The AT Messenger…bringing technology to you

Delaware Assistive Technology Initiative (DATI), Volume 11, No. 2, Spring 2003

President Bush's FY04 Budget Eliminates AT Act

To the shock of AT advocates nationwide, the President's FY04 budget, released last month, eliminates all funding for state technology projects. This unexpected move effectively shuts down the state programs a full year before the legislative authorization for the program ends.

As you may recall, several advocates from Delaware traveled to Washington a year ago to attend a hearing of the House Subcommittee on 21st Century Competitiveness about the future of AT funding. There seemed to be consensus at that hearing that numerous and substantial barriers to AT access still exist. Nevertheless, several members of Congress advocated elimination of AT funding on the basis that individual states should have had sufficient time to establish a state system of assistive technology. Others, however, vowed to continue supporting federal assistance for AT funding to states.

For the last three years, the state projects have been kept alive via an amendment to the appropriations bills that waived the "sunset provision" in the statue. As this issue of The AT Messenger goes to print, advocates for the continuation of AT Act programs in the 56 states and territories are urging reauthorization of the law to preserve this critical network of AT services and supports nationwide. We will share additional information as it becomes available.

Classroom Acoustics Impact Learners and Educators Alike

We have known for many years that children with hearing impairments often struggle in a noisy classroom environment. Mounting evidence, however, suggests that the acoustic environment in the classroom can affect the well-being of all students—as well as that of their teachers. A significant number of schools suffer from inferior classroom acoustics, yet school administrators are often

unaware of the problems, unclear about how to rectify them, or reluctant to commit the resources necessary to improve the listening environment.

The American Speech-Language-Hearing Association (ASHA) maintains that “noisy classrooms present architectural barriers to children and adults in much the same way as physical barriers prohibit access by the physically challenged” (2002, p. 5). ASHA has recently published excellent guidelines for creating optimal learning and assessment environments for students. In addition, a partnership between the Access Board and the Acoustical Society of America (ASA) has resulted in the development of a standard for acoustics in classrooms. The standard, completed just last year, has been approved as ANSI/ASA 212.60-2002, Acoustical Performance Criteria, Design Requirements and Guidelines for Schools. It sets specific criteria for maximum background noise and reverberation, and is available from the ASA (see resource list on Page 6). At this time, compliance with the standard is voluntary. However, school systems may require compliance with the standard as part of their construction specifications for new schools, thus making the design team responsible for addressing the issues.

Frequently-Asked Questions About Classroom Acoustics

In the pages that follow, you will:

- Find answers to frequently-asked questions about classroom acoustics
- Read a parent’s account of his quest for a conducive classroom environment for his child; and
- Learn about an initiative in Colonial School District to improve classroom acoustics using technology.

References

Asha. (2002). Technical report: Appropriate school facilities for students with speech-language-hearing disorders. Asha Supplement, 23.

What causes high noise levels and other acoustical problems in classrooms?

- Most noise problems are caused by excessively loud heating-ventilation-air conditioning units (HVAC)
- Other noise sources in the classroom include the lights, AV and electronic equipment, pencil sharpeners, aquariums, and children moving about the room and talking
- Street and playground noise from outside the building penetrates classrooms
- Hallway and adjacent classroom noise also infiltrates the classroom.

Who is at risk for learning problems due to poor classroom acoustics?

Crandell, Smaldino, and Flexer (1995) identified the following groups of students as at risk for learning problems in the classroom:

- Children with any hearing loss whether unilateral, bilateral, high frequency, minimal, or fluctuating
- Children younger than age 13
- Children who have articulation disorders
- Children who have language-learning problems
- Children who have learning disabilities
- Children who are non-native English speakers
- Children who have a history of middle ear infections
- Children who have auditory processing disorders

Collectively, this represents about 20% of all school-age children.

What are the effects of noise on hearing in the classroom?

- Masked speech sounds
- Decreased speech perception abilities
- Decreased comprehension of information
- Reduced academic achievement

- Increased social-emotional problems.

What are other effects of poor classroom acoustics?

- Increased voice fatigue for teachers (Allen,1995). An Iowa study found that the highest percentage of teacher absences was due to voice-related problems.
- Students' listening effort increases (Ross, 1992). The energy that is put into trying to hear the teacher reduces the student's ability to focus on what is being said.
- Developmental factors related to language capacity. These factors cause younger children to have more problems than older children.
- Students with hearing impairment listen through a filter created by their hearing loss:

– hearing aids amplify all sounds

– assistive technology improves signal-to-noise ratios

– assistive listening devices are a necessity for most students with hearing loss.

What will it cost to improve classroom acoustics?

- Retrofitting poorly designed HVAC systems or installing wall, ceiling, or floor treatments costs two to five times more than proper original design and construction.
- Although the cost to provide proper acoustical environments is estimated to raise construction costs by 5%, the benefit-to-cost ratio over time when comparing the educational benefits of improved signal-to-noise ratios is estimated to be 40:1 (Lubman & Sutherland, 1999).

What can be done to increase awareness about the problems associated with classroom acoustics?

- Assemble school facilities personnel who are responsible for school facility planning, design, and remodeling along with school audiologists, building principals, teachers, parents, and others who are knowledgeable and/or interested in this

problem; also include local architectural firms and acoustical engineers.

- Have a meeting to raise awareness of the problems, the pending ADA regulations on classroom acoustics, and to discuss plans for addressing the problem.

What can teachers and schools do to improve acoustical conditions in their classrooms?

- Add carpet or rugs to the floor; if this is not possible, put rubber tips or tennis balls on the chair legs or use cushions in place of chairs.
- Put drapes on windows and walls.
- Use cork board on walls for bulletin boards to reduce reflective surfaces.
- Use bookshelves as room dividers to create quiet classroom spaces.
- Landscape with trees and berms to reduce outside noise.
- Close doors to hallways.
- Suspend acoustical tile.
- Ensure that lighting is adequate.

References

Allen, I. (1995). The effect sound field amplification has on teacher vocal abuse problems. Paper presented at the Educational Audiology Association Summer Conference, Lake Lure, NC, June 1993.

Crandall, C., Smaldino, J., & Flexer, C. (1995). Speech perception in specific populations. In C. Crandall, J. Smaldino, & C. Flexer (Eds.), Sound field FM amplification (pp. 49–65). San Diego: Singular Publishing.

Lubman, D., & Sutherland, I. (November, 1999). Good classroom acoustics are a good investment for America. Paper presented at the 138th Annual Meeting of the Acoustical Society of America, Columbus, OH.

Ross, M. (1992). Room acoustics and speech perception. In M. Ross (Ed.), FM auditory training systems: Characteristics, selection & use (pp. 40–41). Timonium, MD: York Press.

This information was excerpted with permission from Appropriate School Facilities for Students with Speech-Language-Hearing Disorders, a technical report published by the American Speech-Language-Hearing Association in 2002.

Auditory Access to the Curriculum: One Family's Experience

Joe Farrell

Most of us don't give acoustics much thought in the course of our daily lives. Sure, we appreciate the fine listening qualities of a first rate music hall or we cringe in the din of a noisy gym, but generally we get by.

My youngest daughter, Emily, is a bright, gregarious, energetic fourth grader who also happens to have a moderate-severe binaural hearing loss. She adapted very well to hearing aids at an early age, but they do not correct to normal hearing, and noisy rooms always present more difficulty. When she entered kindergarten in a regular education setting, acoustics became a much bigger deal to me.

It's stating the obvious to say that children are not little adults. In the case of their hearing and listening skills, children's auditory neurological network is not fully developed and they don't have the life experiences and context to fill in the missing information when they miss parts of conversations. In the school environment, young learners have short attention spans and are easily distracted. The problems are compounded for children with any type of auditory processing impairment.

Emily started kindergarten with a personal FM system. Her teacher wore a small wireless microphone that transmitted to receiving "boots" on her hearing aids. When it was working right, the FM system gave Emily a strong link to teacher instruction. The downside was that it reduced hearing aid amplification for the non-miked conversation of her classmates. She excelled in school but felt cut off from peers and stigmatized by the external aid. At the end of second grade, she pleaded with us to not use the FM and said she could

hear just fine without it. We suspected that might not be the case since young children don't always know what they miss, and we feared that Emily might fudge a little on facts to avoid using the personal FM system.

I think the "aha" moment for me that gave me some insight into what she might be hearing – or not hearing – was during her Individual Education Plan (IEP) team meeting when we gathered in the principal's office to discuss her upcoming plan for third grade. I sat next to an air conditioning unit that was no noisier than typical units, but I missed many parts of the conversation, I couldn't jump in a timely manner as one would in a normal conversation, and I was worn out at the end of one hour from listening so hard. I couldn't imagine how Emily coped through long school days.

In third grade, she continued to excel even without the FM. The school had provided a carpet since first grade that matriculated with her from grade to grade. The carpet helped reduce reverberation as well as noise from moving chairs. She had an experienced teacher with a loud, clear speaking voice who also made sure that Emily had favorable seating positions for different classroom activities.

In fourth grade, Emily made the transition to the middle school. Our concern was that the instruction would become faster paced and more complex. She was also going to the oldest building in the district. I had had the opportunity to teach Sunday school in her class wing, and I had recalled how sounds tended to echo through the rooms. Her classroom has high ceilings with tall windows. There are acoustic tiles on the ceiling, but they had been painted over to cover stains, so their acoustic benefit was lost.

At this point I need to mention that we were always fortunate that the Cape Henlopen district—administrators, specialists, and teachers—were always very supportive by providing necessary classroom accommodations as well as experienced and effective teachers who were willing to support Emily's special needs. This classroom was acoustically unsatisfactory, and we needed to ensure that there was sufficient acoustic treatment to reduce echo or reverberation and that the teacher's voice could be heard above background noise.

Carpeting, which had to be installed, and existing window treatments helped with reverberation. The school also obtained

sound absorbing wall panels in case they were needed. With support from Richard Gays, who coordinates statewide services for the deaf and hard of hearing, Cape placed an FM sound field system in the classroom. The sound field system is similar to a personal FM unit, except that amplification is to the room instead of the personal hearing aid. The teacher wears a wireless microphone that transmits to several speakers placed strategically around the classroom. While sound field systems cannot overcome bad room acoustics (rooms with a lot of reverberation and/or background noise), they do improve the signal-noise (S/N) ratio by amplifying the teacher's voice throughout the room. Teachers who use the systems report reduced voice strain and an ability to get student attention without raising their voices. The added benefit is that all children in the classroom receive improved acoustic access to their teacher.

So far we have been very pleased with the result of the sound field system. It is an inexpensive and effective approach at improving the S/N ratio and acoustic access for students. Emily continues to excel in school and reports she has no problems in hearing her teacher or her peers. Down the road Emily will attend a new middle school that is currently under construction. While the new school will most likely have better acoustics than the older building, the standard for classroom acoustics has not been incorporated into Delaware building codes for new school construction, so I say this with some uncertainty.

The issue of classroom acoustics has not received the attention it deserves, given the importance of hearing to young learners. We need acoustic standards for new school construction and renovation that provide guidance on good design and construction practices while also leaving flexibility to achieve goals of adequate speech intelligibility for all students and teachers in classroom and learning spaces. The standards have the potential to provide significant positive impact on the classroom learning environment at modest cost.

Colonial District Pioneers Widespread Auditory Enhancments

Many Colonial School District teachers no longer need to ask their students "Can you hear me now?" thanks to an IDEA and Technology Grant through the Delaware Department of Education. The grant

made possible the purchase of $63,000 of sound field amplification equipment. This money allowed for installation of 57 classroom systems and use of eight portable devices in nine elementary schools.

In an attempt to maximize the impact on reading achievement within the district, critical elementary years were targeted for the project. Kindergarten, First and Second grade regular education classrooms, in which students with special needs are receiving instruction, were selected to participate. This selection criterion allowed the greatest number of students, with and without disabilities, to benefit from an improved listening environment in the least restrictive setting.

With a great deal of support from building principals in the few weeks prior to the opening of school, targeted classrooms were identified and systems were installed. More than seventy teachers and Speech-Language Pathologists attended a training by the vendor's president and audiologist, while building custodians assisted with installation. District Assistive Technology Specialists Barbara Brooks and Debbie Whitby-Norman, who authored the grant, are providing ongoing technical assistance.

Resources on Classroom Acoustics

American National Standard Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools.

Acoustical Society of America, Melville, New York, 2002

This standards publication provides acoustical performance criteria, design requirements, and design guidelines for new school classrooms and other learning spaces. The standards may be applied when practicable to the major renovation of existing classrooms. These criteria, requirements, and guidelines are keyed to the acoustical qualities needed to achieve a high degree of speech intelligibility in learning spaces. Design guidelines in the appendices are intended to aid in conforming to the performance and design requirements, but do not guarantee conformance. Test procedures are provided when conformance to this standard is to be verified. 50p. Report No: ANSI S12.60-2002

TO ORDER: Standards Secretariat, Acoustical Society of America, 35 Pinelawn Road, Suite 114E, Melville, NY, 11747-3177; Tel: 631-390-0215, Fax: 631-390-0217, http://asastore.aip.org/

Appropriate School Facilities for Students with Speech-Language-Hearing Disorders

American Speech-Language-Hearing Association. Technical Report: Appropriate school facilities for students with speech-language-hearing disorders. ASHA Supplement, 23, 2002

www.professional.asha.org (then enter document name in search field)

This document is a reference for speech-language pathologists, audiologists, parents, teachers, administrators, and school boards. It contains minimum requirements for creating optimal learning and assessment environments for students. It is designed to be a substantiating reference for use when building a new school, redesigning an existing structure, and/or advocating for improvement of facility work conditions. 29p.

Classroom Acoustics: A Resource for Creating Environments with Desirable Listening Conditions

http://asa.aip.org/classroom/booklet.html

Seep, B., Glosemeyer, R., Hulce, E., Linn, M., & Aytar, P.

Acoustical Society of America, Technical Committee on Architectural Acoustics, Melville, NY, 2000

This booklet provides a general overview of classroom acoustic problems and their solutions for both new school construction and renovation. Practical explanations and examples are discussed on topics including reverberation, useful and undesirable reflections, mechanical equipment noise, interior noise sources, and sound reinforcement. Examples of good and bad acoustical classrooms are highlighted along with a case study involving an older classroom in an older university building where complaints of poor acoustics had been received. The booklet's final section addresses acoustical guidelines for special rooms such as cafeterias and gymnasiums. An appendix provides quantitative definitions and calculations as well as resources for more detailed information. 16p.

Classroom Acoustics: Listening vs. Learning (9-1/2 minute video)

Available for $10 (plus shipping) from the Educational Audiology Association: (800)

460-7322 (phone)

eaa@L-Tgraye.com (email)

http://www.edaud.org (website)

Good Classroom Acoustics is a Good Investment

http://www.nonoise.org/quietnet/qc/ica22001.htm

Lubman, David; Sutherland, Louis C.

(Paper presented at the 17th Meeting of the International Commission for Acoustics, Rome, Italy, 2001)

Identifies and estimates some of the costs for good acoustics in new construction, economic benefits of good acoustics, and hidden costs of marginal or poor acoustics. Compares costs and benefits using recent data available in the United States. Notes that the economic benefits of good acoustics far outweigh the costs and that it is therefore a good economic investment to ensure that classrooms have good acoustics. Provides two charts and a reference to a related paper. 4p.

Progress Toward A New Standard on Classroom Acoustics for Children with Disabilities

http://www.access-board.gov/publications/acoustic-factsheet.htm

(U.S. Access Board, Washington, DC, 2002)

Describes the steps the Access Board has taken since 1997 to develop recommendations for classroom acoustics that will include children with disabilities in a common standard. Resources on acoustics are listed, including a guide that provides a general overview of the subject, journal and magazine articles, textbooks about acoustics, information about training, and links to organizations that have additional information about acoustics. 3p.

Library for the Blind and Physically Handicapped

John Phillos, Administrative Librarian, Delaware Division of Libraries

For thousands of years, people have used the written word to transmit information. During most of this time, the great majority of people were illiterate and relied on oral traditions to pass on information. In the last few hundred years, the need to be able to read has increased to a point at which, today, it is hard to get along in society without it. We now understand that reading can also be pleasurable; it is a source not only of education, but also of relaxation, renewal, and comfort for a great number of people. Thus, when someone cannot read because of a physical limitation, they are denied not only information, but pleasure as well.

In 1931, Congress authorized the Library of Congress to initiate the service that would become the National Library Service for the Blind and Physically Handicapped (NLS). The NLS started out providing books recorded on vinyl records. Originally, these were only available to blind adults, but over the years the mission of the agency has expanded to include children and those individuals who cannot read due to other physical or reading disabilities. The books produced currently are available both in Braille and on cassette tapes, and soon will be produced in a purely digital format. NLS also produces music materials such as songbooks and musical scores in formats accessible to the visually impaired.

NLS uses a system of regional libraries to distribute its materials to qualified individuals throughout the nation and the world. Since 1971, the regional library in Dover has served our patrons in Delaware. The Delaware Library for the Blind and Physically Handicapped (LBPH) is housed at the Delaware Division of Libraries in the Edgehill Shopping Center on Route 13 in Dover. At LBPH we currently house several hundred tape players and over 60,000 books on tape ready for distribution (our patrons receive a catalog of several hundred new books that are available every other month). From here we send the playback equipment and tapes to people throughout Delaware and even to those Delawareans who are out of the state for short periods of time. All items are sent through the US Mail and are postage free to and from the recipient. There is no cost to the patron.

You may be thinking about someone you know who could benefit from this service, but you are not sure they qualify. The short answer is if a person cannot read a regularly printed book due to a visual or physical disability, including a reading disability such as dyslexia, that person is qualified. (The long answer would fill two more pages and

we will be happy to provide details if you need them). Even if the impairment is temporary in nature, we will send books as long as the condition persists. To receive service a person has only to request an application, fill it out, and return it to the library. The application asks the patron to describe the type of services desired and the reason he or she is requesting service. The application is certified by an authorized person, who could be a doctor, nurse, social worker, rehabilitation specialist or librarian, and is sent back to LBPH. Once we have the application, one of our staff will contact the new patron to determine if there are any additional needs such as headphones, amplifier, or extension levers that allow easier manipulation of the controls. All materials, the tape player, the books on tape and the accessories are sent directly to the patron's home through the US Mail.

Today, in addition to books, we get information through electronic sources. Here the Division of Libraries has provided space for an Accessible Technology Center. This area is currently equipped with several computers having software that makes the Internet accessible to people with visual impairments. In addition, we have installed two CCTV enlargers and a Galileo scanner that converts text to computer voice in one easy step. We are in the process of acquiring a Braille printer and computer so that, in the future, we can convert print to Braille and access Web-Braille through the Internet. This center is available to anyone who is qualified to use the LBPH services. In addition, we will allow individuals who work with or care for people with qualified disabilities to try out the equipment in order to determine if it might be useful for their clients/loved ones. We are hoping that knowledge about technology options will help caseworkers, rehabilitation specialists and others to be even more effective in serving their clients. Librarians also will be experimenting with this new technology and will be able to set up similar devices in libraries throughout the state.

If you or someone you know may be eligible for this service, you can get more information about books on tape or the Accessible Technology Center by writing, calling or emailing the LBPH. We will be happy to send you information or an application. We are also available to make presentations to service providers and user groups.

Library for the Blind and Physically Handicapped

Delaware Division of Libraries
43 South Dupont Highway
Dover, DE 19901
302-739-4748
800-282-8676
debph@lib.de.us

If You Can't Hear Me Now

Telephone Equipment and Services for Those with Acquired Hearing Loss

Dan Fendler, AT Specialist, Sussex County ATRC

Imagine that you are losing, or have lost, your hearing. Up to this point, you were able to use a telephone to communicate without any special equipment. Now, however, you cannot hear well enough to carry on a telephone conversation.

If you want to, or more importantly, if you need to use the phone, what do you do? Read on and you will learn what tools and services are available to help you communicate.

Telecommunication Relay Service

According to the Department of Health and Human Services, 18 percent of the adult population in the United States experiences some hearing difficulty. Roughly one out of five people have some sort of hearing loss.

For those with relatively mild hearing loss, there are a number of products available that can help with day to day issues. There are hearing aids, amplified phones, amplified answering machines, personal listening systems and other devices too numerous to mention.

If your hearing loss is considered profound and amplification devices don't help, there is a service available nationwide through AT&T's Telecommunication Relay Service (TRS). The service is available free of charge (Note: if making a long distance call, the regular rates do apply, but there is no added fee for the operator). It is designed for people who are more comfortable talking than typing (as

required for use of telecommunications device for the deaf, or TDD), and requires a specialized phone called a Voice Carry Over (VCO) phone.

The service works by including an operator (referred to as a Communications Assistant) on a call to or from a hearing impaired person. The operator will translate spoken conversation into text that can be read on a VCO phone. The hearing-impaired person will still be able to speak directly to the person on the other end of the line.

Voice Carry Over Phones

There are a number of VCO phones on the market. The features and functionality of each phone differ, but common to all VCO phones is a small, built-in screen used to display text. Many of the phones look like ordinary desk telephone equipment (see Figure 1).

Figure 1 – VCO Phone

Some useful features to look for include:

- A built-in ring flasher for incoming calls
- An adjustable extra loud ringer
- Adjustable volume amplification
- Built in text answering machine

If you travel and need a portable VCO solution, there is also a portable version available (Figure 2). The manufacturer states that it will work with a mobile phone, pay phones, and cordless phones as well as traditional phones and call boxes (works best on analog telephones).

If you share the phone with a person who is not hearing impaired, the VCO phone can be used as a standard telephone.

Figure 2 – Portable VCO Phone

Using the Relay Service

Once you have the necessary equipment, making or receiving a call is really a breeze. In most areas of the country, to make a relay call, all you need to do is dial 711.

Making a Call from a VCO Phone

If you are a VCO phone user making a call to a voice user, you would pick up the handset, dial 711 and wait for a response from the Communications Assistant. You may have to wait a few seconds until

you get a response. The Relay Service will send the message “RC NBR CALLING PLS GA,” which will appear on the phone’s display screen. A VCO caller should ignore this message and wait for a Communications Assistant to respond. When you get a response, you should indicate that this is a VCO call by saying “VCO call, go ahead”. You will then be asked via a text prompt to provide the number that you are calling. The Communications Assistant (CA) will then complete the call. When connected, the CA will ask the voice user receiving the call whether or not they have received a relay call before. If not, the CA will explain what a relay call is. Once the connection is made, the VCO user will be able to speak directly to the voice user they called. When finished speaking and a response is requested, the VCO user should say “go ahead,” which is the cue for the voice user to begin speaking. When the voice user speaks, the CA will type the conversation so the VCO user can read the response on the VCO phone screen display.

Figure 3 – The VCO Process

Making a Call to a VCO Phone User

The process of making a call to a VCO phone user is even easier. You dial 711 and get a voice menu that asks you to enter ‘1’ for voice relay service. From the voice menu, follow the instructions, which will ask for the phone number that you are calling. When you get a CA, indicate that the person you are calling is a VCO user. The relay operator will place the call and the VCO user will be able to see what you are saying on their VCO display screen.

My experience has been that the relay operators have been very patient and very willing to explain the service and walk you through it if you are experiencing difficulties. When communicating through a relay operator, you may need to speak a bit more slowly. Remember, they are typing everything that you say.

AT&T has a website where you can get more detailed information: http://www.consumer.att.com/relay/index.html

Your local ATRC has VCO phones available for loan. If you think this might be helpful for you or someone you know, please give us a call. We're here to help.

Funding for Hearing Aids

Tom McDonough, DATI Funding and Policy Specialist

There are approximately 28 million people in the United States who have a hearing loss that results in communication problems. This statistic represents approximately 10% of the population, which in Delaware means more than 80,000 people.

Hearing loss is not necessarily a natural consequence of aging. It is instead a health issue which can, if not treated, negatively affect a person's physical and psychological well-being as well as their employment and community participation. Approximately 60% of people with hearing loss are between 21 and 65 years of age, and nearly three-quarters of those persons report that that their hearing loss was caused by something other than aging. These may include genetic factors, noise or trauma, viral or bacterial infections, and reaction to medications. Unfortunately, on average, people with hearing loss wait seven years before seeking help.

Although hearing aids can be immensely helpful, a surprisingly large proportion (75%) of people who might benefit from them don't use them. When asked why, people typically cite three reasons: (1) a belief that the hearing loss is not severe enough to require a hearing aid; (2) stigma, particularly in the workplace where employees may be afraid that hearing aid use would make them appear less competent; and (3) the cost of hearing aids. This article focuses on the cost issue.

Hearing aids run from approximately $800 for an analog aid to approximately $2000 for a digital programmable aid. Considering that

many users need two hearing aids, it is understandable that some people simply cannot afford to purchase them on their own. In fact, it has been estimated that approximately 7 million people who could benefit from hearing aids cannot afford to buy them.

In order to get hearing aids funded through insurance, they must be justified as a medical necessity. Despite the medical basis for hearing loss, however, Medicare does not pay for hearing aids. On the other hand, Delaware Medicaid will pay for hearing aids under certain conditions. For example, hearing aids for persons under the age of 21 are covered through Medicaid's Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program. Section 5.17 of Medicaid's Provider Policy Manual provides that such requests must be supported by:

- a physician's "letter of medical necessity" with a complete medical diagnosis and supporting documentation;
- a copy of an audiologist's evaluation;
- a speech/language evaluation or progress reports;
- discussion of trial assessment, including hearing testing;
- explanation of why the particular hearing aid was selected rather than other models;
- a full description of the hearing aid, including make and model number;
- an itemized explanation of all charges; and
- a copy of the vendor's invoice for the hearing aid.

The amount Medicaid covers depends upon the actual cost of the hearing aid to the provider, plus a dispensing fee of no more than $400. Once the warranty expires, Medicaid will also pay for repairs up to 75% of the cost of a replacement device.

Although there is a widespread perception that Delaware's Medicaid program will not pay for hearing aids for persons over the age of 21, the Medicaid official who reviews such requests recently informed DATI that Medicaid does not have a blanket prohibition against funding hearing aids for adults. Rather, requests should follow the procedure described in the bullets above; Medicaid will consider these requests on a case-by-case basis. These practices

are shared by the Diamond State Partners, one of Medicaid's managed care organizations (MCOs).

The news is even better when it comes to hearing aid coverage for those beneficiaries who subscribe to the First State Health Plan, Delaware Medicaid's other managed care organization. First State's definition of "durable medical equipment" (DME) includes hearing aids, and requests should follow First State's general DME procedure.

For those persons who have Tricare (formerly CHAMPUS) military health insurance, hearing aids are covered if the person has a "profound hearing loss" as defined by the Department of Defense.

When it comes to private insurance, the picture is not so clear cut. Many plans offered by private insurance companies do not cover hearing aids; however, since there are exceptions, one should investigate carefully before selecting a particular plan. For example, both General Motors and Chrysler employees can get a single hearing aid every two years through the United Auto Workers insurance plan.

The State Division of Vocational Rehabilitation (DVR) and its Independent Living (IL) unit may be valuable funding resources for some persons seeking hearing aids. Initially, one must meet DVR or IL's general elibility criteria, and the hearing loss must be severe enough to interfere with communication. In the case of IL, the client must also be "significantly disabled" in order to be considered for hearing aids. Once these requirements are satisfied, DVR/IL have specific procedures that must be followed (such as medical and audiological examinations), similar to those discussed above for Medicaid. Call the Delaware Helpline at (800) 464-4357 for the phone number of the DVR office closest to you and call IL at (302) 378-5779 for more information.

Older Delawareans (aged 65 and over) may be able to get hearing aids funded by the Nemours Health Clinic. Nemours requires that the person be a Delaware resident and U.S. citizen, and that their income be under $12,500 if single and under $17,125 if married. Nemours has clinics in Wilmington and Milford and their number is (302) 651-4405.

Other local options may include service organizations, such as the Lions Club. Most towns have a chapter of the Lions Club and some,

but not all, of the chapters may help with funding for hearing aids. Those interested should contact the chapter in their area. The local chapter of the Self Help for Hard of Hearing People (SHHH) recycles donated hearing aids with the assistance of a local audiologist. Those interested in obtaining or donating hearing aids should contact SHHH at (302) 656-4882 or (888) 280-3330 (toll free).

Finally, if your efforts to find funding in Delaware are not successful, you may want to consider Hear Now. This is a national non-profit agency that provides hearing aids to low-income persons with revenue generated from the sale of used hearing aids to a manufacturer. Applications, which include supporting information from a health care provider, must be accompanied by a $30.00 non-refundable fee. If interested, contact Hear Now at (800) 648-4327.

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Delaware Population Consortium. (2002). Annual population projections. Dover, DE: Author

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Coming soon: Information on legislation requiring health insurers to cover hearing aids

Lions Clubs of Delaware Assist in Funding AT

Eden Melmed, AT Specialist, New Castle County ATRC

The Lions Club is a service club organization recognized worldwide for their efforts to improve the quality of life of individuals with visual and/or hearing impairments. Lions Clubs participate in service projects that are conducted on a local, statewide, nationwide and worldwide basis. Thanks to the work of the Lions Clubs, support has been given to eye banks, research centers, guide dog training schools, and educational and rehabilitation centers.

The Delaware Lions Foundation supports the work of the Lions Clubs of Delaware by providing grants, loans, aid or guidance which can be used to help individuals obtain assistive technology. Between 2001 and 2003, the Lions Clubs of Delaware assisted 25 individuals to obtain such things as hearing aids, magnification devices, stair lift equipment, eye prostheses, personal FM hearing systems, etc. These grants totaled approximately $30,000.

Examples of recent support include:

- Laptop computer for blind student and video eye machine for local library - Claymont Lions Club
- Hearing aids for area residents - Laurel and Milford Lions Clubs
- Magnification device for local residents and libraries - Seaford, Brookside, Georgetown, Midway and Lord Baltimore Lions Clubs
- Titmus vision screener for Laurel Elementary School - Laurel Lions Club
- Wheelchair lift for minivan for disabled child - Delaware City Lions Club
- Video system for area resident - Talleyville-Naamans Lions Club
- Eye surgery and/or eye prosthetic devices for area residents - Lord Baltimore, Harrington, Smyrna and Milford Lions Clubs

If you would like more information, please contact your local ATRC.

Self Help for Hard of Hearing People Opens New Office

Linda Heller, President/ State Coordinator, SHHH of Delaware, Inc.

Self Help for Hard of Hearing People of Delaware, Inc. (SHHH) is a non-profit organization, affiliated with SHHH National in Bethesda, Maryland and is the largest organization in the United States for deaf, and hard of hearing children and adults. In Delaware, it represents approximately 90,000 deaf and hard of hearing people. Our mission is to provide information, awareness, education, support and advocacy for the needs of individuals and their families with hearing loss. The SHHH Wilmington Chapter was founded in 1986 and has been run primarily from the homes of chapter officers.

SHHH of Delaware is pleased to announce that our new central SHHH statewide office is operational. All SHHH mail, telephone and electronic communications may be sent to the new office and addresses listed below:

SHHH of Delaware, Inc.

Statewide Office

2400 W. 17th Street

Wilmington, DE 19806

(302)-656-4882

Main number and FAX Number

(888)-280-3330 (Toll-free-STATEWIDE)

(302)-656-4885 (TTY)

email: shhhdel@comcast.net

www.shhh.org

Soon our SHHH Delaware website will be announced; it will provide detailed information on SHHH groups and contacts, as well as information on Delaware SHHH and its programs, such as:

- Monthly support groups
- Statewide mentoring for deaf and hard of hearing children in the public schools
- Mentoring for adults with hearing loss using current SHHH members
- Delaware Hearing Screening Day

- Free Hearing Aid Batteries for Low-Income Seniors (limited quantity)
- Hearing Aid and Assistive Devices Recycling Donation Program
- Speaker's Bureau
- Annual Forum on Hearing Loss
- SHHH Spirit and Accessibility Awards
- Community Classes in Sign Language, Speechreading (Lipreading), Living with Hearing Loss, Communication Strategies, Family Support of the Person with Hearing Loss, Coping Strategies, Learning to Listen, Hearing Aids, Cochlear Implants, etc.
- Assistive Listening Device Assistance and Training
- Communication Technology Education Training

For further information on hearing loss or membership in SHHH of Delaware, Inc., please call our office and we will be happy to help you. Our goal is to serve people who have a hearing loss, their families, and any other individuals, businesses or organizations interested in helping people with hearing loss!

New Product Info: Victor Trekker

VisuAide has developed an orientation and mobility aide using global positioning satellite (GPS) technology for persons with vision impairments. Victor Trekker is a portable receiver that works with various computer platforms, include Braille notetakers, personal digital assistant (PDA) devices, and laptop computers. It integrates software, GPS hardware, and voice output to assist with navigation.

The software core is based on the CityGo GPS guide for tourists. The satellite tracker can tell a person the name of the street they are on, give directions to a specific destination, and give information about the location of businesses. The system comes with a variety of maps that cover most major countries in the western world. Users can plan routes and record them for later use. The system’s presentation can be adjusted to meet the needs of beginning to advanced users. Optional voice input capabilities allow the user to enter notes. The user wears the speaker and GPS receiver on a shoulder strap. The system is designed to be used in conjunction with

traditional orientation and mobility aids, such as a white cane or a guide dog.

VisuAide

841, Jean-Paul-Vincent

Longueuil, Quebec, Canadda J4G 1R3

Phone: 1-450-463-1717, 1-888-723-7273

http://www.visuaide.com m

New Product Info: AudiSee

The AudiSee is a headset and receiver system that enables students who have hearing impairments to view a speaker's mouth for lip-reading purposes. The headset houses a miniature camera and microphone that captures audio and visual information from the speaker. A transmitter, worn at the speaker's waist, then transmits the information wirelessly to a receiver connected to a desktop or larger monitor. The receiver unit can be connected to an external monitor or purchased with an integrated monitor. Both the transmitter and receiver are powered by rechargeable batteries and the receiver can also be operated with an AC adapter. The system is packaged with a carrying case and battery charger. Additional accessories make the AudiSee compatible with some hearing aids, FM systems, and cochlear implant processors. The Audisee costs $4,650, or $5,100 with an integrated monitor.

AudiSoft Technologies, Inc.

1470-B Joliet-Curie

Boucherville, Quebec, Canada J4B 7L0

Phone: 1-877-641-8436

Fax: 1-430-641-3659

http://www.audisoft.net

Equal Access to the World Wide Web

Daniel Atkins and Jody Tate, Disabilities Law Program

As reported in Joseph Shapiro's seminal book No Pity, in the 1980's before the Americans with Disabilities Act, people with

disabilities were denied participation in the most basic aspects of community life. Two-thirds of people with disabilities had not been to a movie theater in the previous year, many because they could not get in the front door, others because they could not see the screen from behind the back row. Twenty-two percent had not eaten in a restaurant, and thirteen percent did not shop in a grocery store. Perhaps most disturbingly, 59% of people with disabilities indicated that they were afraid to leave their homes because of mistreatment.

Upon passage of the Americans with Disabilities Act in 1990, President Bush dramatically declared “let the shameful wall of exclusion finally come tumbling down.” For the first time a federal law was mandating that if private businesses (“Public Accommodations”) were open to the public, they needed to be open and accessible to everyone, including people with disabilities. Specifically, Title III of the ADA requires that:

> No individual shall be discriminated against on the basis of disability in the full and equal enjoyment of the goods, services, facilities, privileges, advantages, or accommodations of any place of public accommodation by any person who owns, leases (or leases to), or operates a place of public accommodation.

Thirteen years later, many walls of exclusion have in fact collapsed, not from decay, but from tireless advocacy. New buildings and offices are constructed with accessible features. Existing facilities that predate the ADA are modified when it is readily achievable. However, the next frontier in the battle against the exclusion of people with disabilities may involve cyberspace–are sites on the World Wide Web places of public accommodation?

The importance of this question is obvious. The internet has the potential to provide people with disabilities access to an array of commercial activity that was virtually unfathomable when the ADA was drafted. The internet offers people with mobility, visual, or other impairments access to businesses, education, and information from their own homes and offices. For people with disabilities, the internet challenges the very construct of disability. From their computers with assistive technology and accessible websites, many people with disabilities are no longer disabled. However, what if a website is

inaccessible to a person with a particular sensory impairment, such as sight? Robert Gumson faced precisely that problem.

Mr. Gumson is blind and uses a screen reader to search the internet. Interested in making a flight reservation with Southwest Airlines, he was unable to use their site because it was not accessible to people with visual impairments. Southwest only offered him access through a telephone reservationist, or a ticketing location. Is this “full and equal enjoyment of goods or services”? Clearly, people with disabilities are not provided as complete an array of services by Southwest Airlines as people without disabilities. Internet commerce is burgeoning at an ever increasing rate because people with and without disabilities sometimes prefer the convenience, anonymity, autonomy, and special prices offered through online purchases.

Mr. Gumson, with the help of Access Now, a disabilities rights organization based in Florida, has sued Southwest Airlines. Access Now has also sued American Airlines on the same grounds. The airlines will argue that the internet is not a place of public accommodation as defined by the ADA. They will contend that bricks and mortar are an essential quality of a public accommodation.

One wonders why the airlines are fighting so hard. Making a website accessible is not an expensive nor difficult endeavor. Certainly it is not as difficult for the airlines as turning a profit evidently is. To date, no federal appellate court has addressed whether internet sites are places of public accommodation. However, in 1999, Barnes and Noble entered into a court approved settlement requiring it to make its website accessible to people with disabilities.

When the ADA was drafted in the late 1980's, the internet was not nearly as ubiquitous as it is today. Congress probably did not contemplate the role of the World Wide Web at the time. The question is, then, will courts honor the spirit and intent of the Act and interpret its language expansively? For sure, many federal courts will do so. However, it remains to be seen, if and when this issue goes to the U.S. Supreme Court, whether the Act will be given the liberal reading it warrants. If it is not, people with disabilities will go back to the future–with the walls of exclusion erected once again.

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Delaware Assistive Technology Initiative

Center for Applied Science & Engineering

University of Delaware/duPont Hospital for Children

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1-800-870-DATI

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Easter Seals of Delaware and Maryland's Eastern Shore

61 Corporate Circle, Corporate Commons

New Castle, DE 19720-2405

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Kent County ATRC

Easter Seals of Delaware and Maryland's Eastern Shore

100 Enterprise Place, Suite One

Dover, DE 19904-8200

(302) 739-6885; (302) 739-6886 (TDD)

Sussex County ATRC

Easter Seals of Delaware and Maryland's Eastern Shore

Delaware Technical & Community College

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