Cochlear Access in Six Developed Countries
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No Conflicts
Method: Examine CI Utilization in Six Developed Countries

- Robust CI programs in place + health care systems that are generally supportive of CI
- Six countries examined: Australia, Austria, Germany, Sweden, UK, US
- Does CI utilization vary?
- If so, how?
- What are the reasons for variability?
Pediatric Access
Newborn Hearing Screening

- Implemented in most developed countries
- Six countries all screen 90% of children in first month
- Screening database of children born deaf
- Provides opportunity to identify CI candidates and offer information to parents
- Implementation of newborn hearing screening changed the CI paradigm for children born deaf
Pediatric CI Utilization in Six Developed Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>% CI Utilization in Children</th>
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<tbody>
<tr>
<td>U.S.</td>
<td>50%</td>
</tr>
<tr>
<td>Germany</td>
<td>65%</td>
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<tr>
<td>U.K.</td>
<td>90%</td>
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<tr>
<td>Sweden</td>
<td>90%</td>
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<tr>
<td>Denmark</td>
<td>90%</td>
</tr>
<tr>
<td>Australia</td>
<td>98%</td>
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</tbody>
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Factors that Impact Pediatric CI Utilization Rates

1. Newborn hearing screening by 1 month
2. Follow-up to ensure children enter EI system
3. Comprehensive information on all technology and communication options provided to families in a supportive and timely manner
4. Access to pediatric cochlear implant programs that provide the full range of services for family and child
5. National or private employer plan insurance coverage and extent of coverage
Adult Utilization
Adult CI Utilization in Developed Countries

% CI Utilization by Eligible Individuals

- U.S.: 6%
- Europe: 4%
- Australia: 0.5%
- Australia: 0.3%
- 18-29 Yrs: 2%
- 65-74 Yrs: 1%

Low Adult Utilization Everywhere

- Lack of screening for hearing loss
- Primary care physicians unfamiliar/don’t refer
- Even hearing healthcare professionals aren’t referring
- Awareness in general population is low
- Health care system doesn’t view hearing loss or deafness as healthcare issue
Factors that Affect CI Access in US

1. Awareness in the general population is low
2. Referral networks aren’t referring
3. Accepted “Best Clinical Practices” don’t exist outside of CI community (Even within CI, there are differences in protocols used to determine candidacy)
4. Political complexities of deafness
5. Insurance coverage sometimes an issue in US but not nearly as significant as #1-4
Variability in Health Care Systems Coverage

• Candidacy criteria for adults most stringent in UK, Australia (more deaf, typically only cover one) ➔ both more stringent for adults than US

• Germany has multiple payer system though far fewer private than in US (~11%)

• US has most diversity but all tend to use FDA guideline
  – Employer plans (54%)
  – Government plans w/Medicare, Medicaid, military (34%)
  – New Affordable Care Act (15M in 2014 ➔ reduced uninsured)
Political Issues of Deafness—an American phenomenon

- Difficult to quantify but does affect information and perceptions in US
- Deaf (“Big D”) community continues to provide negative and inaccurate information (or no info) on CI in children
- Parents often encouraged to learn sign first and “wait on brain surgery”
- Results in many children coming to the clinic late or not pursuing CI at all
Access Challenges Remain Everywhere

• Pediatric: 6 countries provide excellent access with exception of US (Germany to a lesser degree)
  – Reason: inadequate referral system

• Adults: Utilization low everywhere
  – Lack of hearing screening
  – Audiologists don’t refer
  – Primary care unaware
  – Stringent candidacy criteria in some countries
Future Efforts

- Focus on primary care physicians
- Audiologist referrals
- Demonstrate QoL improvements and association between dementia and hearing loss

Main Sources:
Sorkin & Buchman. Cochlear implant access in six developed countries. Otol Neurotol 2015
Sorkin. Cochlear Implantation in the world’s largest medical device market. Cochlear Implants Int. 2013.