

**Review of Progress Implementation Report for
NIOSH Hearing Loss Research Program**

Submitted by Board of Scientific Counselors

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BSC Working Group Members

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Completed Recommendations:

Recommendation #1: Foster Effective Leadership.

Maintenance: 1 2 3 4 5

Brief Justification: It appears as though this recommendation has been completed professionally and efficiently. Since 2006, NIOSH has had a full-time Program Manager for the Hearing Loss Research cross-sector program. The Program Manager provides institute-wide senior scientific and administrative leadership for the program and has had an exceptional impact for the NIOSH HLRP program. These efforts have led to prioritized cross-sector and sector strategic goals for preventing occupational hearing loss as well as to funding for several research projects. The program appears to be stable and its efforts consistent with its mission.

Impact: 1 2 3 4 5

Brief Justification: The program manager, program coordinator, and assistant coordinator and steering committee have offered stability, consistency and the ability to efficiently allocate resources over time in a complex and cross-sector program. Research projects have responded to the NIOSH National Occupational Research Agenda (NORA). The Program Manager has directed the updates to the strategic plan and has documented significant achievement towards achieving strategic goals. The HLRP leadership team developed research goals that were adopted as research priorities in the five NIOSH divisions (OMSHR, DART, DSHEFS, EID, and NPPTL) and the Office of Extramural Affairs. In addition, the HLRP program has lead to the adoption of new hearing loss prevention practices, policies, and standards by governmental and professional organizations (MSHA, OSHA, Dept. of Interior, American Academy of Audiology, National Hearing Conservation Association, and the National Academy of Engineering, and more).

Recommendation #4: Develop a strategic plan.

Maintenance: 1 2 3 4 **4.5** 5

Brief Justification: The existing strategic plan is a focused and direct reflection of the National Academies review and the last BSC review. The strategic plan is to be updated every 5 years with the next effort coming in 2016. The strategic planning framework within the HLRP appears to work well and to guide research directions and proposal development. The HLRP successfully addressed all concerns that were brought up relating to this recommendation during their presentation at the June 20 BSC meeting. Impact from the program's superb strategic plan is ongoing and very well executed.

Impact: 1 2 3 4 **4.5** 5

Brief Justification: The strategic planning framework within the HLRP appears to work well and to guide research directions and proposal development. The HLRP's priority to develop NIOSH recommended exposure limits for impulse sounds and to strengthen programmatic ties between intramural and extramural efforts is commendable.

Recommendation #7: Systematize collaboration with regulatory partners.

Maintenance: 1 2 3 4 **4.5** 5

Brief Justification: The HLRP responded to this National Academies recommendation by establishing a three-pronged approach, strategically reaching out to three regulatory partners in three activities – to MSHA, OSHA and EPA. In each case, enhanced and mindful communication has occurred and even resulted in consistent (usually quarterly) and stable ongoing alliances, fostering improved coordination and collaboration. The program addressed all concerns that were identified relating to this recommendation during the June 20 BSC meeting.

Impact: 1 2 3 **4** 5

Brief Justification: The HLRP responded to this National Academies recommendation effectively by strategically reaching out to three regulatory partners. In each case, enhanced and mindful communication has occurred and resulted in consistent and stable alliances, which foster communication and collaboration. Despite these best efforts, the current regulatory climate has prevented more hearing loss prevention regulations from being created, and this may reduce the impact of the HLRP's efforts. It is perhaps too soon to judge the clinical impact of these enhanced communication efforts, but it is already clear that improved relationships and information sharing now exist between NIOSH, MSHA, OSHA and EPA regarding the HLRP.

Recommendation #8: Place greater emphasis on evaluation of the effectiveness of hearing loss prevention measures on the basis of outcomes that are as closely related as possible to reducing noise exposure and the incidence of occupational hearing loss.

Maintenance: 1 2 3 4 5

Brief Justification: The HLRP responded to this recommendation by primarily two activities; better engineering controls and better fit testing. Consistent and aggressive pursuit of new modeling methodologies, and subsequent product development will continue to enhance our understanding of occupational hearing loss and how to prevent it. HPD Well-Fit is well-accepted.

Impact: 1 2 3 4 5

Brief Justification: From a stakeholder perspective, NIOSH has done excellent work, but it is difficult to identify workplaces where the improvements have been implemented so that NIOSH can quantify the HLRP's impact. Some industries are following improvement recommendations, but some are not. The workgroup recommends that the HLRP focus some research efforts on separating exposure from personal listening devices verses exposure from occupational noise in the future. The development and implementation of engineering noise controls for major occupational noise sources is commendable as are the joint fit-testing recommendations between OSHA NIOSH, and the NHCA. The development of Source Path Contribution technology and the continued commercialization of NIOSH-generated technologies or procedures is outstanding. An example of the HLPR's HPD Well-Fit program received the NIOSH 2013 Bullard-Sherwood Award for singularly outstanding achievement in Research-to-Practice. Excellent work.

Recommendation #13: Accredit laboratories used to conduct studies for the HLRP.

Maintenance: 1 2 3 4 5

Brief Justification: Brief Justification: Accreditation is achieved and ongoing - NIOSH is one of only 21 organizations in the nation with NVLAP accredited facilities. Accreditation maintenance activities are sufficient and ongoing. Accreditation is essential to achieve credibility in testing and recommendations, and to stay in compliance with ISO standards. Efforts to upgrade to the laboratories' hardware, software, and test protocols are applauded.

Impact: 1 2 3 4 5

Brief Justification: Accreditation is essential to achieve credibility in testing and recommendations and to stay in compliance with ISO standards. The HLRP provides credibility to test results obtained in the NIOSH laboratories and its resulting publications related to the HLRP's work.

Recommendations In Progress:

Recommendation #5: Use surveillance data as well as stakeholder input to identify priorities.

Progress: 1 2 3 4 4.5 5

Brief Justification: The HLRP has done great work on the use of surveillance data and stakeholder input to identify priorities, especially with the addition of four private sector audiometric service providers, who were recruited to partner with NIOSH to share audiometric data. The addition of private sector audiograms to the HLRP data repository did much to further the goal of this recommendation.

(Activity A) A national repository as part of NIOSH NORA project proposal was submitted to continue funding for the OHL Surveillance Project, and the proposal was funded for fiscal years 2014-2017. Funds will be used for the purchase of private sector worker audiometric data and industry coding, in addition to the collection and occupation coding of United States Air Force (USAF) audiometric, noise exposure and chemical exposure data.

(Activity B): data has been analyzed, submitted for publication and disseminated to partner organizations

(Activity C): Comments and feedback have been formally requested from each of our project partners on every OHL Surveillance Project analysis prior to releasing results to the public. All journal publications were also peer-reviewed by one or more leaders in the hearing conservation field prior to journal submission.

Impact: 1 2 3 4 4.5 5

Brief Justification: It is perhaps too soon to judge the true impact from these efforts. The future impacts of these efforts have tremendous potential. The NHCA's (National Conservation Hearing Association) collaborative effort with academia, NIOSH, and industry to update age-corrected hearing loss tables will represent the first updated age-correction table since 1972. This is to be commended and will have long lasting impacts on worker safety and health.

Recommendation #11: Develop noise control engineering approaches for non-mining sectors.

Progress: 1 2 3 4 4.5 5

Brief Justification: The HLRP used two main activities to respond to this National Academies recommendation – engineering controls and the development of an information data base of sound levels for hand power tools. The HLP program is enhancing its in-house engineering capacity via several engineering students pursuing advanced degrees in acoustical engineering. The HLRP has also been participating with NHCA in the Safe-in-Sound award program. The release of the “Buy-Quiet” program and the Global Database of Noise Levels is highly anticipated.

Impact: 1 2 3 4 4.5 5

Brief Justification: The HLRP used two main activities to respond to this National Academies recommendation – engineering controls and the development of an information data base of sound levels for hand power tools. For example: A Powered Hand Tool database being highly is being used extensively by the National Academy of Engineering, NASA, New York City Department of Environmental Protection, National Parks Service, U.S. Department of Defense, General Services Administration, Noise Pollution Clearinghouse, and Laborer’s Union. The Safe-in-Sound award program has had tremendous success in helping change workplace behaviors in a variety of industries. This award is well-known, well-publicized, and sought after by industry. The release of the “Buy-Quiet” program and the Global Database of Noise Levels will increase the HLRP’s impact.