Workplace as Community: Influence of Working Conditions on Health Behaviors

Laura Punnett and the CPH-NEW Research Team
Univ. of Massachusetts Lowell
Univ. of Connecticut Health Center
Univ. of Connecticut (Storrs)
NIOSH “Total Worker Health™”

- Implement and compare multiple strategies or models for integrating two core public health areas: occupational health/safety (OHS) and health promotion (HP)
- Evaluate opportunities for, and obstacles to, these integration efforts
- Evaluate whether this strategy provides enhanced health benefits and/or greater cost-effectiveness
CPH-NEW (Center for the Promotion of Health in the New England Workplace)

- Workplace conditions cause injury and illness and contribute to unhealthy behaviors.

- Worker health programs require fully participatory approaches to engage workers in prioritizing and designing meaningful, effective, sustainable interventions.
Health Behaviors & Working Conditions

- Traditional HP behavioral targets: Exercise, diet, smoking, obesity, etc.
- Well-known risk factors for cardiovascular disease, diabetes, & other chronic diseases – possibly musculoskeletal disorders (MSDs)
- These so-called “personal” or “lifestyle” risk factors are also affected by psychosocial features of work, esp. decision latitude
Working conditions link to health outcomes directly, and through health behaviors.

- Physical working conditions
- Work org. & psychosocial conditions
- Health Behaviors
- Employee Health Status
  - e.g., MSDs, CVD, Mental Health

Organization
- Technology
- Structure
- Culture
Work environment factors and physical inactivity in men [Wemme et al. 2005]

- **Frequent overtime**
- **No influence on overtime**
- **“Passive” (low demands, low control)**
- **“High strain” (high demands, low control)**
Work environment factors and smoking [Radi et al. 2007]

Current smokers (%)
Change in waist circumference by job iso-strain group: Ishizaki et al. 2008
“ProCare” Study of Nursing Home Workers

- 18 nursing homes: All direct care workers (Registered and Licensed Practical Nurses, Certified Nursing & Medical Aides)
- Four consecutive annual surveys:
  - F0: Baseline (week of department heads meeting)
  - F1: 3 months after baseline
  - F2: 12 months after baseline
  - F3: 24 months after baseline
- Self-administered questionnaires distributed and collected at the workplace (no release time)
- $20 compensation for time and effort
Survey Results

Response rates: > 70% of workforce roster in each survey

Total 4757 questionnaires from 1506 workers:
- 89% female
- Over 50% nursing aides
- Average age: 41 ± 13 yr
- Experience in same type of work: 11 ± 10 yr
- All shifts: Day 47%
  Evening 21%
  Night 14%
  Rotate/other 18%
ProCare: Risk of physical inactivity, by number of occupational hazards* and age group

*Hazards: low co-worker support, low decision latitude, night work, work-family imbalance, employer tolerates discrimination at workplace. All models adjusted for gender, education, region, & age (unless stratified).
ProCare: Risk of obesity, by number of occupational hazards* and age group

* Hazards: poor co-worker support, low decision latitude, night work, physical assault at work, lifting heavy loads.
All models adjusted for gender, education, region and age (unless stratified)
ProCare: Risk of current smoking, by number of occupational hazards* and age group

*Hazards: low decision latitude, low supervisor support, second paid job, physically demanding work, physical assault at work. All models adjusted for gender, education, region and age (unless stratified)
Job Strain, Health Behaviors, and CHD*

32% of the effect is mediated through HB’s *

* [Chandola T, et al. European Heart Journal, 2008]
What is Health Promotion?
Fostering positive decision-making about health

Traditional focus on the individual’s behavior
- Stop smoking, healthier diet, cope with stress

“Social health promotion” - activities at the community or societal level [WHO]
- Environmental conditions that foster healthy behaviors
- Positive human relations at work that foster decision-making and self-efficacy
Social-Ecological Model

Linnan et al., 2001: “individual behavior (e.g., participation in a work-site health promotion program) is affected by multiple levels of influence”
The Workplace as a System

Company Level
(Structure, culture, policies, organizational practices, technology)

Division/Department
(Resources; relation to other depts)

Job Level
(Work pace, supervision, work flow, decision-making opportunities)

Physical Exposures
Psychosocial Exposures

And others:
• Safety hazards
• Chemical, dust, biological
• Noise, temperature, radiation, etc.

Organizational Outcomes:
• Productivity
• Quality
• Customer satisf.
• Health care cost
• Workers’ comp.
• Absenteeism
• Turnover

Worker Outcomes:
• Health
• Quality of life
• Job satisfaction
• Health behaviors
Implications for health disparities

- Low-SES workers tend to have lower decision latitude, more physically strenuous jobs, and more exposure to safety and other workplace hazards.

- WHP programs often have uneven scope, with higher participation and effectiveness among higher-SES employees.
Obesity/overweight and the role of working conditions

- 8 focus groups of lower-wage workers
  - Recruited through 2 community NGO’s
  - Spanish-speaking (6 groups)
  - English-speaking (2 groups)

- Topic: how the workplace affects dietary and/or exercise behaviors

- 63 participants
  - 65% female; 83% Latino & 22% African/Afro-American (not mutually exclusive)
  - Cleaning, restaurants, construction, manufacturing, health care/human services
Workload and Schedules

Physically demanding job:

- “I don’t have the desire to do exercise after standing for 15-16 hours. I just want to eat and sleep. The next day is the same thing all over again.”

- “You come home and you are so tired that you either don’t want to eat, or you want to eat a lot.”

Meal breaks:

- “At 10:00 a.m., they give me a 15-minute break. I don’t have time to eat healthy food, even if I bring homemade food.”
Psychosocial Stressors at Work

- **High demands**
  - “The work that three people used to do is given to one person. That creates more stress and eating more…”

- **Low control**
  - “Working in factories, you have to eat fast or you get fired.”

- **Low social support**
  - “A lot of harassment…it was really stressful so the depression really set in.”
Framing HP in terms of **healthy decision-making** implies that a program’s *process* is as important as its *content*. 
Levels of Employee Involvement

1. Mgmt/Consultant ID problems, design and implement solutions **top-down**

2. Mgmt/Consultant ID problems, design solutions. Employees **evaluate usability**.

3. Employees participate in **solution design** (Trained in ergonomics & health promotion)

4. Employees participate in **problem ID** (Trained in ergonomics & health promotion)

4a. Passive **Surveillance**: Records

4b. Active **Surveillance**: Symptom, risk factor, and production analysis

5. **Full PE Program**: Sustainable; continuous improvement; diffusion; involve new participants

5a. PE team helps **train** workforce, train new hires, deliver refresher courses, etc.

5b. PE team helps **evaluate** cost/benefit, diffusion to new areas & problems

(No Program)
Benefits of a (facilitated) participatory workplace process

Employee empowerment

- Increased decision latitude
- Increased confidence to change unhealthy conditions
- Increased program sustainability
- Increased social support

Insights derived from workers’ perspective

- Find (other) root causes of physical & psychosocial stressors
- Find (other) root causes of unhealthy behaviors
- Reflect own experiences, needs and language of the intended program participants
Occupational ergonomists address workplace organization as well as physical risk factors

- Increase employee autonomy and decision-making ("job control," health self-efficacy)
- Encourage participation and creativity in problem-solving
- Structure healthier schedules
- Enhance interpersonal relationships at work
- Promote consistent and constructive feedback, fair recognition, and rewards for good work
Involvement and control by all parties is crucial for sustainability & organizational learning.
Health Improvement through Employee Control (HITEC)

Compares 2 health promotion/workplace intervention programs, similar content, differing in process:

- Best practices, “top-down” (control site)
- Experimental program featuring employee control, through participatory design teams

Two sites comparable in size, staffing, security level, physical plant, and ‘readiness to change.’
CT State Workers, Ages 30-49: Crude Mortality Rate (2003-2007)
Social-Ecological Model

Corporate: “release time”

Institutional: organizational culture and structure; supportive leadership/management; funding/resources

Group: consistency of wellness champion and function of wellness team

Interpersonal: effective and consistent communication

Intrapersonal: worker motivation and participation; psychosocial stress;
HITEC program effectiveness

Weight loss (20 weeks): -1.8 BMI (±0.4) or 5% in Participatory site, vs. slight increase in BMI in Traditional site

Annual Change in Sickness Absenteeism

- Weight loss (20 weeks): -1.8 BMI (±0.4) or 5% in Participatory site, vs. slight increase in BMI in Traditional site.

- HITEC program effectiveness: Focus on participatory site showing significant weight loss compared to traditional site.
“Research to Practice” (R2P) Toolkit

- Developed, field tested, and refined a participatory intervention TOOLKIT to be used by health practitioners.

- Field tests at four workplaces:
  - Self-selected employers
  - Public & private sector, small & large
  - Recruited from the “Working on Wellness” program, MA Dept. of Public Health
Toolkit Key Program Start-up Guides & Component Tools

1. Worksite readiness checklist
2. Key personnel interview guide
3. Steering committee creation & orientation guide
4. All-employee survey & feedback report guide
5. Employee focus group guide (optional)
6. Employee design team creation & orientation guide
7. Ergonomics training and walk-through evaluation
8. Health promotion training
9. Business decision scorecard (see flow chart)
10. Design team effectiveness evaluation survey
11. Design process tracking software for facilitators
Real estate maintenance workers: Perceived changes in company climate in the past year

- Morale
- Recognition and rewards
- Opportunities to share my opinion
- Opportunities to meet and plan
- Opportunities for decisionmaking
- Communication between staff and management
- Communication between co-workers

- % said improved
- % said same
- % said declined
“Toolkit” Site: Program Evaluation

Design Team Members:
- A **useful forum / tool** for making **improvements**
- **Solution-driven**: Made change happen
- **Interaction-driven**: Improved **communication** between technicians and management
- Felt **engaged** and **invested** in the program

Management:
- More **aware** of workers’ concerns
- Good solutions: resident education **materials**
- Personal **development** of DT members: problem-solving, communication skills, pride, accomplishment
- Wish to see the **program continue**
CPH-NEW R2P Toolkit promotes Total Worker Health™

- **Engages** employees in setting priorities and developing solutions – facilitates sense of employee ownership.
- Improves organizational **communication** & collaboration about H&S.
- **Integrates** health promotion initiatives with attention to the work environment.
- Workers learn how to develop a **contextual business case** for H&S interventions.
- Establishes a **sustainable** process for continuous health/safety improvement.
A Research-to-Practice Toolkit for Participatory Health Promotion (HP) combined with Health Protection

PExHP addresses 3 needs:

– Achieve more effective integration of HP with overall work organization
– Facilitate sense of employee ownership
– Enhance program sustainability

Join our mailing list-

Healthy Workplace Facilitator training webinars in fall 2013!
Join our Mail List!
www.uml.edu/cphnew
Thanks to:

- [ProCare] Marian Flum, Gabi Kernan, Alicia Kurowski, Helena Miranda, Nadine Mpolla, Yuan Zhang
- [Translation] Nicole Champagne, Suzanne Nobrega, Marlene Abreu

Other Key Personnel:

- Martin Cherniack, M.D., Univ. Conn. Health Center
- Pouran Faghri, M.D., M.P.H., Univ. Conn. Storrs
- Robert Henning, Ph.D., Univ. Conn. Storrs
- Tim Morse, Ph.D., Univ. Conn. Health Center
- Michelle Robertson, Ph.D., LMRIS, Hopkinton MA
- Nicholas Warren, Sc.D., Univ. Conn. Health Center
Partial CPH-NEW Bibliography

- Cherniack M, Lahiri S. Barriers to implementation of workplace health interventions: An economic perspective. *JOEM* 2010; 52(9):934-42.
Contacts and Acknowledgements

University of Massachusetts
CPH-NEW general email: CPHNEW@UML.EDU
Tel: 978-934-3268

CPH-NEW main website:
www.uml.edu/centers/CPH-NEW

University of Connecticut
Dr. Jeff Dussetschleger
Email: JDussetschleger@uchc.edu
Tel: 860-679-1393

CPH-NEW website at Univ. Conn.:
http://www.oehc.uchc.edu/healthywork/index.asp

The Center for the Promotion of Health in the New England Workplace is supported by Grant Number U19-OH008857 from the U.S. National Institute for Occupational Safety and Health. This material is solely the responsibility of the authors and does not necessarily represent the official views of NIOSH.