

# 15 years later: Landmark hearing study follows up on farm youth

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A landmark study conducted by Marshfield Clinic Research Foundation (MCRF) 15 years ago found that an educational intervention improved hearing protection use among farm youth.

Now, the National Institute for Occupational Safety and Health (NIOSH) has awarded a \$954,000 grant to MCRF to study the same group of Wisconsin youth to see whether the increase in hearing protection use continued into adulthood and whether it helped preserve hearing.

The new three-year study, under principal investigator Barbara Marlenga, Ph.D., a research scientist with the National Farm Medicine Center, MCRF, will evaluate whether the hearing conservation program conducted with farm youth from 1992-96 had long-term benefits to safeguard hearing. Although that hearing conservation program was conducted with farm youth, the impact of this new study goes beyond agriculture.

"Noise-induced hearing loss is a big problem," Marlenga said. "Ten million people in the United States, including children and youth, have hearing loss from exposure to loud noises. More than 30 million workers are estimated to be exposed to hazardous noise levels on the job."

The key to success of this study is the ability to find the youth from the original research study. To qualify for the new grant, Marlenga and colleagues conducted a search for the earlier participants, who are now young adults. She sent a letter to a small number of the original 689 people, then called and asked if they would be willing to participate in the follow-up study. More than 90 percent of those she reached said they would participate in a follow-up study.

"Being able to demonstrate that we could find these students again was crucial to our receiving the grant," Marlenga said. "This is a one-of-a-kind opportunity to see if early intervention to prevent

noise-induced hearing loss can be sustained over time," Marlenga said.

The original study, conducted through the National Farm Medicine Center, MCRF, evaluated hearing of 689 farm youth in junior and senior high school. Half the participants received ear muffs and ear plugs as well as training and reminders about using hearing protection over a four-year period while in school. At the end of the study, the youth who received the intervention reported using hearing protection more consistently than those who did not, although at that time hearing test results were not different between the two groups.

"After 15 years, we expect that noise-induced hearing loss would start to appear," Marlenga said.

For the new study, participants will again have their hearing tested and will be asked about work and home noise exposure. They will also be asked about hearing protection and whether they are required to use it where they work.

Source: Marshfield Clinic

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