



July 9, 2013

MEMORANDUM

To: Shelly Martinez, Kashka Kubzdela

From: Gail Mulligan, Jill McCarroll

Subject: Responses to OMB Passback (7-9-2013, 1-15-2013) for the ECLS-K:2011 Spring Third-Grade School Contact for Hearing Evaluation Change Request

1. On this change request, we would like to understand a little better the utility of screening the same children (i.e., general population, not high risk) one year after their last screening, whether NIDCD would want to fund another screening during future rounds of data collection (e.g., 5th grade), and especially if there are no plans to conduct another later, whether the screening could be funded now but carried out later (eg during the 5th grade data collection).

Our desired study design or approach is to conduct hearing exams in both the spring 3rd grade data collection, which is 1.5 years after the fall 2nd grade evaluation, and then again in the spring of 5th grade. This would give us three points of data for examination of hearing loss over time.

When we did the initial pilot study and included children in kindergarten, 1st, 2nd, and 3rd grade, we saw differences in the audiograms (averaged across children) for 2nd graders compared to 3rd graders in the high frequency range – frequencies of 4, 6, and 8 kHz, with the greatest difference being a “notch” or “dip” at 6 kHz. This is a significant finding since such notches are likely due to either prolonged noise exposure (from the environment, including school buses, personal listening devices, etc.) or to very loud impulsive noise exposure (e.g., gunfire close by, jack hammer nearby, firecrackers, etc.). However, the data from the pilot test were collected from a small sample, and we want to see if the findings are replicated in the national sample.

We expect that the children with these patterns of high frequency hearing loss at 3rd grade will have an even more pronounced high frequency hearing loss at 5th grade. For those that do not show this pattern, we can assume it was likely a “temporary” hearing loss at 3rd grade and with the cessation of very loud noise exposure, the hair cells were able to grow back-in and perform normally. Thus, it is important to have data from multiple time points to determine when hearing loss emerges, as well as whether it is sustained. High frequency hearing loss makes it much harder for children to hear in noisy environments, and children are exposed to noisy environments every day. This can put children at higher risk of failing to hear and understand what is being said in many different learning environments.

It would not be possible for NIDCD funding for the current fiscal year to be used for data collection in the fifth-grade round because there is no contract in place yet for the fifth-grade data collection.