



## Acknowledgements

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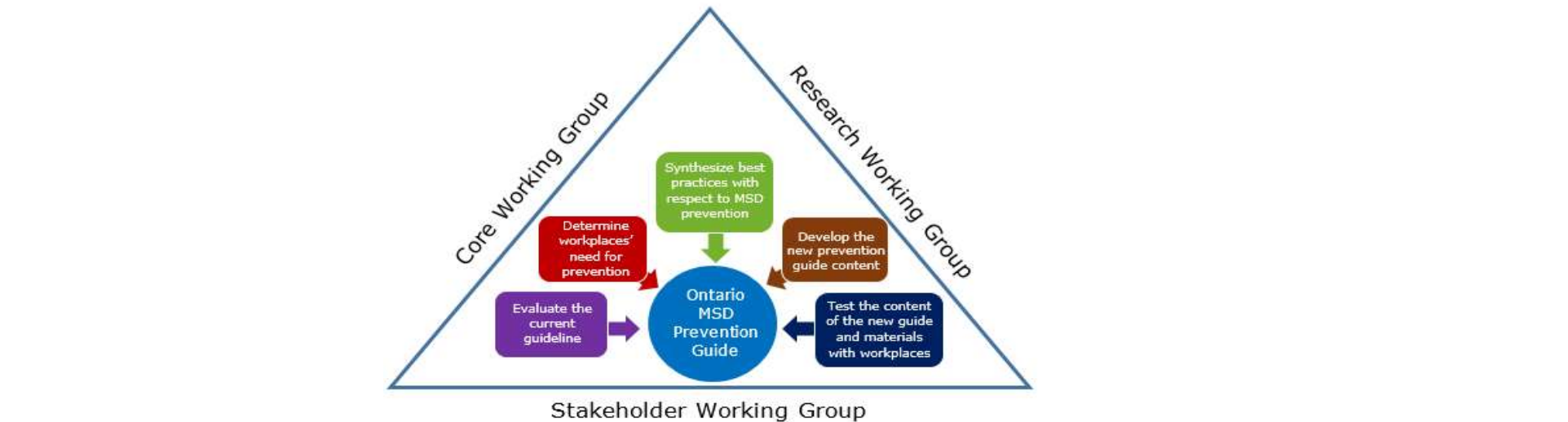
# Context

- The Ontario MSD Prevention Guideline and Toolboxes developed by the Ontario Health and Safety system were originally developed under the auspices of the Occupational Safety and Health Council of Ontario (OSHCO) in 2005-6 and published in 2007/8.
- It was overdue for review!
- Building on this previous work, CRE-MSD is leading a project to develop a new Ontario Prevention Guide



**The overall goals of this project are to:**

- Evaluate the current Guideline, determine workplaces' needs for prevention and synthesize best practices with respect to MSD prevention;
- Develop the new prevention guide content and selected draft materials;
- Test the content of the new guide and materials with workplaces;
- Prepare content for guideline and sample material;
- Website Development Phase 1: Templates, navigation;
- Website Development Phase 2: Development of graphic resources, population of the website with content developed and user testing.

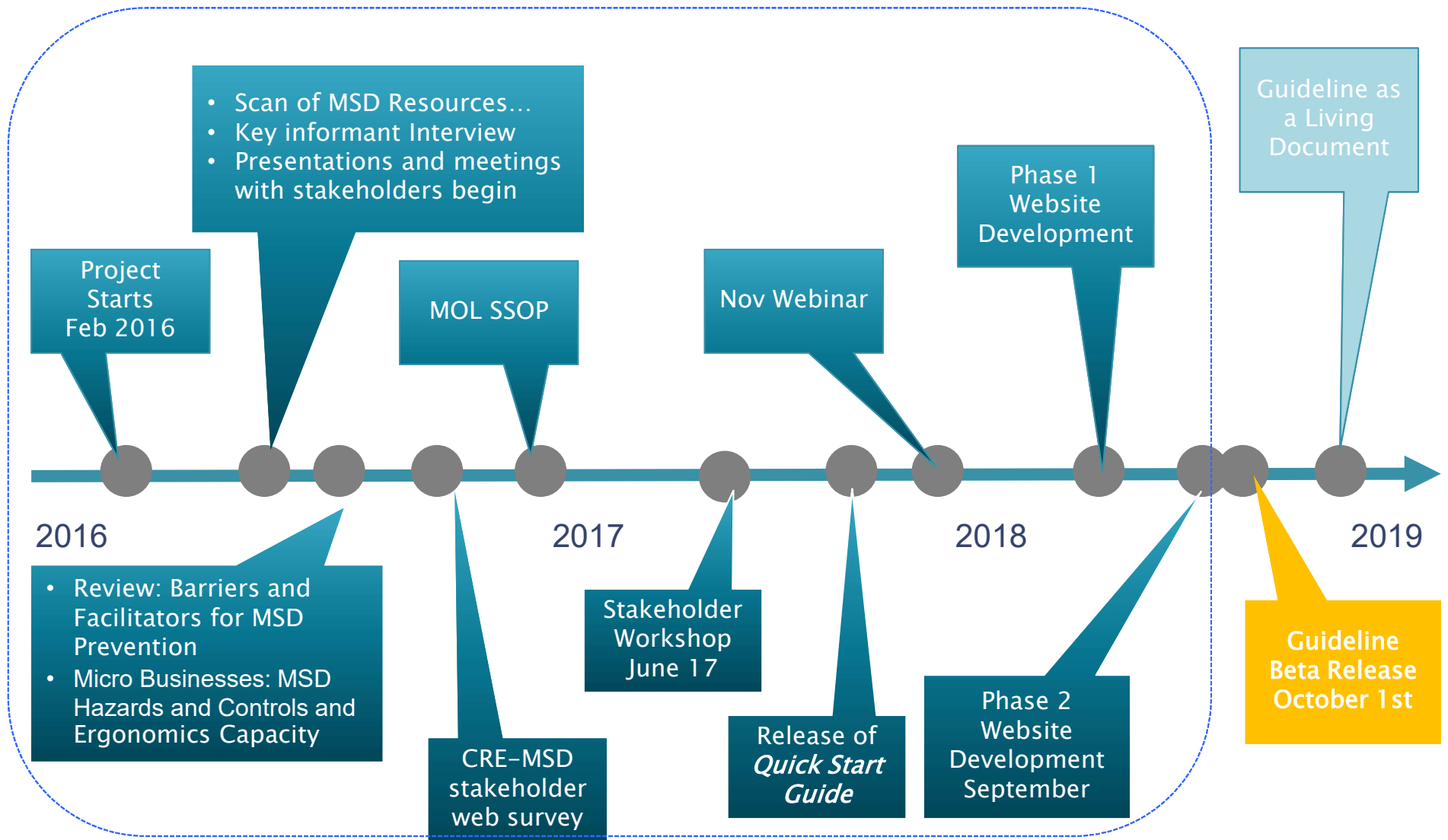


## How we got input...

- Environmental scan
- Multiple meetings with multiple stakeholders,
- CRE-MSD web survey focussed on small and micro businesses<sup>1</sup>
- Interviews with small and micro businesses during SSOP
- Interviews with key stakeholders
- Feedback from a CRE-MSD workshop in June 2017
- Reviews and original research:
  - ✓ “Participative Ergonomics and OHSMS”; “Barriers to Ergonomics Change”, “Low Back MSD Risk Factors”; “Micro and Small Businesses and MSD”; “Test of Messages for Low Back Pain in Small Businesses”

<sup>1</sup>We also incorporated the findings of the web survey administered by the Health and Safety System (EIPAC) on the needs of business to make ergonomics changes.

# Timeline of Activities:



# SMALL BUSINESS STUDY

## SMALL BUSINESS SLIDE DECK



User input: Main findings

- Small businesses are a major underserved community.
- There is a need for separate approaches for small/ micro, smaller and larger businesses.
- MSD prevention should be better integrated into business processes using common language and processes.
- Participation of workers is very important for OH&S, especially for MSD.
- Current standards (CSA, ISO) are too complex. This makes them in-accessible to most organizations.
- Be solutions oriented. Also don't assume familiarity with OH&S concepts and language



# Needs 1 and 2:

- To provide relevant information and resources to workplaces with different sizes and H&S capacity:
- Three versions of the Guideline were created.

## Quick Start Guide

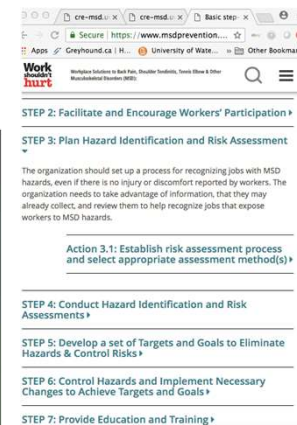


## Basic Guideline

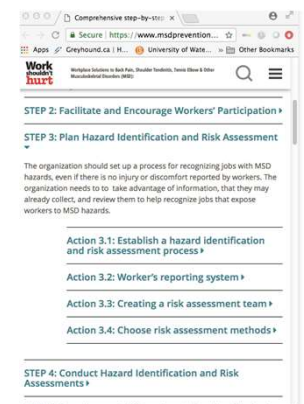
## Comprehensive Guideline



### Basic



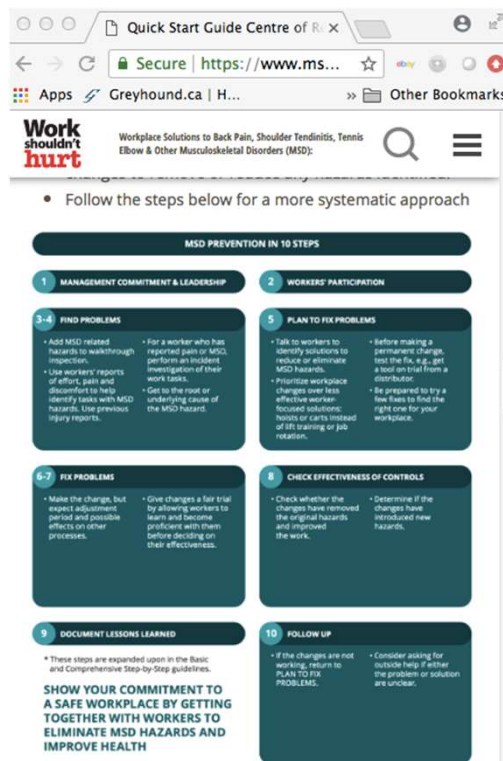
### Comprehensive



# Three Guideline Versions

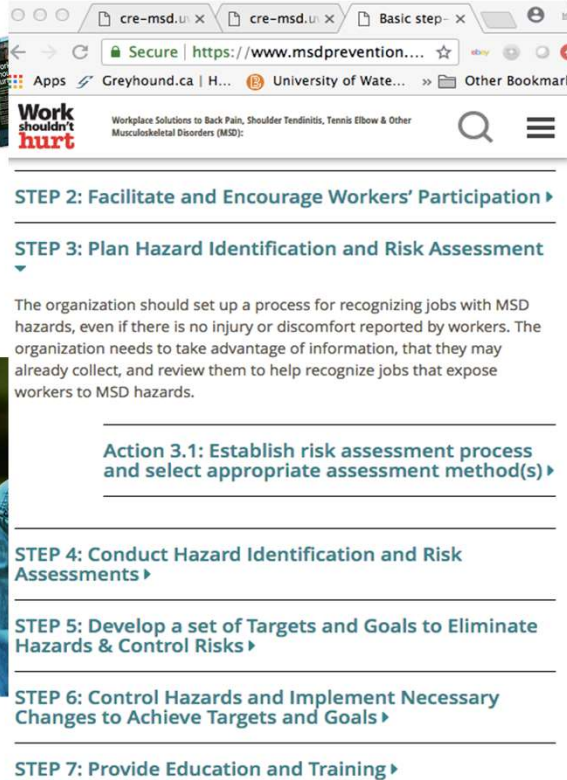
Needs 1 and 2: To provide relevant information and resources to workplaces of different sizes and OH&S capacity: Three versions of the Guideline were created... scalability.

## Quick Start Guide



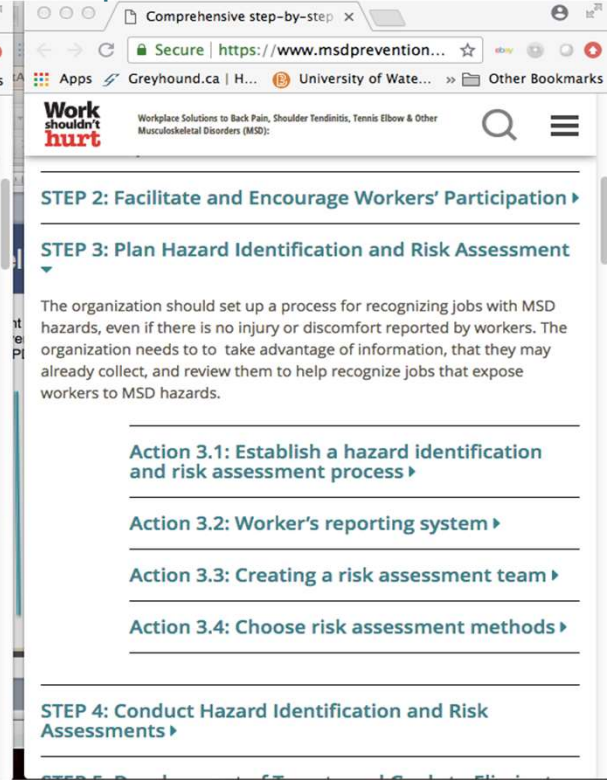
The Quick Start Guide webpage features a header with the 'Work shouldn't hurt' logo and a navigation menu. The main content area is titled 'MSD PREVENTION IN 10 STEPS' and contains a grid of 10 numbered steps, each with a brief description and a list of actions. The steps are: 1. MANAGEMENT COMMITMENT & LEADERSHIP, 2. WORKERS' PARTICIPATION, 3-4. FIND PROBLEMS, 5. PLAN TO FIX PROBLEMS, 6-7. FIX PROBLEMS, 8. CHECK EFFECTIVENESS OF CONTROLS, 9. DOCUMENT LESSONS LEARNED, and 10. FOLLOW UP. A note at the bottom states: 'SHOW YOUR COMMITMENT TO A SAFE WORKPLACE BY GETTING TOGETHER WITH WORKERS TO ELIMINATE MSD HAZARDS AND IMPROVE HEALTH'.

## Basic Guideline



The Basic Guideline webpage displays a header with the 'Work shouldn't hurt' logo and a navigation menu. The main content area is titled 'STEP 2: Facilitate and Encourage Workers' Participation' and 'STEP 3: Plan Hazard Identification and Risk Assessment'. It includes a paragraph explaining the organization's role in recognizing MSD hazards and a section for 'Action 3.1: Establish risk assessment process and select appropriate assessment method(s)'. The page also lists 'STEP 4: Conduct Hazard Identification and Risk Assessments', 'STEP 5: Develop a set of Targets and Goals to Eliminate Hazards & Control Risks', 'STEP 6: Control Hazards and Implement Necessary Changes to Achieve Targets and Goals', and 'STEP 7: Provide Education and Training'.

## Comprehensive Guideline



The Comprehensive Guideline webpage displays a header with the 'Work shouldn't hurt' logo and a navigation menu. The main content area is titled 'STEP 2: Facilitate and Encourage Workers' Participation' and 'STEP 3: Plan Hazard Identification and Risk Assessment'. It includes a paragraph explaining the organization's role in recognizing MSD hazards and a section for 'Action 3.1: Establish a hazard identification and risk assessment process'. The page also lists 'Action 3.2: Worker's reporting system', 'Action 3.3: Creating a risk assessment team', 'Action 3.4: Choose risk assessment methods', and 'STEP 4: Conduct Hazard Identification and Risk Assessments'.

# Need 3: Better integration into business processes

## PDCA

- Matches current [best] practice
- Matches recent Provincial national and international approaches and CSA Standards
- Consistent with Participatory Ergonomics



CSA Z1000 | CSA Z1004 | OHSAS 18001 | ISO 45001:2016

## CORE ELEMENTS OF THE SAFETY AND HEALTH PROGRAM RECOMMENDED PRACTICES

<b>MANAGEMENT LEADERSHIP</b>	<ul style="list-style-type: none"> <li>Top management demonstrates its commitment to controlling health, communicates that commitment to workers, and takes responsibility.</li> <li>Managers at all levels make safety and health a core organizational goal and objective, provide adequate resources and a good example.</li> </ul>
<b>WORKER PARTICIPATION</b>	<ul style="list-style-type: none"> <li>Workers and their representatives are involved in all aspects of the program, including identifying and reporting hazards, investigating incidents, and developing control measures.</li> <li>All workers, including contractors and temporary workers, are made aware of their responsibilities under the program and what they need to do to stay safe and healthy.</li> <li>Workers are encouraged and have means to communicate safety and health concerns without fear of retaliation.</li> <li>Any potential barriers or obstacles to worker participation (language, lack of information, or disincentives) are removed.</li> </ul>
<b>HAZARD IDENTIFICATION &amp; ASSESSMENT</b>	<ul style="list-style-type: none"> <li>Procedures are put in place to continually identify workplace hazards from routine, nonroutine, and exceptional circumstances and assess them.</li> <li>An initial assessment of existing hazards, exposures, and control measures is followed by periodic inspections and reassessments.</li> <li>Any incidents are investigated with a view to identifying and controlling hazards.</li> <li>Identified hazards are prioritized for control.</li> </ul>
<b>HAZARD PREVENTION &amp; CONTROL</b>	<ul style="list-style-type: none"> <li>Employers and workers cooperate to identify and control workplace hazards.</li> <li>Controls are selected according to a hierarchy of controls, and a plan is developed to ensure that progress is tracked, and the effectiveness of controls is evaluated.</li> </ul>
<b>EDUCATION &amp; TRAINING</b>	<ul style="list-style-type: none"> <li>All workers are trained to understand their responsibilities assigned to them under the program.</li> <li>Employers, managers, and supervisors are trained to recognize and control hazards that have been implemented.</li> </ul>
<b>PROGRAM EVALUATION &amp; IMPROVEMENT</b>	<ul style="list-style-type: none"> <li>Control measures are periodically evaluated to ensure they remain effective.</li> <li>Processes are established to monitor and identify program shortcomings and necessary actions are taken to improve the program.</li> </ul>
<b>COMMUNICATION AND COORDINATION FOR HOST EMPLOYERS, CONTRACTORS, AND STAFFING AGENCIES</b>	<ul style="list-style-type: none"> <li>Host employers, contractors, and staffing agencies coordinate on work planning and scheduling to identify and resolve any conflicts that could affect safety or health.</li> <li>Host employers, contractors, and staffing agencies establish specifications and qualifications for contractors and staffing agencies.</li> </ul>



## MSD Prevention for Small Businesses

<b>PLAN</b>	Identify high loads on the body and determine remedies
<b>DO</b>	Implement necessary control actions to reduce identified loading
<b>CHECK</b>	Ensure that you addressed issues effectively and monitor your health and safety
<b>ACT</b>	Review your program and identify opportunities for improvement







Contents lists available at [ScienceDirect](#)

## Applied Ergonomics

journal homepage: [www.elsevier.com/locate/apergo](http://www.elsevier.com/locate/apergo)

### Review article

## Prevention of musculoskeletal disorders within management systems: A scoping review of practices, approaches, and techniques

Amin Yazdani<sup>a,b,\*</sup>, W. Patrick Neumann<sup>c</sup>, Daniel Imbeau<sup>d</sup>, Mark Pagell<sup>f</sup>, Richard Wells<sup>a,b</sup>

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Contents lists available at [ScienceDirect](#)

## Safety Science

journal homepage: [www.elsevier.com/locate/safety](http://www.elsevier.com/locate/safety)

## Integration of musculoskeletal disorders prevention into management systems: A qualitative study of key informants' perspectives

Amin Yazdani<sup>a,b,c,d,\*</sup>, Margo Hilbrecht<sup>e</sup>, Daniel Imbeau<sup>f</sup>, Philip Bigelow<sup>g</sup>, W. Patrick Neumann<sup>h</sup>, Mark Pagell<sup>i</sup>, Richard Wells<sup>a,b</sup>

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### ABSTRACT

**Introduction:** Musculoskeletal disorders (MSD) constitute a substantial fraction of workplace injuries and result in costs to employers, workers, and societies as a whole. MSD prevention programs disparate from work organizational approaches can be costly, ineffective and unsustainable.

**Objective:** This study examines key informants' perspectives on the integration of MSD prevention programs management systems as a solution to issues associated with isolated or separate program.

**Method:** Seven Health & Safety (H&S) consultants, five H&S managers, five researchers, three policy makers, three labour representatives were interviewed on this topic. A thematic analysis approach was used to code and analyze the data from the key informants' interviews.

**Results:** The participants consistently suggested that a disconnect of MSD prevention strategies from management system frameworks can lead to inadequate attention and ineffective prevention policies. Integrating MSD prevention into management systems was highly supported. Incorporating MSD hazard identification assessment into tools such as Failure Mode Effects Analysis, Job Safety Analysis, decision making tools, Kamishibai and Ishikawa (for Lean) was suggested to improve MSD prevention.

**Conclusion:** This study gives expert insight into challenges associated with MSD risk factors as well as solution regarding current approaches to MSD prevention and effective tools for implementation.

## Original article

Scand J Work Environ Health. 2015;41(2):111–123. doi:10.5271/sjweh.3467

## How compatible are participatory ergonomics programs with occupational health and safety management systems?

Amin Yazdani<sup>a,b,\*,1,2</sup>, W. Patrick Neumann<sup>c</sup>, Philip Bigelow<sup>d,2,5</sup>, Daniel Imbeau<sup>d</sup>, Philip Bigelow<sup>d</sup>, Hilbrecht<sup>d</sup>, Richard Wells<sup>a,b</sup>

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### METHODS, MODELS, & THEORIES

## Key Informants' Perspectives: Management Commitment, Training, and Worker Participation in the Prevention of Musculoskeletal Disorders

**OCCUPATIONAL APPLICATIONS** To implement effective musculoskeletal disorder (MSD) prevention programs in organizations, there needs to be commitment from top and middle management, ongoing worker participation,

Applied Ergonomics 73 (2018) 122–140



Contents lists available at [ScienceDirect](#)

## Applied Ergonomics

journal homepage: [www.elsevier.com/locate/apergo](http://www.elsevier.com/locate/apergo)

### Review article

## Barriers for implementation of successful change to prevent musculoskeletal disorders and how to systematically address them

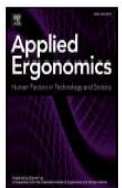
Amin Yazdani<sup>a,b,c,d,\*</sup>, Richard Wells<sup>b</sup>

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Review article

Prevention  
A scoping

Amin Yazdar  
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Integration of management  
systems: A qualitative

Amin Yazdani<sup>a,b,c,d,e,f</sup>,  
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## Original article

Scand J Work Environ Health. 2015;41(2):111–123. doi:10.5271/sjweh.3467

How compatible are participatory ergonomics programs with occupational

### Implications for MSD Prevention processes

- MSD prevention and implementation processes should be approached as a **long-term commitment** to worker's safety and company success.
- Barriers to making ergonomics change to prevent MSD are essentially the same as those seen in Health and Safety in general. Implementing a **PDCA** model is a systematic and well accepted way to organize (prevention) activities in business.
- Participative ergonomics is compatible with mature OHSMS.
- In order for individual implementations to be accepted and utilized, they must be **culturally relevant** and **easy to integrate** into workers' current work practices and the organizations' procedures.

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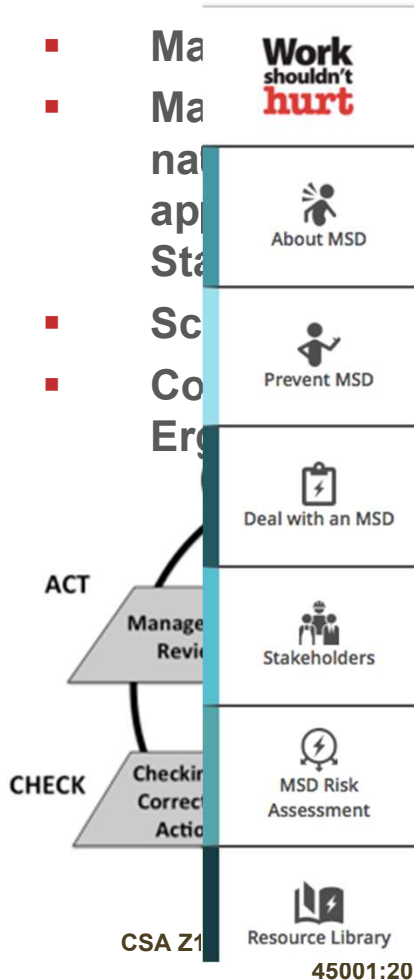
**Contribution:** This study gives expert insight into challenges associated with MSD risk factors as well as solutions regarding current approaches to MSD prevention and effective tools for implementation.

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# Guideline based upon 10 Step PDCA

## PDCA



## CORE ELEMENTS OF THE SAFETY AND HEALTH PROGRAM RECOMMENDED PRACTICES

STEP 1: Demonstrate Management Commitment and Leadership ▶

STEP 2: Facilitate and Encourage Workers' Participation ▶

STEP 3: Plan Hazard Identification and Risk Assessment ▶

STEP 4: Conduct Hazard Identification and Risk Assessments ▶

STEP 5: Develop a set of Targets and Goals to Eliminate Hazards & Control Risks ▶

STEP 6: Control Hazards and Implement Necessary Changes to Achieve Targets and Goals ▶

STEP 7: Provide Education and Training ▶

STEP 8: Evaluate Controls, the Program and the Organization's Performance ▶

STEP 9: Document Lessons Learned and Stakeholders' Feedback ▶

STEP 10: Review Processes, Achievements, and Identify Areas for Improvement ▶

Prevent MSD

Quick Start Guideline

Basic Guideline

Comprehensive Guideline



## Small Businesses

loads on the  
determine remedies

necessary control  
reduce identified

you addressed  
actively and monitor  
and safety

r program and  
ortunities for  
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## Need 4: Importance of Workers' Participation

- Importance of workers' participation for MSD prevention stressed throughout Guideline with specific forms of participation described.

Work shouldn't hurt

About MSD

Prevent MSD


Deal with an MSD

Stakeholders


MSD Risk Assessment

Resource Library

Why is workers' participation especially critical in the prevention of musculoskeletal disorders?




Meaningful employee participation is emphasized as being critical for an organization's success. The participation of workers in health and safety activities is likewise regarded as critical for successful prevention of injury and illness. In the prevention of Musculoskeletal Disorders (MSD) this participation is highlighted with terms like "participatory ergonomics". Why is the word "participation" so prominent in MSD prevention?



Introduction Factsheet

Download the factsheet introducing the new MSD Prevention Guideline for Ontario.

GO



Success Stories

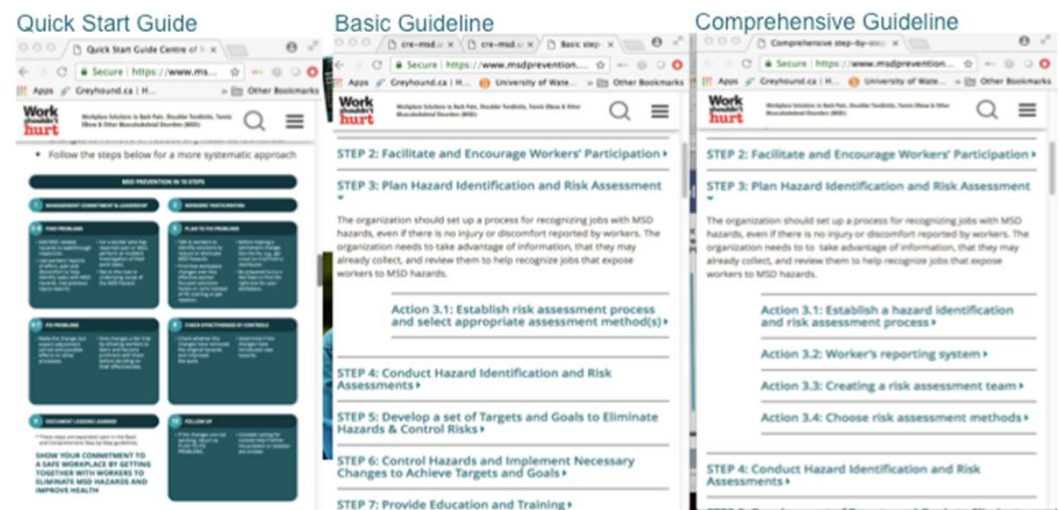
Read success stories and case studies about preventing MSD. These stories may apply to your workplace and help you make the right decision.

GO



## Need 5: Standards “too complex”

- Implementation oriented resources added to those of the current Guideline and linked to process steps.
- Creation of three guideline versions allows user to select desired level of detail BUT
- Processes are scalable to allow for the level of maturity in prevention practices of an organization.
- Language and process of all versions comparable and compatible with current Standards and practices.



# Need 6. Don't assume familiarity with OH&S concepts and language

- Created the Quick Start Guide



*More about the Quick Start Guide before lunch*

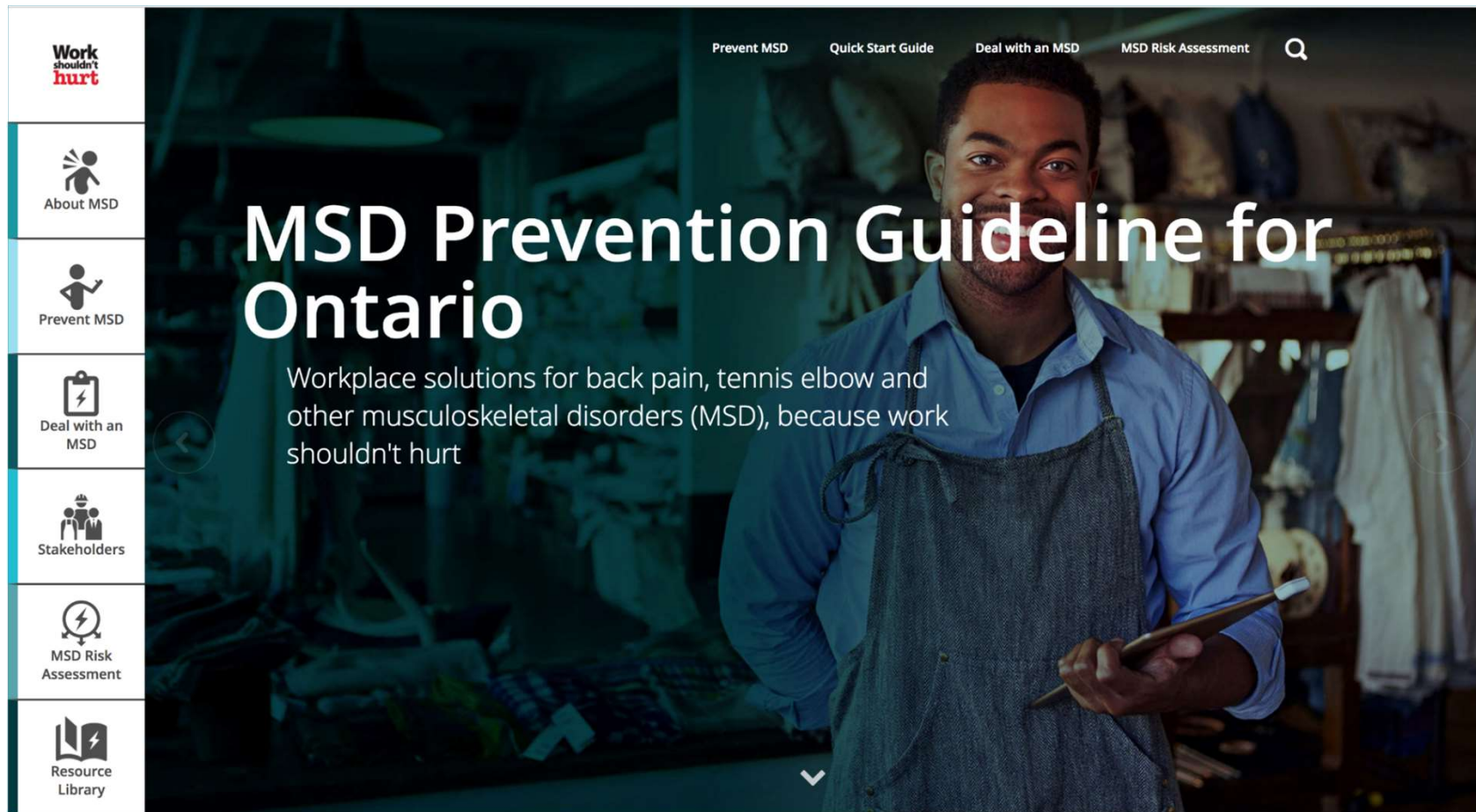


## Web Site Phase 1

- To satisfy users' needs we created the website to give:
  - Multiple ways for users to find relevant resources and information.
    - Multiple entry points: By stakeholder; By level of detail; By process or risk assessment
    - *Video on home page*
    - Searchable resources
    - Help in selection of MSD assessment tools
  - Incorporation of current Guideline resources
  - *Video/graphics of hazards*
  - AODA<sup>1</sup> and WCAG 2.0<sup>2</sup> compliant
  - Responsive

<sup>1</sup> *Accessibility for Ontarians with Disabilities Act (AODA)* and <sup>2</sup> *Web Content Accessibility Guidelines (WCAG) 2.0 Italics: Phase 2*

# MSD Prevention Website Walkthrough



<https://www.msdpreservation.com/>



## Next?

## Anticipated website development...

## Phase 2 Development

- Developing “Control Picker”, prevention resources and search function
- Develop Risk Assessment and other prevention resources in video, PDF and html formats
- Develop Quick Start Guide: Office
- Collect Stories and Case Studies
- Develop “Dealing with an MSD”

## Continued Development

- Respond to user feedback on Beta Release via web survey etc
- Continue to convert resources to be AODA compliant
- Continue to add supporting information and literature