

Considering Work and Short-Haul Drivers' Health



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Safety, Health and Wellness in Transportation –

A Discussion of Current Research and Practice

Disclaimer

The findings and conclusions in this presentation have not been formally disseminated by the National Institute for Occupational Safety and Health and should not be construed to represent any agency determination or policy.

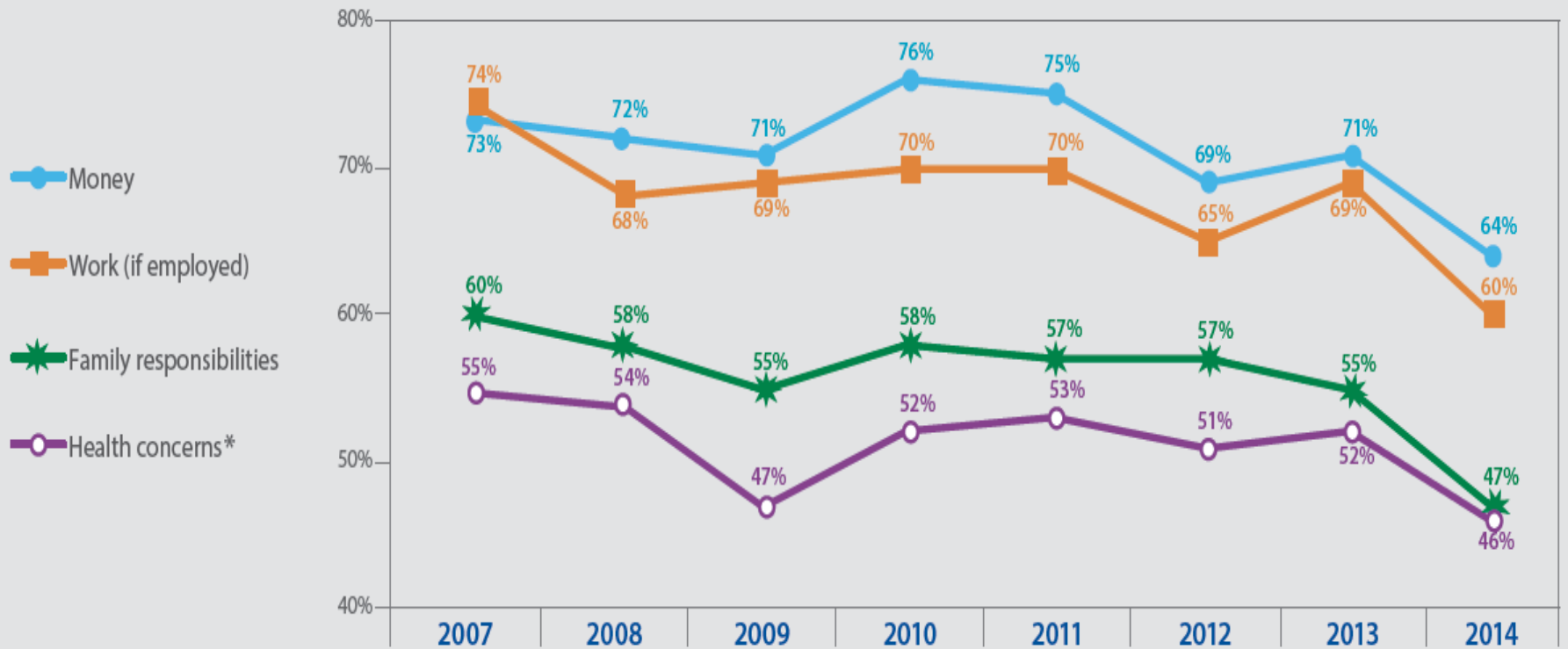
Overview

- Work Organization
- Work Organization concerns in Trucking
- Total Worker Health[®] as a lens to study occupational risks and health, to inform interventions
- Pilot Project: Work Organization Risks to Short-Haul Truck Drivers' Health & Safety



Stress in America™

AMERICAN PSYCHOLOGICAL ASSOCIATION

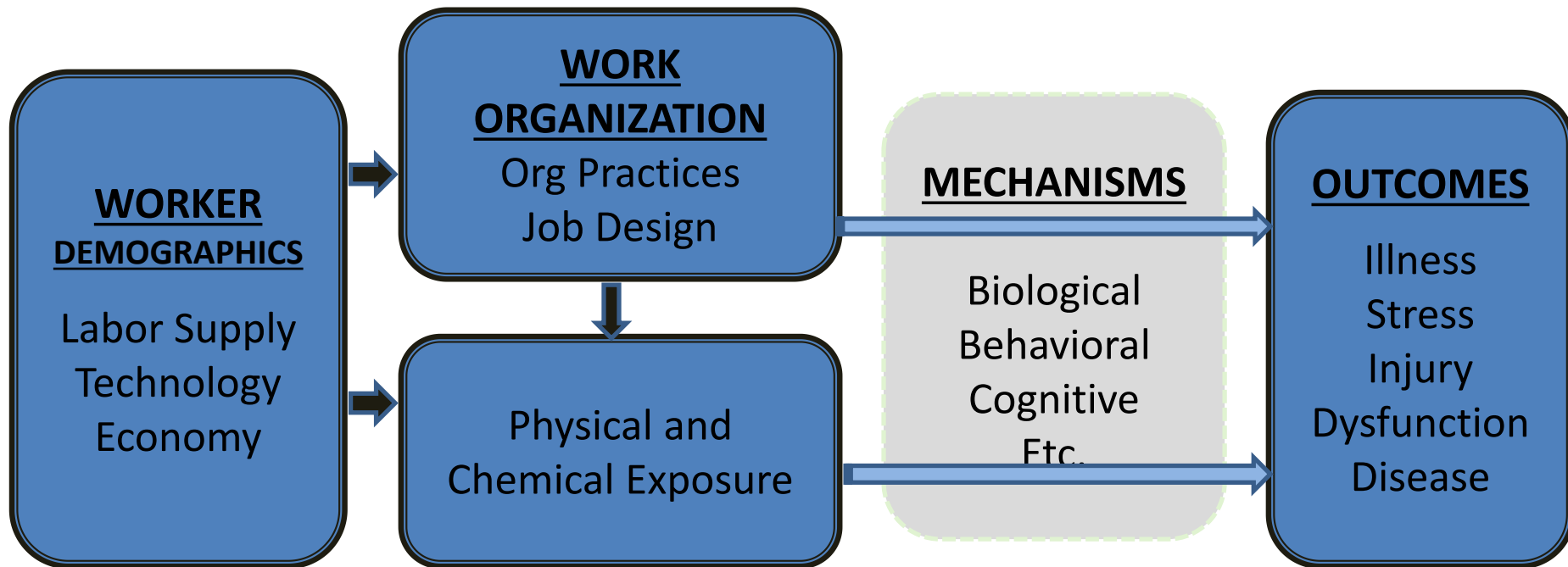


Source: American Psychological Association (2015). Stress in America™ : Paying with Our Health.

Changing World of Work

- Workplaces are rapidly evolving: Industry shift to services, technology, work schedules
- Downsizing, corporate restructuring
- Changes in employment contract (contingent, temp workers)
- People: Labor shortages, work-life balance concerns, diversity, aging, work accommodations
- Organizational concerns: Increasing emphasis on costs, productivity, absenteeism, “presenteeism”

Model of Work Organization and Worker Safety and Health





Organizational Demands Exceed Employee Resources



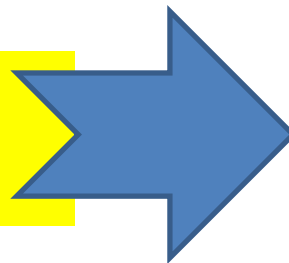
Work-related stress is the
NO. 1 WORKFORCE HEALTH ISSUE
and a major occupational risk, ranking above
physical inactivity and obesity.

Source: 2013 Towers Watson Survey

Stress is Very Common

“Do you find your work stressful?”

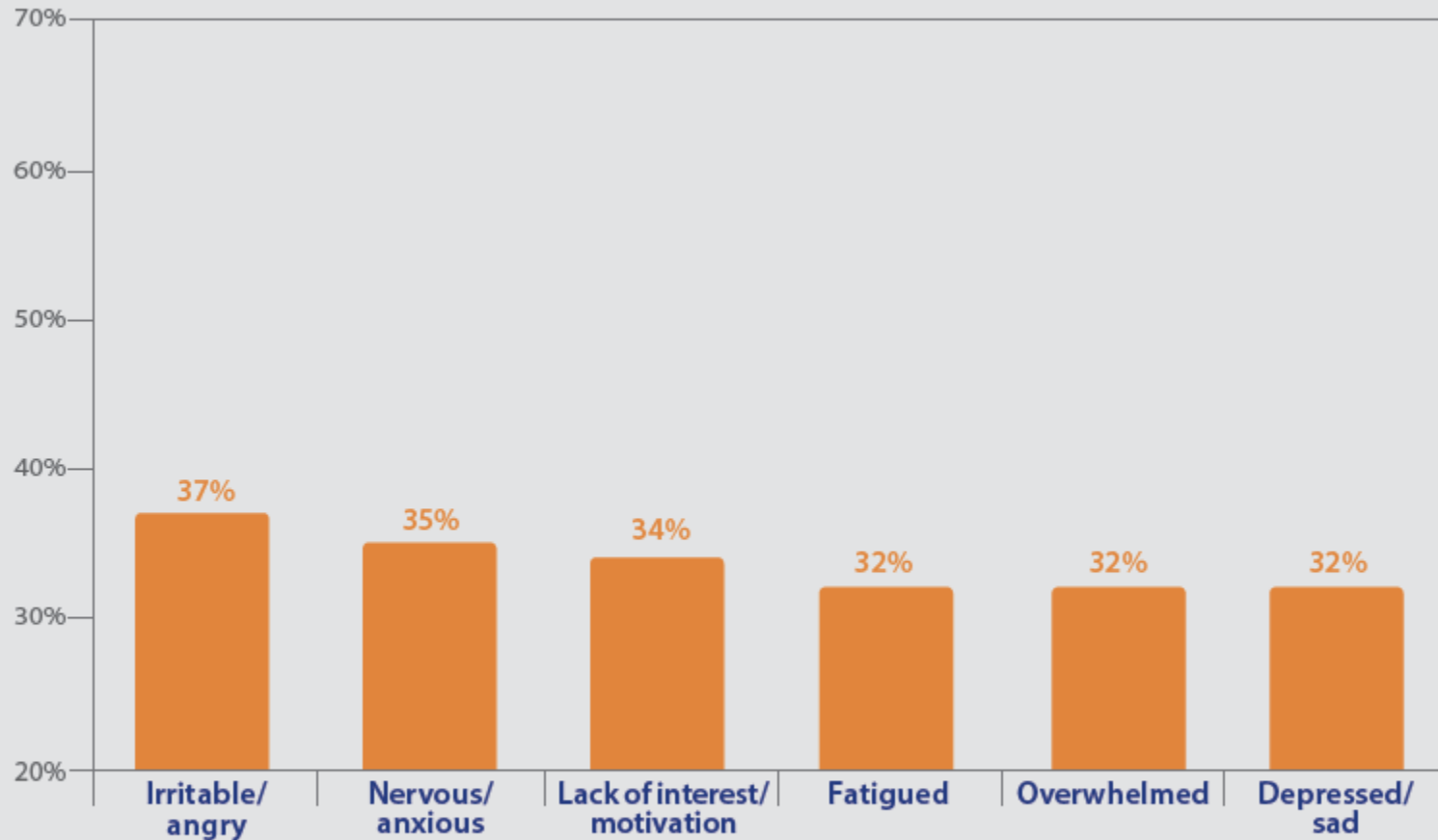
Never.....	7%
Hardly ever.....	16%
Sometimes.....	42%
Often.....	22%
Always.....	13%



**35% Often
to Always
find Work
Stressful**

Source: General Social Survey, NIOSH Quality of Worklife Survey (2006)

SYMPTOMS OF STRESS



BASE: ALL QUALIFIED RESPONDENTS 2014 (n=3068)

Q810 Which of the following, if any, have you experienced in the last month as a result of stress? Please select all that apply.

Q7170 Which of the following, if any, have you experienced in the last month as a result of stress? Please select all that apply.

Source: American Psychological Association (2015). Stress in America™ : Paying with Our Health.

Physical Exposures and Health

- **~4,679 Fatal work injuries** in 2014; many more serious injuries
- **Chemicals:** About 20% of US workers experience frequent occupational skin contact with chemicals
- **Exposures:** 1 in 4 US workers reported chronic exposure to vapors, dust, gas, or fumes on the job
 - 1 in 10 non-smoking US workers are exposed to secondhand smoke at work, increasing their risk for lung cancer.
- **Interactive effects:** Smokers who work long hours, are harassed at work, worry about becoming unemployed, and/or are exposed to skin and respiratory hazards in the workplace (including secondhand smoke) are less likely to quit smoking

(Source: 2010 National Health Interview Survey – OHS module)

Psychosocial Aspects of Work and Health

- More than 16% of US workers have **trouble combining work and family** responsibilities¹
 - WFC relates to health problems and substance abuse²
- **High demands, low control** relate to poor mental, physical health and CVD³
- About 1 in 3 US workers **worries about becoming unemployed**¹
- Almost 8% of US workers have been **threatened, bullied, or harassed** on the job¹
 - Mistreatment at work and job insecurity have been associated with hypertension¹
- Exposures to workplace stressors are strongly associated with **obesity**¹

Work Schedules and Health

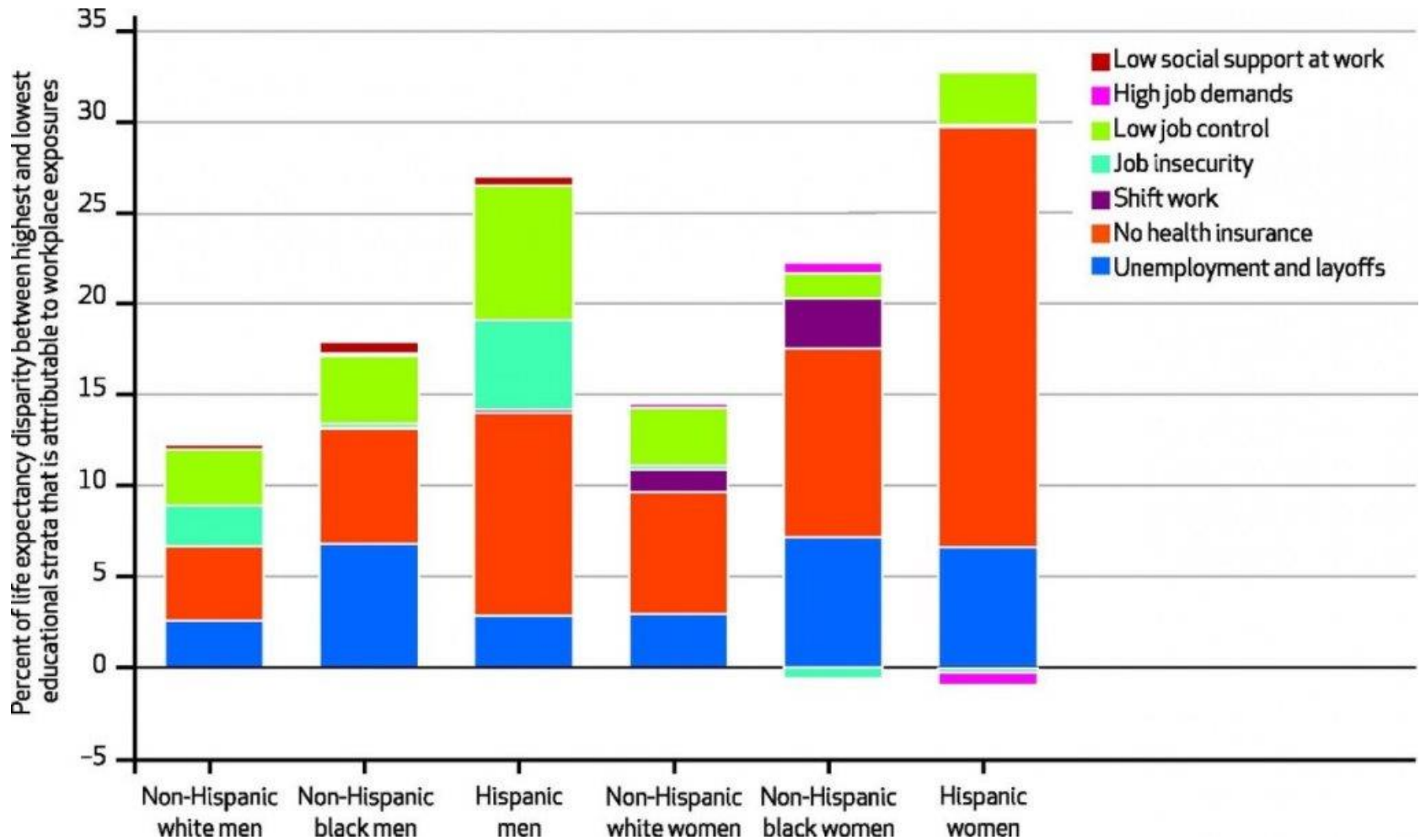


- Work Schedules increase health risks¹
 - Working 48 or more hours per week in 2010 (about 1 in 5 US workers)
 - Non-standard arrangements / shifts (almost 1 in 5 US workers)
- Women who usually work alternative shifts have increased risk of breast cancer, but less likely to get screened
- Long work hours. Number of hours relates to increased incidence of acute occupational injury²
- Long hours and shift work relate to poor health, unhealthy behaviors (e.g., smoking)², hypertension²
- Fatigued workers have reduced productivity, more injuries, poorer family outcomes

(Source: 2010 National Health Interview Survey – OHS module¹; Goh et al., 2015²)

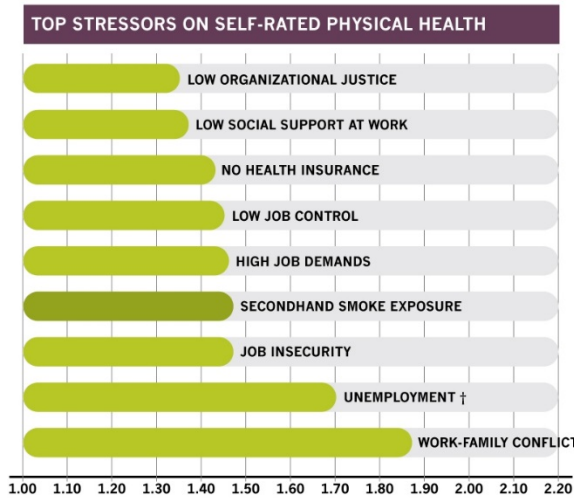
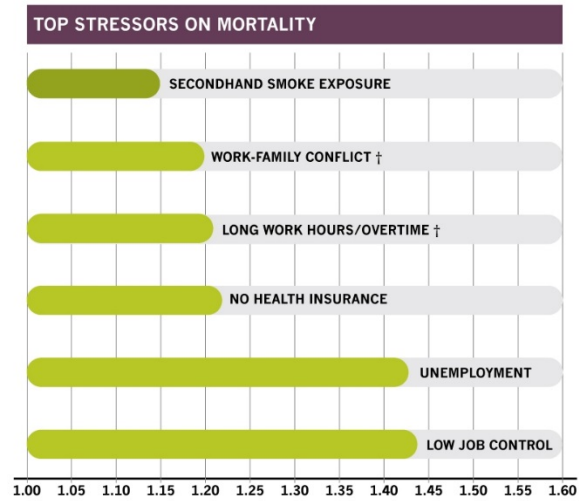
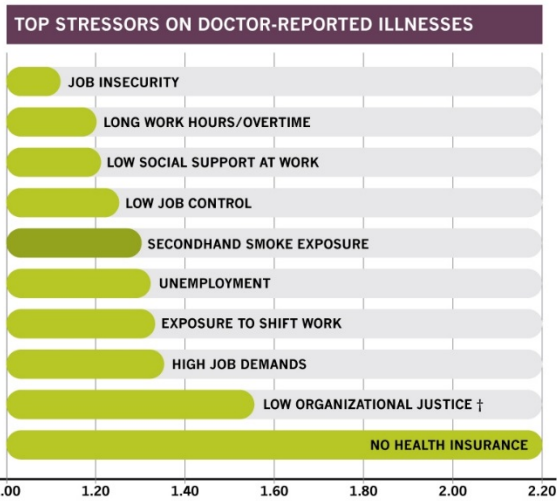
Work Affects Life Expectancy

Source: Washington Post. Goh et al. (2015)



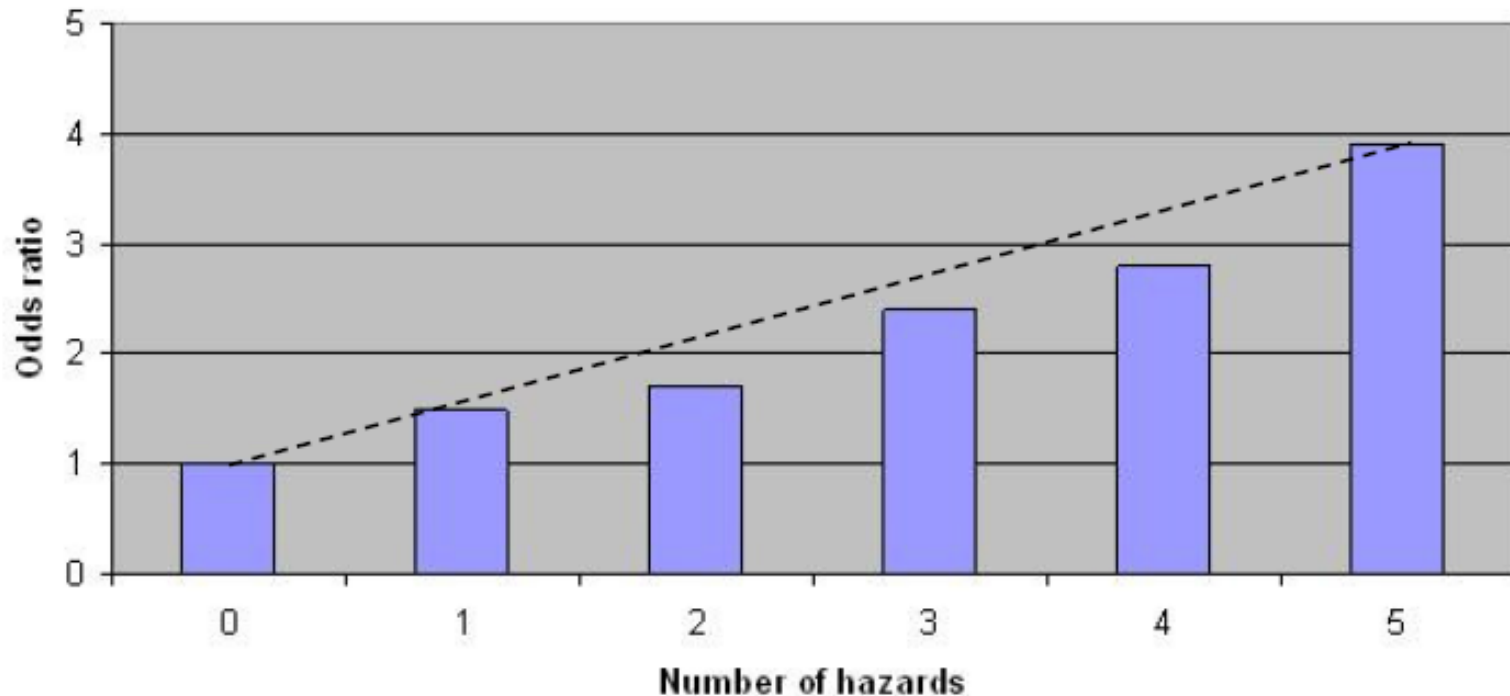
WORKPLACE STRESS'S BIGGEST IMPACT

The Stanford study found the lack of health insurance had the biggest impact on physician-diagnosed illness and mortality, while work-life conflict greatly affected people's mental and physical health in self-reporting.



Odds ratios higher than 1 indicate that the exposures listed here increased the odds of negative health outcomes. No health insurance, for instance, increased the odds of a physician-diagnosed health condition by more than 100 percent. Odds ratios for exposures marked with † were calculated with two studies or fewer, and may be less reliable.

Risk of obesity by number of work stressors [Nursing home study, CPHNEW]



Stressors: low decision latitude, poor co-worker support, heavy lifting, night work, physical assault at work in past 3 months.
(Multivariable models adjusted for gender, age, education and region.)

www.uml.edu/centers/CPH-NEW

Punnett L and the Center for the Promotion of Health in the New England Workplace. Recent Trends and Research in Worker Safety and Health. February 25, 2014 NIOSH Total Worker Health Webinar.

Truck Drivers

- ~ 2.8 million drivers in the U.S.
- 7 times more likely to die on the job
- 2.5 times more likely to suffer an occupational injury or illness
- Work more hours than European Union or Australian counterparts
- Work long hours, irregular shifts, are away from home
- High turnover – 121% in large truckload sector 2005

Trucking is Challenging

- One of the highest-risk occupations
- Time pressures
- Loneliness
- Financial pressures
- Poor driving conditions (weather, accidents, construction, traffic)
- Road rage
- Violence

Truckers Experience cont'd.

- Racism / discrimination / negative perceptions
- Little control
- Higher stress for long-haul drivers
 - Away from home & support networks for longer periods of time
- Experience significant fatigue and sleep loss
- Sedentary lifestyle
- Reduced access to healthcare and support

Local/Short-haul vs Long Haul

- Classification complications
- Some of the same risks as LH
- L/SH driving may differ from LH
 - Time spent loading and unloading
 - Customer service responsibilities
 - Physical demands may differ
 - May have resources that are limited for LH drivers such as time, access to exercise facilities, ability to return home

Total Worker Health™

...policies, programs, and practices that integrate protection from work-related safety & health hazards with promotion of injury and illness prevention efforts to advance worker well-being.



Research Needs that Apply to Trucking

- Need for ecological approach and *multiple levels* of intervention to support health promoting efforts, including the community level (Faghri et al., 2010; Baker et al., 1996; DeJoy & Southern, 1993).
- Need to integrate work org, eco, and systems approaches into OHS research (Stuckey et al., 2010)
- Consider financial cost/benefit, personal effort required, time commitment, compatibility with existing systems and behaviors, and expected outcomes associated with intv (Rogers, 2003; Maddux, 1999).

Current Project

Pilot Project: Work Organization Risks to Short-Haul Drivers Health & Safety



Project Aims

- **AIM 1: Investigate work organization** and personal factors that contribute to health and safety outcomes in local / short-haul (L/SH) drivers.
- **AIM 2: Disseminate products that summarize findings and raise awareness of factors that present risks** to L/SH drivers' safety and health.
- **AIM 3: Inform the development of future intervention** that follows TWH to protect and promote L/SH drivers' health and safety.

Project Activities

- ✓ Learn more about **existing research** on Short-Haul truckers.

Risks	Health
Air quality	Risks to health – smoking, poor diet
Truck design, terminal design and safety	Fatigue, sleepiness at work
Fall risk factors	Injury
Loading / unloading risks	Low back pain
* Contingent work, work-life conflict	Lung cancer
* Violence, boredom	BMI / Obesity

Characterizing L/SH Driving

- Top Issues (Hanowski et al., 1999)
 - Problems caused by other drivers
 - Time pressure (e.g., need to meet delivery time)
 - Inattention, focus on other things while driving
 - Problems caused by roadway or dock design
 - Driver fatigue
- Customer service challenges (Olsen et al., 2009)
- Poor air quality (Steenland et al., 1990; Tan & Chang, 2006)
- Physical design: Posture demands, manual materials handling, vibration risks for low back pain (Okunribido et al., 2006; Olson et al., 2009)

Safety Risks

- Risks for injury / fatality during crashes: Tired drivers, excessive speed, fatigue, not seat belt use, type and age of vehicle
- Fatigue:
 - Not enough sleep
 - Hard or physical workday
 - Heat or no air conditioning
 - Waiting to unload
 - Irregular meal times

Project Activities

- Focus Groups
 - Organizational Factors in Trucking
 - Driver Perceptions about Health
 - Study Design Concerns
- Partner Development
 - Research Partners
 - Professional Associations
 - Industry / Organizations

Survey of L/SH Drivers

- Quality of work life within L/SH trucking
 - Employee characteristics and perceptions of the work environment. Organizational culture.
 - Work design / structure – industry, type of freight, job duties, health and safety training, benefits.
 - Work organization, psychosocial stressors – i.e., stress, scheduling, work-life conflict, emotional demands.
- Individual health, behaviors
- Organizational outcomes of interest
 - Absenteeism, turnover
 - Accidents, near-misses, injuries, MSD, workers comp

Anticipated Outputs

- Depiction of L/SH driving: Work design, occupational stress, driver health and safety
- For Drivers: Success stories, strategies for improving health on the road, well-being
- For Employers: Characterization of the association between work and health with recommendations for addressing key risks
- **...in collaboration with partners**

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