

Wedding Processions and the Case for Universal Hearing Aid Insurance

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Abstract

Hearing loss has adverse effects and is most detrimental during early years for its impact on learning in general and language acquisition in particular. While not a cure, hearing aids are the only practical solution to hearing loss available today. Yet, according to the US Department of Health and Human Service's National Institute on Deafness and Other Communication Disorders (NIDCD), most people who need hearing aids do not have them largely due to the high cost (NIDCD). For example, barely 15 percent of young adults with hearing loss who need hearing aids wear them (NIDCD). Unfortunately, despite the acute necessity for hearing amplification for those with hearing loss, hearing aids are either not covered or minimally covered by most private health insurance plans or by Medicare. Consequently, many of those who critically need hearing aids cannot afford them. Disturbingly, in America, access to hearing aids depends on socioeconomic status. Therefore, in order to reduce the impact of socioeconomic gap on those with hearing loss in America, this article proposes a federal mandate for uniform hearing aid insurance coverage for each person twenty-one years of age or younger.

Introduction

Exuberant crowd, extravagant festivities, exquisite food, exotic perfumes, excessive emotions, and expressive cheek kisses are vivid images of the first Arabic wedding I attended. Then came the climactic moment of the *zaffa* (bridal procession) with the *aarousa* (the bride) and her family walking in from one side and the *aarees* (the groom) and his family walking in from the other side of the grand entrance to the piercingly loud sounds of voluptuous drumbeat, vigorous applause, vivacious ululations, and boisterous music. However, I was sidelined from that moment because I couldn't hear. The Arabic proverb "*Mithl Al-Atrash Bil-Zaffa*" (like a deaf person in a bridal procession) applied not only metaphorically but also literally to me.

These are examples of what 30 million Americans with hearing loss, including hundreds of thousands who are 21 years old or younger, miss daily (Ross *et al.*, 2008a). Beyond aggravation, hearing loss is most detrimental during early youth for its impact on learning in general and language acquisition in particular. While not a cure, hearing aids are the only practical solution to hearing loss available today. Yet, according to the US Department of Health and Human Service's National Institute on Deafness and Other Communication Disorders (NIDCD), most people who need hearing aids do not have them largely due to the high cost ("Quick Statistics [NIDCD Health Information]," n.d.). For example, barely 15% of young adults with hearing loss who need hearing aids wear them ("Quick Statistics [NIDCD Health Information]," n.d.). Unfortunately, despite the acute necessity for hearing amplification for those with hearing loss, hearing aids are either not covered or minimally covered by most private health insurance plans or Medicare. Consequently, many of those who critically need hearing aids cannot afford them. Disturbingly, in America, access to hearing aids depends on socioeconomic status. Therefore, in order to reduce the impact of a socioeconomic gap on those with hearing loss in America, I propose a federal mandate for uniform hearing aid insurance coverage for each person 21 years of age or younger.

Half a million American children have hearing loss.

Based on various studies and surveys, half a million Americans who are 21 years old or younger have hearing loss. Johns Hopkins otolaryngologist, Dr. Frank R. Lin, records that the number of Americans with hearing loss is estimated by various sources at between 30 to 48 million (Lin, Niparko, & Ferrucci, 2011). Since 2000, all children born in the United States are required to undergo a newborn-hearing screening test (Donahue, Dubno, & Beck, 2010). Dr. Jian-Guo Tang, MD and her team from the Medical School of Zhejiang University's Otorhinolaryngology Department describe that America covers "(1) the birth admission screen, (2) follow-up evaluation, and (3) intervention" (Tang, Li, Chai, & Cai, 2006). In other words, when a baby is born in America, he or she is tested

immediately for hearing loss, allowing for early identification and intervention. According to Dr. Ross *et al.* of the Center for Disease Control in 2008, two to three out of every 1000 babies are diagnosed with hearing loss (Ross *et al.*, 2008a). As Dr. Karl White, Utah State University psychology professor and founding Director of the National Center for Hearing Assessment and Management, recounts in his keynote speech at the Centers for Disease Control in 2009, hearing loss affects more than 10,000 babies in the United States every year and is the most prevalent birth defect (Limb, McManus, Fox, White, & Forsman, 2010). Analysis by Boulet *et al.* of data from the National Health Interview Survey (NHIS) from 1997 to 2005 shows 0.5% of children ages 3 through 17 have hearing loss (Boss, Niparko, Gaskin, & Levinson, 2011; Mohr *et al.*, 2000a). A 1994 publication from the US Department of Health and Human Services pegs the percentage at about 1% (Ries, 1994). Yet, results of a 1998 study of National Health and Nutrition Examination Survey indicate 15% of children 6 to 19 years old have hearing loss (Ries, 1994). Another survey, which targeted 12 to 19 year old students, published in 2010, claims a similar percentage (Ries, 1994). Assuming that there exists 87 million Americans who are 21 years old or younger and 0.6% hearing loss incidence estimate, there are over half a million Americans 21 years or younger with hearing loss (Office, 2012).

Hearing loss causes long-term adverse ramifications on the youth. In a world centered around sound, hearing loss is an intricate, often-misunderstood disability that not only socially segregates but also medically debilitates those individuals. Hearing loss causes long-term mental damage, such as depression, fatigue, and even early dementia. In the study, “Depression in hearing-impaired children,” conducted by researchers at the Otolaryngology Department in Leiden University Medical Center, hearing-impaired children exhibited “more depressive symptoms than normally-hearing children” (Theunissen *et al.*, 2011). Hearing loss may even cause mental decline (“Hearing loss may be linked to mental decline: Harvard Health Publications,” n.d.). Another study at Johns Hopkins School of Medicine linked hearing loss with dementia (Lin *et al.*, 2011). These hidden, mental, and psychological health repercussions of hearing loss are unquestionably destructive; accordingly, hearing loss must be examined in more depth to alleviate such hindrances.

Hearing loss in children not only inconveniences them but also inhibits their ability to learn and impedes their language and communication development at formative ages. Most people attain language and vocabulary by hearing, putting children with hearing loss at a disadvantage. If uncorrected, most children with hearing loss face insurmountable language barriers with irreversible long-term consequences. As cited by the American Speech-Language-Hearing Association (Yoshinaga-Itano *et al.*, 1998; Bess, 1985; and Bess *et al.*, 1988), unidentified hearing loss may induce a delay in learning speech and

language, precipitate social, emotional, and behavioral problems, and stall academic success (“Facts about Pediatric Hearing Loss,” n.d.). Gaffney *et al.* from the CDC assert that intervention should begin as early as possible, preferably before the child turns six months old, due to the potential impact of hearing loss on speech, language, and social development (Ross *et al.*, 2008a). Hard-of-hearing author, motivational speaker, and comedian Kathy Buckley cleverly commented in her autobiography, “I had been busted by the English Language Grammar and Vocabulary Police. ‘No, sir, it didn’t go in one ear and out the other, honest I didn’t. It just never made it into one ear in the first place’” (Buckley & Padwa, 2003). The irreversible damage of uncorrected hearing loss on children leads to their growing up displaced and abated, leading to an essential question: can the impacts of hearing loss be mitigated?

Hearing aids are the only viable remedy for hearing loss. Despite the variety of different forms of hearing loss and treatments, hearing aids continue to be the most prescribed corrective measure. According to medical specialists, such as the Palo Alto Medical Foundation (PAMF), sensorineural hearing loss (nerve damage), the most common type of hearing loss, is incurable. Currently, hearing aids are its only viable treatment (“Types of Hearing Loss,” n.d.). This section will address the indispensability of hearing aids for the welfare of children with hearing loss.

In the previous section, research was introduced regarding the disadvantaging health and mental encumbrances of hearing loss. Research has found that hearing aids alleviate many of the symptoms and handicaps of hearing loss. The National Council on Aging, which surveyed more than 2,000 people with hearing loss and almost 2,000 family members, demonstrated that those who used hearing assistive devices reported “improvements in their physical, emotional, mental and social well-being” (Kochkin & Rogin, 2000).

Furthermore, considering currently available interventions, hearing aids are crucial to ensure the success of children with hearing loss. A delay in receiving hearing aid amplification is time wasted for the child acquiring language during the prime brain growth period. In “The effects of hearing loss and age of intervention on some language metrics in young hearing-impaired children,” Ramkalawan and Davis of the MRC Institute of Hearing Research discovered that children’s language development, such as vocabulary, is substantially correlated to the age at which intervention was provisioned (Ramkalawan & Davis, 2009). A study from the University of Wisconsin-Madison investigated and validated the effectiveness of hearing aids specifically on speech and language development in children with hearing loss (Tomblin, Oleson, Ambrose, Walker, & Moeller, 2014). Depriving children of hearing aids grossly undermines these children by irreparably hampering their language development and irremediably afflicting their learning ability. The

irrevocable harm caused by not furnishing hearing aids to children with hearing loss renders them permanent outcasts, which raises the next question—how many children who need hearing aids use them?

Most children who need hearing aids do not have them. Alarming, most people with hearing loss ages 21 or younger, especially babies, do not use hearing aids. A group of hearing loss experts from the American Academy of Pediatrics, who established universal newborn hearing screenings, determined that only approximately 50% of babies diagnosed with hearing loss received follow-up appointments regarding the diagnosis (Joint Committee on Infant Hearing, 2007). In “Newborn Hearing Screening Follow-Up: Factors Affecting Hearing Aid Fitting by 6 Months of Age,” 2008, Lynn Spivak and colleagues from the Long Island Jewish Medical Center, Hearing and Speech Center confirm Halpin’s and Smith’s research (Spivak, Sokol, Auerbach, & Gershkovich, 2009). Spivak *et al.* found that of the infants needing amplification, only 56% were fitted, and of those, only 39% were fitted in timely fashion (Spivak *et al.*, 2009). Marcus Gaffney *et al.* from the National Center on Birth Defects and Developmental Disabilities, CDC, include a graph (Figure 1) illustrating the percentage of infants receiving the necessary follow-up, and, as will be discussed later, relate the follow-up likelihood to socioeconomic status (Ross *et al.*, 2008b). Without the necessary follow-up, a child will not receive hearing aids.

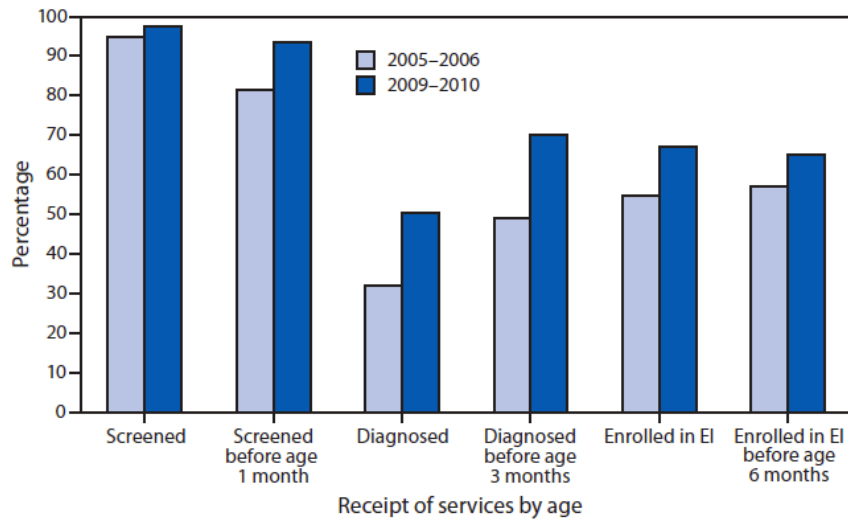


FIGURE 1. Percentage of infants screened, diagnosed, and enrolled in early intervention (Hearing Screening and Follow-up Survey, United States, 2005–2006 and 2009–2010).

Without subsequent fitting, diagnoses are fruitless. As Kathy Halpin and Kay Smith of the University of Kansas Medical Center argue in the *Journal of the American Academy of Audiology*, newborn hearing screening is pointless unless followed by early hearing aid amplification

(Halpin, Smith, Widen, & Chertoff, 2010). Newborn hearing screening is vital, but its benefits are minimized if the majority of diagnosed children do not receive the follow-up hearing aid amplification that is even more important than the diagnosis. Change is imperative to tackle this travesty and to ensure that those who direly need amplification obtain it. By no fault of their own, society sentences many children with hearing loss to being *Mithl Al-Atrash Bil-Zaffa*.

Children do not receive hearing aids due to their unaffordability. Cost and affordability preclude many young Americans from obtaining hearing aids. Notably, hearing aids are costly, with the average price of \$2,363 per hearing aid (\$4,726 for a pair) and about \$6,000 for a satisfactory pair (“HR 2013 Hearing Aid Dispenser Survey: Dispensing in the Age of Internet and Big Box Retailers - Hearing Review,” n.d.). From my own recent experience, when warranty, batteries, and service costs are added, the costs far exceed \$8,000 per pair. Moreover, hearing aids are also fragile and expensive to repair. Hearing aid prices are unlikely to drop significantly due to research, manufacturing, marketing, and service expenses (“Why Do Hearing Aids Cost More Than Laptops? — Businessweek,” n.d.). Moreover, experts doubt that marginally reducing the cost of hearing aids would improve children’s access to hearing aids, as research reveals that only eliminating the cost of hearing aids altogether will. In 2011, senior staff audiologist and director of the audiology department of Henry Ford Hospital Dr. Ramachandran along with Dr. Stach at Henry Ford Hospital inspected efforts to reduce the cost of hearing aids and discovered that the only difference in hearing aid acquisition is eliminating the cost entirely, not just reducing it (“Ovid: Reducing hearing aid cost does not influence device acquisition for milder hearing loss, but eliminating it does.,” n.d.). They found that “hearing loss sensitivity” decreased only when patients received hearing aids free of charge (“Ovid: Reducing hearing aid cost does not influence device acquisition for milder hearing loss, but eliminating it does.,” n.d.). Furthermore, Ramachandran *et al.* emphasize that hearing aid insurance coverage compellingly sways hearing aid acquisition (“Ovid: Reducing hearing aid cost does not influence device acquisition for milder hearing loss, but eliminating it does.,” n.d.). Full hearing aid insurance coverage seems to be the most, if not only, feasible option considering affordability.

Those who cannot afford high-end hearing aids face few choices, all of which are unfavorable. As the authors posit, there is a “tipping point” at which cost is relinquished as the primary consideration for purchasing hearing aids (“Ovid: Reducing hearing aid cost does not influence device acquisition for milder hearing loss, but eliminating it does.,” n.d.). Over-the-counter hearing aids are less effective because they are not powerful or programmable enough to compensate for the varying degrees and characteristics of hearing loss in each individual. In addition, over-the-counter hearing aids are deficient of basic features such as noise reduction

(“Ovid: Reducing hearing aid cost does not influence device acquisition for milder hearing loss, but eliminating it does.” n.d.). Therefore, parents of children with hearing loss who cannot afford better quality hearing aids will have no choice but to delay or buy low-end, economy aids (“The Hunt for an Affordable Hearing Aid - The New York Times,” n.d.).

Hearing aids are either not covered or minimally covered by health insurance.

Medicare, Medicaid, and most private health insurance plans either do not cover or only partially cover hearing aids. Hearing exams and hearing aids are not covered by Medicare (“Hearing & balance exams & hearing aids | Medicare.gov,” n.d.). Medicaid partially covers hearing aids in only thirty-four states (“Medicaid Benefits: Hearing Aids | The Henry J. Kaiser Family Foundation,” n.d.). Most states have limits and restrictions on hearing aid costs (“Say What? Most Insurance Covers Little Of The Cost Of Hearing Aids | Kaiser Health News,” n.d.). For example, Medi-Cal covers hearing aids up to \$1,510 per year (“hearaid_a02,” n.d.). Idaho covers hearing aids for children up to 21 years of age (Guide, 2015). Only 40% of private health insurance covers hearing aids and almost all those who do impose limits and restrictions, such as \$1,000 every two to five years (“Say What? Most Insurance Covers Little Of The Cost Of Hearing Aids | Kaiser Health News,” n.d.). The Affordable Care Act (ACA), or Obamacare, includes some coverage for hearing aids, but only twenty-two states offer hearing aid coverage (“Hearing Aids and the Affordable Care Act | Hearing Loss Association of America,” n.d.). For example, California and Florida do not offer hearing aid coverage through ACA, while Texas provides \$1,000 hearing aid coverage every three years (“Hearing Aids and the Affordable Care Act | Hearing Loss Association of America,” n.d.). The myriads of complex hearing aid coverage plans and rules confound and penalize not just people with hearing loss but society as a whole.

The unaffordability of hearing aids is a socioeconomic problem in America.

The affordability of hearing aids affects the middle class and the poor. As mentioned in the previous sections, hearing aids are costly and they are either not covered adequately or not covered entirely by health insurance, making them unaffordable for the average American. Most people who need hearing aids cannot afford them. In fact, for unconfirmed reasons, most people with hearing loss are from families below the poverty line and will be less likely to acquire hearing aids (Boss *et al.*, 2011). In their study with a sample of more than 75,000 children, with approximately 3% of the sample having some form of hearing loss, Boss *et al.* affirm that hearing-impaired children are more likely to come from families of “poorer health status,” to rely on Medicaid, to have single-mothers, or to be of lower socioeconomic status (Boss *et al.*, 2011). Furthermore, in comparison to

children without hearing loss, children with hearing loss are more likely to be from families who are below the poverty line and less likely to use medical services, reflecting on healthcare inequality (Boss *et al.*, 2011). Additionally, more than 75% of the respondents of the MarkeTrak VII Survey who did not use hearing aids reported that cost was the main reason for not having hearing aids (Kochkin & Rogin, 2000). In order to curtail the socioeconomic gap and disparity, uniform and universal hearing aid insurance coverage should be mandated.

Research underscores racial differences in intervention levels. For instance, Gaffney *et al.* found that Asians, African Americans, and whites were significantly more likely to return for a follow-up than Native Hawaiians, Pacific islanders, and American Indians (Ross *et al.*, 2008b). In addition, Gaffney *et al.* of the CDC describe data from 2009 to 2010 demonstrating that teenage mothers were less likely to take their children for follow-up services than mothers aged 35 to 50 years, and that infants whose mothers did not complete high school were substantially less likely to return for a follow-up (Ross *et al.*, 2008b). Since those with educational barriers are more likely to be poorer, this data implies that there may be socioeconomic privilege for infants from families of upper socioeconomic background.

Additionally, research shows that there are racial differences between those who do and do not receive hearing aids. Butler, Singer, Palfrey, and Walker of Harvard Medical School discovered that regardless of family background as well as disability type and severity, health insurance coverage was correlated to whether a child with a disability had visited a doctor in the past year and that children with disabilities of Hispanic background were less likely to have health insurance compared to Caucasians (Butler, Singer, Palfrey, & Walker, 1987). Socioeconomic and racial differences are an obstacle to receiving hearing aids. With the current system, wealthy and upper middle-class hearing-impaired children can better cope with hearing loss than their poor and middle-class counterparts who are destined to remain *Mithl Al-Atrash Bil-Zaffa*.

Unequal access to hearing aids has societal cost.

Lack of access to hearing aids exacts a toll not only on the individual but also on the societal level. In addition to language and communication barriers, children with hearing loss who do not receive the necessary intervention grapple with serious socioeconomic barriers. As presented by ASHA, most Americans with hearing loss are poorer than those without hearing loss (“Facts about Pediatric Hearing Loss,” n.d.). Additionally, a person with hearing loss faces a “lifetime cost of approximately \$1 million per individual” (Task Force on Newborn and Infant Hearing, 1999). This statistic is confirmed by Mohr, Feldman, Dunbar, McConkey-Robbins, Niparko, Rittenhouse, and Skinner of Johns Hopkins University, one of the best institutions in hearing science, who believe that this cost is mostly due to late intervention (Mohr *et al.*, 2000a). The high cost of hearing

assistive devices contributes to increased levels of poverty for those with hearing loss. In other words, people with hearing loss struggle with higher levels of poverty for a reason they cannot control—their disability.

In her presentation about the effect of early intervention on the individual with hearing loss, audiologist Jillian Gerstenberger cites research from Hoffman and Beauchaine, stating that around 2.5 million children in school have mild or unilateral hearing loss. More than one-third of these children are likely to fail at least one grade, necessitating educational assistance and costing over \$5 billion annually (Gerstenberger, 2011). Educational barriers at a young age will prevent the child from succeeding years later, which, in turn, will more likely lead to poverty. Children with hearing loss are four times more likely to be born from families of lower socioeconomic background (“Less well off people and hearing loss – Hear-it.org,” n.d.). Additionally, children with hearing loss are more likely to become poor due to educational barriers. By guaranteeing hearing aids, society reduces these educational gaps and expenses.

Research has verified that inaccessibility to hearing aids is a hindrance not just to the person with hearing loss but also to society at large. According to disability advocate and Academy Award winner Marlee Matlin, who is deaf, society bears \$2 trillion of cost due to unemployment of those with disabilities (“Marlee Matlin Headlines Panel Discussion on People with Disabilities in Times of Economic Crisis,” n.d.). ASHA estimates, based on research by Mohr *et al.*, that the societal cost for hearing loss is \$4.6 billion (Mohr *et al.*, 2000b). In other words, denying people with hearing loss access to hearing aids also entails a financial burden on society. Moreover, Gaffney *et al.* estimate the cost of special education services at more than \$100,000 per lifetime per individual with hearing loss and at more than \$650 million annual total nationwide (Ross *et al.*, 2008a). Late intervention costs schools another \$420,000 lifetime per student (Task Force on Newborn and Infant Hearing, 1999). These expenses could be invested into the hearing-impaired child’s education, which could, in turn, benefit the student, school, and society. Furthermore, the CDC estimates society’s lifetime economic cost at more than \$400,000 for each child with hearing loss, primarily due to special education services (“Facts about Pediatric Hearing Loss,” n.d.). Even with this, Mohr *et al.* believe that special education services are only approximately 20% of the total cost of accommodation a hearing-impaired student (Mohr *et al.*, 2000b). Mohr *et al.* estimate societal cost to be almost \$300,000 per individual, mostly due to “[reduction] in work productivity” and partly due to special education (Mohr *et al.*, 2000b). According to ASHA, early diagnosis and intervention may allow 10% of children with hearing loss to be mainstreamed, which doubles society’s return on investment (“Facts about Pediatric Hearing Loss,” n.d.). Undoubtedly, it is more economical for society to subsidize hearing aid insurance coverage.

The Proposal

The proposed legislation is a federal mandate for uniform, universal, national coverage of hearing aids with the following stipulations. First, all health insurance companies, Medicare, Medicaid, and Affordable Care Act exchanges must cover hearing aids for patients diagnosed with hearing loss from birth to 21 years of age. Second, coverage must encompass up to \$8,000 for a new pair of hearing aids every four years, up to \$500 annual repair and replacement warranty, as well as \$200 annual testing, fitting, molding, and battery costs, with amounts adjusted for inflation. Third, the mandate should be an amendment to the ACA. Limb and her team from the US Department of Health and Services describe current encouragement to require private health insurance to cover hearing aids and services for young children with hearing loss (Limb *et al.*, 2010). The time has come to move from encouragement to advocacy and action.

Conclusion

Delayed hearing loss intervention is a grave quagmire in America that stymies more than half a million American youth who are 21 years old or younger every year and millions of people over a lifetime. By not providing children with hearing loss access to the hearing world, America is fundamentally reinforcing socioeconomic differences and espousing discrimination against those with disabilities, hearing loss in particular.

Experiencing weddings as purely visual events may not seem overly traumatic, but letting half a million American youth go through life in their formative years *Mithl Al-Atrash Bil-Zaffa* is unconscionable. This expression pinpoints the daily encounters of young Americans with hearing loss who do not use hearing aids. By ignoring the fundamental learning, communication, and developmental needs of young Americans with hearing loss, society itself is acting *Mithl Al-Atrash Bil-Zaffa*.

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