

# Hearing Loss Prevention Program

## What are our priorities?

The National Institute for Occupational Safety and Health (NIOSH) Hearing Loss Prevention (HLP) program focuses on reducing the risk of occupational hearing loss. The program conducts research in noise control engineering, use of hearing protection devices and surveillance. The HLP program works with partners in industry, labor, trade associations, professional organizations, and academia.

## What do we do?

- Develop and evaluate engineering and administrative controls to reduce worker exposure to hazardous noise levels.
- Conduct surveillance of occupational hearing loss to identify occupations at increased risk and monitor progress in prevention.
- Promote evidence-based best practices for work-related hearing loss prevention by developing NIOSH communication products, including guidelines and criteria documents.
- Advance hearing protector and fit-testing technology to ensure workers are protected when engineering or administrative controls have not yet been implemented or do not reduce noise to safe levels.
- Identify, characterize, and reduce risk factors associated with occupational hearing loss, especially noise that is intermittent and impulsive (e.g., explosions, collisions or impacts) exposures that present greater risk.

## What have we accomplished?

- Conducted workshops on hearing protector fit-testing technologies at the 2019 National Hearing Conservation Association meeting and 2019 Elko Mining Expo.
- Published several chapters in the American Industrial Hygiene Association Noise Manual 6th Edition about ototoxic exposures, brief high-level sounds, and instrumentation and measurements.
- Tested hearing for more than 200 wildland fire fighters throughout the 2019 fire season with the U.S. Forest Service to evaluate risks and develop better hearing loss prevention training for firefighters.
- Published [age-adjustment tables that describe changes in hearing](#) as a function of normal aging effects.
- Helped develop a new American National Standard to test the ability to understand speech when wearing hearing protection.
- Published estimates of the percent of persons with hearing loss and the need to conserve worker hearing in the [Mining and Oil & Gas Extraction Sectors](#).
- Spearheaded [World Hearing Day 2019 Wikipedia Campaign](#) to expand information on Hearing Loss Prevention reaching more than 2.8 million readers.
- Organized and published the Journal of the Acoustical Society of America [Noise Induced Hearing Loss: Translating Risk from Animal Models to Real World Environments](#). This dedicated issue reviewed occupational noise exposure and hearing loss, acoustics of indoor and outdoor firing ranges, and prevalence of acoustic reflex in humans.
- Organized an international NIOSH meeting in Plattsburgh, NY about methods to assess auditory damage due to impulse noise.
- Released the Spanish language version of the NIOSH Sound Level Meter app for iOS

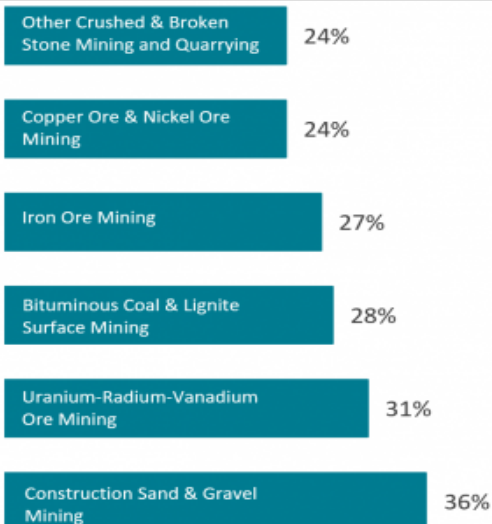
## What's next?

- Provide best practice recommendations for integrating fit testing into hearing loss prevention programs on a new NIOSH topic web page for Hearing Protector Fit Testing.
- Organize outreach activities for the International Year of Sound 2020 to add information to Wikipedia for Acoustics with an emphasis on Hearing Loss Prevention.
- Publish US Army technical reports about the pervasiveness and measurement of the acoustic reflex in normal hearing persons.
- Revise acoustic standards for measuring impulse noise performance of hearing protection devices (ANSI S12.42) and measurement of speech intelligibility (ANSI S3.2).

## At-A-Glance

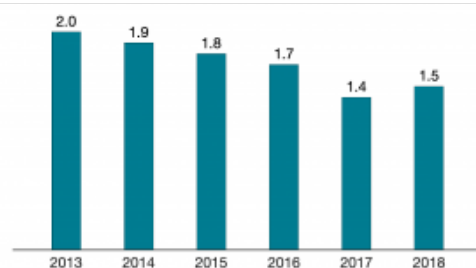
The Hearing Loss Prevention Program provides leadership to reduce the prevalence of occupational hearing loss. This snapshot shows recent accomplishments and upcoming projects.

Mining industry sub-sectors with highest prevalences of hearing loss among noise-exposed workers, 2006-2015.



Source: Generated from [Lawson et al.](#) 2019 results.

Incidence rate for hearing loss per 10,000 full-time workers reported to BLS by year



Source: Bureau of Labor Statistics



This year has been designated as the International Year of Sound. CDC and NIOSH are co-sponsors of the Wiki4YearofSound2020 effort to expand knowledge about acoustics, hearing loss prevention and noise control engineering



Centers for Disease Control and Prevention  
National Institute for Occupational Safety and Health

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To learn more, visit  
<https://www.cdc.gov/niosh/topics/noise/>  
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