

Logic Model

Outcomes

- Provide hearing screenings to individuals living with limited resources.
- Assess the impact of stigma on individuals with untreated hearing loss
- Over 40 individuals with hearing loss identified

Outputs

- Completed hearing screenings and marketing at 10 partner sites
- Over 100 individuals screened for hearing loss
- A contract approved from legal at Auburn for the dispensation of refurbished hearing aids for individuals in need

Activities

- Weekly hearing screenings performed
- Multiple educational talks on the importance of hearing healthcare
- Created a long-term clinic placement of Auburn University Doctoral Students

Inputs

- Created educational handouts available to each site
- Authored survey assessing the stigma and access to hearing healthcare

Introduction

The affordability of hearing aids remains a significant barrier for three-fourths of Americans with functional hearing loss. Purchasing hearing aids may potentially lead to impoverishment for hundreds of thousands. One study suggests that the average bundled cost of \$2500 for hearing aids could push 77% of individuals with hearing loss into financial crisis and increase the poverty rate by 4%. Another study stressed the importance of addressing demographic groups less likely to use hearing aids, including younger adults, those living alone, and ethnic minorities. By offering hearing screenings and referrals for evaluation and amplification in partnership to frequently used programs for those with limited resources my project directly confronts the lack of access to hearing healthcare for underserved communities. This approach aims to mitigate health inequities by promoting early detection and intervention for hearing loss, which is often linked to various comorbidities such as depression, thyroid disease, diabetes, heart disease, dementia, cognitive impairment, and frequent falls among the elderly. Through targeted interventions and community partnerships, this initiative strives to bridge gaps in hearing healthcare, ensuring equitable access to essential services and improving overall health outcomes for vulnerable populations.



Impact

Impact on Auburn University Doctor of Audiology Program:

- 10 new partnerships with community resources
- A long term clinical placement for Doctor of Audiology Students
- A contract to distribute refurbished technology to individuals in need

Impact on individuals living with untreated hearing loss:

- Over 40 individuals living with untreated hearing loss identified
- Over 100 individuals screened for hearing loss
- Access to more affordable treatment options (refurbished technology continues to be distributed)
- Greater access to hearing healthcare both in location and affordability

Impact on Cognitive Functioning and Perceived Stigma:

The impact of the stigma survey is as follows: Statistical analysis was completed on IB-SPSS version 28 software using data collected from forty individuals with UHL who completed auditory (audiometric), hearing handicap (quality of life), and cognitive (MOCA) assessment outcomes. A binary logistic regression model was used for statistical analysis of data collected above because the output (dependent variable) of interest was MOCA score (high versus low). The predictor variables were: 1) age as binary variable: younger (age <65 years) versus older (age >65 years); 2) Socioeconomic Status or SES as binary variable: lower income (<\$55,000 annually) versus higher income (>\$55,000 annually); and 3) hearing handicap (continuous variable). Hearing handicap was a total quantitative score based on self-reported survey responses on four subscales: 1) emotional handicap, 2) social handicap, 3) psychological handicap, and 4) economic handicap. Specific questions were included in each of the subscales to assess the handicapping influence of UHL.

Results showed that age was the best predictor of cognitive function on MOCA for individuals with UHL ($p=0.04$). Specifically, younger individuals with UHL were 4.36 times more likely to have higher MOCA (better cognition) than their older counterparts. Hearing handicap was next most significant predictor of cognitive function; individuals with UHL who showed lower self-reported handicap scores were 1.96 times more likely to have better cognition (MOCA scores) than counterparts with higher handicap scores. Finally, higher SES individuals with UHL were more likely to have better cognition than lower SES counterparts.

Critical Assessment

During the Fellowship year, we encountered two significant challenges: encouraging individuals to follow-up for full evaluations after hearing screenings and obtaining approval to distribute used amplification. To address these obstacles, we provided written resources for scheduling appointments and reviewed documents at the screenings. Meanwhile, my academic mentor crafted a document, which was subsequently approved by legal at Auburn, that permits the distribution of refurbished hearing aids to those in need. This experience revealed my profound passion for expanding healthcare access among underserved populations and it solidified my commitment to this aspect of my career. Additionally, input from the Community Advisory Board and individuals with untreated hearing loss greatly informed the development of our handouts and services, enhancing our understanding of health disparities and social determinants of health.

