

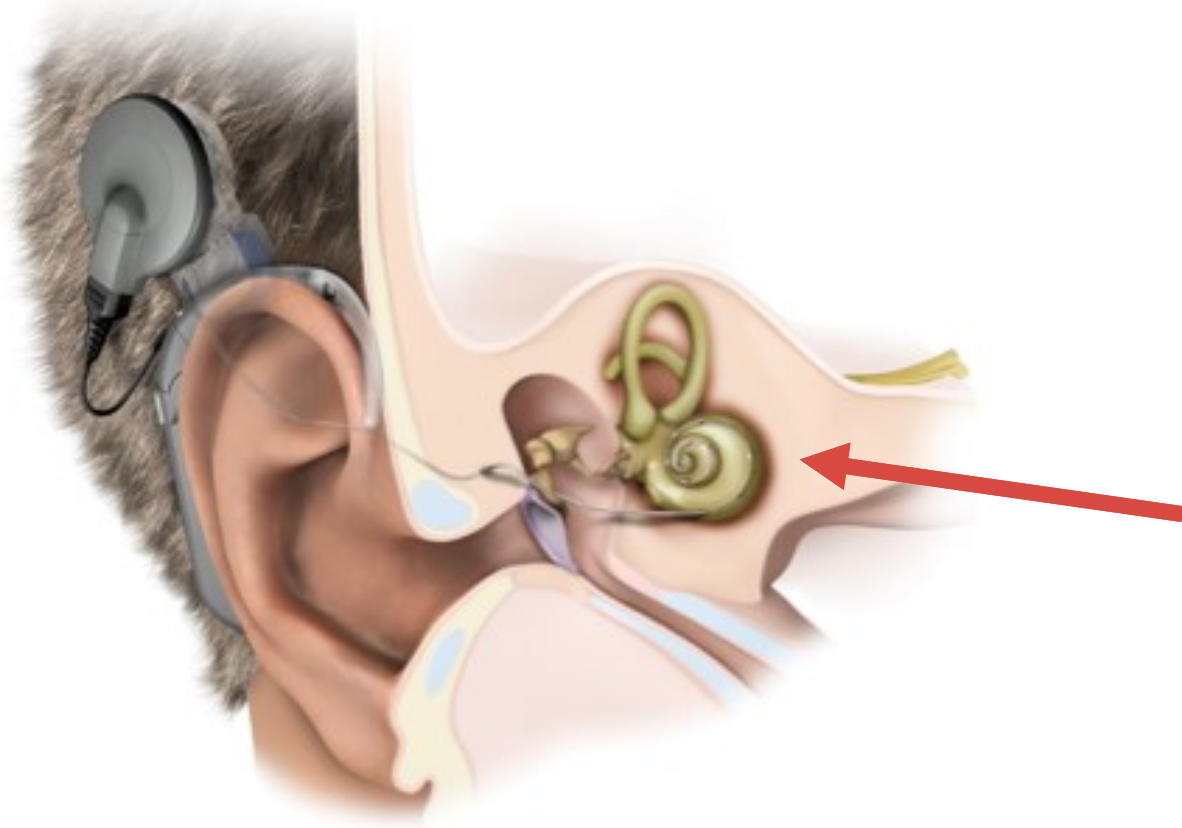
Comparing outcomes for Severely and Profoundly deaf children: The CUSP Study

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1. What is the problem?

- Hearing loss affects children's listening, language, social lives and mental health, so the NHS offers technology to improve their hearing.
- Hearing aids make sounds louder and play them into the ear canal. If hearing loss is more severe, cochlear implants are used. Cochlear implants use tiny electrodes that are surgically inserted into the inner ear. This procedure damages the inner ear and natural hearing, meaning you can't go back to using a hearing aid.
- Until recently, the NHS criteria for getting cochlear implants meant that some children in England and Wales did not qualify, although they would have qualified in other countries.
- In March 2019 the guidance changed. Now we need to make sure we only offer cochlear implants to children who really need them, and we need more evidence to guide us, especially for those children on the cusp of the new criteria.

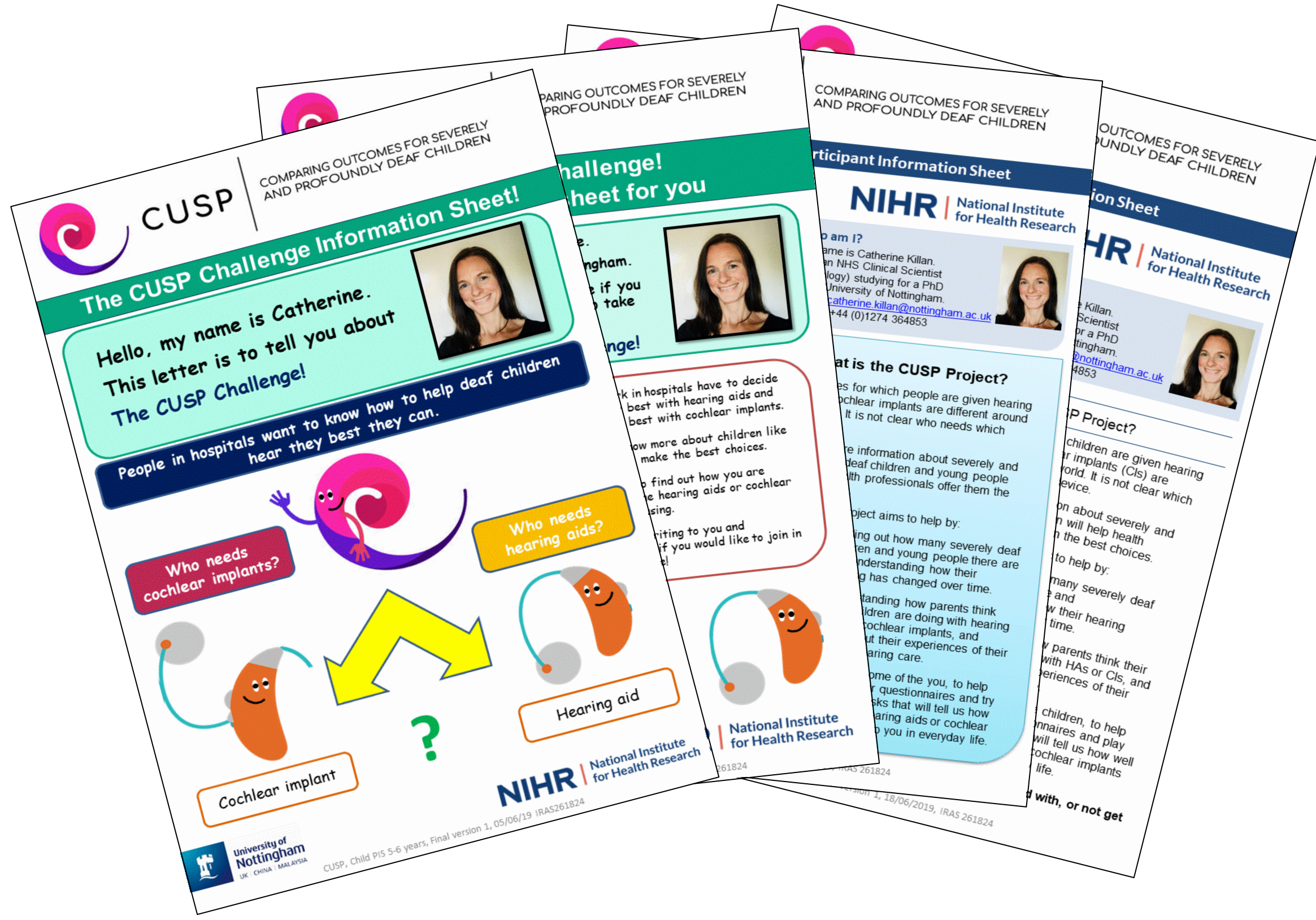


A cochlear implant.

Children need to hear well from as young as possible if they are to speak clearly, learn lots of different words and read and write like their hearing friends. So we need to know as early as possible whether to recommend hearing aids or cochlear implants.



Sounds from hearing aids can get missed or distorted by damaged inner ear hair cells, whose job is to pass sound signals to the hearing nerve. Cochlear implants turn sound into electrical pulses that are played straight to the hearing nerve, missing out the damaged hair cells.



Information packs will explain to children, teenagers and their parents why the project is important, and how to get involved.

3. What progress has been made?

- A team of children, parents, professionals and researchers have helped us plan the project.
- We have checked 1006 recent research studies, and found the 18 that have compared severely and profoundly deaf children.
- From this, we know more research is needed about children's quality of life, listening when people are talking in the background, knowing where sounds come from, tiredness caused by listening, and noises from inside their ears (tinnitus).
- We will make sure we explore these issues in the survey and in the CUSP Challenge.
- The Health Research Authority has given ethical approval for our study, and it has been adopted onto the NIHR portfolio.
- The Audiology teams from two hospitals have begun finding children with hearing loss who could take part, and more recruitment sites will be joining the study.

2. How will the project work?

This project will compare the abilities of severely deaf children using hearing aids to children with cochlear implants.

- We will review previous research studies to find out exactly what new research is needed.
- Audiology departments will find out how many severely deaf children they have who use hearing aids, and cochlear implant centres will help us find similar children using cochlear implants.
- A survey will ask parents about their children's listening, communication and quality of life, and what parents think about hearing aids and cochlear implants.
- We will invite some children with hearing aids and some with cochlear implants to take part in a study involving listening tests and questionnaires. This part is the CUSP Challenge!



Working out where the voice is coming from!

We will share our results with families, policy makers, scientists and people who decide whether to offer children cochlear implants or hearing aids. This should improve the care that children receive.

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