



Division of Family Health and Preparedness

Children's Hearing Aid Program

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Savings from Hearing Aids for Children (S.B. 2, Item 186, 2019 General Session)

Background:

The Legislature intends that the recipient of funding for "Help 24 More Children With Hearing Aids" provide a report to the Office of the Legislative Fiscal Analyst that details the following: (1) what specific savings were generated, (2) who received the savings, and (3) what the funding sources were for these savings. For FY 2020 items, the recipient shall provide the report by August 31, 2020. In the building block submission to obtain these funds, the following was referenced regarding savings:

- Numerous outcome studies have clearly established that the earlier a child can be fit with appropriate amplification the greater the savings for significant costs associated with special education services and the potential need for long term social and vocational services.

Summary:

It has been found that **infants and children who receive early hearing aid amplification and intervention will be more likely to achieve the same speech and language development as their typical hearing peers reducing the need for special education and other state-funded programs.** The information below is based on research articles and Utah State Office of Education estimates.

Report:

1- What specific savings were generated?

a) Special Education:

A child with untreated hearing loss that requires special education services will cost an *additional* \$6,744.17 per year¹ as compared to typical education students. That is an additional \$87,674.21 for kindergarten through 12th grade. In addition, there may be further additional costs per year for a child who also attends a school district developmental preschool or needs the use of an interpreter. Average spending per year for a typical student is \$10,510, whereas spending for a special education student is \$17,254.17. This means that it costs the state of Utah an additional 60% per child per year to receive special education services². This is confirmed by the LFA for Public Education who reported that the WPU (weighted pupil unit) for a typical student is 1.53, whereas the WPU for a special education student is 2.53. This amounts to an additional 60% enhancement weight for a special education student.

¹Information received from the Utah State Office of Education

²https://auditor.utah.gov/audit_reports/public-education/

b) Vocational and social services:

On average, Deaf/Hard of Hearing adults with untreated hearing loss cost around an additional \$9,100 per year of their adult life¹. This extra cost, averaged across their working years (19 to 65 years of age) would be an additional \$418,600. This number is even higher if the adult applies for unemployment benefits. These costs may be due to reduced wages, use of additional social benefits, earlier retirement, increased medical care with higher healthcare costs, higher rates of depression, increased risk of dementia, and other quality of life concerns. Health care costs are 33% higher for individuals with untreated hearing loss. This is due both to using health care more often and having higher medical payments³. In the employment arena, individuals with hearing loss made about 25% less than their typical-hearing peers. However, the use of hearing aids reduced the risk of income loss by 90 to 100% for those with milder hearing losses and 65 to 77% for those with moderate to severe hearing loss². Overall, there is considerable evidence that people with hearing loss, on average, earn significantly less than those with typical hearing. In addition, people with an untreated hearing loss experience higher unemployment rates than those without hearing loss. The employment rate among people of working age with hearing loss is 83% of the employment rate among the population in general. Early retirement and less skilled jobs also contribute to why the average income of people with hearing loss is below that of people with normal hearing. More importantly, hearing aid users earn significantly more than hearing impaired non-users. The difference between the two groups increases with the severity of the hearing loss and unemployment rates for non-users are approximately twice those of hearing aid users¹. The Children's Hearing Aid Program (CHAP) can truly put infants with hearing loss on a developmental track that is comparable with their typical hearing peers from infancy to adulthood by funding one set of hearing aids. CHAP helps decrease that time frame between when a child is diagnosed with a hearing loss to when (or if) a child is fit with hearing aids and allows families to start saving for their next set of hearing devices.

¹<https://www.hearingreview.com/practice-building/marketing/surveys-statistics/untreated-disabling-hearing-loss-costs-billions-us-rest-world#:~:text=Applying%20the%20report%20methodology%20to,an%20untreated%20disabling%20hearing%20loss.>

²<https://hearinghealthfoundation.org/hearing-loss-in-the-workplace>

³<https://jamanetwork.com/journals/jamaotolaryngology/fullarticle/2507066>

2- Who received the savings?

The majority of savings would be to the state of Utah via programs such as special education, vocational rehabilitation, Department of Human Services, and other state and federal programs that assist with higher healthcare costs, living costs (food and heating assistance), and quality of life services (mental and social health), due to lower earning capacity of individuals with early untreated hearing loss who were unable to fully maximize their educational potential leading to a lower socioeconomic status.

3- What are the funding sources for these savings?

The majority of funding is from the State of Utah. An example of special education funding sources is as follows:

- a) According to the Utah State Office of Education:
- i) 79% is state funding (the state pays \$5317.99 per year out of the additional \$6744.17 that is spent on a student in special education).
 - ii) 21% is federal funding (federal pays \$1426.18 per year out of the additional \$6744.17 that is spent on a student in special education).

CHAP Parent Comments Regarding Development:

The following are comments from parents regarding how receiving hearing aids from CHAP at an early age positively affected their child's development:

- ...he needed these hearing aids to allow for proper hearing and speech development. It has been 4.5 years since receiving his hearing aids and he is now successfully in main stream kindergarten loving every minute and while he still needs some speech therapy it is nowhere near what would have been needed had his hearing aids been delayed.
- We are so grateful for CHAP and the early intervention that we have received for both our girls. We believe that a direct result of having had our children fitted for hearing aids so young (2 months old and 3 months old respectively), they have not had any delayed speech. We often hear from our audiologists and other family and friends how amazed they are that our daughters don't have any speech impediments due to their hearing loss.
- Because we were able to get her hearing aid at such a young age, she has no delay in speech and language development and is actually ahead in many areas of development.

Russell Frandsen

From: Jake Hennessy
Sent: Friday, September 25, 2020 9:15 AM
To: Russell Frandsen
Cc: Shari Watkins; Joe Miner; Heather Borski; Richard Saunders
Subject: Re: Report for the Children's Hearing Aid Program

Russell,

At this time, due to the lack of a statewide system across all agencies that serve children with hearing and developmental delays (including the CHAP Program, Early Childhood Utah, Part C Early Intervention, and Part B Special Education) the program is unable to quantify the savings to Special Education. In order to accurately quantify the savings, the program would need to complete a research study, along with IRB approval to get medical and educational records of the CHAP recipients to then try and compare the data to a child not receiving early amplification (hearing aids) accounting for medical and demographic differences to have valid cohort comparisons. Funding would be needed for such a study. In addition, many of the children that have been served by the CHAP program are not yet in kindergarten as babies are fitted for hearing devices as early as two months old.

However, the program has compiled a table showing parent reported outcomes which includes survey responses that provide information on developmental milestones and educational placement. The program also reached out to families of school-age children that CHAP fit with hearing aid(s) before the age of six months (responses in blue text).

The program has stated in years past that there are not many children fitting that criteria.

The parent reported outcome information is provided below:

| CHAP Recipient's Age at Time of Parent Comment | Parent Survey Comment |
|---|--|
| 7 yrs. (84 mos.) | "Her behavior improved as well as her speech and participation in class. She is now reading above grade level and doing well." |
| 3 yrs., 4 mos. | "My son is now able to talk, speaking in full sentences and asking questions! I am able to video chat with him (I am in the military). His success has put me to tears considering the struggle we have had in the last few years." |
| 2 yrs., 3 mos. | "Language development starts very early and I believe because my child has had a hearing aid so soon after birth it has allowed for on-track development with language and understanding. Compared to my other children at this age, her vocabulary and understanding is spot-on! For safety reasons she is able to hear sounds and know where they are coming from." |
| 6 yrs., 11 mos. | "Since my child has had her hearing aids on, she has excelled in school and her speech has improved." |
| 7 yrs., 20 mos. | "My child's loss of hearing severely impacted his language development, social interactions, language, and safety. It also caused him great frustration. He received his hearing aid two weeks before kindergarten ended. His teacher was amazed at the difference he saw after such a short time. His speech became easier to understand, he spoke and interacted more in class." |
| 5 yrs., 9 mos. | "Helping him hear has helped him behaviorally, socially and educationally. He can hear his teachers better and they have mentioned a huge improvement. He calls them his "Superhero Ears"! |
| 2 yrs., 9 mos. | "He was quiet and didn't babble. Now he plays with his voice and noises. After having the BAHA for 3 mos., he doubled his words and is about to reach his age milestones." |

| | |
|---------------------------|---|
| 4 yrs. | "Our child has developed speech without any barriers because she was able to get a hearing aid before she turned 3 months old. This has helped so much with our ability as hearing parents to communicate with her and it has helped her integrate well into regular preschool with her peers who hear normally." |
| 5 yrs., 9 mos. | "It has been 4 1/2 yrs. since receiving his hearing aids and is now successfully in mainstream kindergarten. While he still needs some speech therapy it is nowhere near what would have been needed." |
| 1 yr. 4 mos. | "Our baby can babble and is starting to speak. She is able to hear our voices when we read or sing to her. She is keeping up with her twin sister who has no hearing problems." |
| 6 yrs. 9 mos. and 13 mos. | "We have two children and we believe that a direct result of having had our children fit with hearing aids so young - at 2 and 3 mos. of age, respectively - they have not had any delayed speech. We often hear from our audiologist and others that they are amazed that our daughters do not have any speech impediments due to their hearing loss." |
| 14 mos. | "At 14 mos. of age, she is attempting 3-4-word sentences!" |
| 3 yrs. | "She had struggled at times with keeping up with her peers with her verbal skills, but with some excellent early interventionists and with her hearing aids as tools, she is now right on track for her age group." |
| 10 mos. | "My son is on track with all of his developmental benchmarks." |
| 3 yrs. | "He went from not saying anything to saying sentences - within 4 mos. - when he got his dual BAHAs!" |
| 2 yrs. | "Our daughter has not been delayed in her speech. In fact, she will be 2 at the end of May and she is testing in the 90th %-ile for her speech. She is defying all odds. We are grateful for her cute, sparkly pink hearing aid!" |
| 7 yrs. | Daughter is mainstreamed and doing well in school. |
| 6 yrs. | He is mainstreamed, only receives speech services as he has bilateral severe to profound hearing loss. |
| 6 yrs. | Doing well in school and is mainstreamed. |
| 8 yrs. | Doing well in school. He is mainstreamed, currently receiving speech for only 's' sounds. |

Note: BAHA = Bone-Anchored Hearing Aid

On Thu, Sep 17, 2020 at 7:39 AM Russell Frandsen wrote: [_____](#)

Hi Jake – By the end of Friday, September 25th, please indicate how much of the identified savings in the attached report can be removed and from where. If savings cannot be removed, then please identify how much of the listed savings are actually happening. For example, how many clients receive no special education help (or less). Are clients using less health care compared to other hearing impaired individuals? In general, you list possible savings, but not actual savings achieved by CHAP. Thanks for your time.

Russell Frandsen

Finance Officer