Preliminary Outcomes of a Hearing Loss Screening Program of 5,360 Older Adults at the Medical University of South Carolina

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INTRODUCTION

Hearing loss is a highly prevalent chronic condition in aging adults. Hearing loss onset is often gradual, and its severity progresses with age. Prevalence estimates by age are as follows: 60-69 years: 44%, 70-79 years: 66%, and 80-92 years: 90%.[1-2]

Hearing loss has wide-ranging impacts on health and well-being. It often leads to communication difficulties and is associated with poorer quality of life and several adverse health outcomes.[3]

However, hearing loss often goes undiagnosed, and therefore, unaddressed, for long periods of time. Many older adults are unaware of their hearing loss, or if they are experiencing hearing difficulties, they may not know how to get help. Only approximately 20% of adults who could benefit from hearing aids use them.[4] Delays between hearing loss onset and help seeking and diagnosis have been estimated at 5 years.[5] Delays between the time of diagnosis to hearing aid uptake have been estimated at 9 years.[6]

Systematic screening could improve early detection and treatment of hearing loss. Outpatient visits provide a unique opportunity to ask patients about hearing loss and their interest in treatment.

A pilot program to screen for hearing loss in adults ≥65 years was initiated at the Medical University of South Carolina (MUSC). This program was implemented in primary care and otolaryngology outpatient clinics in Charleston, SC. The purpose of this study was to describe demographic differences in responses to screening questions and the preliminary outcomes of this program.

SCREENING PROGRAM OVERVIEW

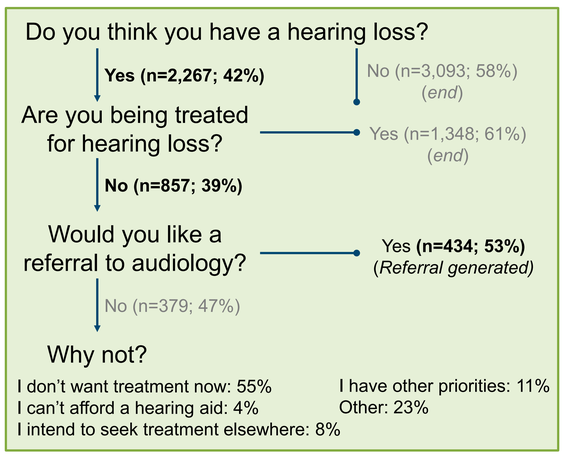

Figure 1. Overview of screening program at MUSC

RESULTS

Table 1. Study sample characteristics (n=5,360)

Characteristic	mean (SD) or n (%)
Age (years)†	73.0 (6.7)
Race	
Minority‡	1,671 (31.2%)
White	3,689 (68.8%)
Sex	
Female	3,122 (58.3%)
Male	2,238 (41.8%)
Insurance	
Medicare	4,644 (91.5%)
Blue Cross Blue Shield	307 (6.1%)
Managed Care	79 (1.6%)
Self-pay	13 (0.3%)
Other	35 (0.6%)
Department	
Otolaryngology (3 locations)	3,513 (65.5%)
Family Medicine (2 locations)	1,847 (34.4%)

†All patients who underwent screening were aged ≥65 years
‡96% of racial Minority patients were Black/African American.

Screening questions were integrated into the electronic health record (EPIC) during outpatient visits across five locations of a major academic medical center (MUSC). Automatic referrals to the MUSC audiology clinic were generated based on responses.

Older patients were more likely to self-report hearing loss ($p<0.01$) and current treatment ($p<0.01$). Age was not associated with request for referral ($p=0.25$).

Legend and figure notes

Female Male Minority White

Note. Percent calculated from the % of patients who answered each question (see Figure 1).

*$p < 0.05$ determined from ANOVA or chi-square

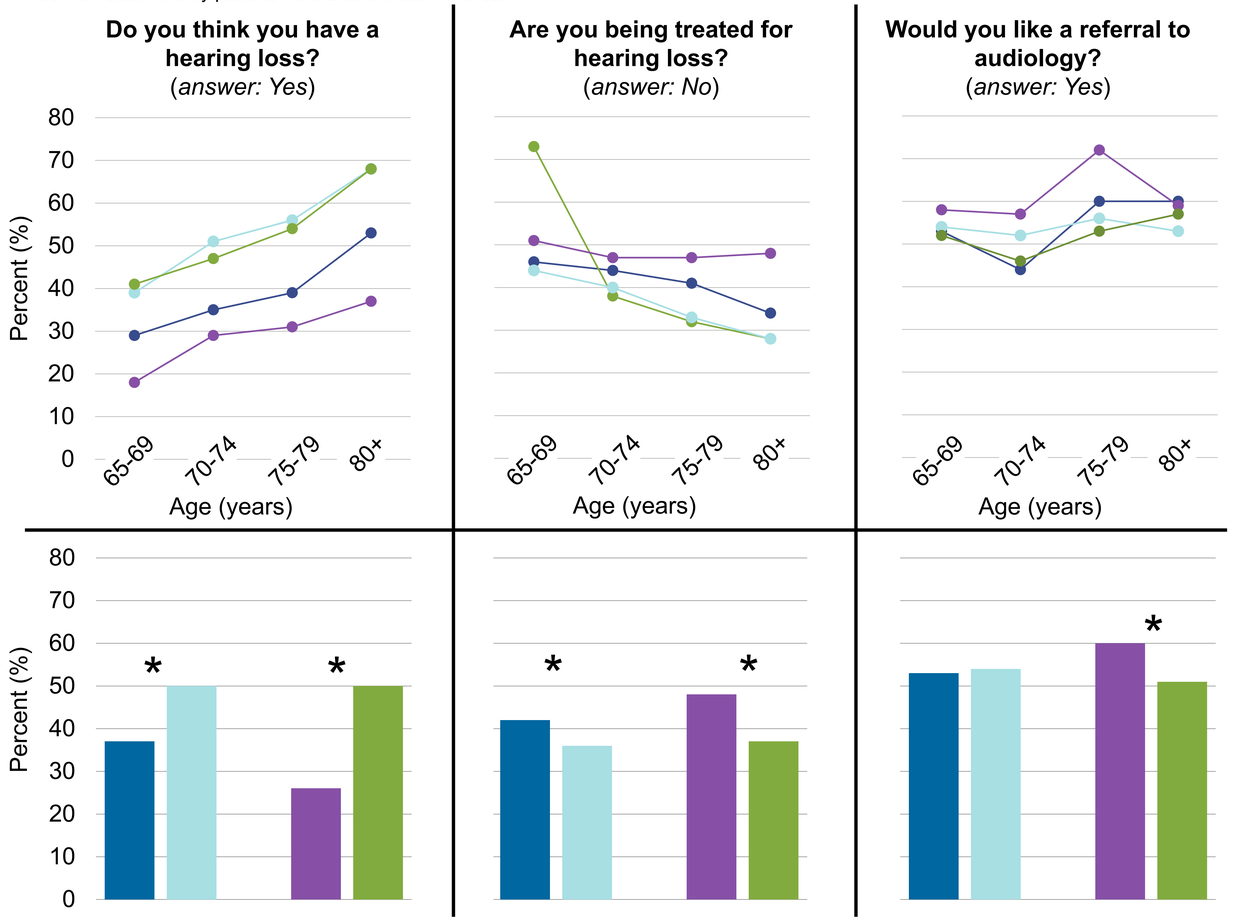

Figure 2. Responses to questions by demographic factors (bottom panels) and also by age (top panels)

DISCUSSION & CONCLUSIONS

Overview

- This pilot program used simple screening questions and identified a high percentage of older adults with perceived hearing loss.
  - Many patients with perceived hearing loss were untreated.
  - Most requested a referral to audiology.
  - Among those who did not request a referral, most (55%) indicated they did not want treatment now, and only 4% stated high costs of hearing aids as the reason.
- There are demographic differences in responses.
  - Patients of Minority race were less likely to be treated and more likely to request a referral.
- This pilot program was expanded to all primary care clinics in the MUSC state-wide enterprise and serves as the Medicare Annual Wellness Visit required hearing screening questionnaire.

Provider feedback on screening program

- "Takes seconds," "Definitely less than a minute"
- "Very easy to do"
- "Patients have been very happy this was asked"

Next Steps

- Determine the rates of follow-up for audiology referrals, hearing-related diagnoses and clinical procedures up to 1 year after screening.
- Evaluate demographic, hearing-related, and health-related factors associated with responses to screening questions, hearing-related diagnoses, treatment, and engagement with hearing health care.

Conclusions

- Simple screening programs such as this one in primary care clinics could identify patients with hearing loss and encourage hearing health care seeking, ultimately leading to earlier identification and treatment of hearing loss.

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