

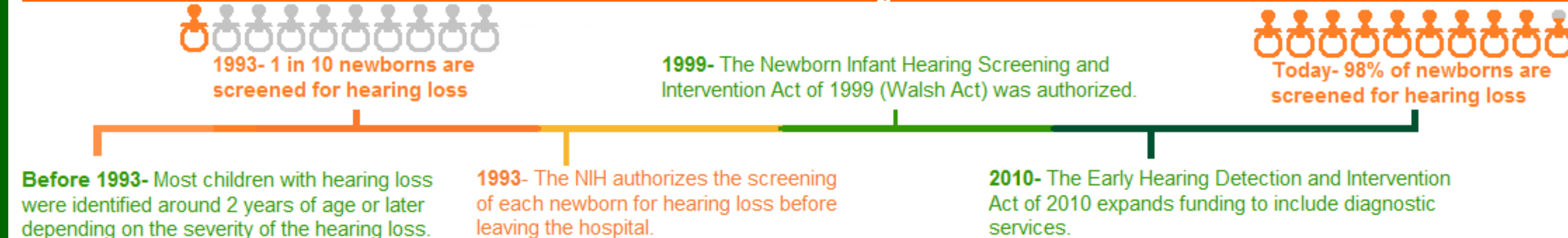
Advocating for Newborn Hearing Screenings

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Purpose

The purpose of this poster is to inform the public about the importance of having newborn hearing screenings, the issues facing screenings such as loss to follow up, the efforts underway to prevent the loss to follow-up, and what as trainees can we do to improve upon local, state, and nationwide hearing screening programs.

History



- As many as **3 out of every 1000 babies** are born with permanent HL.
- The Walsh Act** enabled federal funding through the CDC for state grants to create newborn hearing screening (NBHS) and intervention programs.
 - Ensured that:
 - All newborns are screened for hearing loss (HL)
 - Newborns who do not pass the screening receive an audiologic diagnosis before 3 months of age
 - Infants with HL are enrolled in early intervention (EI) programs before 6 months of age
 - Infants with HL have a medical home and family support

Rationale of Importance

- The most intensive period of speech and language development and neurological brain development is during the **first 3 years of life**.
- Along the auditory pathway are synapses which overtime become strengthened with repeated acoustic information. If the ability to take sensory information in is disrupted, synapses that are not regularly used can become eliminated.
- HL can weaken auditory synapses and may be eradicated
- Lack of auditory input and exposure to language during the critical period due to an unidentified HL can result in difficulty developing spoken or signed language, and reading skills.
- Left undetected, even a **mild HL** can cause delays in speech and language acquisition, hindrance of academic achievements, and behavioral and social-emotional problems.
- With proper early intervention, hearing impaired children can be mainstreamed into elementary and secondary education classrooms
- Children with congenital HL, who are identified **before** 6 months of age, and given appropriate intervention, demonstrate significantly better speech and reading comprehension than children identified **after** 6 months of age.

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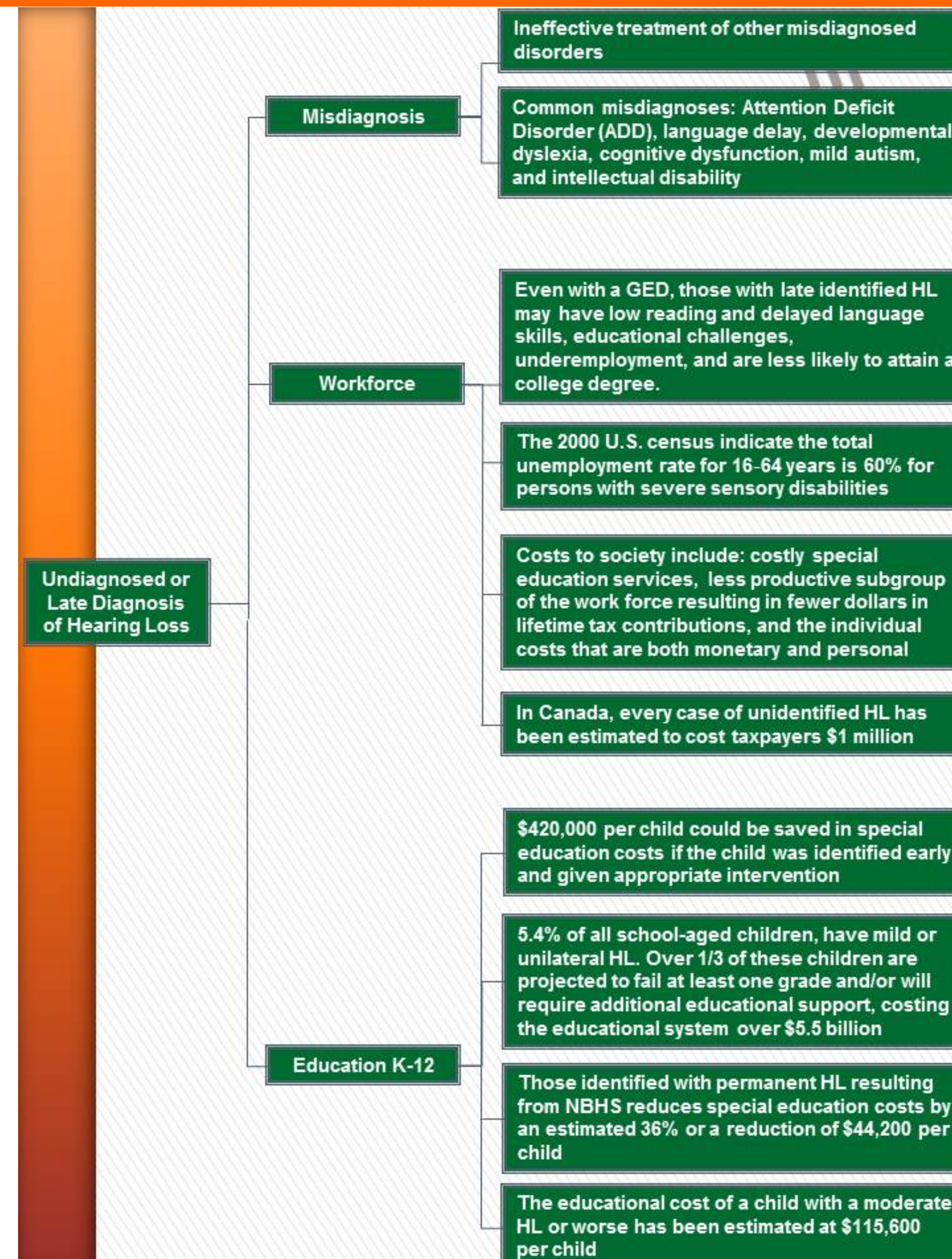
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Issues facing NBHS

- Up to as many as 45% of infants, who failed the NBHS, have been lost to follow up per year .
- In Florida alone, 800 babies per year are lost to follow up.**
- Hospitals report test results including:
 - Mailed or faxed paper forms, software specifically designed to report the results, metabolic screening cards, electronic birth certificates, email or data mailed on a disk.
- Paper forms are the most common way of reporting results and are the most prone to error due to handwritten information.
- The conversion of paper forms to electronic formats could account for misplaced patient information.
- In cities that are highly populated with immigrants and low SES families, for instance Miami, obtaining patient information such as home address and contact information can be problematic.
- Funding**
 - Current testing per baby can range from \$7-26 dollars.
 - Over the past decade funding for NBHS has decreased due to the fact that it is not a large source of revenue for hospitals.
- About **25%** of bilateral childhood HL is postnatal.
- Delayed onset of HL** for children is yet another problem with hearing screenings.
- Around **7-25%** of all children with HL pass the NBHS and are later diagnosed with HL.
 - These children may not be retested until they enter a pre-K or a kindergarten program, meaning the child may lose out on the critical time in developing neural connections for speech and language.
- Acquired HL** in children can also be detrimental if unidentified.

Potential Harm



Efforts underway to prevent loss to follow-up

- The development of a central registry for newborns at risk of HL and newborns with HL is beginning to be implemented.
 - The registry will contain information that can be used for the purposes of assembling statistical information and providing follow-up counseling, educational, and intervention services to the parents of the newborns listed in the registry.
 - It could also used to identify infants who should be targeted for ongoing hearing monitoring.
- Some states are now utilizing the electronic birth certificate as a way to record hearing screening results. These results can then be put into a child hearing data system.
- The medical home is becoming a key concept in pediatric healthcare. It consists of team based health care, which is led by a physician that provides comprehensive and continuous medical care to patients.
 - In one study 107 pediatricians were surveyed about the knowledge, beliefs, and practices relative to NBHS. Only 43% revealed that their practice was well informed of services for their patients and only 45% felt well informed about paths of follow up. Only 41% reported that they do coordinate care for patients with HL.
- There is a need for education on HL and strategies for enhanced care coordination for children with permanent HL within the medical home. Current medical homes lack service-system capacity and provider knowledge.
- The Early Hearing Detection & Intervention-Pediatric Audiology Links to Services (EDHI-PALS) is an online reference to information, resources, and available services for children with HL.
- The website also includes a directory of facilities that offer pediatric audiology services and links to other national support organizations and websites.
- Referrals for each failed NBHS should include a pamphlet of what HL is and where to find out more information on the subject.

What as trainees can we do for follow up procedures.

- Pediatric audiologists will be responsible for establishing and operating NBHS in hospitals around the country. As trainees, we should become familiar with how NBHS are created and maintained by attending advisory meetings and conferences pertaining to NBHS.
 - These meetings allow a multidisciplinary view on health care and politics within NBHS. Advisory meetings also allow trainees the opportunity to network and learn about current issues facing state wide programs.
- Trainees should be involved in learning how to guide families when referred and be knowledgeable about websites and documents that will help inform families about HL.
- The coordination of care should also be introduced to trainees as we learn to become competent clinicians. Trainees should be confident when documenting results and managing follow-up procedures for those children who do not pass the screenings.
- Finally, trainees should learn how to become advocates for both NBHS and pediatric audiology.

Acknowledgements