A framework for developing and implementing Total Worker Health™ interventions in Construction

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All the Right Moves

FRAMEWORK FOR DEVELOPMENT:
Aim 1: Develop a worksite-based, multi-component, and integrated musculoskeletal disorders prevention and health promotion intervention for workers in commercial construction

FRAMEWORK FOR EVALUATION:
Aim 2: Complete a feasibility study of the developed worksite based intervention on six sites, randomly assigned to either intervention (five sites) or controls (five sites) with 420 workers total (70 per site) measured at baseline and at six-month follow up
Proposed conceptual model

Global Context
• Highly Varying Commercial construction;
  • Sites of work frequently change
  • No two projects are identical.

Worker Context
• Worker Characteristics
  • High MSD Rate
  • High rates of tobacco use
  • High numbers overweight
  • Mostly male

Integrated Program
• General Contractors
• Sub-contractor/Foreman
  • Integrated activities
    - Work pre task planning
    - Inspections
    - Stretch & Flex
  • Integrated training
    - Health leadership
    - Tool Box Talks
    - Site Orientations

Intervention Targets
Work Environment
• Lifting, Overhead, ground/floor, hand work
• Demands of physical activity at work

Work Organization
• People Oriented Culture
• Safety Practices
• Ergonomic Practices
• Safety Leadership

Psychosocial Factors
• Super/coworker support

Proximal Outcomes
• Knowledge/Awareness
• Self-efficacy for health and safety
• Social Norms around ergonomics, tobacco and physical activity
• Use of and participation in intervention tools and activities

Outcomes
Health Behaviors:
• Tobacco Use
• Physical Exercise

Worker Health:
• Fatigue
• Pain
• Workability
• Functional Limitations

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Integrated program for worker health and productivity

**Musculoskeletal health**

- **Supervisor training:** Integrated program management
- **Worker training:** Toolbox talk · Safety orientations

**Cardiovascular Health**

- **Supervisor training:** Integrated program management
- **Worker training:** Toolbox talk · Safety orientations

**Ergonomics**

- **Task pre-planning:**
  - Checklist for the Ergo 4
  - Ergo 4 Simple Solutions
  - Database of solutions
  - Posted Ergo 4 solutions
  - Employee feedback

- **Inspections:**
  - Including Ergo 4

- **Supervisor training:**
  - Ergo 4 risk (1 hr)
  - Ergo 4 solutions (1 hr)

- **Worker training:**
  - Toolbox talk on Ergo 4

**Physical Activity**

- **Physical activity:**
  - Daily 10 min warm up (stretch & flex/walk) integrated with daily task pre-planning activities
  - Local walking routes posted
  - Simple facilities, eg hoops
  - Challenges (competitions)

- **Inspections:**
  - Posted routes / activities

- **Worker training:**
  - Toolbox talk on PA

**Tobacco Cessation**

- **Safety orientations:**
  - CO measurements with Toolbox talk

- **Tobacco cessation referral:**
  - 1-800 QUIT NOW
  - NRT
  - DIY kits

- **Inspections:**
  - Posted policies and cessation activities

- **Worker training:**
  - Toolbox talk on CO
  - Toolbox talk on TC
Soft-tissue Injury Prevention

Feedback
Pre-task plans
SIPP Inspections
Work Tasks

Built from safety programs (Z10) and matching our own implementation guidelines
Reality hit

Key informant, focus groups, and pilot testing.

- Can’t do many Physical Activity activities on site
- Physical Activity of construction work is already high
- Workers come and go on site, difficult to capture all workers and sustain health promotion activities.
Health week
Education & engagement & health coaching
All the Right Moves

Musculoskeletal health

Cardiovascular Health

StIPP
Soft Tissue Injury Prevention Program

Health Week
(get workers signed up for Health Coaching)

Activities:

Task pre-planning:
• Checklist for the Ergo 4
• Ergo Simple Solutions
• Database of solutions
• Posted Ergo 4 solutions
• Employee feedback

Inspections:
• Including Ergo 4
• Weekly Reports to Foremen and workers

Supervisor training:
• StIPP (1/2 hr)
• Adding Ergo to pre-task planning workshop (1/2 hr)
• Weekly Meetings with foreman

Worker training:
• Toolbox talk on Ergo and Health

Monday:
• What is health coaching

Tuesday:
• StIPP Program – the components

Wednesday:
• Tobacco cessation
• CO measurements

Thursday:
• Food and Activity

Friday:
• Questions and Health Coaching sign up

Health Coaching:
• 4 sessions
• No cost to worker
• PA/Diet, Tobacco Cessation

Tobacco cessation referral:
• NRT
• Online Resources
• 1-800 QUIT NOW
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Knowledge/Awareness
- Self-efficacy for health and safety
- Social norms around ergonomics, tobacco, and physical activity
- Use of and participation in intervention tools and activities

Work Environment
- Lifting, overhead, ground/floor, hand work
- Demands of physical activity at work

Work Organization
- People-oriented culture
- Safety practices
- Ergonomic practices
- Safety leadership

Psychosocial Factors
- Super/coworker support

Intervention Targets

Intervention

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Integrated Program:
- Integrated activities: StIPP
- Health Week
- Health Coaching
- Integrated training:
  - Health leadership
  - Site Orientations
  - Health Week

Worker Context
Health week (education & engagement)
Knowledge/Awareness
- Self-efficacy for health and safety
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- Use of and participation in intervention tools and activities
- Worker Characteristics
- Integrated Program
- Integrated activities

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Challenges

- Integration – Achieved through integrated messages having integrated key points (e.g. fit for work and life or plan for work and life) from a single branded program – left on the continuum.

- The changing workplace and work force in commercial construction require innovative approaches to total worker health.
Conceptual model provided

- Flexibility in implementing a program
- Adaptable to the environment and current programs.
- Multiple opportunities, pathways, and management levels for intervention targets.
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<tr>
<td>Lauren Murphy</td>
<td>Safety climate and the organizational complexity of worksites</td>
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<td>Emily Sparer</td>
<td>Worker flow on and off commercial construction sites</td>
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<td>Justin Manjourides</td>
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<td>Cassandra Okechukwu</td>
<td>Strategic partnership and collaborations for TWH: Two Models</td>
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Deborah McLellan,
Justin Manjourides

Lauren Murphy
Cassandra Okechukwu
Emily Sparer
Andrea Sheldon
Glorian Sorensen
Sara Tamers
Greg Wagner
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