

Final Progress Report

Project title: **Occupational hearing loss in Washington State**

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This report was prepared by William Daniell before complete review by the co-investigators.

Abstract

Washington State experienced a large increase in workers' compensation claims for occupational hearing loss (OHL) during the 1990s, continuing to the present. The findings of studies of these claims, and studies elsewhere, indicate that a substantial segment of the contemporary work force still faces a significant risk for developing OHL. There is a need for actions to address the underlying problems. There is also a critical need for information to guide any actions in a constructive and efficient manner.

This study included two main projects: 1) a telephone survey of people with recent OHL claims, and 2) field evaluation of noise exposures and hearing loss prevention practices at 76 companies in eight industries with higher than average rates of OHL claims. The study also analyzed previously collected pilot data from field evaluations in ten foundries, and incidentally yielded a descriptive study of OHL claims filed during 1984-1998. The overall study had four specific aims.

Aim 1: To identify the major pathways and influential factors by which individuals with OHL are identified and reported to the workers' compensation system.

The telephone survey found that the decision by a current or former worker to file an OHL claim is commonly influenced by a number of factors. The most important influence on decisions to file an OHL claim was social contacts, especially family members, but also friends and coworkers.

Several types of health care providers were identified as important or very important influences on decisions to file a claim. Most subjects said a screening program conducted outside of work had an important influence on their decision to file an OHL claim, but they generally described this as less important than other influences, particularly family members and friends.

Only about a quarter of subjects said an advertisement or other media source of information was an important influence, and most did not say it was a very important influence.

There was a relative lack of influence by workplace representatives on decisions to file an OHL claim. This raises concern about the completeness or adequacy with which audiometry findings are communicated to workers when they are tested in workplace annual monitoring programs.

Aim 2: To identify factors that may have contributed to the increased reporting of OHL in Washington State.

The telephone survey did not identify any factors – "smoking guns" – that clearly accounted for why so many more current and former workers chose to file an OHL claim in recent years, than in the past. As noted, most of the surveyed claimants said that a screening program conducted outside of work had an important influence on their decision to file an OHL claim, but they generally described this as less important than other influences, particularly family and friends. It is possible, however, this study underestimated the direct or indirect influence of screening programs, advertisements, and media information on decisions to file a claim.

Aim 3: To determine whether there is any substantial work-related risk at the present time for OHL in industries with high numbers and/or rates of OHL claims.

The information provided by the telephone survey subjects about conditions at their most recent noisy job – most of which occurred since OSHA/WISHA hearing conservation regulations were implemented – suggested that many employers are not optimally compliant with regulations. Based on the subject reports, employers in some industries, particularly construction and other non-manufacturing industries, are generally less compliant than employers in other industries.

The evaluation of work sites in selected industries found that excessive noise exposure was common in all of the study industries. Nearly all companies had employee exposures that required a hearing loss prevention program, and more than half had employee exposures that required the employer to consider possible noise controls. In general, the possibility of new noise controls received no or low priority in all of the study industries.

Most of the evaluated companies had substantial shortcomings in their hearing loss prevention programs. In general, there was little difference between industries in the use of noise measurements or consideration of noise controls. However, policies and practices related to employee training, hearing protection, and audiometric testing were generally more complete in some industries than others. Within each industry, there were substantial differences between companies in the completeness of hearing loss prevention policies and practices. Every industry included some companies with relatively complete policies and practices and some companies where policies and practices were substantially incomplete.

Hearing protection was commonly underused. Reported use was highest at companies with relatively complete hearing conservation programs, and in industries where excessive noise exposure was most prevalent and least intermittent. Many employees had difficulty estimating how often, and presumably when, their noise exposure was excessive. This can pose a problem in situations where exposure is intermittent and hearing protection is used only during exposure.

Aim 4: To assess the effectiveness of using workers' compensation claims information to "target" or identify industries and worksites with remediable risk factors for a chronic occupational health problem, using OHL as a case in point.

The evaluation of work sites in selected industries found little evidence that claims statistics for OHL – and conceivably for other occupational illnesses that manifest many years after first exposure to a hazard – are useful for identifying industries where there is a high risk for developing that condition and where additional preventive measures are most needed.

In general, the reports by OHL claimants in the telephone survey about their most recent noisy workplace also were not an effective source of information for identifying industries that were substantially more in need of intervention than other industries, nor companies that were more in need of intervention than other companies within the same industry.

It is conceivable that claims statistics or claimants' reports could be useful for targeting specific industries, if supplemented with other information about candidate target industries.

The OHL claims statistics for the study industries showed a significant correlation with the average prevalence of hearing loss on audiometry records in each industry. In industries where OHL claims were more common, monitored employees were more likely to have hearing loss. Claims statistics for OHL – and conceivably other occupational illnesses – may be useful for targeting initiatives to identify workers who have that condition and who may not be aware they have the condition.

Information about the usual extent of noise in an industry is probably a better source of information for targeting interventions to reduce risk for developing OHL, than is information about hearing loss claims, although the two may be useful when considered together. In general, the average completeness of hearing loss prevention policies and practices at work sites in a study industry was strongly associated with the extent of noise overexposure in that industry. Furthermore, the intuitive response to information about noise levels would not necessarily be the best response. The industries with greatest margin for improving hearing loss prevention efforts are not necessarily the noisiest industries, but may be industries where noise exposure is more moderate or intermittent.