  - Scores ≥ 10 categorized at risk
Results

- At risk employee is > 35% (95% CI 35.4-44.8%)
- Willingness to participate (confidentiality maintained)
- Confirmation Study
  - Scores > 10 offered opportunity to wear a device to determine presence of OSA
  - 20 tests ordered, 10 completed
  - 9 confirmed positive for OSA

Recommendations

- Additional research
- Continued voluntary screening
- Continued education and awareness
Actigraph - DU

**Objectives**
- Determine fatigue levels
- Behavioral implications of feedback
- Data for biomathematical validation

**Methods**
- Sleep Diaries/Self Report
- Two Types of Actigraphs
- Epworth Sleepiness Scale & PSQI
- N (Questionaire) = 180 (60.4% response rate)
- N (Actigraph) = 36
Results
- Lower mean sleepiness score than other sites (match approximate national average)
- Behavioral outcomes (actigraph):
  - No statistical difference between those with feedback actigraph and those with non-performance actigraph
  - Those with self-efficacy more likely to use data to change behavior
  - Those without self-efficacy (external locus of control) unwilling to change behaviors
- Implications for changing behaviors and providing concrete change
Behavioral Health

- Joint Projects and Funding UPRR/FRA
  - Coping Mechanisms – HIS
  - Depression – DU
  - Obesity – HIS
  - Integrated Health Improvement Initiative - HIS
- BAA – FRA
- Additional proposals currently under consideration.
CONCLUSION

- Pilots assessed for system implementation
- Evidence-based development of programs and interventions to reduce or eliminate risks
- Informed discussions, communications and programs
- Implications for the industry
- Safety, health and productivity focus
- Additional safety research needed in all associated areas.