

## What are our priorities?

The National Institute for Occupational Safety and Health (NIOSH) Manufacturing Program works with partners in industry, labor, trade associations, professional organizations, and academia. The program focuses on these areas among manufacturing workers:

- Preventing injuries and fatalities from contact with objects and equipment
- Preventing work-related illnesses such as musculoskeletal disorders and respiratory disease
- Reducing exposure to occupational safety and health hazards
- Reducing risks from new technologies and exploring ways in which new technologies can protect workers

## What do we do?

- Promote research findings, practical guidance and technologies to manufacturers, stakeholders and the public in general.
- Conduct research and provide recommendations to manufacturers on new technologies including nanomaterials, robotics, wearable sensors, safe equipment design and operation to prevent injuries.
- Evaluate the effectiveness of occupational safety and health interventions through research, [systematic reviews](#) and outreach activities.
- Develop mechanisms for effective translation of research into practice in the manufacturing sector.

## What have we accomplished?

- Published a [study](#) on the burden of occupational injuries across industries. The rate of musculoskeletal disorder claims per 100 full-time workers declined substantially in manufacturing industries.
- Systematically reviewed the effectiveness of interventions to prevent the effects of noise in the workplace.
- Published intervention descriptions, updates and testimonials from the winners of the [Safe-in-Sound Excellence in Hearing Loss Prevention Award™](#).
- Integrated National Health Interview Survey (NHIS) data on worker health into the [Worker](#)

[Health Charts \(WHC\)](#) webpage, which provides statistics on manufacturing industries.

- Published three papers from a study of US workers exposed to carbon nanotubes and nanofibers (CNT/F), an emerging hazard. Resting heart rate and self-reported respiratory allergies were both associated with some CNT/F exposure metrics.
- Launched [NIOSH Lifting Equation](#) smartphone app (NLE Calc) to assess the risk of lifting tasks. The app has been downloaded almost 8000 times in its first six months.

## What's next?

- Evaluate if sensors, Internet-of-Things (IoT), controlled access technology, and personnel location tracking can be integrated to improve situational awareness during maintenance operations.
- Launch a NIOSH topic web page for Hearing Protector fit-testing to provide best practice recommendations to integrate fit-testing into hearing loss prevention programs.
- Publish an analysis of the burden of respiratory abnormalities among microwave popcorn and flavoring manufacturing workers identified through NIOSH's Health Hazard Evaluation Program.
- Publish papers on the assessment of emissions and exposures that occur in facilities that use additive manufacturing processes and their possible health effects.
- Establish a link between Ohio Bureau of Workers' Compensation (OBWC) claims and Occupational Information Network (O\*NET) databases for the identification of musculoskeletal disorder risk factors in the manufacturing sector.

## At-A-Glance

The Manufacturing Program provides leadership to reduce occupational diseases, injuries, and fatalities among workers in manufacturing industries. This snapshot shows recent accomplishments and upcoming work.

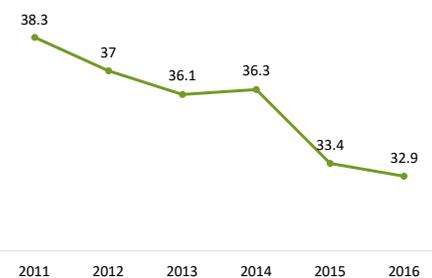
**Incidence Rate of Workplace Injuries by Contact with Objects & Equipment in Manufacturing\* (per 10,000 full-time workers)**



Source: U.S. Bureau of Labor Statistics

\* Non-fatal cases involving days away from work.

**Incidence Rate of Musculoskeletal Disorders in Manufacturing\* (per 10,000 full-time workers)**



Source: U.S. Bureau of Labor Statistics

\*Non-fatal cases involving days away from work.

**Incidence Rate of Hearing Loss in Manufacturing\* (per 10,000 full-time workers)**



Source: U.S. Bureau of Labor Statistics

\* Non-fatal occupational illnesses involving hearing loss.

To learn more, visit

<https://www.cdc.gov/niosh/programs/manuf/default.html>

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