

## Attachment 4a

### National Health and Nutrition Examination Survey (NHANES) Words-in-Noise Pilot Study Description

Eligibility: All NHANES participants 70 years and older, who speak/understand English or Spanish, are eligible for the Words-In-Noise exams. The maximum number of respondents would be 250.

Informed Consent: No additional consents other than the regular NHANES consents are needed.

Exclusion Criteria:

There are no safety exclusions. Participant would be excluded for the following situations;

- The participant does not have pure-tone air conduction audiometry exam
- The audiometry exam indicates that the participant's average threshold for the low frequencies (500, 1000, 2000 Hz) is  $\geq 60$  dB in both ears

Data Collection: The study will take place in the MEC during the regular NHANES examination. The WIN test will be conducted using the National Instruments hardware which is currently used for pure-tone threshold hearing testing; and using the test recordings (pre-recorded stimuli) from the NIH Toolbox. During the test, the SP is required to repeat a list of 35 words presented in a background of multi-talker babble in the same headphone. Target words are initially presented at a level 24 dB above the background babble; after every five words, the level of the target words is reduced until they are presented at the same level of the background noise (i.e. 0 dB signal-to-noise ratio). The health technician will record each response as correct or incorrect; the test is ended early if the SP cannot repeat any of the five words at a given signal-to-noise ratio. The WIN software automatically scores the SP's performance; results are reported as the 50% signal-to-noise ratio at which the SP is able to correctly identify 50% of the presented words.

Report of Findings: No results will be reported to the participants during the pilot.