



# Musculoskeletal Disorders in Manufacturing

*Improving worker safety and health through partnerships and research*

## NORA

The National Occupational Research Agenda (NORA) is a partnership program to stimulate innovative research and improve workplace practices. Unveiled in 1996, NORA has become a framework for guiding Occupational Safety and Health research in the nation. Diverse parties collaborate to identify the most critical safety and health issues in the workplace. Partners then work together to develop goals, objectives, and an implementation plan for addressing these issues.

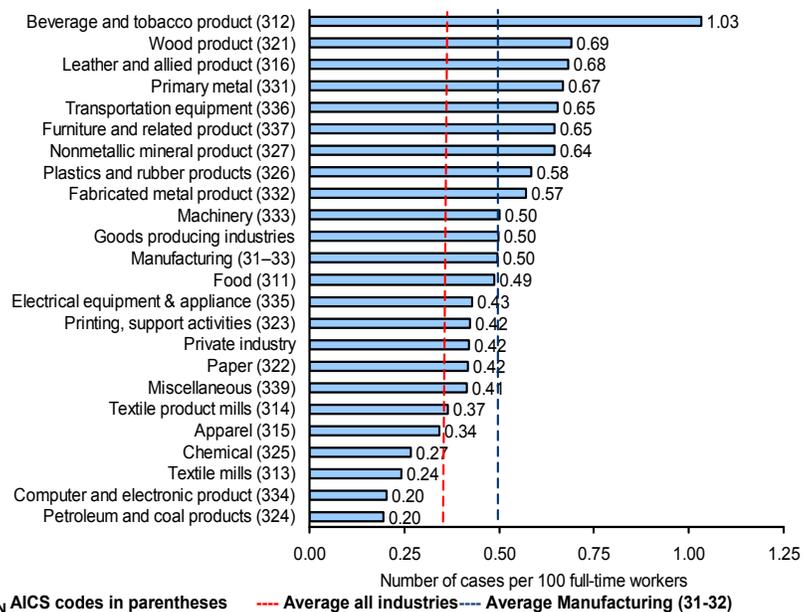
## Manufacturing

The Manufacturing Sector consists of industries that have been assigned a North American Industry Classification System (NAICS) number between 31 and 33, as defined by the U.S. Census Bureau. This sector represents approximately 13% of the U.S. workforce and includes a diverse group of manufacturing industries such as Beverage and Tobacco, Food, Wood Products, Primary Metals, Fabricated Metal Products, Transportation Equipment, Furniture, and Chemical Manufacturers. There are an estimated 16 million people working in the Manufacturing Sector.

## Musculoskeletal Disorders in the Manufacturing Sector

The incidence rate for Musculoskeletal Disorders (MSDs) within the Manufacturing Sector is 41/10,000 workers (Bureau of Labor Statistics, 2007). Experience has shown that reducing MSDs can improve productivity, reduce workers' compensation and healthcare costs. To accomplish its mission, the NORA Manufacturing Sector Council has developed an agenda that includes surveillance, epidemiology, exposure assessment, etiological research, work organization, and control technology. The Council also aims to facilitate active partnerships between stakeholders within the Manufacturing sector and researchers interested in occupational safety and the prevention of work-related MSDs.

**Rate of occupational musculoskeletal disorders involving days away from work, Manufacturing industry sectors\*, Private industry, United States 2003-2007**



NIOSH is the federal agency responsible for conducting research and making recommendations to prevent work-related injury, illness, and death. Its mission is to generate new occupational safety and health knowledge and to transfer that knowledge into practice.

## Strategic Goal: Musculoskeletal Disorders Prevention

The NORA Manufacturing Sector Council has developed goals to guide research related to reducing musculoskeletal disorders (MSDs) in this sector. These goals can be found under Strategic Goal 3 of the NORA National Manufacturing Agenda, located at [www.cdc.gov/niosh/nora](http://www.cdc.gov/niosh/nora). Comments are accepted any time.

### How You Can Help

*Partner with researchers to:*

- Identify research gaps related to MSDs in Manufacturing
- Develop and validate tools for assessing ergonomic hazards
- Determine the contribution of individual, psychosocial, and biomechanical factors to the development of MSDs
- Develop cost effective interventions or engineering controls
- Identify markers of injury to assist in diagnosis and assess recovery

*Provide feedback on:*

- MSD-related issues important to your business
- Goals and objectives for reducing MSDs
- Implementation plans to address these issues

*Share data:*

- To improve epidemiology and surveillance data regarding MSDs in Manufacturing
- Help prioritize MSDs within specific industries for targeted research and prevention efforts

*Apply research findings:*

- Work with researchers to evaluate the efficacy of interventions at your worksite
- Evaluate the effectiveness of safety and health and return-to-work programs
- Develop business cases for adopting effective interventions
- Disseminate information regarding risk factors to workers and employers

The NORA Manufacturing Sector Council consists of individuals from areas such as industry, academia, labor, trade associations and government. The Council meets face-to-face twice a year. Additional communication occurs through email, conference calls, and web-based meetings. The National Institute for Occupational Safety and Health (NIOSH) facilitates the work of the Council. The Council's Work-Related MSDs workgroup relies on Corresponding Members for additional expert input and feedback on the sector goals related to MSDs. Members and Corresponding Members primarily meet via conference calls and web-based meetings.

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**For more information about NORA or the NORA Manufacturing Sector, please visit:**

**NORA Website:** <http://www.cdc.gov/niosh/nora>

**NIOSH Manufacturing Program Portfolio:**  
<http://www.cdc.gov/niosh/programs/manuf/>