

Affordability of Hearing Aids for Low-Income Hearing-Help Seekers

Carole E Johnson, PhD, AuD;¹ Katie Rock;¹ Molly Donnell;¹ Nick Huntington-Klein, PhD;² Jin Hyung Park, BS;¹ & Anna Marie Jilla, PhD, AuD;¹

¹Hearing Evaluation, Rehabilitation, and Outcomes (HERO)
Department of Communication Sciences and Disorders
University of Oklahoma Health Sciences Center
Oklahoma City, OK 73117

² Department of Economics, California State University at Fullerton

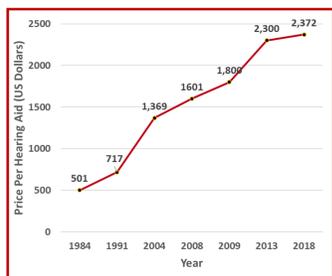
Work supported by a Health Research Grant HR-16-118 from the Oklahoma Center for the Advancement of Science and Technology and the United Way of Central Oklahoma



INTRODUCTION

Untreated sensorineural hearing loss (SNHL) is associated with reduced health-related quality of life, social isolation, depression, and brain atrophy, particularly in the temporal lobe (Chisolm et al, 2007; Lin et al 2013). Only one out of five with (SNHL) seeks assistance for communication problems through amplification. Although more than half of the states in the US provide some hearing healthcare coverage for adults, Oklahoma does not provide hearing aids through Medicaid or Medicare leaving the elderly and the disadvantaged to pay out-of-pocket for amplification and associated services. The purchase of hearing aids is one of the costliest for Americans after a home or car (Donahue et al, 2010). The average cost of hearing aids has risen 200% since 1984 when adjusting for inflation.

Figure 1. The cost of hearing aids over the years



PURPOSE

To determine the affordability of hearing aids for applicants to a community hearing aid bank.

METHOD

The United Way Hearing Aid Bank is the result of a collaboration among the John W. Keys Speech and Hearing Center, the United Way of Central Oklahoma, and Starkey Industries to provide entry-level advanced digital technology (ADT) hearing aids for deserving citizens who are residents of the following counties: Canadian, Cleveland, Kingfisher, Logan, Oklahoma, and Pottawatomie and have annual incomes at ≤ 1.7 of the federal poverty level (FPL) when adjusted for household size.

Figure 2. Counties Served by the UWHAB



Two judges checked the accuracy of household incomes, # in family, and other data placed in an Excel spreadsheet. Income was adjusted by household size in the impoverishment approach.

Two economic analyses were applied to income data reported by applicants to a community hearing aid bank from 2015 to 2018 in the state of Oklahoma (Niens et al, 2009). They were the:

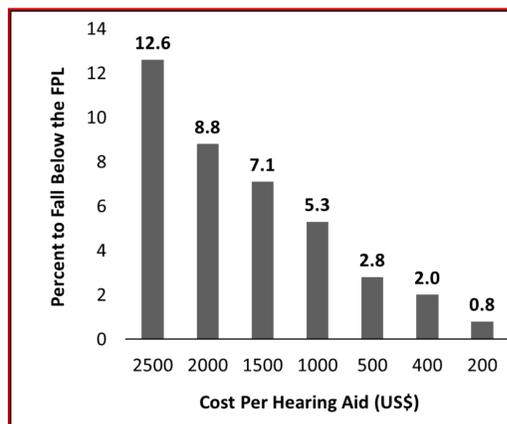
Catastrophic Approach: determined the proportion of the sample for which a purchase would exceed a predetermined percentage of income (i.e., 3%, 5%, and 10%).

Impoverishment Approach: calculated the proportion of the sample that would enter poverty (e.g., 1.0, 1.3, and 1.5 times the US federal poverty level (FPL) (US CMS 2019) for the year after deducting a purchase from annual income.

RESULTS AND DISCUSSION

The median income of the sample was \$13,778 (IQR: \$9,645; \$19,107). Ten observations were removed in the impoverishment approach due to missing household data. Figure 3 presents the results from the impoverishment analysis and that 51% (N = 201) of the sample was below the poverty level at baseline. An additional 12.6% would fall below the FPL for the year if purchasing a \$2,500 hearing aid. Similarly, 5.3% and 7.1% would fall below that FPL if purchasing a \$1,000 or \$1,500 hearing aid. However, 2.0% and 2.8% would fall below the FPL if purchasing a \$400 or \$500 hearing aid, respectively.

Figure 3. Percent of individuals who would further fall into poverty as a result of purchase of a hearing aid at different price points



The results from the catastrophic analysis found that nearly all these individuals could not afford to purchase a hearing aid (99%, N = 394) at \$2,500. Similarly, hearing aids priced at \$1,000 and \$1,500 would not be affordable for 94.9% (N = 378) and 98.7% (N = 391), respectively. Only about 50% (N = 198) and 67% (N = 265) would face financial catastrophe if having to purchase a hearing aid for \$400 or \$500, respectively.

It is important to note that the recommended standard of care is the use of binaural amplification for bilateral SNHL. All of the applicants were referred to the United Way Hearing Aid Bank from a variety of sources such as physicians/healthcare providers, non-profit groups, audiologists, and previous patients.

During the past three years, many of the patients in the United Way Hearing Aid Bank needed aid from the Masonic Senior Assistance Program administered through the Area Wide Aging Agency, another United Way Agency of Central Oklahoma, in order purchase two ADT hearing aids at \$400 per device. Patients under 60 years of age had little assistance from community agencies. The State of Oklahoma should provide entry-level ADT hearing aids for adults through Medicaid and Medicare.

CONCLUSIONS

- The hearing-help seekers with low incomes in this study could not afford an ADT hearing aid at an average price of \$2,500
- Affordability improved particularly at price points below \$500.
- The State of Oklahoma should provide entry-level ADT hearing aids for adults with SNHL through Medicaid/Medicare programs

REFERENCES

- Bailey, A. (2018a, June 20). Hearing aid prices survey. Hearing Tracker. Retrieved from <https://www.hearingtracker.com/hearing-aid-prices-survey>
- Bailey, A., (2018b, October 26). Paying for hearing aids with health insurance. Hearing Tracker. Retrieved from <https://www.hearingtracker.com/hearing-aid-insurance-coverage>
- Chisolm, T. H., Johnson, C. E., Danhauer, J. L., et al. (2007). A systematic review of health-related quality of life and hearing aids: Final report of the American Academy of Audiology Task Force on the health-related quality of life benefits of amplification in adults. *J Am Acad Audiol*, 18, 151-183.
- Donahue, A., Dubno, J. R., Beck, L. (2010). Accessible and affordable hearing health care for adults with mild to moderate hearing loss. *Ear Hear*, 31, 2-6.
- Lin, F. R., Yaffe, K., Kia, J., et al. (2013). Hearing loss and cognitive decline in older adults. *JAMA Intern Med*, 173, 293-9.
- Niëns, L. M., Brouwer, W. B. F. (2009). Better measures of affordability required. *Lancet*, 373, 1081.
- United States Census Bureau (2019). Poverty thresholds by Size of Family and Number of Children Retrieved from: Poverty thresholds by Size of Family and Number of Children. Retrieved from: <https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html>