Toward an Affordable Hearing Aid Option for Adult Arizonans with Limited Income

Report Commissioned by and Presented to
the Arizona Commission for the Deaf and the Hard of Hearing (ACDHH)

Task Force Members

Tom Muller, AuD, Committee Chair

Stephanie Adamovich, PhD

Giau Le, BS

Nicole Marrone, PhD

Linda Norrix, PhD

Aileen Wong, AuD

Department of Speech, Language & Hearing Sciences

University of Arizona

October 1, 2015

Arizona Commission
for the deaf and the hard of hearing

Acknowledgements

We gratefully acknowledge the efforts of dozens of individuals throughout the State of Arizona. In particular, we would like to thank Vivian Rubiano, Lauren Hopwood, and Adriana Sanchez for their contributions to the research on the topic. We would also like to acknowledge Michele Michaels and Sherri Collins for their extensive input on earlier drafts and the final version of this document. Funding from the Arizona Commission for the Deaf and the Hard of Hearing supported this research. The recommendations presented in this report were developed by the Task Force authors and do not necessarily represent the official views of the University of Arizona or the Arizona Commission for the Deaf and the Hard of Hearing.

Preliminary data from this project were presented at the national meeting of the American Auditory Society, March 5-7, 2015.

Table of Contents

Section 1: Executive Summary

Defining the Problem

- Adults with hearing loss **earn 40 to 45% less** and are **unemployed at a rate of 10 to 50% greater** than the national average, depending on the severity of their loss (Ruben, 2000). This represents lost tax revenue potential to the State and greater burden on state social services.
- There are an estimated **204,984** adult Arizonans with hearing loss living at or below the federal poverty level. Of these, **51,246** would likely benefit from and use hearing aids and hearing services if they could afford them based on a hearing aid utilization rate of 25%.
- Typical **costs of $2,000 or more for hearing aids with related services are out of reach of people** at this income level. Consider that a family of four making a total of only $23,850 between them would be at the top of this income category.
- **Currently there are limited resources to support adults with hearing loss in Arizona**; AHCCCS, Arizona's version of Medicaid, does not cover hearing aids for adults unlike Texas, New Mexico, Nevada, California, and other states covering devices and services.
- ***Healthy People 2020*** **national public health objectives** include increasing the proportion of adults aged 20-69 years with hearing loss who have ever used a hearing aid.

Proposed Solutions

- **Support availability of AHCCCS/Medicare Advantage Health Plans with hearing aid coverage:** Adults who are eligible for Medicare, but have a limited income meeting the AHCCCS enrollment criteria, can sign up for an AHCCCS/Medicare Advantage plan that covers hearing aids, available in many areas in Arizona. ACDHH should work closely with AHCCCS to ensure that such an option is available in all areas of Arizona.
- **Expand AHCCCS Coverage to Include Hearing Aids and Related Services for Adults Under Age 65:** We recommend that the State expand AHCCCS coverage already available to children through the program to working-age adults who are not eligible for AHCCCS/Medicare Advantage. Such an expansion should improve quality of life, income and employability for those who would qualify. This coverage is already available to children, so this change would likely involve limited administrative overhead.
- **Consider a Volunteer-based Hearing Aid Service Program (if needed):** Until the state is able to provide AHCCCS coverage of hearing aids for working age adults, as a stop-gap measure, it may be necessary to develop a statewide volunteer-based program to serve these individuals. This could scale-up existing pro-bono efforts and utilize cost-savings from state volume purchasing. Note that such a program can only serve a portion of the individuals in need, and the costs will likely remain prohibitive for many individuals.
- **Implement a Link Specialist Program:** It is evident that there is a need for individuals both to investigate and advocate for insurance coverage of hearing aids and services, and to be available to refer patients to the appropriate resources. This proposed program will meet this need by linking individuals with needed information and available resources.
- **Implement a Statewide Audiologic Rehabilitation Program:** To manage the whole person, not just the hearing aid, we recommend establishing positions for state-level audiologists to foster, coordinate and provide comprehensive rehabilitation opportunities.

Section 2: Our Charge from the Arizona Commission for the Deaf and the Hard of Hearing

Deaf and Hard-of-Hearing individuals in Arizona have repeatedly requested, through public comments and their Commissioner Representatives, that the Commission address the need for affordable hearing aids and associated rehabilitative services for people with limited income. This Task Force was created to find innovative solutions to this problem. This report provides an overview of the review of evidence and process of the Task Force to develop its recommendations. The Task Force's responsibilities were as follows:

- Develop a statewide model to provide hearing healthcare options and hearing aids to low-income Arizona residents, or to those who live at or below poverty level.
- Document the need for an affordable hearing aid program and estimate the number of Arizonans who may benefit from it.
- Schedule no more than four meetings/workshops to complete the scope of work. (ACDHH would provide the board room, CART, interpreters, LCD projector and monitor/DVD player, etc.)
- Define "poverty level" and determine appropriate income requirements for those who would be included in the model.
- Determine levels of service for those who meet income requirements.
- Conduct a survey of hearing healthcare providers regarding willingness to participate in such a program and the number of patients that could be accommodated.
- Determine the cost of such a program; establish a budget for the model.
- Establish a patient cap-per-provider (dispenser or audiologist) per year.

Section 3: Defining the Need for Hearing Aids and Hearing Aid Services for Arizonans with Hearing Loss and Limited Income

Overview. In this section we first define poverty in Arizona. Then we discuss the prevalence of hearing loss in the population. The result will be an estimate of the number of adults in Arizona with hearing loss living close to or below the poverty line.

Box 3-1. Key Findings on Hearing Loss in Arizona

- An estimated 1,145,166 of Arizonans age 20 years and above have clinically significant hearing loss in one or both ears.
- An estimated 727,915 of Arizonans age 20 years and above have clinically significant hearing loss in both ears.
- There are approximately 204,984 adults (20 years and older) with hearing loss in both ears living near or below the federal poverty threshold in Arizona.

Defining Poverty

Since the 1960's, the United States has used **poverty thresholds**, based on household income, size, and age (for 1 and 2 person families), to calculate statistics such as the number of Americans in poverty. The threshold level was originally based on the cost of a minimum diet times three to allow for expenditures on other goods and services and is currently updated for inflation using the Consumer Price Index (United States Census Bureau). Families who have income below the threshold level (Federal Poverty Level or FPL) are considered to be living in poverty.

In 2011, an alternate measure of poverty, known as the Supplemental Poverty Measure (SPM), was released by the Census Bureau. The SPM adjusts poverty thresholds as a function of home ownership status and regional differences in housing prices. Family income includes the value of tax credits and in-kind government benefits that are received and deducts job-related expenses, taxes from income and out-of-pocket expenses for health care. Comparing the "official" poverty level with the SPM, Short (2014) noted that SPM poverty rates are generally higher for the total population. Thus, debate exists regarding how the Census Bureau should determine the number of poor people living in the United States.

Poverty guidelines, adapted from the "official" poverty thresholds, are set by the Department of Health and Human Services (HHS) and are used to determine eligibility for federal programs such as the Supplemental Nutrition Assistance Program, certain parts of Medicaid, and the subsidized portion of Medicare-Prescription Drug Coverage (Assistant Secretary for Planning and Evaluation – ASPE). According to the ASPE, although poverty guidelines are based on standardized annual poverty thresholds, the guidelines that are used for federal, state and local programs in determining eligibility can define income in different ways. For example, income may be defined as gross or net and may or may not include cash assistance and benefits such as food stamps or housing allowances. Additionally, deductions to family income might be made

for necessary expenditures and services such as medical expenses, child care, and work-related expenses. Eligibility for different programs can also vary by the criterion used to define "poor" or "lower" income. For example, a program may define "poor" as households that earn less than 200% of the poverty guidelines or any other percentage of those guidelines.

When eligibility is defined using a variety of methods to classify family income, program developers make judgments regarding who should and who should not be considered "poor" or "lower income" and eligible for their program. While there may be merit to having individual programs make such decisions about eligibility, the plan developed by this Task Force will use Arizona Health Care Cost Containment System (AHCCCS) guidelines to define a low-income individual. (Please note that AHCCCS is Arizona's version of Medicaid.) Any hearing aid coverage plan provided through AHCCCS will be subject to AHCCCS eligibility criteria. Any program to be developed outside of AHCCCS will benefit from using these same criteria for the sake of consistency. In addition AHCCCS eligibility criteria are well-established, available to the public, understandable, and feasible to use, criteria that Citro and Michael (1995) cited as important when determining poverty.

AHCCCS sets eligibility criteria for the following five broad categories of coverage:

- Children
- Individuals
- Women
- Elderly or Disabled People
- Medicare Beneficiaries

Detailed information, 2014 Eligibility Criteria, about eligibility criteria within these categories along with other eligibility criteria to qualify for AHCCCS is provided in Appendix 1. The requirements for adults vary as a function of age, monthly income, and coverage type. Within the broad category of "Individuals" adults between the ages of 19 and 64 years of age qualify using 133% of the FPL.

Demographics of People with Hearing Loss in Arizona

The number of adult Arizonans with hearing loss was estimated using the national prevalence data from Lin, Niparko, and Ferrucci (2011), which was derived from the National Health and Nutrition Examination Surveys (NHANES) data set. We chose these prevalence numbers as the determination of hearing loss was based on objective audiometric testing, included a representative range of degrees of hearing loss, and was available by age decade across the adult lifespan. Specifically, the adult data for persons ≥ 20 years, was obtained from responses to the 2001-2006 cycles of the NHANES (n=4347). Hearing loss was defined in the survey as a pure-tone-average of hearing thresholds at 500, 1000, 2000, and 4000 Hz greater than 25 dB HL as tested in a sound-attenuating booth, following World Health Organization grades of hearing impairment. Prevalence was calculated for both bilateral and bilateral + unilateral hearing loss using the estimated US population at the midpoint of the survey cycle(s). See **Table 3-1**.

Table 3-1: Prevalence of Hearing Loss in the US by Age Group from Lin et al. (2011)

Age	Overall Bilateral Prevalence, % of population (95% confidence interval)	Overall (Bilateral+Unilateral) Prevalence, % of population (95% confidence interval)
20-29	0.42% (0 – 0.97)	3.2% (1.4 – 5.1)
30-39	1.6% (0.23 – 3.1)	5.4% (3.3 – 7.6)
40-49	6.5% (4.1 – 8.8)	12.9% (9.8 – 15.9)
50-59	13.1% (9.4 – 16.8)	28.5% (23.3 – 33.7)
60-69	26.8% (22.3 – 31.4)	44.9% (40.9 – 48.9)
70-79	55.1% (48.0 – 62.2)	68.1% (61.2 – 75.1)
80+	79.1% (76.0 – 82.2)	89.1% (86.1 – 92.0)

In general, the age group population percentages are similar between the United States and Arizona (see **Table 3-2**), with the exception of the 65-74 age group, which is larger in Arizona due to the retirement population; however, we felt reasonably confident that estimates for hearing loss based on age categories using national statistics would reflect the demographics in Arizona.

Table 3-2: Population Data from U.S. Census Bureau, 2009-2013 5-Year American Community Survey

Age	US Population	% of population	Arizona Population	% of population
20 to 24 years	22,099,887	7.1%	461,534	7.1%
25 to 34 years	41,711,277	13.4%	865,771	13.4%
35 to 44 years	40,874,162	13.1%	827,151	12.8%
45 to 54 years	44,506,268	14.3%	839,805	13.0%
55 to 59 years	20,165,892	6.5%	384,358	5.9%
60 to 64 years	17,479,211	5.6%	362,387	5.6%
65 to 74 years	22,957,030	7.4%	530,816	8.2%
75 to 84 years	13,220,447	4.2%	292,747	4.5%
85 years and over	5,673,565	1.8%	108,159	1.7%

To calculate the number of Arizonans over 19 years with bilateral hearing loss, the NHANES prevalence percentages were converted to decimal form and multiplied by the Arizona population estimates (see **Table 3-3**). The NHANES survey uses smaller age group categories, so for the purpose of our calculations, we collapsed the US Census Arizona population data into NHANES age categories. We estimate that **727,915** of Arizonans ≥ 20 years have bilateral hearing loss greater than 25 dB HL. Using the bilateral + unilateral overall prevalence figures, we estimate that **1,145,166** of Arizonans ≥ 20 years have hearing loss greater than 25 dB HL. The overall prevalence of hearing loss is notably higher in the working age group (40-69 years) when unilateral hearing loss is included.

Table 3-3: Prevalence of Bilateral and Bilateral + Unilateral hearing loss in Arizonans over 19 years

Collapsed age categories	Arizona Population by age	NHANES Prevalence Multiplier	Arizonans with Bilateral Hearing Loss	NHANES Prevalence Multiplier	Arizonans with Bilateral or Unilateral Hearing Loss
20-29 years	**882,582**	0.0042	3,707	0.032	28,243
30-39	**832,388**	0.016	13,318	0.054	44,949
40-49	**833,823**	0.065	54,198	0.129	107,563
50-59	**790,792**	0.131	103,594	0.285	225,376
60-69	**633,826**	0.268	169,865	0.449	284,588
70-79	**377,287**	0.551	207,885	0.681	256,932
80+	**221,678**	0.791	175,347	0.891	197,515
20 to 80+			**727,915**		**1,145,166**

Demographics of People with Hearing Loss in Arizona Living in Poverty

The target population for this proposed hearing aid delivery model is low-income adults living in Arizona. Per the discussion on poverty definitions, using AHCCCS eligibility guidelines to determine poverty is preferable, however, it was not possible to find published data on the number of Arizonans specifically living at 133% of the federal poverty guidelines. For the purpose of generally estimating the number of adults in Arizona with hearing loss living in poverty, we used the U.S. Census Bureau, 2009-2013 5-Year American Community Survey, data set DP03. Approximately 17.9% of all Arizonans live below the federal poverty level, with no distinction for age or race. Using this rate of poverty and the population of Arizonans with hearing loss, it was estimated that there are approximately **204,984** adults with hearing loss

living close to or below the federal poverty threshold in Arizona. Please note that the AHCCCS eligibility criteria of 133% would include more people. However, these poverty estimates do not take into account that a certain number of individuals would not qualify for AHCCCS for other reasons such as citizenship status. As a result, this estimate may be a fair approximation of the number of people who actually would qualify for AHCCCS.

Hearing Aid Uptake Rates

There are many factors that determine whether or not a person might obtain hearing aids, including cost, perceived benefit, and degree of hearing loss (Dillon, 2012). According to MarkeTrak consumer surveys (Kochkin, 2009) and consistent with epidemiologic studies on the prevalence of hearing aid use (Chien & Lin, 2012; Nash et al., 2013), about 20-25% of persons in the United States with hearing loss actually obtain hearing aids. However, the MarkeTrak survey reports that those with greater degrees of hearing loss have a much higher uptake of hearing aids (perhaps as much as 50%) due to increased restrictions in their ability to participate in life activities. For the purpose of this report, we are using the 25% overall market penetration rate to define how likely it is that a person with any degree of hearing loss will procure hearing aids. We can then calculate one final number that informs the number of low-income adults living below federal poverty levels (per US Census) in Arizona with bilateral or unilateral hearing loss who are likely to pursue amplification. From these estimates, we need to consider that as many as **51,246** low-income adult Arizonans need and want hearing aids. Some of these individuals will be served by other programs; we will focus our efforts on those that have no other alternative.

Benefits of Hearing Aid Use by Adults

Currently one of the main evidence-based technological tools to manage hearing loss is the use of hearing aid amplification. Hearing aids are medical devices regulated by the Food and Drug Administration and dispensed in Arizona by licensed professionals, including audiologists and hearing aid dispensers. Evidence about the effectiveness of hearing aids for adults with hearing loss relative to communication without hearing aids has been established in multiple studies in terms of helpfulness or benefit for communication, satisfaction, usage, and other domains such as improved quality of life (Chisolm et al., 2007). For example, in a randomized trial, Mulrow et al. (1990) found improvements in communication, social and emotional function, quality of life, and reduced depression among individuals with hearing loss who obtained hearing aids as compared to those on a waiting list. Humes and Krull (2012) reviewed 5 additional randomized controlled trials and over 30 nonrandomized intervention studies (grades A and B of research quality) on hearing aid effectiveness and found similar findings across studies. They reported as the main conclusions from this review: 1) The frequency of problems in everyday life is reduced from unaided to aided listening, 2) People typically respond that hearing aids are “helpful” and that they are “satisfied,” 3) Most individuals use their hearing aids on a daily basis, and 4) Speech understanding is significantly improved from unaided to aided test conditions.

Hearing aids have also been shown to be effective for addressing mild to moderately severe hearing loss in comparison to other device interventions. Yueh et al. (2001) compared the effectiveness of different forms of amplification intervention for adults. Participants were assigned to one of four groups: use of programmable hearing aids with directional microphones, use of nonprogrammable nondirectional aids, use of an assistive listening device, or a non-

treatment control group. The hearing aids were fit by audiologists with patient-specific amplification options and clinical follow-up, including counseling and adjustments up to 1 month after the fitting as needed. The best improvements were made by individuals who used the programmable directional hearing aids (e.g., 31 point improvement on the Hearing Handicap Inventory for the Elderly) followed by the nonprogrammable nondirectional aids (+17 points) and the assistive listening device (+4 points) as compared to the control patients (+2 point change from time 1 to 2). Those fit with the directional hearing aids also reported the best daily use of the device (nearly 9 hours per day).

Recently, there has been increasing interest in research towards the potential effects of hearing aid use on cognitive abilities beyond speech communication. Doherty and Desjardins (2015) examined the effects of hearing aid use on auditory working memory function among middle-aged and young-older adults with mild to moderate sensorineural hearing loss. The hearing aids were fit using a prescriptive method, verified using real-ear measurements, and with informational counseling in the use and care of the hearing aids. Scores significantly improved on the auditory working memory tests for those using hearing aids while there was no improvement for age-matched control participants who were not fit with aids.

Hearing aids facilitate hearing in daily life for many adults with hearing loss (Granberg et al., 2014). However, when hearing aids are of limited benefit, typically due to the severity of hearing loss or limited aided speech recognition, the individual may be referred for a cochlear implant evaluation (Arnoldner & Lin, 2013; Gifford, Dorman, Shallop, & Sydlowski, 2010). The purpose of the present Task Force focused on access to hearing aids among low-income adults in Arizona; access to cochlear implants should likely be considered by ACDHH in the future.

Hearing and Healthy Aging

The prevalence of hearing loss increases with each decade across the adult lifespan (see Table 3-1 for data from Lin, Niparko, & Ferrucci, 2011). The effects of hearing loss on functioning and disability can be complex and far-reaching, especially when the individual uses speech communication as a basis for their first language (Granberg et al., 2014). In adults, hearing loss can be associated with a number of negative consequences including difficulty in speech communication and social interactions as well as poor self-reported quality of life (Arlinger, 2003). Changes in hearing impact the neural systems supporting speech comprehension in older adults (Peelle, Troiani, Grossman, & Wingfield, 2011). Hearing loss is independently associated with cognitive decline and incident dementia (Ulhmann, Larson, Rees, Koepsell, & Duckert, 1989; Lin et al., 2011; Lin et al., 2013), social isolation (Mick, Kawachi, & Lin, 2014; Strawbridge, Wallhagen, Shema, & Kaplan, 2000), depression (Mener, Betz, Genther, Chen & Lin, 2013; Saito et al., 2010), physical functioning/activities of daily living (Dalton et al., 2003), hospitalizations (Genther et al., 2013; Genther et al., 2015), and falls (Lin & Ferrucci, 2012; Viljanen et al., 2009). Financial costs may come in the form of effects on employment, quality of life, and increased use of community support services (McMahon et al., 2013; Schneider et al., 2010).

These concerns for healthy aging are of great importance to the State of Arizona, which has over one million residents over age 60 years (Arizona State Plan on Aging 2015-2018). Affordable assistive devices (hearing aids, glasses, canes, etc.) have been ranked as a top 3 issue identified as a problem across the state in surveys conducted by Area Agencies on Aging, including in

Pima, Cochise, Graham, Greenlee, and Santa Cruz counties among others (Carreira, 2013; Pima Council on Aging, 2013).

Current Arizona Programs Available to Adults with Low Income

Vocational Rehabilitation

The Vocational Rehabilitation (VR) program provides a variety of services to persons with disabilities, including hearing aids, with the ultimate goal to prepare them to enter into or retain employment. The program is funded through a State/Federal partnership and is administered by the Rehabilitative Services Administration (RSA), part of the Department of Economic Security. Their eligibility criteria are below and can be found here: https://www.azdes.gov/main.aspx?menu=32&id=1394#Who_is_eligible_for_VR_services?

> *An applicant's eligibility for VR services is based on the following 4 requirements.*
>
> 1. *Have a documented disability;*
> 2. *Have substantial impediments to employment due their documented disabilities;*
> 3. *Have the potential and desire to become employed; and*
> 4. *Need VR services in order to become employed.*

The vast majority of people with hearing loss certainly need to hear well in their work (Tye-Murray, Spry, & Mauzé, 2009). Despite this, Vocational Rehabilitation is only able to provide hearing aids for ~235 Arizonans each year. Recall that an estimated 174,817 adults between the ages of 20-59 years are living with clinically significant hearing loss in both ears (Table 3-3), which represents serving 0.001% of this population.

Veteran's Administration

The Veteran's Administration (VA) provides hearing aid and audiology services at no charge to veterans who meet their eligibility criteria. The criteria are below and can be found here: http://www.military.com/benefits/veterans-health-care/va-provided-hearing-and-vision-benefits.html

> *The Department of Veterans Affairs will ensure access to audiology and eye care services including preventive health (care) services and routine vision testing for all enrolled veterans and those veterans exempt from enrollment.*
>
> ***Eyeglasses and Hearing Aids***
>
> *The VA will provide eyeglasses and hearing aids to veterans who meet the following criteria:*
>
> - *Veterans with any compensable service-connected disability.*
> - *Former Prisoners of War.*
> - *Purple Heart recipients.*
> - *Veterans getting benefits under Title 38 United States Code.*

- *Veterans who are qualified for an increased pension based on being permanently housebound and in need of regular aid and attendance.*
- *Veterans with vision or hearing impairment resulting from diseases or the existence of another medical condition for which the veteran is receiving care or services from VHA, or which resulted from treatment of that medical condition, e.g., stroke, polytrauma, traumatic brain injury, diabetes, multiple sclerosis, vascular disease, geriatric chronic illnesses, toxicity from drugs, ocular photosensitivity from drugs, cataract surgery, and/or other surgeries performed on the eye, ear, or brain resulting in vision or hearing impairment.*
- *Veterans with significant functional or cognitive impairment evidenced by deficiencies in the ability to perform activities of daily living.*
- *Those who have vision and/or hearing impairment severe enough that it interferes with their ability to participate actively in their own medical treatment and to reduce the impact of dual sensory impairment (combined hearing and vision loss).*
  NOTE: The term "severe" refers to a vision and/or hearing loss that interferes with or restricts access to, involvement in, or active participation in health care services (e.g., communication or reading medication labels). The term is not to be interpreted to mean that a severe hearing or vision loss must exist to be eligible for hearing aids or eyeglasses.
- *Those veterans who have service-connected vision disabilities rated zero percent or service-connected hearing disabilities rated zero percent if there is organic conductive, mixed, or sensory hearing impairment, and loss of pure tone hearing sensitivity in the low, mid, or high-frequency range or a combination of frequency ranges which contribute to a loss of communication ability; however, hearing aids are to be provided only as needed for the service-connected hearing disability.*

Rich Primeau, Au.D, CCC-A, FAAA, the Audiology Program Manager for the Southern Arizona VA Healthcare System, has indicated that operationally this means that virtually all Veterans with limited income and significant hearing loss are able to receive hearing aids through the VA. At a minimum, they would be eligible because their hearing loss "*interferes with their ability to participate actively in their own medical treatment."* (R. Primeau, personal communication, February, 2015). They also may qualify because they receive support under Title 38 for homeless veterans, or under any of the other criteria.

While the Vocational Rehabilitation and Veterans Administration programs can assist some adults who need hearing aids, they will not be a resource for a large number of adults who live in poverty and are not veterans or are not eligible for Vocational Rehabilitation.

Indian Health Service (IHS)

Native American Indians are eligible for hearing aids through Contract Health Services (CHS), a program funded under IHS, if they reside on a reservation. If not residing on a reservation they may also be eligible if they reside within the Contract Health Service Delivery Area and are a member of the tribe located on the associated reservation or if they maintain close economic and

social ties with the tribe (https://www.ihs.gov/chs/index.cfm?module=chs_faq). Native American Indians are eligible to receive hearing aids through CHS therefore are not included in our estimate of the number of low-income adults who need resources for hearing aids (see Table 3-5).

Based on the U.S. Census Bureau, 2009-2013 5-Year American Community Survey, data set DP03, 4.6% of Arizonans, or 296,529 people of all ages in AZ are American Indian or Alaska Native. Assuming that the age distribution in these Indian populations is similar to the general AZ age population , it is estimated that 214,094 of the Native American Indians are adults 20 years of age or older. Using the age categories and prevalence multipliers in Table 3-3 it is estimated that 54,449 American Indian or Alaskan Native adults have bilateral or unilateral hearing loss. Using our original uptake rate of 25%, it is likely that 13,612 Native American Indians or Alaska Natives who are adults will want to pursue amplification and will be able to do so through Contract Health Services regardless of income status. This program will thus provide hearing aid resources to an estimated 2,437 of our projected low-income adults living in Arizona.

AHCCCS/Medicare Advantage

Arizonans with limited income who qualify both for Medicare and AHCCCS potentially have hearing aid coverage through an AHCCCS/Medicare Advantage plan. This will be discussed in greater detail in Section 5.

Other Programs in Arizona

In Arizona, there are community-based programs and national programs that low-income adults can utilize to obtain hearing aids. These programs are listed in **Table 3-4**. **The Sertoma Arizona Hearing Aid Bank (SAHAB)** refurbishes donated hearing aids and dispenses them to low-income adults with a documented hearing loss. Only residents of Pima County are eligible. This program is small and serves approximately 80 adults annually. In contrast, **The Lions Sight & Hearing Foundation (LSHF)** covers a larger geographic area and is a resource available to residents within the state of AZ (http://lions-sight-and-hearing-foundation.org/). Adults with limited income can choose to purchase refurbished or new hearing aids. New hearing aids are obtained through an agreement with Zounds Hearing, a hearing aid company with franchise stores throughout the United States. However, the number of adults in Arizona served annually by this program is small. Approximately 90 adults with hearing loss in Arizona participated in the Lions Sight & Hearing Foundation during fiscal year 2013-2014 (J. Williamson, Office Manager, Lions Site and Hearing, personal communication, February 2015) while 165 hearing aids were provided to individuals in AZ during the 2014-2015 fiscal year (Mike Shine, board member of LSHF, personal communication, July 2015).

In addition to community based programs, there are several national programs (i.e., Audient, the Lions Affordable Hearing Aid Project [AHAP], and the HearNow Program) that low-income adults in Arizona can utilize to obtain hearing aids. These programs are described below and are also listed in **Table 3-4**.

HearNow is the most affordable program for very low-income adults and is made available through the Starkey Hearing Foundation (http://www.starkeyhearingfoundation.org/). However, the number of Arizonans who have benefitted from this program is small. The most recent figures, obtained via a telephone conversation with the Director of HearNow, indicated that, in 2012, only 33 individuals in AZ were fit with hearing aids from this program. It is likely that the low reimbursement ($0) to dispensers prohibits and will continue to prohibit this program from reaching the large numbers of low-income adults in AZ who are in need of amplification.

Audient (http://www.audientalliance.org/provider/process.php) is a national nonprofit hearing care alliance that provides hearing aids and services to low-income individuals, "those who can pay something but since regular costs are generally too high for them, they fall between the cracks financially." The program is administered through EPIC Hearing Health Care. If an individual qualifies, Audient contacts a health provider within the network and the provider has the option of accepting or declining the applicant. However, the cost may be prohibitive to very low-income adults as two hearing aids plus related care will cost the client between $990 and $1575 when the hearing aids are ordered at the same time. In addition, the client will have out of pocket expenses for hearing aid batteries and all follow-up visits after the first three visits. Providers are compensated for hearing aid related services for $350 for a monaural fit and $500 for a binaural fit and three follow-up visits (Audient website, June, 2015).

Lions Affordable Hearing Aid Project (AHAP) is a program offered through the Lions Clubs International Foundation. Local Lion's Clubs, if they choose to participate, can determine eligibility of interested individuals. If eligible, hearing aids are provided and fit at a reduced rate through partnerships with Rexton, Inc., which provides the discounted hearing aids, and Hear USA, a hearing health network that provides hearing aid services. Like the previously described programs, AHAP has assisted a minority of individuals in need of amplification. In their 2010-2011 annual report, the number of people who utilized the AHAP program for hearing aids was 768 people. This number; however, includes individuals throughout the US and includes children and adults (http://www.lcif.org/EN/_files/pdfs/lcif30_10-11.pdf); therefore the number of adults served in Arizona between the ages of 20 and 64 is expected to be much lower.

The community-based and national programs outlined in **Table 3-4** provide hearing aids to a limited number of low-income adults living in Arizona. Some of these programs assist adults and children and have eligibility guidelines somewhat higher than the 133% poverty level. We therefore estimate, conservatively, that 250 adults living below the 133% poverty level and between the ages of 20 and 64 years receive assistance for hearing aids through these programs, annually. In addition, these programs have no standardized methods to increase hearing aid uptake (e.g., using evidence-based best practices such as real ear measures for setting hearing aid gain, informational and social-emotional counseling in either individual or group sessions, and the use of assistive technology). Even if there were methods to increase the number of adults served through these programs, measures to facilitate use of and acclimatization to the hearing aids is lacking. For example, community-based and national programs typically do not provide incentives to dispensers to provide ongoing care and hearing aid maintenance for a client with few resources. When such measures are not in place, adults may own but may not use their amplification. The outcome in this case will be no improvements in communication and quality of life for the individual with wasted resources from Foundations, health care providers, and hearing aid manufacturers.

In summary, our research has shown that there are programs in the state of Arizona that poor adults can utilize to obtain hearing aids. However, the current programs assist a minority of the **51,246** adults living in Arizona who are considered poor, in need of amplification, and likely to pursue amplification to improve communication and quality of life (estimated less than 1% are served). In addition, because there are multiple small programs that have no centralized or standardized protocols for eligibility or implementation, it is difficult for adults with hearing loss and health care providers to be aware of the possible resources to refer an adult to for assistance. This became evident in the stakeholder focus group meetings held as part of the Hearing Aid Task Force during which Audiologists and Hearing Aid Dispensers indicated that they were unaware of the programs available to assist adults in Arizona with obtaining hearing aids. Thus, community-based and national programs have not reduced hearing handicap, and are not expected to be able to reduce hearing handicap, in the large number of low-income adults living in Arizona. There exists a tremendous need for the creation of a centralized hearing aid assistance program for low-income adults in Arizona.

Table 3-4. Programs in Arizona that Provide Hearing Aid Assistance for Low-Income Individuals.

Program	~Eligibility	Client Cost	Provider reimbursement	# Served	Hearing Aid Company	# of follow-up Visits
Lions Sight & Hearing	100% of FPL	~$100-$195 donated ~$325 (one) or $572 (two)	$55-$95	165	Donations or Zounds Hearing Aids	Not Specified
Sertoma Arizona Hearing Aid Bank	150% of FPL	$70	$0	80	Donations	6 months
Audient[1]	Up to 250% FPL (targets low-income but not poverty level)	$495-$975 (1HA) $990-$1575 (2 HAs)	$250/ear for basic $350 monaural (other) $500 binaural (other)	Not available	Variety of manufacturers	3 visits
Affordable Hearing Aid Project (AHAP)-Lion's Club[2]	<200% FPL	~$150	Recommended: $300-$500[1]	768 in 2010-2011 (in US)	Rexton	Varies
HearNow[3]	<170% FPL	$125/HA	$0	33 in AZ in 2012	Starkey	One year

FPL=Federal Poverty Level

[1] http://www.audientalliance.org/

[2] http://www.lcif.org/EN/our-impact/humanitarian-stories/affordable-hearing-aid-project.php

[3] https://www.starkeyhearingfoundation.org/programs?gclid=CjwKEAjwkK6wBRCcoK_tiOT-zFASJAC7RAriWNOYA7tA_kXqP29XP7hN8Xet-GjEszWc9oTkdsTlghoC25Xw_wcB#/hearnow

Summary of Underserved Arizonans with Hearing Loss

Our goal in this section was to define the problem: How many people with hearing loss are there in Arizona that could benefit from hearing aids but are unable to do so because they are poor? **Table 3-5** answers this question based on the following assumptions:

1. **Poverty is defined by the Federal Poverty Level (FPL)**. Note that the AHCCCS eligibility criteria is higher, 133% of the FPL, so would include more people. However our poverty data do not take into account that many people might not qualify for AHCCCS for other reasons such as residency status.
2. **Prevalence and degree of hearing loss is approximately the same for veterans as nonveterans** (Wilson et al., 2010). In AZ, 11.4% of adults are veterans. Therefore, we estimate that 5842 adults (11.4% of 51,246 adults) will receive hearing aids through the VA.
3. **Arizonans 65 years or older who meet the AHCCCS eligibility criteria used here may be eligible for an AHCCCS/Medicare Advantage plan and hearing aids through that plan**. This assumption may be in error if there are geographical areas of the state and individuals for whom such plans are not available. We predict, however, that accessibility in this regard will improve in the coming years if ACDHH works closely with AHCCCS to expand coverage areas and options.

Table 3-5: Adult Arizonans with limited income with Hearing Loss Likely to Obtain Hearing Aids

Total # of Arizonans (age 20 and above) with Limited Income and HL who would likely obtain hearing aids based on 25% uptake rate		**51,246**
Adults age 20 who are able to obtain hearing aids through AHCCCS because they are under 21 years	**Negligible**	
Total # Served by Veteran's Administration	**5,842**	
Total # Served by IHS Contract Health Services	**2,437**	
Total # that could be likely be served by AHCCCS/Medicare Advantage	**26,647**	
Total # Served by Vocational Rehabilitation over 5 Year Period of Time	**1,175**	
Total # Served by Other Programs over 5 Year Period of Time	**1,250**	
Total # of Arizonans (age 21 and above) meeting AHCCCS eligibility in need of hearing aids	**Remainder**	**13,895**

Because we do not anticipate that all of the current low-income adults in AZ with hearing loss likely to obtain hearing aids would obtain hearing aids the day that the program begins, we estimate the need spread out over a 5 year-period of time using the following assumptions:

1. Vocational Rehabilitation (VR) is able to assist ~235 adults per year. (S.K. Kneifel, personal communication, March 13, 2015) Over a 5-year period of time, 1175 adults will be served through VR.
2. Other programs (see Table 3-4) are able to serve ~250 adults per year. Over a 5 –year period of time, 1250 adults will be served.

As mentioned, there are likely large numbers of people who aren't represented here because they do not meet the AHCCCS criteria but still cannot afford hearing aids. At least in Arizona, hearing aid coverage is required under the Affordable Care Act. This means that individuals able to purchase insurance through the healthcare exchange may be able to obtain hearing aids.

A Note on The Affordable Care Act

Arizonans are eligible to purchase health insurance through the healthcare marketplace, healthcare.gov. This represents an excellent option for individuals with limited income but who make too much to qualify for AHCCCS. Luckily in Arizona, all plans through this program cover hearing aids. We did find differences between plans in terms of how often and the number of hearing aids covered. This ranged from one aid per calendar year to hearing aids covered with no specification of how often. One potential gap may be working-poor individuals who receive health insurance through their employer. Such health insurance coverage may NOT cover hearing aids, although we were unable to verify this. However, the Arizona ACA requirement for hearing aid coverage will likely formally or informally impact employer-based coverage as well.

Section 4: Provider Perspectives on the Accessibility of Hearing Healthcare in Arizona

Background

In order to prepare this report, we conducted research to investigate provider perspectives on the affordability and accessibility of hearing healthcare for low-income adults in Arizona. The motivation for this research was to gather information from Arizona audiologists and hearing instrument specialists in order to develop a successful program for low-income hearing aid users that is informed by the perspectives of the Arizona provider community. Not only do the providers surveyed possess a wealth of knowledge on past and present efforts toward this issue, but they best understand the challenges and capabilities of providers serving this population. Because changes to current approaches would depend on innovation and participation by providers in a variety of settings, we aimed to identify needed infrastructure support, reimbursement levels, and suggestions for improving access to hearing health care. In this way, the information gained from the research study was essential in developing possible solutions to improve access to care and identifying important attributes of a feasible and sustainable program model.

Methods

Hearing healthcare providers, including audiologists and hearing instrument specialists, were recruited from throughout the state of Arizona to provide their opinions on the affordability and accessibility of hearing healthcare for low-income adults. A mixed-methods approach to data collection was used including qualitative data from stakeholder focus groups and quantitative survey response data. The study protocol was approved by the Institutional Review Board at The University of Arizona.

Recruitment

Participants in the study included professionals in the fields of audiology and hearing aid dispensing in the state of Arizona. Participants were recruited from a list of hearing healthcare professionals practicing in Arizona. No incentives were provided for recruitment or participation. The hearing care professionals included in this research were audiologists, hearing instrument specialists, or other hearing health care administrators. Participants were recruited via email from a list of audiologists and hearing instrument specialists who were licensed in the State of Arizona when the list was extracted in May, 2014. The initial recruitment email was sent on June 24, 2014, with subsequent reminder emails regarding focus groups and an electronic survey. Recruitment emails were sent to 513 licensees for both the electronic survey and focus group meetings.

Procedures

Focus Groups: Three focus group meetings were held across Arizona in Tucson (July 9, 2014), Phoenix (July 11, 2014), and Flagstaff (August 15, 2014). Participants who attended the focus groups were provided with a research disclosure form and a brief synopsis regarding the nature

of the study. Each focus group was audio recorded (with participant permission) for later transcription and coding. Transcriptions from the stakeholder meetings were coded using thematic analysis by two independent raters using the N-Vivo 10 software. A minimum of 80% inter-rater reliability was reached before acceptance for data analysis. Participants were also able to complete a paper-based version of the survey at these meetings. Three focus groups were conducted as an open discussion guided by directed questions/topics. Dialogue from the discussion groups was coded and categorized into 5 different themes: 1) Provider and Practice Characteristics, 2) Patient-Oriented Characteristics, 3) Accessibility of Care, 4) Provider Needs, 5) Healthcare Policy.

Survey: Providers were able to complete an online version of the survey through the Qualtrics website. The research disclosure and project description were displayed on the website prior to completing the survey. Survey participation was voluntary. Participants could withdraw from the survey by exiting the website at any time. The recruitment email was sent to 513 individuals licensed as hearing aid dispensers in the state of Arizona. A total of 125 surveys were partially or fully completed and returned (104 web-based attempts; 21 returned and completed paper-based surveys collected at the Focus Groups and a Hearing Instrument Specialists Conference). From these surveys, 3 were not usable because the respondents indicated they were non-providers, 2 indicated that they had taken the survey previously, and an additional 43 surveys were accessed online but not completed. A total of 77 completed surveys were analyzed (minimum calculated response rate = 15%).

Providers may represent a difficult-to-reach survey audience with many demands on their time. A low response rate in survey research can be a consequence of not providing an incentive to complete the survey, the survey distribution methods, or nonresponse bias, where those individuals who do not respond to the survey inquiry differ in meaningful ways from the non-respondents (Shih & Fan, 2008). For the purposes of this research, the number of completed surveys was viewed as sufficient to gauge interest in state-level efforts to address the affordability and accessibility of care. The survey also served as a means to gather more providers perspectives than could be attained through the focus group method alone.

Results

Qualitative Results (Focus Groups):

Eleven participants attended the focus group meeting in Tucson, 9 in Phoenix, and 6 in Flagstaff for a total of 26 participants. **Table 4-1** describes focus group provider participants' perspectives and comments according to their thematic category.

Illustrative quotes from providers, who attended the focus groups, on these themes follow, including perspectives on access and affordability (Box 4-1), the need for comprehensive and innovative approaches (Box 4-2), and statewide needs of consumers and provider in the awareness of services and access (Box 4-3).

Table 4-1: Summary of Themes and Provider Perspectives

Theme	Hearing Healthcare Provider Perspectives
Provider and Practice Characteristics	Most who attended the focus groups were already providing pro-bono or reduced fee services to low-income Arizonans. Overall, the philosophy of care expressed was that hearing healthcare should be accessible to anyone who needs it, regardless of income. Providers varied in knowledge of resources for low-income adults and expressed a need for a statewide information exchange on available programs and eligibility criteria
Low-income Patient Characteristics	Providers believed that low-income patients needed more education regarding hearing device maintenance and their hearing loss than they are currently able to access. Individual patient factors such as social networks, employment, cognitive status, and financial resources (income and transportation) were described as considerations for developing a program or when prescribing hearing devices.
Accessibility of Care	Transportation, affordability of amplification, knowledge about hearing loss, and acceptance of hearing loss were factors that providers believed would impact access to care. Hearing healthcare providers' knowledge of resources was another cited barrier to healthcare access. Lack of community of awareness about hearing loss was also seen as a barrier for patients.
Provider Needs	Providers described interest in a centralized statewide program to increase efficiency and decrease paperwork. Overall, there was a preference for offering new devices (rather than refurbished) and an option to fit patients with an assistive listening device *or* hearing aid. Providers encouraged a patient-centered and holistic approach, as the target population may therefore obtain greater benefit from the device. Providers also expressed interest in having patient "buy-in" as well as sufficient compensation for providers and a fixed number of patients that any single provider would see as part of a statewide program.
Healthcare Policy	Providers perceived healthcare policy as a barrier to accessing hearing healthcare, as neither Medicare nor Medicaid (AHCCCS) in Arizona cover hearing aids or related services. With current healthcare reforms, providers expressed they were unfamiliar with new healthcare policies. Some providers described positive work experiences in other states and countries with legislation supporting hearing aid provision and rehabilitative services.

Box 4-1
Illustrative provider quotes of perspectives on issues of access and affordability.

"I think we are talking about a need that you cannot even come close to meeting with the existing programs and so that is a concern that if you truly intend to meet the need, you have to gear up so far that it is beyond the stretch of any of our (individual) innovations."

"I am here because I was hoping to provide hearing aids for people who simply can't afford them. Nothing breaks my heart more than somebody who needs it who can't afford it and my hands are tied, there is nothing I can do. It's frustrating. I was hoping that there could be more solutions or answers, what can I do to help them?"

"Most people come in and think that there are no options because hearing aids are so expensive."

"You talk about the Medicare population, they are expecting that Medicare is going to pay for it and they are absolutely flabbergasted."

"In our office we hold onto donated BTEs and kind of by a case by case basis we'll consider fitting them on a donation type basis. We do not have any formal application process which gets a little hairy. Where do you draw the line? It's a judgment call sometimes."

"It seems to be easier to get hearing instruments for (low-income) children than for adults."

Box 4-2.
Illustrative provider quotes of perspectives on the need for comprehensive, innovative approaches

"We need to think about, not just about the device, but about the people who are going to be using these devices…what barriers they might face and some of those are the extended care of the device."

"The community thing is key, that it doesn't matter if you fit these 80,000 people with hearing aids, if 4 months from now they sit in a drawer."

"I think that everybody deserves to have quality healthcare and they all deserve to have the same access to quality healthcare. And the person who makes slightly more than your 150% poverty (threshold) also needs to have aural rehabilitation and they need to have quality hearing aids even if they are not getting any help. They need some help."

"I would like to see a more integrative approach so that everybody is given quality services and everybody is getting real ear measurements, and everybody is getting (counseling) and not that you fall into this category you get everything you fall into that category you get nothing."

Box 4-3.
Illustrative provider quotes of perspectives on statewide needs of consumers and providers

"There's no consistency with the programs across the state. Some of them have limitations for (particular) areas as opposed to statewide."

"I think awareness of services there are currently programs that exist but most people come in and think that there are no options because hearing aids are so expensive."

"There is a statewide need and each part of the state probably has a little different need."

"I think the biggest barrier for me is, do I have the time to go through and verify somebody's income and check make sure that their insurance doesn't cover hearing aids. Go through all of that, are they going to qualify? (Need a) more centralized qualification process where I can say, I'd like you to go to this office or website and see if you qualify or fill out this paperwork, send it in and hear back."

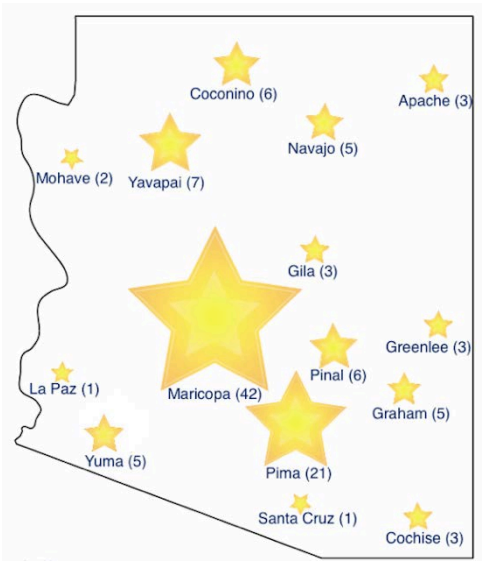
"You've got to have a way for them to access those programs and if there is a mechanism for that then I think that allows people to at least know that it is there, even though they still have to overcome those barriers of denial or you know those cues to action that people need. Even if we can't help promote that, once they get over those barriers then there is something there."

"…often times we can't help people but, it's letting them make it into the office, in the first place so, there doesn't seem to be a lot of awareness that such programs exist."

Quantitative Results (Survey):

Figure 4-1 is a map that illustrates the geographic diversity in our respondents. Each star represents a county where the hearing healthcare professional served. The size of the star is an indication of the number of respondents who took the survey and selected that county. The data set had representation from each county in Arizona, with the greatest number of respondents serving Maricopa County followed by Pima County.

Figure 4-1: Survey Response Representation Across Arizona

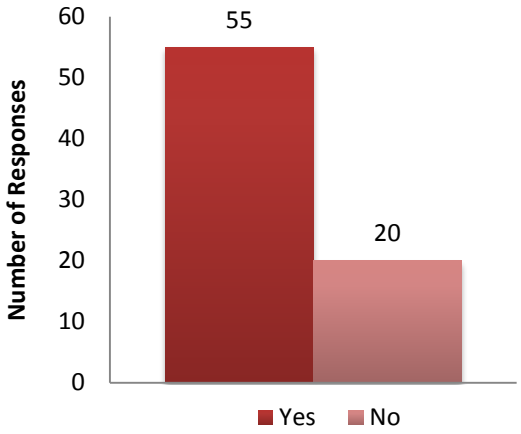


Box 4-4. KEY SURVEY FINDINGS

- 95% of survey participants indicated that they felt there was a need to improve the accessibility and affordability of hearing healthcare for low-income adults in Arizona.
- 75% of respondents believed that AHCCCS (Medicaid) should cover hearing aids for adults in Arizona.

Should AHCCCS cover hearing aids for adults in Arizona?
The bar graph below (Figure 4-2) illustrates the proportion of respondents indicating whether AHCCCS should cover hearing aids for adults in Arizona. Essentially, a majority (73%) of participants who answered this question on the paper-based and online survey indicated hearing aid coverage for adults should be covered under AHCCCS.

Figure 4-2: Responses to, "Should AHCCCS (Medicaid) Cover Hearing Aids in Arizona?"



Potential number of patients to be seen in service programs
Survey participants were asked, "How many patients would you be willing to see per month as a part of a statewide program to increase access to hearing aids for low-income Arizonans?" Half of the respondents indicated that they were willing to see 1-4 patients per month. Also, 37% of respondents were willing to see more than 4 patients per month; whereas, 7% indicated that they were not willing to see any.

Reimbursement preferences
Information was also gathered regarding desired reimbursement rates for hearing aid services. Participants indicated an average reimbursement rate that ranged between $459-554, with increasing costs associated with a higher number of patients served.

Participants also indicated preferences for reimbursement based on the type of service provided. They indicated on average a desired reimbursement of $233 for services provided when fitting a hearing aid and $53 for a 30 minute follow-up appointment.

Factors Motivating and Deterring Provider Participation
Finally, participants were asked about reasons they would or would not participate in a low-income hearing aid program for adults. The figures below list the motivators (**Figure 4-3**) and deterrents (**Figure 4-4**) to participation in a service program for low-income adults with hearing loss.

Figure 4-3: Motivating Factors for Provider Participation in Hearing Healthcare Service Programs for Low-Income Adults

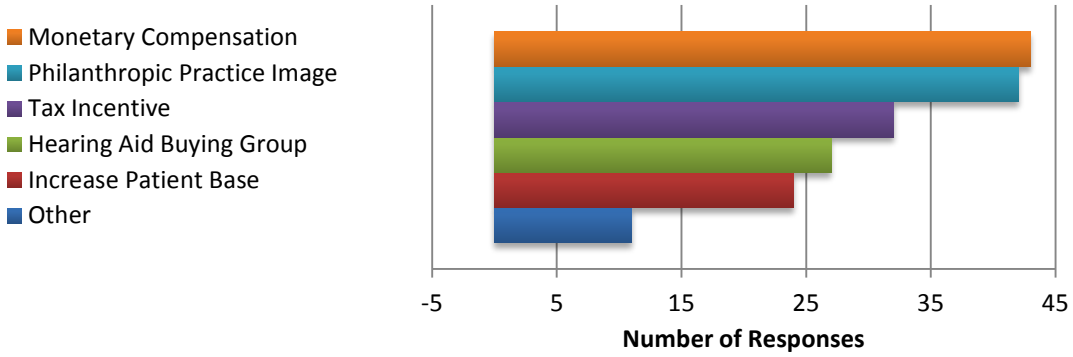
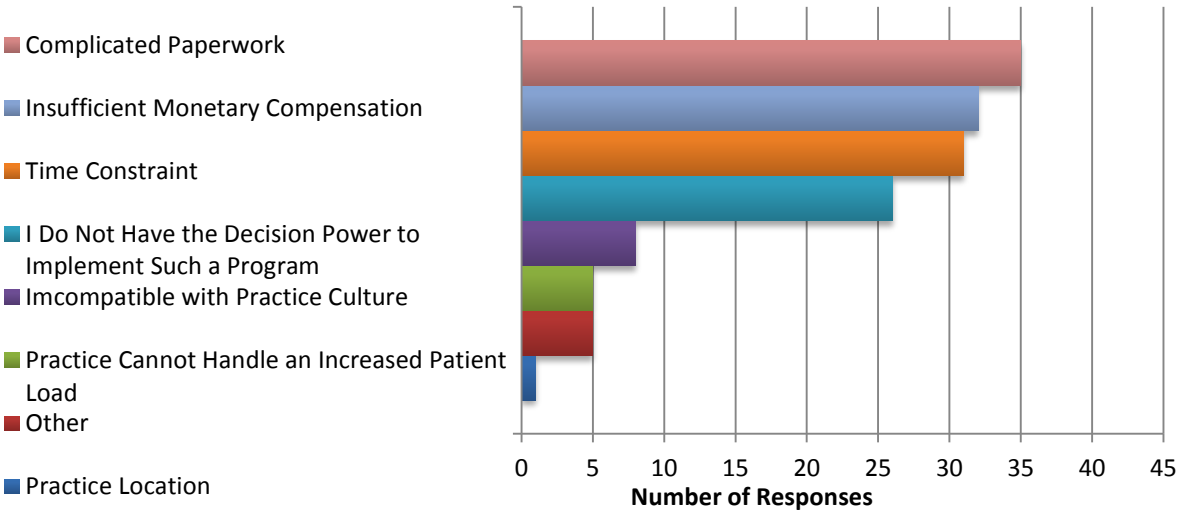


Figure 4-4: Factors Deterring Provider Participation in Hearing Healthcare Service Programs for Low-Income Adults



Summary of Major Findings from Study of Provider Perspectives

- Of the hearing healthcare providers who volunteered their time to attend a stakeholder meeting or participate in a survey, the majority feel that there is a need for increased access to hearing healthcare to low-income Arizonans.
- Of these providers, the majority believed that AHCCCS should cover hearing aids.
- A holistic approach to healthcare was emphasized at all focus group meetings, which emphasized the need to incorporate a strong patient education and rehabilitation component when designing a program for low-income individuals.
- Some providers believed that patients should be responsible for a portion of the financial cost of their hearing healthcare in order to create patient “buy-in” and better long-term investment in their hearing rehabilitation.
- Top factors that would motivate providers to participate in a program for low-income adults included: monetary compensation for services and creating a philanthropic practice image.
- Top reasons that would deter providers from participation in a program for low-income adults included: complicated paperwork, insufficient monetary compensation and time constraints.
- Providers preferred a statewide program that would efficiently provide guidance on income qualification (e.g., to verify assets) and to manage referrals to distribute the service across practices.
- Considering the data collected, we would recommend that providers receive a reimbursement rate of $250 for a monaural fitting.
- We estimate that providers interested in participating in a program to serve low-income Arizonans would be willing to see 1-4 patients per month at this reimbursement rate.

Section 5: Plans for Improved Accessibility of Hearing Healthcare in Arizona

Overview

In the process of reviewing the data presented in Sections 2 to 4 and making recommendations, careful consideration was given to fiscal challenges and realistic options for the State that may help Arizonans stay employed and not vulnerable to health issues. We suggest five key components for a comprehensive approach to provide hearing aids and related services to low-income adults:

1. **Raise consumer and provider awareness of AHCCCS/Medicare Advantage Sources:** Adults who are eligible for Medicare, but have a limited income meeting the AHCCCS enrollment criteria, can sign up for an AHCCCS/Medicare Advantage plan that covers hearing aids. ACDHH should work closely with AHCCCS to ensure that such an option is appropriate and available to eligible individuals in all areas of Arizona.

2. **Add to the Arizona economy with compensated hearing aid services via AHCCCS:** Arizona's version of Medicaid, AHCCCS, currently does not cover hearing aids for adults. We recommend that they expand the coverage already available to children through the program to working-age adults.

3. **Create a Volunteer-based Hearing Aid Service Program (if needed):** Until the State is willing to provide AHCCCS coverage of hearing aids for working age adults, it may be necessary to develop a statewide volunteer-based program to serve these individuals. Note that such a program can only serve a portion of the individuals in need, and the costs will likely be prohibitive for many individuals with limited income.

4. **Link Specialist program:** It is evident that there is a need for individuals both to investigate and advocate for coverage of hearing aids and services, and to be available to refer patients to the appropriate resources. This proposed program will meet this need.

5. **Statewide Audiologic Rehabilitation Program:** To manage the whole person, not just the hearing aid, we recommend establishing positions for state-level audiologists to foster, coordinate and provide comprehensive rehabilitation opportunities.

Component 1: AHCCCS/Medicare Advantage

Medicare Advantage plans (Medicare Part C) have become popular as they often are able to offer Medicare beneficiaries more benefits than can be provided by traditional Medicare, often for the same or even lower out-of-pocket costs. Such plans involve private insurance companies who contract with Medicare to provide health coverage. The private company receives a standard payment from Medicare in return for responsibility for all of the patient's healthcare expenses. The patient agrees to follow all of the stipulations of the plan. These may include more limited provider lists, specific procedures for obtaining specialty care, etc. In return, the patient is given coverage for some services, sometimes including hearing aids, which are not covered under traditional Medicare.

In Arizona, it is possible to qualify for AHCCCS because of limited income AND Medicare based on age. For poor adults who are 65 years of age or older, there are now available AHCCCS/Medicare Advantage plans that provide hearing aids to plan members (e.g., http://www.azahcccs.gov/shared/Downloads/EligibilityManual/AEPM/chapter_0200/204_00_how_medicare_works_with_medicaid_and_medicare_savings_programs.htm and http://www.azahcccs.gov/shared/Downloads/EligibilityManual/AEPM/chapter_0300/302_05medicarecostsharingpackages.htm). There are plans available in most counties in Arizona that provide substantial coverage, typically in excess of $600 per ear, for hearing aids and hearing services under this program.

There are three areas in which we feel that ACDHH can play a substantial role:

1) Expansion of program availability. As of now, Medicare Advantage plans are not available to people living in all areas of Arizona. ACDHH should work closely with AHCCCS to support and advocate for expansion of coverage areas and options.
2) Sustained program availability. Such coverage is subject to change every year. ACDHH can work to encourage plans to keep hearing aid coverage, and regulators to require it.
3) Increased program awareness. Medicare patients with limited income may not know that they are eligible for AHCCCS. ACDHH can help make people aware of this option and refer them for enrollment as appropriate.

Component 2: AHCCCS Coverage of Hearing Aids and Their Associated Services

Medicaid, a program which began in 1965, pays for medical and health related services for low-income individuals and families. It is funded by Federal and State governments and has over 25 different eligibility categories for which funds are available. With the exception of 5 mandatory coverage groups, states determine which eligibility categories will be utilized, the eligibility criteria, and the type, amount, duration and type of services offered. The five mandatory coverage groups include: children, pregnant women, adults in families with dependent children, individuals with disabilities, and individuals 65 or over. Speech, hearing and language disorder services are considered "optional benefits". Therefore, states vary in whether or not they provide hearing aid services to adults. In addition, they establish their own eligibility criteria, types and scope of services covered, and rate of payment for services. Appendix 2 is a summary, modified from a list compiled by The Hearing Loss Association of America (http://www.hearingloss.org/content/medicaid-regulations), of states that provide Medicaid coverage of hearing aids for adults. This summary indicates that 28 states provide some kind of hearing aid coverage for eligible adults. Although the Medicaid Program in Arizona, AHCCCS, provides hearing aids for children, hearing aids and related services are not services available to adults. Here, we list the hearing aid and audiologic rehabilitation services available to children in Arizona followed by what is available to adults. This list only includes AHCCCS services related to hearing aids.

Children

Under Medicaid, children's hearing healthcare needs are covered by a federally mandated program known as the Early and Periodic Screening, Diagnosis, and Treatment Program (EPSDTP). In Arizona, coverage for children is implemented through Children's Clinics (CCRS). The covered services related to hearing aids for individuals under age 21 years include the following:

- Hearing evaluations
- Hearing aids (including earmolds and the hearing aid fitting)
    - Hearing aids can be replaced once every three years or more often if there is a significant change in hearing or if it is determined by a contracted audiologist that the child requires a hearing aid replacement due to the hearing aid being lost, broken, or non-functioning.
    - Hearing aids are covered for loss or damage by a two year replacement warranty.
    - Annual re-evaluations of the hearing aid.
- Rehabilitation of hearing loss

Adults

Although AHCCCS covers hearing evaluations for adults, hearing aids are not a covered benefit in Arizona for adults. We recommend that AHCCCS provide hearing aids and related services to eligible adults between the ages of 21 and 64 years to improve communication function.

The services proposed should include the following categories:

1. Hearing Aid Selection-The purpose of the hearing aid selection is to assess the client's needs, goals, and potential outcome. During this appointment, the appropriate hearing device(s) and coupling method(s), e.g., earmold(s) or thin tube(s), would be selected for the client and would be ordered.
2. Hearing Aid Fitting-services would include the following:
    a. Hearing aid(s) would be evaluated electroacoustically to ensure they meet standards set by the American National Standards Institute (ANSI).
    b. Hearing aid(s) would be fit to the client's hearing loss using verification.
    c. The use and care of the hearing aid(s) would be discussed with the client.
    d. Realistic expectations and communication strategies would be discussed.
3. Hearing Aid Follow-up - Follow-up visits would include at least two visits in the first year and a single visit in year 2, 3, and 4. During follow-up visits, adjustments would be made as needed, outcome measures, cleaning of the device and in-office repairs (when possible) would also be made.

We recommend that new hearing device(s) are available to a client every five years based on the average data for hearing aid life expectancy (Sweetow, 1999).

Anticipated Utilization

The target population is adults between the ages of 21 and 64 years of age. As detailed in Section 3, we estimate that there are approximately 13,895 adults in this age category living in poverty in Arizona who would meet AHCCCS eligibility and pursue amplification.

Cost/Budget

We elected to estimate the cost of hearing aids and related services using a fee-for-service Medicaid approach using two sources of information.

1) Provider Billing rates obtained from the AHCCCS website (http://www.azahcccs.gov/commercial/ProviderBilling/rates/Physicianrates/2015January/2015FFSgroups.aspx) that were available for a limited number of hearing aid services. A review of current procedural terminology (CPT) codes on the website showed that most hearing aid related services are reimbursed "By Report (BR)". According to the AHCCCS website, BR is 58.66% of the covered billed charges.

2) Average Medicaid reimbursement rates for hearing aid services for infants and children that were obtained from a 2005 survey of 15 states (McManus et al., 2010). Although an average reimbursement rate will be used for our budget, McManus et al. found that state Medicaid Programs were highly variable in the amount of reimbursement paid for similar hearing aid services. In addition, it is apparent that states use a variety of codes for billing and it is difficult to determine bundled from unbundled fees. Therefore, for some of the categories listed below, an average fee was calculated based on several possible CPT codes.

Table 5-1 lists the projected AHCCCS budget for hearing aid services for adults that we are proposing. The estimated cost per each eligible adult is for a 5-year period of time.

Table 5-1: Estimated Hearing Aid and Service Expenses Per Adult Over 5 Years

Service Category	Code	Service	Cost
Hearing Aid Selection	92591	Hearing aid exam and selection, binaural	$68.94
	Various	Hearing aid, binaural	$816.50
	V5264	Earmold, not disposable, binaural	$30.83
Hearing Aid Fitting	92595	Electroacoustic evaluation for Hearing aid, binaural	$49.03
	V5011	Fitting and orientation	$24.64
	Various	Dispensing fee, binaural	$361.22
Hearing Aid Follow-up and Maintenance	92594	Hearing aid check, binaural ($26.01 x five visits)	$130.05
	Various	Hearing aid repair	$200.00
	92595	Electroacoustic evaluation, binaural ($49.03 x five visits)	$245.15
Total per adult over a 5-year time period			$1,926.36

We estimate that the cost over a 5-year period of time to provide binaural hearing aids and related services to one low-income adult through AHCCCS will be approximately $1926.36. Multiplying this per person cost by an estimated 13,895 adults with low-income who are likely to pursue amplification, the total cost is projected to be $26,766,722 over a 5 year period of time. Assuming that this total number will be equally distributed over 5 years, the program would need to budget approximately $5,353,354 annually.

This number is likely to be smaller than projected for the following reasons:

1. The projected number of adults with low-income who would need hearing aids is based on estimates that include both binaural and unilateral hearing loss. Therefore, not all of the adults with hearing loss would require binaural hearing aids.
2. The estimated number of adults (N of 13,895) with low-income who would pursue hearing aids is derived using an uptake of 25% (see Section 3 of this report). This number is likely to be smaller given the number is projected using estimates of bilateral and unilateral hearing loss. The uptake rate is likely less than 25% for adults with unilateral hearing loss.

Component 3: Volunteer-Based Hearing Aid Program

It is evident from our survey data that the community of hearing healthcare providers in Arizona recognize that access to affordable hearing aids for low-income people is a critical issue. In fact, we found that most providers are already serving a small number of low-income adults on a pro-bono or reduced cost basis. As a first choice, audiologists and hearing aid dispensers would like to see this problem solved by adding to the Arizona economy with compensated services and an amplification benefit within AHCCCS for adults. However, until such a time as this benefit is in place, a number of providers have expressed a willingness to participate in a coordinated statewide service program to provide hearing aids to low-income adults at a substantially reduced cost for services.

As part of the study, many audiologists and hearing instrument specialists said they now provide some services at no charge to a few low-income adults, typically on the order of serving one person a month. On the other hand, virtually all providers expressed a reluctance to be involved with a large-scale pro bono program as doing so would impact their ability to remain financially solvent. In reviewing the findings, we recognized the following dynamic: Providers would be willing to serve a greater number of patients as the payment for their services is increased. However, the higher the payment required, the more such a system would be out of reach to individuals with limited income.

Our survey data allowed us to identify an estimated level of service reimbursement that will encourage provider involvement for the least amount of program cost. Based on this information, we have conceived a program we are calling the **Volunteer-Based Hearing Aid Program**.

As outlined below, **participating audiologists and hearing instrument specialists would volunteer to provide their expertise in order to support access to hearing healthcare for low-income individuals. The nominal reimbursement provided to the professionals by this program in no way covers their costs, but our data indicate that there are providers concerned enough about this major problem in their local Arizona communities to give of their time.** If implemented, this could be an example of coordinating efforts by Arizonans that is consistent with Governor Ducey's Serving Arizona Initiative to increase opportunities for volunteerism and encourage Arizonans to help people in need.

Program Administration

Such a service program would be most efficient with state-level administration. Specifically, a state-level process to accept applications, determine income qualification, control the number of referrals sent to each provider, and to send referral paperwork to providers. Additionally, the program administrators would receive payments from patients and manage the volume-discount purchasing of hearing aids. Finally, they would recruit and identify providers interested in participating, orient them to the program, and address their questions and concerns.

***Patient Application*:** Information about the program and application forms could be made available via a website and through communication with primary care and hearing healthcare providers. The completed application would be sent to the program administration to determine candidacy based largely on the individual's income. If eligible, a referral would be provided to

the patient. If a patient does not qualify, information about possible other avenues for care would be sent. If they do qualify, information on costs and procedures would be provided to the patient.

Patient Payment for Services: Central administration at the state level should handle all payments for hearing aids and services. This is critical for provider participation as administrative burden and potential non-payment for services are serious barriers to provider participation. ACDHH will need to determine the timing and methods of patient payments for these services (e.g., paid in full prior to the hearing aid order, deposits for services, payment plans).

***Purchasing of Hearing Aids*:** Providers will be able to choose from a variety of manufacturers of hearing aids, as specified by the program administration. We estimate that with the power of centralized purchasing and volume discounts, the average hearing aid cost would be approximately $250 per ear for a basic technology level. Providers could then order the hearing aids directly from the manufacturer using a Purchase Order Number provided with the referral from the program. The bill for the hearing aid would then be sent directly from the hearing aid manufacturer to the state-based program.

Payment to Providers: Providers would notify the program administration when the hearing aid(s) are fit. The administration will then send the provider the fee for the fitting and follow-up services to the provider.

***Cost to Patient*:** Under this model, we are recommending that all administrative costs and provider service fees would be borne by the program administrator and not passed on to the patient. If patients were to be required to pay for all costs both for the hearing aid and the provider services, we anticipate that the cost would be approximately $500 per hearing aid. There already exists a similar program originally initiated through the Lion's Club, now administered by EPIC Hearing called Audient (http://www.audientalliance.org/about.php). Their per-hearing-aid price is only a bit more than $500. It is severely under-utilized given the substantial burden of this price for people with very limited incomes. As a result, we recommend that the cost of reduced-fee professional services also be covered by the program administrator. This would leave the patient with only the cost of the hearing aid, likely approximately $250 per aid.

***Role of Volunteer Providers and Required Services*:** Once the patient had a referral in hand, he or she would schedule an appointment with the assigned provider for a hearing evaluation and hearing aid selection. The professional would then provide the following essential services for the set rate of reimbursement:

- Comprehensive hearing evaluation, to include pure tone air and bone conduction thresholds, word recognition testing, and determination of Most Comfortable Loudness & Uncomfortable Loudness, in accordance with all relevant state regulation.
- Order hearing aid(s) to be billed to Program Administrator.
- A hearing aid fitting appointment, when the device is ready, in accordance with all relevant state regulations.
- All necessary follow-up appointments for hearing aid adjustment and troubleshooting for the period of one year.

Provider Network and Potential

Based on the interest level of providers who responded to our survey, 72 of 77 (93.5%) expressed a willingness to participate in a future statewide program for low-income adults and, on average, each see conservatively 2 patients per month. The data suggest that this level of professional involvement could be sustained for a payment of $250 for monaural fittings; $400 for binaural fittings. These providers serve nearly all counties in Arizona. Such a network could provide services to 144 patients per month; 1728 per year based solely on the response to the survey on a hypothetical program. It is likely that additional providers could be recruited from across the state as a program is implemented; ACDHH should further investigate this possibility.

Anticipated Annual Program Expenses

The projected expenses are itemized in Table 5-2 and are based on the following assumptions:

1. Two staff members to administer the program. (Administrative staff, pay grade 17, $40,000 per year each with 48% Employee Related Expenses (ERE)
2. One large office. (148 square feet at $24/square foot)
3. $250 wholesale cost per hearing aid via volume-discount pricing.
4. 1728 patients per year
    a. Patients pay for cost of hearing aids.
    b. Half of the fittings will be one ear only (many will not be able to afford two). Therefore, 2592 hearing aids purchased annually.
5. Payments to providers of $250 for monaural fitting, $400 for binaural fitting, including all follow-up visits for six months.

Table 5-2: Anticipated Annual Expenses for Volunteer-Based Hearing Aid Program

Annual Program Expenses	
Administrative Costs	
Employees	$ 80,000.00
Employee Related Expenses	$ 38,400.00
Space	$ 3,534.00
Miscellaneous	$ 15,000.00
Hearing Aid Costs	
Hearing aids purchased	$ 648,000.00
Provider service payment	$ 516,600.00
Revenue (from patient payment for HAs)	$ (648,000.00)
Net Annual Program Cost	$ 653,534.00

It should be noted that this program would serve only 61% of the 2779 people per year that would qualify, and this over a limited geographical area. AHCCCS coverage of hearing aids for adults would likely be a much more effective solution to the problem statewide.

While increasing access to affordable hearing aids is a critical and necessary step to improving health outcomes and reducing disparities, a device-centered approach is not sufficient. There are many reasons individuals may choose not to wear hearing aids that are not related to the cost of the device. Further, the process of fitting hearing aids is viewed as an ongoing process requiring joint participation of the provider, patient, and family (American Speech-Language-Hearing Association, 2006; Valente et al., 2006). Success depends on provision of effective quality control, individualized instruction and counseling, assessment of environmental and personal factors that impact quality of life with hearing loss, communication strategies training, and use of assistive technology beyond hearing aids (e.g., captioned telephones, hearing induction loops, remote microphone systems), in keeping with best-practice guidelines for the management of hearing impairment in adults.

Overall, these recommendations highlight opportunities for the State and Commission to increase access to care to help adults with hearing loss take control of their hearing, safety, and well-being through timely and appropriate action with affordable hearing aid options.

Component 4: Link Specialist Program

Based on our findings, patients and providers alike are not always aware of existing programs for which a low-income person with hearing loss might qualify. We recommend the development of a statewide tracking and monitoring system on adult hearing loss and intervention with dedicated personnel to establish consistent linkages between individuals who need care and accessible programs. To link or connect individuals with appropriate agencies, programs, and/or hearing health care providers, the State and Commission would need professional staff to collect and transmit information and data necessary to implement timely and appropriate follow-up of adults.

Providers and consumers are affected by complex coverage requirements, program eligibility criteria, and documentation needed to establish qualification for hearing services. These areas are also undergoing frequent changes. Providers described the need for guidance in how to comply with documentation and coverage/policy requirements. Creating a mechanism to track and communicate accurate and easy-to-understand information on accessible programs for consumers and providers would be of benefit to the State. It would create a process to minimize the time it takes for hearing health care professionals to incorporate low-cost/accessible programs into their business functions. It would also reduce inefficiencies across the state by connecting Arizonans with existing service programs.

Consumers and hearing health care professionals need reliable information regarding the availability and accessibility of affordable hearing aid programs. From our focus group meetings it was clear that providers want access to information in a ready-to-use format that would include: documentation and coverage requirements needed to submit claims to private insurance, foundation or other fee-for-service and pro bono programs for hearing services. Such a resource and knowledgeable staff liaisons would be of benefit to the State so that providers can focus on service to patients and communities can meet healthy aging goals for Arizonans by helping them manage chronic conditions such as hearing loss.

We recommend that the Commission establish **at least two staff positions** focused on access to care and navigating insurance, public or private and self-pay resources for hearing health care including hearing aids and rehabilitation services. These staff members would serve as advocates, resources, and communication links between the Commission and other agencies and entities providing direct or indirect hearing health services focused on low-income adults in communities across the state. These ACDHH staff members could also work in collaboration with the Arizona Department of Economic Security, Division of Aging and Adult Services, which maintains the AzLinks.gov website offering assistance and information on aging and disability.

Suggested roles and responsibilities would include:

- Work with AHCCCS and the Department of Health Services to advocate for and expand coverage of hearing aids through AHCCCS/Medicare Advantage Plans and the Affordable Care Act;
- Conduct community development activities to prototype and pilot projects to advance increasing access to care;
- Develop county-specific outreach and engagement plans that can be responsive to the urban or rural context of care;
- Maintain up-to-date and relevant information on status of insurance coverage and other resources available to low-income adults with hearing loss;
- Develop a hearing services hotline through which individuals with hearing loss can receive up to date information about options available to them;
- Serve as a public resource to the State, identifying local resources available to low-income adults;
- Serve as an internal resource to Commission staff related to access to hearing care;
- Conduct ongoing needs assessment of the communities to be served.

This dedicated staffing could guide referral development activities, structure technical assistance, gather stakeholders, and incorporate evaluation of outcomes of programs that support low-income adults with hearing loss. Given that there are a number of local, county, tribal, and state agencies that seek to promote good hearing and quality of life for Arizonans, this staff would develop links across government agencies, non-profit and private community-based programs as they relate to hearing healthcare for adults in Arizona. Developing these links across the state and creating a mechanism to inform consumers and providers alike would be of benefit to consumers and the hearing health care professionals.

We further recommend that the Commission consider the need to provide surveillance, tracking, and monitoring of adult hearing loss and accessible intervention programs in order to make referrals and better establish linkages between Arizonans with hearing loss, hearing health services, and intervention programs. At a minimum, such a system and personnel would include the following:

1) Provide the Commission with the information necessary to effectively plan and develop a system of appropriate intervention and family support services for low-income adults with permanent hearing loss and their families.
2) Provide the appropriate health care professionals with access to information used for referrals and intervention.
3) Service providers such as audiologists, hearing instrument specialists, and otolaryngologists should be integrated with and provide information to the State tracking system. This tracking system should be designed to measure outcomes and report the effectiveness of the services.
4) Mechanisms to ensure that timely diagnosis, referrals, and treatment occur, regardless of socioeconomic status.

The projected expenses for the Link Specialist Program are itemized in Table 5-3.

Table 5-3: Anticipated Annual Expenses for Link Specialist Program

Annual Program Expenses	
Administrative Costs	
Employees	$ 100,000.00
Employee Related Expenses	$ 48,000.00
Space	$ 3,534.00
Travel	$ 15,000.00
Miscellaneous	$ 15,000.00
Net Annual Program Cost	$ 181,534.00

Component 5: Statewide Audiologic Rehabilitation Program

To manage the whole person, not just the hearing aid, we recommend establishing a position for a state-level audiologist to specialize in audiologic rehabilitation. Guidelines for the audiologic management of adult hearing loss involve provision of a comprehensive plan of rehabilitation services. Best practice approaches integrate the technical aspects of hearing aid selection, fitting, verification, and validation within the context of a comprehensive treatment plan. To improve health outcomes, technical aspects of care should be provided within a comprehensive rehabilitative approach.

The American Speech-Language-Hearing Association defines aural/audiologic rehabilitation as "an ecological, interactive process that facilitates one's ability to minimize or prevent the limitations and restrictions that auditory dysfunctions can impose on well-being and communication, including interpersonal, psychosocial, educational, and vocational functioning." Audiologic rehabilitation services for adults may be offered in a number of formats, including individual counseling, group counseling, communication strategies training, web-based programs, or teleaudiology.

While providers reported the need for rehabilitation services for low-income adults, they described not being able to deliver non-reimbursable audiologic rehabilitation themselves. Providing pro bono or reduced fee services may also limit the amount of time providers are able to spend with the low-income patient. Adapting to hearing loss and hearing assistive technology is not instantaneous and patients need ongoing support as they navigate this journey. Even with an appropriate hearing aid fitting, adults with hearing loss experience frustration, anxiety, social isolation, and depression. Evidence suggests that group audiologic rehabilitation programs are cost-effective, improve quality of life, and lead to overall improved satisfaction with hearing aids (Chisolm, Abrams, & McArdle, 2004; Chisolm & Arnold, 2012; Hawkins, 2005; Hickson, Worrall, & Scarinci, 2007; Preminger & Yoo, 2010; Preminger & Zeigler, 2008).

Any sustainable model of hearing healthcare in Arizona would want to give our residents the best chances for favorable health outcomes with hearing aids, including consistent device use with objectively measured and self-reported benefit. Amplification alone is not necessarily sufficient to attain the best patient outcomes. Quality of care recommendations for the audiologic management of adult hearing impairment supported by the American Academy of Audiology and American Speech-Language-Hearing Association include patient-centered assessment, technical aspects of intervention, instruction, orientation, counseling and audiologic rehabilitation, and assessing outcomes (American Speech-Language-Hearing Association, 1999, 2006; Valente et al., 2006). In 2007, the Hearing Loss Association of America, a consumer advocacy organization for adults with hearing loss, also published a position article on the issue of Group Hearing Aid Orientation Programs in which they recommended that hearing aid dispensers make such programs available.

A comprehensive statewide audiologic rehabilitation program would address concerns such as:

- Understanding hearing loss
- Managing your hearing aid
- Learning to listen again
- Assistive listening devices
- Using visual cues
- Communication strategies
- Arrangement of the home and managing the listening environment
- Coping with background noise outside the home
- Legal rights
- Peer support

Formal group classes on Living Well with Hearing Loss are available at University Speech and Hearing Clinics at Arizona State University in Tempe and the University of Arizona in Tucson. Some programs require dues or registration fees, which may be prohibitive to low-income individuals although scholarships are available for some programs. Several community-based peer-run support programs are available in Arizona, including chapters of the Hearing Loss Association of America and Tucson-based Adult Loss Of Hearing Association.

There is a precedent for the comprehensive management of chronic health conditions in the medical setting. Diabetes, cancer and rheumatoid arthritis best practices strongly recommend a patient education and counseling component to care. A local example of this model is the Mariposa Community Health Center in Nogales, Arizona. Community health workers at this facility run support and education groups for cancer patients, diabetes patients, and individuals with hearing loss (pilot grant-funded program). Hospital and clinic-based speech-language-pathologists may offer aural rehabilitation, but this is often limited to listening practice or speech therapy.

Much like hearing aid services, rehabilitation services are spread across the state within communities, hospitals, clinics, and universities, but there is no one place in Arizona the patient can go for assistance after the process of a hearing aid fitting is completed. Statewide audiologic rehabilitation specialists would be in a unique position to direct new hearing aid recipients to existing rehabilitation programs in the state, develop new educational programs, gather patient-centered resources to one centralized location, and track outcome data. The projected expenses for a statewide Audiologic Rehabilitation Program are itemized in Table 5-4.

Table 5-4 Anticipated Annual Expenses for a Statewide Audiologic Rehabilitation Program

Annual Program Expenses	
Administrative Costs	
Employees (2 Audiologists)	$ 140,000.00
ERE	$ 67,200.00
Space	$ 3,534.00
Travel	$ 15,000.00
Misc	$ 15,000.00
Net Annual Program Cost	$ 242,634.00

Other Barriers in Access to Care

We documented through the provider focus groups that the out-of-pocket cost of hearing health care is a factor that impacts whether someone with hearing loss is able to obtain hearing aids, as has been previously reported in other studies (e.g., Nash et al., 2013). Beyond the affordability of hearing technology and related services, our research revealed other factors that contribute to barriers in access to hearing healthcare. These barriers included community members not knowing where to find help, the need to travel to access care, low-income adults lacking transportation to get to appointments or being unable to take time away from work to access health care, the ongoing out-of-pocket costs of device use such as hearing aid batteries, and potential wait times to see a provider for pro bono services or limited availability of providers. Additional barriers to obtaining hearing aids reported in the literature include patient-centered factors such as motivation, self-recognition of hearing disability, as well as expectations and attitudes toward hearing aids (Vestergaard-Knudsen et al., 2010). These barriers may be potentially addressable through implementation of the supporting link specialist program and a comprehensive audiologic rehabilitation program with public outreach and education to increase consumer awareness and understanding of hearing loss and available resources.

Addressing Health Care Disparities

It is also important to consider the findings and recommendations from this report within the broader context and public health goals of reducing health disparities. Recent studies have documented at the national level that there are income disparities (Bainbridge & Ramachandran, 2014) and racial/ethnic disparities in hearing aid ownership (Nieman, Marrone, Szanton, Thrope, & Lin, 2015). The vision for comprehensive, accessible, and affordable hearing health care in Arizona presented here is focused on closing gaps in the affordability and accessibility of care which, if addressed, have the potential to reduce disparities, improve health outcomes, and contribute to economic productivity in the state.

Box 5-1 outlines a summary of the current gaps in the hearing health care delivery system and possible solutions for state-level action. The three major gaps in care faced by low-income Arizonans with hearing loss identified by the Task Force included the needs for 1) Greater consumer awareness of programs and resources and empowerment to access those services, 2) Greater availability of affordable hearing aids across the state, and 3) Greater access to comprehensive, patient-centered rehabilitative services for hearing loss for ongoing support for living with hearing loss and using hearing aids successfully in daily life.

Box 5-1.

Vision for Comprehensive, Accessible, and Affordable Hearing Health Care in Arizona

References

American Speech-Language-Hearing Association. (1999). *Joint audiology committee clinical practice statements and algorithms.* [Guidelines]. Available from www.asha.org/policy.

American Speech-Language-Hearing Association. (2006). *Preferred practice patterns for the profession of audiology* [Preferred Practice Patterns]. Available from www.asha.org/policy.

Arizona State Plan on Aging 2015-2018. Department of Economic Security, Division of Aging and Adult Services.

Arlinger, S. (2003). Negative consequences of uncorrected hearing loss – a review. International Journal of Audiology, 42(2), 17-20.

Arnoldner, C., & Lin, V. Y. (2013). Expanded selection criteria in adult cochlear implantation. Cochlear Implants International, 4, S10-13.

Bainbridge, K. E., & Ramachandran, V. (2014). Hearing aid use among older U.S. adults: The national health and nutrition examination survey, 2005-2006 and 2009-2010. Ear and Hearing, 35(3), 289-294.

Carreira, R. (2013). SouthEastern Arizona Governments Organization, Area Agency on Aging: Needs assessment survey results. Available from: http://seago.org/sites/default/files/SEAGO%20Needs%20Assessment%20Report%202013%20%28Final%29.pdf

Chien, W., & Lin, F. R. (2012). Prevalence of hearing aid use among older adults in the United States. Archives of Internal Medicine, 172(3), 292-293.

Chisolm, T., Abrams, H., & McArdle, R. (2004). Short and long-term outcomes of adult audiologic rehabilitation. Ear and Hearing, 25(5), 464-477.

Chisolm, T., & Arnold, M. (2012). Evidence about the effectiveness of aural rehabilitation programs for adults. In Wong, L. and Hickson, L. (eds.), Evidence-Based Practice in Audiology. Plural Publishing: San Diego.

Chisolm, T. H., Johnson, C. E., Danhauer, J. L., Portz, L. J., Abrams, H. B., Lesner, S., . . . Newman, C.W. (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. Journal of the American Academy of Audiology, 18(2), 151-183.

Citro, C. F, & Michael, R. T. (1995). Measuring Poverty: A new approach. National Academy Press, Washington, D.C.

Dalton, D. S., Cruickshanks, K. J., Klein, B. E., Klein, R., Wiley, T. L., & Nondahl, D. M. (2003). The impact of hearing loss on quality of life in older adults. Gerontologist, 43, 661-668.

Doherty, K. A, & Desjardins, J. L. (2015). The benefit of amplification on auditory working memory function in middle-aged and young-older hearing impaired adults. Frontiers in Psychology, 6, 721.

Dillon, H. (2012). Hearing Aids, Second Edition. Theime: New York.

Genther, D. J., Frick, K. D., Chen, D., Betz, J., & Lin, F. R. (2013). Association of hearing loss with hospitalization and burden of disease in older adults. Journal of the American Medical Association, 309(22), 2322-2324.

Genther, D. J., Betz, J., Pratt, S., Martin, K. R., Harris, T. B., Satterfield, S., . . . Health, Aging and Body Composition Study. (2015). Association between hearing impairment and risk of hospitalization in older adults. Journal of the American Geriatrics Society, 63(6), 1146-1152.

Gifford, R. H., Dorman, M. F., Shallop, J. K., & Sydlowski, S. A. (2010). Evidence for the expansion of adult cochlear implant candidacy. Ear and Hearing, 31(2), 186-194.

Granberg, S., Pronk, M., Swanepoel, D.W., Kramer, S.E., Hagsten, H., Hjaldahl, . . . Danermark, B. (2014). The ICF core sets for hearing loss project: Functioning and disability from the patient perspective. International Journal of Audiology, 53, 777-786.

Hawkins, D. B. (2005). Effectiveness of counseling-based adult group aural rehabilitation programs: A systematic review of the evidence. Journal of the American Academy of Audiology, 16, 485-493.

Hickson, L. Worrall, L., & Scarinci, N. (2007). A randomized controlled trial evaluating the active communication education program for older people with hearing impairment. Ear and Hearing, 28(2), 212-230.

Humes, L., & Krull, V. (2012). Hearing aids for adults. In Wong, L. and Hickson, L. (eds.), Evidence-Based Practice in Audiology. Plural Publishing: San Diego.

Kochkin, S. (2009). MarkeTrak VIII: 25 Year Trends in the Hearing Health Market. Hearing Review, 16(11), 12-31.

Lin, F. R., & Ferrucci, L. (2012). Hearing loss and falls among older adults in the United States. Archives of Internal Medicine, 172(4), 369-371.

Lin, F. R., Metter, E. J., O'Brien, R. J., Resnick, S. M., Zonderman, A. B., & Ferrucci, L. (2011). Hearing loss and incident dementia. Archives of Neurology, 68(2), 214-20.

Lin, F. R., Niparko, J. K., & Ferrucci, L. (2011). Hearing Loss Prevalence in the United States. Archives of Internal Medicine, 171, 1851-1852.

Lin, F. R., Yaffe, K., Xia, J., Xue, Q. L., Harris, T. B., Purchase-Helzner, E., ... Health ABC Study Group. (2013). Hearing loss and cognitive decline in older adults. JAMA Internal Medicine, 173(4), 293-299.

McMahon, C. M., Gopinath, B., Schneider, J., Reath, J., Hickson, L., Leeder, S.R., . . . Cowan, R. (2013). The need for improved detection and management of adult-onset hearing loss in Australia. International Journal of Otolaryngology, Article ID 308509, 7 pages.

McManus, M. A, Levtov, R., White, K. R, Forsman, I., Foust, T., & Thompson, M. (2010). Medicaid reimbursement of hearing services for infants and young children, Pediatrics, 126, S34-S42.

Mener, D. J., Betz, J., Genther, D. J., Chen, D., & Lin, F. R. (2013). Hearing loss and depression in older adults. Journal of the American Geriatrics Society, 61(9), 1627-1629.

Mick, P., Kawachi, I., & Lin, F. R. (2014) The association between hearing loss and social isolation in older adults. Otolaryngology Head and Neck Surgery, 150(3), 378-384.

Mulrow, C. D., Aguilar, C., Endicott, J. E., Tuley, M. R., Velez, R., Charlip, W. S. . . . DeNino, L. A. (1990). Quality-of-life changes and hearing impairment: A randomized trial. Annals of Internal Medicine, 113, 188-194.

Nash, S. D., Cruickshanks, K. J., Huang, G. H., Klein, B. E., Klein, R., Nieto, F.J., & Tweed, T. S. (2013). Unmet hearing health care needs: the Beaver Dam offspring study. American Journal of Public Health, 103(6), 1134-1139.

Nieman, C. L., Marrone, N., Szanton, S. L., Thorpe, R. J. Jr., & Lin, F. R. (2015). Racial/Ethnic and Socioeconomic Disparities in Hearing Health Care Among Older Americans. Journal of Aging and Health, pii: 0898264315585505. [Epub ahead of print].

Office of the Assistant Secretary for Planning and Evaluation (ASPE). Frequently Asked Questions Related to the Poverty Guidelines and Poverty. Available from http://aspe.hhs.gov/poverty/faq.cfm#differences

Peelle, J. E., Troiani, V., Grossman, M., & Wingfield, A. (2011). Hearing loss in older adults affects neural systems supporting speech comprehension. The Journal of Neuroscience, 31(35), 12638-12643.

Pima Council on Aging. (2013). Aging in Pima County: A Report to the Community. Available from: https://www.pcoa.org/pdfs/A-Report-To-The-Community.pdf

Preminger, J. E., & Yoo, J. K. (2010). Do group audiologic rehabilitation activities influence psychosocial outcomes? American Journal of Audiology, 19(2), 109-125.

Preminger, J. E., & Zeigler, C. H. (2008). Can auditory and visual speech perception be trained within a group setting? American Journal of Audiology, 17, 80-97.

Rubin, R. (2000). Redefining the survival of the fittest: Communication disorders in the 21st century. Laryngoscope, 110(2 Pt 1), 241-245.

Saito, H., Nishiwaki, Y., Michikawa, T., Kikuchi, Y., Mizutari, K., Takebayashi, T., & Ogawa, K. (2010). Hearing handicap predicts the development of depressive symptoms after 3 years in older community-dwelling Japanese. Journal of the American Geriatrics Society, 58(1), 93-97.

Schneider, J., Gopinath, B., Karpa, M.J., McMahon, C. M., Rochtchina, E., Leeder, S. R., & Mitchell, P. (2010). Hearing loss impacts on the use of community and informal supports. Age and Ageing, 39(4), 458–464.

Shih, T. & Fan, X. (2008). Comparing response rates from web and mail surveys: A meta-analysis. Field Methods, 20(3), 249-271.

Short, K. (2014). The Supplemental Poverty Measure: 2013, downloaded from http://www.census.gov/content/dam/Census/library/publications/2014/demo/p60-251.pdf

Strawbridge, W. J., Wallhagen, M. I., Shema, S. J., & Kaplan, G. A. (2000). Negative consequences of hearing impairment in old age: A longitudinal analysis. The Gerontologist, 40, 320-326.

Sweetow, R. W. (1999). Counseling: It is the key to successful hearing aid fittings. The Hearing Journal, 52(3), 12-17.

Tye-Murray, N., Spry, J. L., & Mauzé, E. (2009). Professionals with hearing loss: maintaining that competitive edge. Ear and Hearing, 30(4), 475-484.

Ulhmann, R. F., Larson, E. B., Rees, T. S., Koepsell, T. D., & Duckert, L. G. (1989). Relationship of hearing impairment to dementia and cognitive dysfunction in older adults. Journal of the American Medical Association, 261, 1916-1919.

U.S. Census Bureau. 2009-2013 5-Year American Community Survey. Retrieved 2/18/2015 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk

U.S. Census Bureau. DP-1-Geography-Arizona: Profile of General Population and Housing Characteristics: 2010.

U.S. Census Bureau: State and County QuickFacts. Retrieved 6/1/2015 from http://quickfacts.census.gov/qfd/states/04000.html

U.S. Census Bureau. How the Census Bureau Measures Poverty. Retrieved from http://www.census.gov/hhes/www/poverty/about/overview/measure.html

U.S. Department of Health and Human Services. Office of Disease Prevention and Health Promotion. Healthy People 2020. Washington, DC. Accessed 6/1/15. Available at http://www.healthypeople.gov/2020/topics-objectives/topic/hearing-and-other-sensory-or-communication-disorders/objectives

Valente, M., Abrams, H., Benson, D., Chisolm, T., Citron, D., Hampton, D., . . . Sweetow, R. (2006). Guidelines for the Audiologic Management of Adult Hearing Impairment. Retrieved from http://audiology.com/haguidelines%202007.pdf

Vestergaard-Knudsen, L., Öberg, M., Nielsen, C., Naylor, G., & Kramer, S. E. (2010). Factors influencing help seeking, hearing aid uptake, hearing aid use and satisfaction with hearing aids: A review of the literature. Trends in Amplification, 14, 127-154.

Viljanen, A., Kaprio, J., Pykkö, I., Sorri, M., Koskenvuo, M., & Rantanen, T. (2009). Hearing acuity as a predictor of walking difficulties in older women. Journal of the American Geriatrics Society, 57(12), 2282-2286.

Wilson, R. H., Noe, C. M., Cruickshanks, K. J., Wiley, T. L., & Nondahl, D. M. (2010). Prevalence and degree of hearing loss among males in Beaver Dam cohort: comparison of veterans and nonveterans. Journal of Rehabilitation Research & Development, 47(6), 505-520.

Yueh, B., Souza, P. E., McDowell, J. A., Collins, M. P., Loovis, C. F., Hedrick, S. C., . . . Deyo, R. A. (2001). Randomized trial of amplification strategies. Archives of Otolaryngology-Head and Neck Surg

Appendix A. AHCCCS Eligibility Requirements

AHCCCS ELIGIBILITY REQUIREMENTS April 1, 2014

	Where to Apply	Eligibility Criteria: Household Monthly Income by Household Size (After Deductions)[1]	Eligibility Criteria: Resource Limits (Equity)	Eligibility Criteria: Social Security #	Eligibility Criteria: Special Requirements	General Information: Benefits
Coverage for Children						
Children Under Age 1	www.healthearizonaplus.gov or DES/Family Assistance Office Call 1-855-HEA-PLUS for the nearest office	147% FPL 1 $1,430 2 $1,927 3 $2,425 4 $2,922 Add $497 per Add'l person	N/A	Required	**N/A**	AHCCCS Medical Services[2]
Children Ages 1 – 5	www.healthearizonaplus.gov or DES/Family Assistance Office Call 1-855-HEA-PLUS for the nearest office	141% FPL 1 $1,372 2 $1,849 3 $2,326 4 $2,803 Add $477 per Add'l person	N/A	Required	**N/A**	AHCCCS Medical Services[2]
Children Ages 6 – 19	www.healthearizonaplus.gov or DES/Family Assistance Office Call 1-855-HEA-PLUS for the nearest office	133% FPL 1 $1,294 2 $1,744 3 $2,194 4 $2,644 Add $450 per Add'l person	N/A	Required	N/A	AHCCCS Medical Services[2]
KidsCare Children Under Age 19	The KidsCare program is currently frozen. No new applications are being accepted.	200% FPL 1 $1,945 2 $2,622 3 $3,299 4 $3,975 Add $677 per Add'l person	N/A	Required	▪ Not eligible for Medicaid ▪ No health insurance coverage within last 3 months ▪ Not available to State employees, their children, or spouses ▪ $10 - $70 monthly premium covers all eligible children	AHCCCS Medical Services[2]
Coverage for Individuals						
Parent & Caretaker Relatives	www.healthearizonaplus.gov or DES/Family Assistance Office Call 1-855-HEA-PLUS for the nearest office	106% FPL 1 $1,031 2 $1,390 3 $1,749 4 $2,107 Add $359 per Add'l person	N/A	Required		AHCCCS Medical Services[2]
Adults	www.healthearizonaplus.gov or DES/Family Assistance Office Call 1-855-HEA-PLUS for the nearest office	133% FPL 1 $1,294 2 $1,744 3 $2,194 4 $2,644 Add $450 per Add'l person	N/A	Required	▪ 19 years of age or older ▪ Under age 65 ▪ Not entitled to Medicare ▪ Adult's children must have health insurance coverage ▪ Ineligible for any other categorical Medicaid coverage	AHCCCS Medical Services[2]
Coverage for Women						
Pregnant Women	www.healthearizonaplus.gov or DES/Family Assistance Office Call 1-855-HEA-PLUS for the nearest office	156% FPL 1 $1,518 2 $2,045 3 $2,573 4 $3,101 Add $528 per Add'l person (Limit increases for each expected child)	N/A	Required		AHCCCS Medical Services[2]
Breast & Cervical Cancer Treatment Program	Well Women Healthcheck Program Call 1-888-257-8502 for the nearest office	N/A	N/A	Required	▪ Under age 65 ▪ Screened and diagnosed with breast cancer, cervical cancer, or a pre-cancerous cervical lesion by the Well Woman Healthcheck Program ▪ Ineligible for any other Medicaid coverage	AHCCCS Medical Services[2]

Revised Eff. April 1, 2014

AHCCCS ELIGIBILITY REQUIREMENTS April 1, 2014

AHCCCS

Application	Eligibility Criteria				General Information
Where to Apply	Household Monthly Income by Household Size (After Deductions)[1]	Resource Limits (Equity)	Social Security Number	Special Requirements	Benefits
Coverage for Elderly or Disabled People					
Long Term Care	ALTCS Office Call 602-417-7000 or 1-800-654-8713 for the nearest office	300% FBR $ 2,163 Individual	$2,000 Individual[3]	Required	▪ Requires nursing home level of care or equivalent ▪ May be required to pay a share of cost ▪ Estate recovery program for the cost of services received after age 55	AHCCCS Medical Services[2], Nursing Facility, Home & Community Based Services, and Hospice
SSI CASH	Social Security Administration	100% FBR $ 721 Individual $1,082 Couple	$2,000 Individual $3,000 Couple	Required	▪ Age 65 or older, blind, or disabled	AHCCCS Medical Services[2]
SSI MAO	www.healthearizonaplus.gov or mail an application to SSI MAO 801 E Jefferson MD 3800 Phoenix, Arizona 85034	100% FPL $ 973 Individual $1,311 Couple	N/A	Required	▪ Age 65 or older, blind, or disabled	AHCCCS Medical Services[2]
Freedom to Work	www.healthearizonaplus.gov or mail an application to 801 E Jefferson MD 7004 Phoenix, AZ 85034 602-417-6677 1-800-654-8713 Option 6	250% FPL $2,432 Individual Only Earned Income is Counted	N/A	Required	▪ Must be working and either disabled or blind ▪ Must be age 16 through 64 ▪ Premium may be $0 to $35 monthly + Need for Nursing home level of care or equivalent is required for Long Term Care (Nursing Facility, Home & Community Based Services, or Hospice)	AHCCCS Medical Services[2] Nursing Facility, Home & Community Based Services, and Hospice
Coverage for Medicare Beneficiaries						
QMB	www.healthearizonaplus.gov or mail an application to SSI MAO 801 E Jefferson MD 3800 Phoenix, Arizona 85034	100% FPL $ 973 Individual $1,311 Couple	N/A	Required	▪ Entitled to Medicare Part A	Payment of Part A & B premiums, coinsurance, and deductibles
SLMB	www.healthearizonaplus.gov or mail an application to SSI MAO 801 E Jefferson MD 3800 Phoenix, Arizona 85034	120% FPL $ 973.01 – $1,167 Individual $1,311.01 – $1,573Couple	N/A	Required	▪ Entitled to Medicare Part A	Payment of Part B premium
QI-1	www.healthearizonaplus.gov or mail an application to SSI MAO 801 E Jefferson MD 3800 Phoenix, Arizona 85034	135% FPL $1,167.01 – $1,313 Individual $1,573.01 – $1,770 Couple	N/A	Required	▪ Entitled to Medicare Part A ▪ Not receiving Medicaid benefits	Payment of Part B premium

Applicants for the above programs must be Arizona residents and either U.S. citizens or qualified immigrants and must provide documentation of identity and U.S. Citizenship or immigrant status. Applicants for the Children, Caretaker Relative, Pregnant Women, Adult, SSI-MAO, and Long Term Care programs who do not meet the citizen/immigrant status requirements may qualify for Emergency Services.

NOTES: 1 Income deductions vary by program, but may include work expenses and educational expenses.
2 AHCCCS Medical Services include, but are not limited to, doctor's office visits, immunizations, hospital care, lab, x-rays, and prescriptions.
3 If the applicant has a spouse living in the community, between $23,448 and $117,240 of the couple's resources may be disregarded.

Revised Eff. April 1, 2014

Appendix B. States that provide some Medicaid hearing aid coverage to adults.

STATE	Some Hearing Aid Coverage?	WEBSITE
Alabama	NO	http://medicaid.alabama.gov
Alaska	YES	http://dhss.alaska.gov/dhcs/Documents/PDF/Recipient-Handbook.pdf
Arizona	NO	http://www.azahcccs.gov/
Arkansas	NO	https://www.medicaid.state.ar.us/
California	YES	www.medi-cal.ca.gov
Colorado	NO	www.colorado.gov/cs/Satellite/HCPF/HCPF/1197969485536
Connecticut	YES	www.ct.gov/dss/lib/dss/pdfs/medicaidservicesv3kk.pdf
Delaware	NO	http://dhss.delaware.gov/dhss.dmma/
District of Columbia	NO	www.dc-medicaid.com/dcwebportal/home
Florida	YES	www.fdhc.state.fl.us/Medicaid
Georgia	NO	http://dch.georgia.gov/
Hawaii	YES	www.med-quest.us
Idaho	NO	www.healthandwelfare.idaho.gov/Medical/Medicaid
Illinois	YES	www.hfs.illinois.gov/medical
Indiana	YES	www.indianamedicaid.com
Iowa	YES	www.dhs.state.ia.us/policyanalysis/PolicyManualPages/Manual_Documents/Provman/audio.pdf
Kansas	YES	www.kmap-state-ks.us/Documents/Content/Provider%20Manuals/Professional_
Kentucky	NO	http://chfs.ky.gov/dms/services.htm#programs
Louisiana	NO	http://new.dhh.louisiana.gov/index.cfm/subhome/1
Maine	NO	www.maine.gov/dhhs/oms/
Maryland	NO	www.dhr.state.md.us/fia/medicaid.htm
Massachusetts	YES	http://www.mass.gov/eohhs/gov/departments/masshealth/applications-and-member-forms.html
Michigan	NO	www.michigan.gov/mdch
Minnesota	YES	www.dhs.state.mn.us/
Mississippi	NO	www.medicaid.ms.gov
Missouri	YES	www.dss.mo.gov/fsd/msmed.htm
Montana	YES	www.mtrules.org/gateway/ruleno.asp?RN=37.86.805
Nebraska	YES	http://dhhs.ne.gov/medicaid/Pages/med_medserv.aspx#Hearing
Nevada	YES	https://dhcfp.nv.gov/
New Hampshire	YES	www.dhhs.nh.gov/ombp/medicaid/#covered
New Jersey	YES	http://www.state.nj.us/humanservices/dmahs/clients/medicaid
New Mexico	YES	http://www.hsd.state.nm.us/mad/pdf_files/provmanl/prov83246.pdf
New York	YES	www.health.ny.gov/health_care/medicaid/
North Carolina	NO	http://www.ncdhhs.gov/dma; http://www.ncdhhs.gov/dma/mp/7final.pdf
North Dakota	YES	www.nd.gov/dhs/services/medicalserv/medicaid/covered.html
Ohio	YES	http://jfs.ohio.gov/ohp/consumers/benefits.stm
Oklahoma	NO	www.okhca.org/
Oregon	YES	www.oregon.gov/OHA/healthplan/
Pennsylvania	NO	www.dpw.state.pa.us/foradults/healthcaremedicalassistance/index.htm
Rhode Island	YES	www.dhs.ri.gov
South Carolina	NO	http://www2.scdhhs.gov
South Dakota	YES	http://legis.state.sd.us/rules/DisplayRule.aspx?Rule=67:16:29
Tennessee	NO	www.tn.gov/tenncare/members.html
Texas	YES	www.hhsc.state.tx.us/rad/acute-care/hearing-audio/
Utah	NO	http://health.utah.gov/medicaid
Vermont	YES	http://dvha.vermont.gov/budget-legislative/draft_medicaid_covered_services_brochure.pdf
Virginia	NO	http://dmasva.dmas.virginia.gov/default.aspx
Washington	NO	http://hrsa.dshs.wa.gov/
West Virginia	NO	www.wvdhhr.org/bcf/family_assistance/medicaid.asp
Wisconsin	YES	www.forwardhealth.wi.gov/kw/pdf/hearing.pdf
Wyoming	YES	http://wyequalitycare.acs-inc.com/manuals/Manual_CMS_1500.pdf
Total # of states with Hearing Aid Benefits	28	

Adapted from a list compiled by The Hearing Loss Association of America as of January, 2015. (http://www.hearingloss.org/content/medicaid-regulations)