THE DEATH OF DEAFNESS?

... A SERIES OF QUESTIONS.

IS AMERICA POSITIONED TO END DEAFNESS? DO WE WANT TO?
WHAT ARE THE ECONOMICS OF DEAFNESS? WHO WINS?
WHO LOSES? WHY ARE NEWBORNS LEAVING OUR HOSPITALS WITHOUT $40 HEARING SCREENINGS? WHAT’S WRONG WITH DEAF EDUCATION? WHAT’S THE REAL TOLL OF SSDI? CAN WE DELIVER SOUND TO EVERYONE WHO WANTS TO HEAR?
.... AND WHO IS RESPONSIBLE FOR ENDING TOXIC NOISE?

... JOIN THE DIALOGUE.
What was once merely a thought, a dream, is now a reality: We *can* conquer deafness. The combination of implant technology, hearing aids, and strong parental and government support of universal newborn hearing screening can enable nearly every deaf baby to grow up self-identifying—and regarded by others—as a hearing person. Children and adults who lose their hearing can regain it. Since ancient times, deafness has been part of the human condition, but no more.

**THE CHALLENGE**

As America overcomes deafness, resources will shift to providing a lifetime of hearing health. While services for deaf and hard-of-hearing people will grow in some areas, they will decline in others.

The challenge for the hearing health field—the economic sector that includes physicians and audiologists, hearing-related charities, consumer groups, research institutions, medical device manufacturers, pharmaceutical companies, insurance companies, and government agencies—is to combine resources to achieve this historic medical goal. The country as a whole will support us and donors will finally correct the huge gap between annual giving to basic research in hearing science (under $10 million per year) and what is given to other health areas (over $70 million for blindness).

**URGENCY**

Not until we declare ourselves will the public absorb the astonishing fact that each day babies and adults are needlessly consigned to silence. We have a duty to say loudly and clearly that the anguish can end.

Here’s how Hear US crystallizes the staggering toll: One of every 1,000 American newborns is profoundly deaf (11 babies a day) and needs a cochlear implant. Another two of 1,000 need hearing aids (22 more babies). The average age when deafness is detected is 30 months, well after language, speech, and education have been irrevocably harmed. Today, we are only screening around 35 per cent of all children born in the US, and so only a few who need hearing aids and cochlear implants are getting them.

The newborn test costs under $40. It is a disgrace that all infants are not screened.

Beyond infancy, 13 of every 1,000 children become partially or totally deaf by age 17. The harm ranges from difficulty hearing classroom lectures to loss of ability to function at work or school. Undetected ear infections (otitis media) and late-onset genetic causes account for most of these losses. Sixty more become partially or totally deaf by age 44, 70 more by age 64, 60 more by age 74, and another 40 by age 80, for a total of 246 of those who live to 80 years old (50 percent of those who reach that age).

Paralleling this, over 50 million Americans suffer tinnitus, about 12 million severely enough to seek medical attention, and about one million of those cannot function on a day-to-day basis.

The main preventable cause of deafness and tinnitus after childhood is wear and tear from toxic noise—sound levels that wound or kill the nerve cells in the cochlea.

This is a bleak failure. We have not ignited awareness that the suffering can end now.

**Hear US**

The solution is to lead a cultural shift—away from assuming that deafness and lost hearing are inevitable...
and toward ending all deafness—creating the habits and expectation of lifelong hearing health.

Hear US is mobilizing parents, industry, and hearing health professionals to work from four platforms:

1. **Detection**: Ensure that the hearing of all newborns is screened at birth and prompt intervention can be received. Make newborn hearing screening the standard of care.

2. **Prevention**: Educate the public and especially new parents about the alternatives for restoring lost hearing and facilitate reimbursement or loans for hearing devices.

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4. **Research**: Fund the search to understand how the brain and genes govern hearing, and find better ways to overcome all forms of deafness and ear disorders, including tinnitus.

**YEARLONG SERIES**

We need a dialogue within our field on conquering deafness. The questions include: What would it mean to conquer deafness? What would businesses and institutions have to do? What would be the costs? Who will pay? How would the market for implants, hearing aids, and audiology and otology services grow? What and how rapid would be the impact on Gallaudet University and schools and centers for the deaf? What would happen to American Sign Language and the Deaf Culture? What research do we need? What are the benchmarks of progress? How useful are current demographic and epidemiological data on deafness? How should America share its success and resources internationally?

To begin, *Hearing Health* magazine and Hear US are partnering to lead the first exploration of these issues. We will run a series of articles which examine the questions as they relate to each stage of human growth. The first issue focuses on newborns and infancy. Subsequent issues address childhood, teens and young adults, and then middle age and senior citizens.

As a backbone for discussion, we will look in depth at the economics, including current and future costs for education, intervention, living support, lost earning potential, market size, and policies. Accompanying articles will focus on the human side of the change, on parents with deaf babies, research, technology, medical education, medical insurance, helping families pay for implants and hearing aids, and teaching children the habits of lifetime hearing health.

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**THE YEAR 2010**

To stimulate our thinking, imagine America’s hearing health scene in 2010. Changes like these are possible, and many will occur:

- Ninety-eight percent of newborns receive screening. Four thousand babies per year get implants, along with 2000 more children and teens. The average age of implantation is nine months and is trending younger. Another 8,000 newborns are receiving hearing aids. Over 30,000 adults are receiving implants, a figure that is also increasing annually.

- The annual US market for hearing aids has quadrupled since 1999 because hearing aids so enhance hearing, especially for listening to music, that they are fashionable. Hearing aid “stigma” is forgotten.

- A simple home-based, self-administered audiology exam is used by over 30 million families each year. The exam uses the Internet and audio connection to the computer, tripling 1999’s demand for audiological services, since people want to confirm the home-test and seek hearing devices. Because the test uncovers cases where otitis media has gone undiagnosed and is damaging hearing, the demand for otological services has nearly doubled since 1999.

- The need for speech therapists has doubled since 1999, spurred by growth in home-tests and demand for implants. A home-test for otitis media is available by prescription. Almost all tinnitus can be suppressed by medical intervention in the brain’s processing centers, and controls on toxic noise are slowing the incidence of hearing loss, tinnitus and hyperacusis.

- The Environmental Protection Agency in Washington, D.C., is issuing its proposed Toxic Noise Regulations after a period of notice and comment. They cover point and area sources of toxic noise, stationary and mobile sources, and all areas outside the workplace.

- Gallaudet University receives Congressional approval to expand enrollment of non-US students to 80 percent, in stages, between 2010 and 2020, so that Gallaudet can serve students from countries where hearing aids and cochlear implants are not available to the bulk of the population. This shift compensates for the declining enrollment of US students due to newborn screening and intervention via hearing aids or implants. The legislation expands the Washington campus and deploys faculty and graduates to create campuses in Africa, Latin America, China, India, and Eastern Europe; and funds Gallaudet through the World Bank and the US Agency for International Development.

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