

Newborn Hearing Screening and Early Intervention The situation in Australia

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Cochlear - Central and Eastern Europe

Olomouc, CZECH REPUBLIC October 2012

Hear now. And always



One implant surgery.
Five upgrades.
Unlimited possibilities.

With my cochlear implant, I was able to happily attend mainstream school and successfully achieve my own personal and career goals.

- Holly McDonnell,
recipient for 24 years



Cochlear™

Hear now. And always

Hearing loss is growing (2010)

Prevalence:

- 16% of adults have HL
- 71million adults (18-80yrs)
- HL > 25dB
- In EU alone, 55million adults
- In US 1in 10 have HL > 25dB
- Australia 16.6%

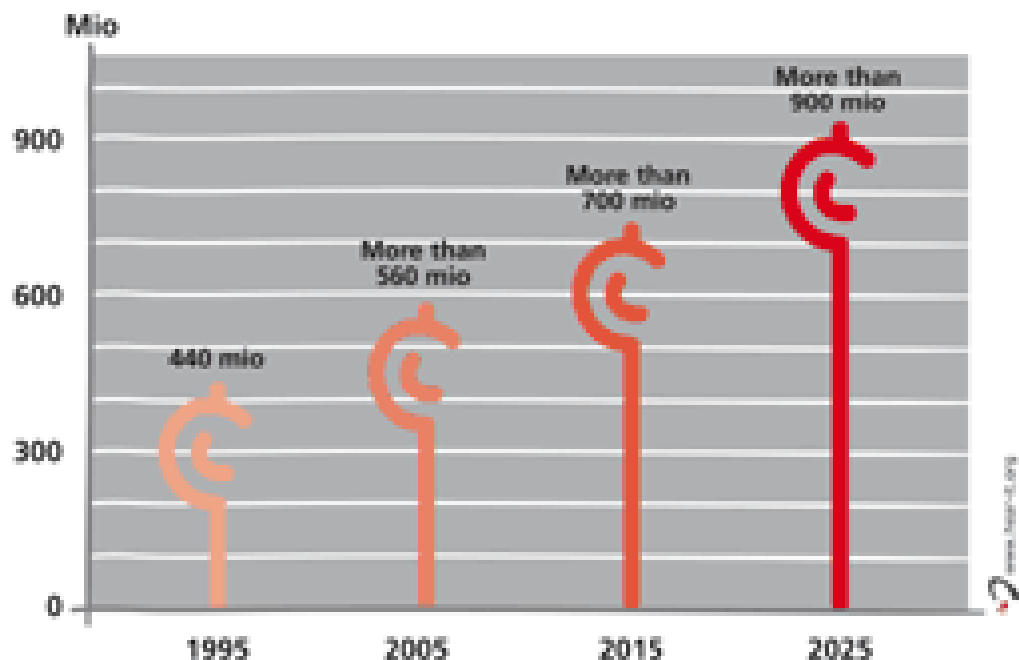
Ref: Hear It Report. Oct 2006

China 3/1000. 20million births/yr

60,000 born HL/yr.

India 11.9%

Number of people suffering from hearing loss of more than 25 dB



Source: Adrian Davis, British MRC Institute of Hearing Research

UNHS: 1-3-6

1. That all newborns have their hearing screened before **1 month of age**, preferably before discharge
2. That there is a definite diagnosis of hearing impairment before **3 months of age**.
3. Early intervention services begin before **6 months of age**



JCIH 2007 Position Statement (US)

UNHS: 1-3-6

4. Coverage no less than 95% within 6 months of program start
5. Refer rate of 4% or less



UNHS: 1-3-6 - 12

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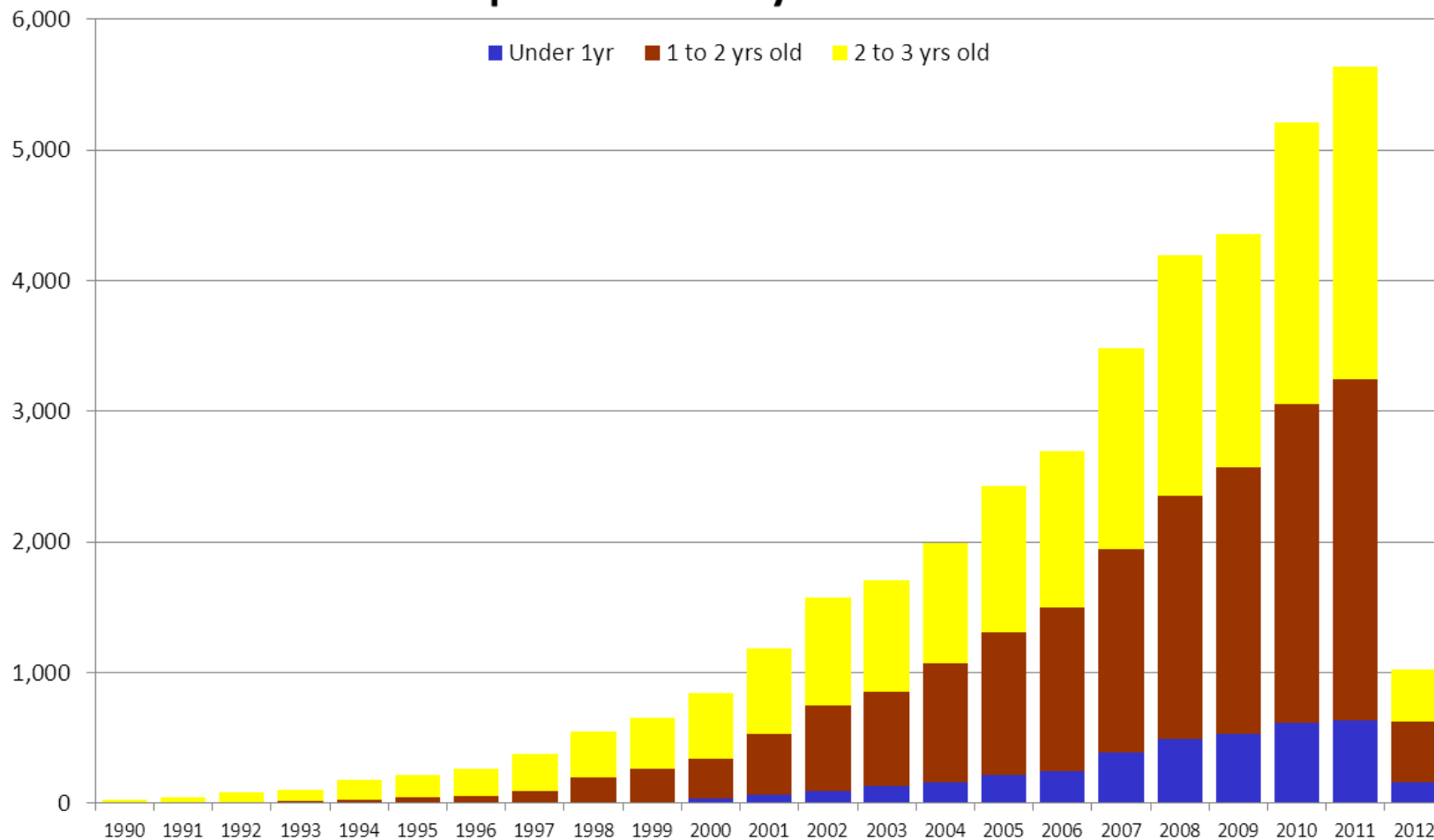
JCIH 2007 Position Statement (US)

- 4. That all newborns who need a cochlear implant will have one by 12 months of age**



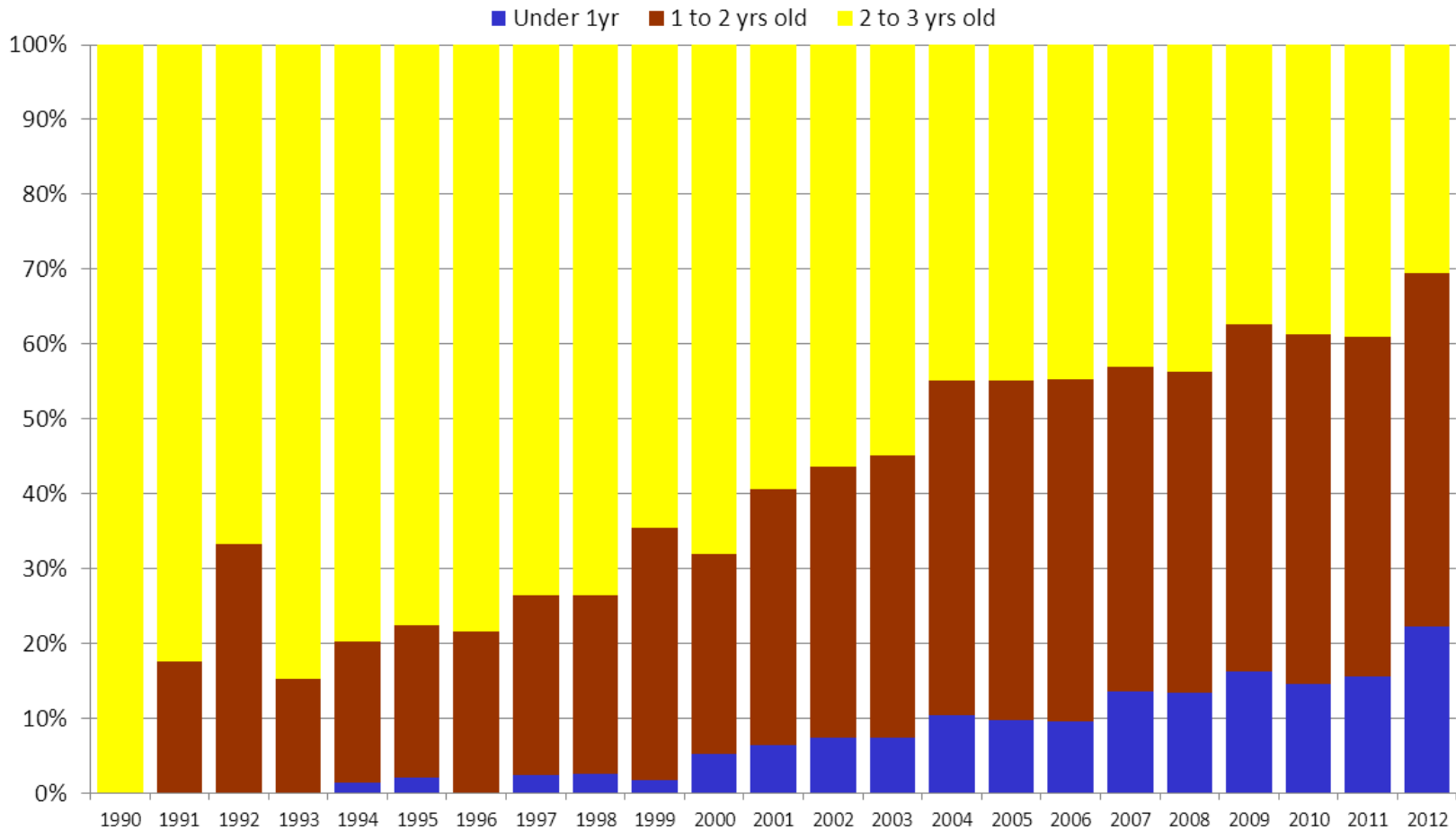
Recipients under 3 years old - Global

Recipients under 3yrs old - Global

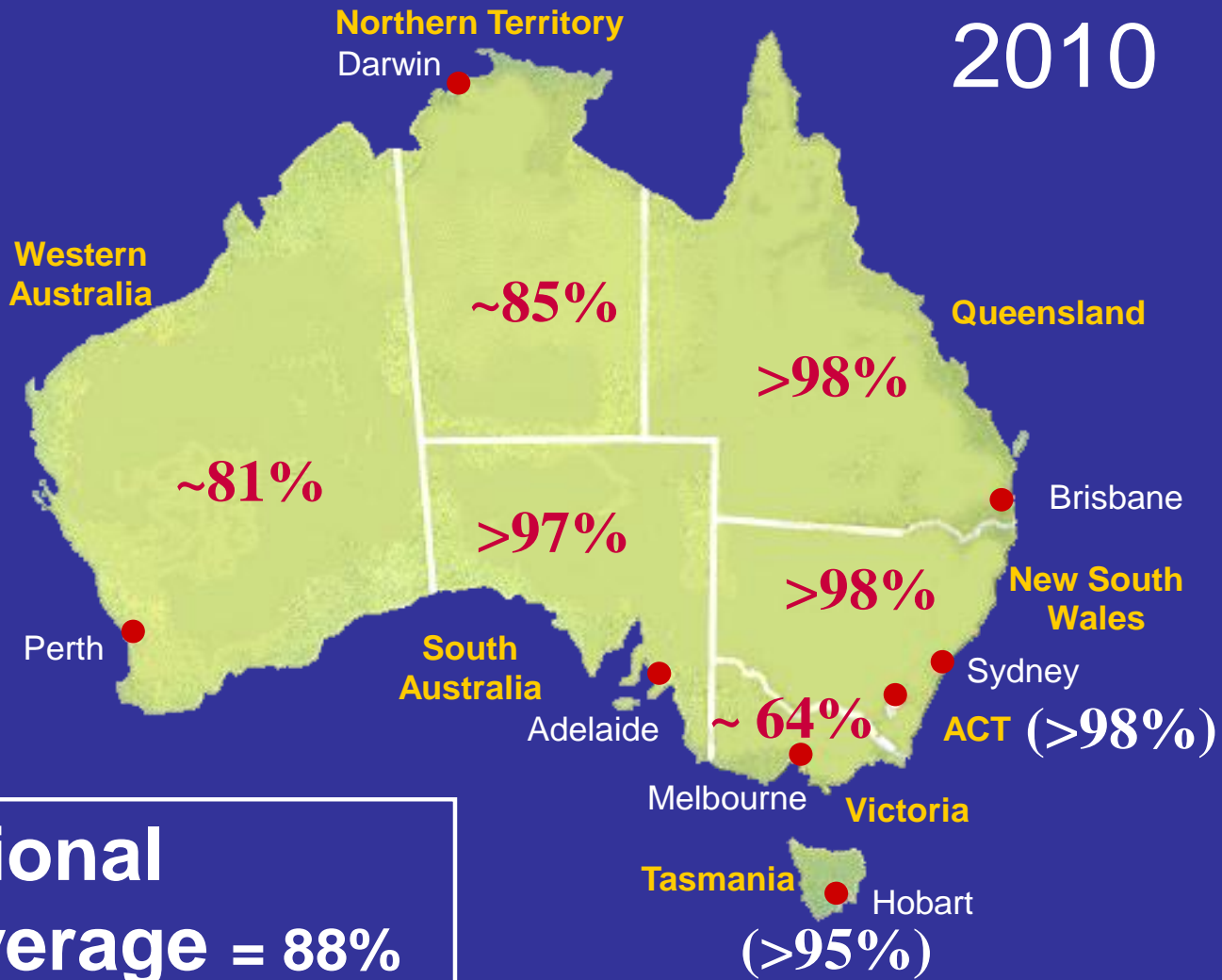


Recipients under 3 years old - Europe

Recipients under 3yrs old - Europe



Status of UNHS in Australia



National Coverage = 88%

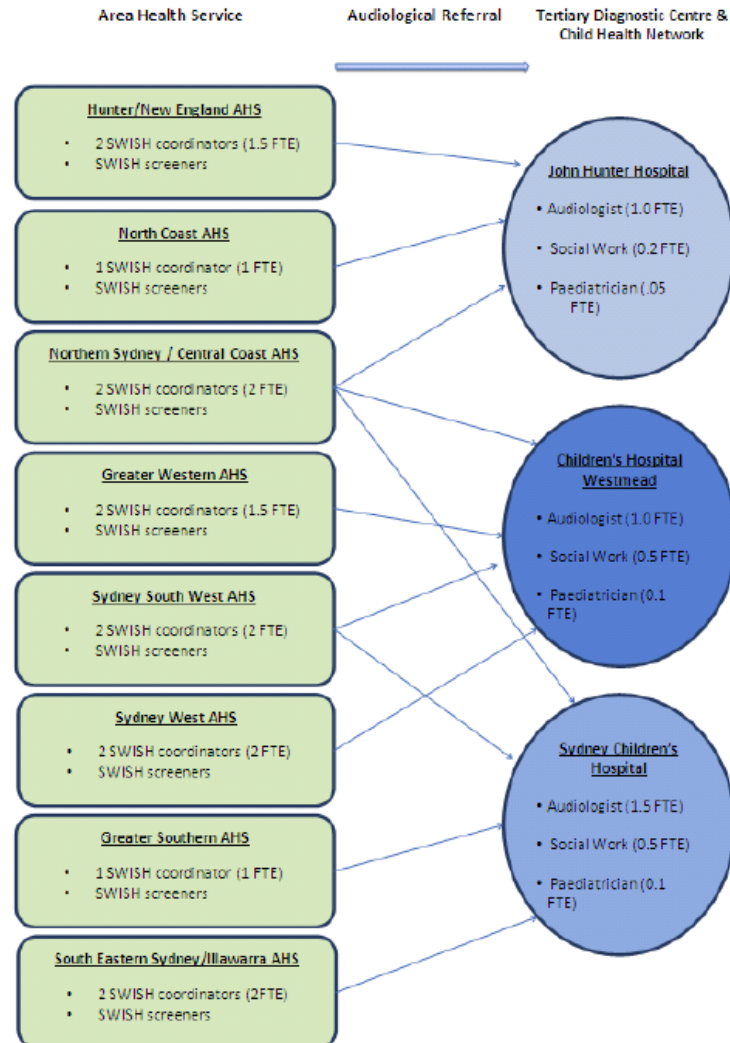
NSW Department of Health- Evaluation of the State-wide Infant Screening – Hearing (SWISH) Program

Final Report - 2009

NSW SWISH Program

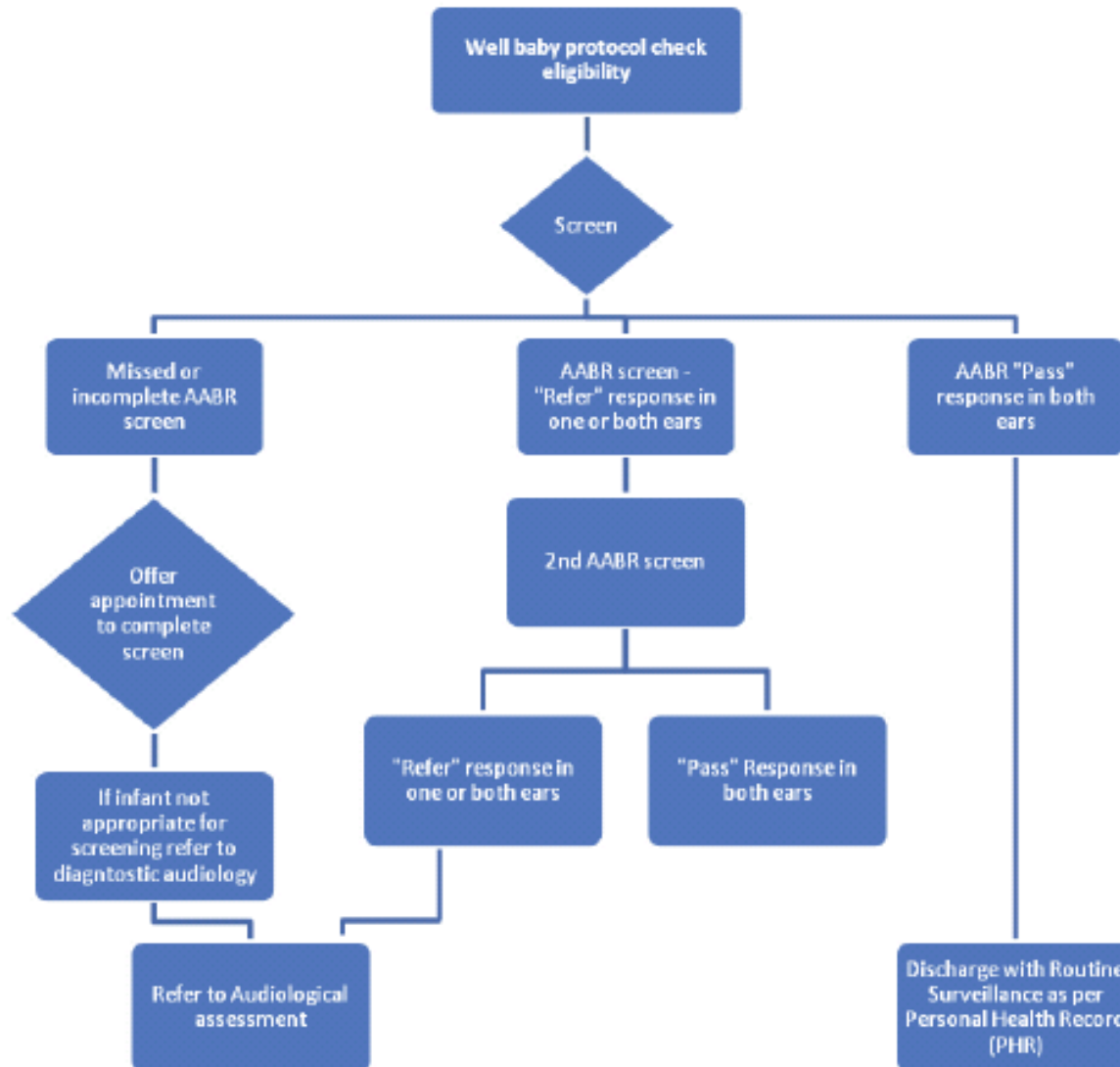
NSW Department of Health
 Evaluation of the SWISH Program

Figure 2.3: NSW Health SWISH Program



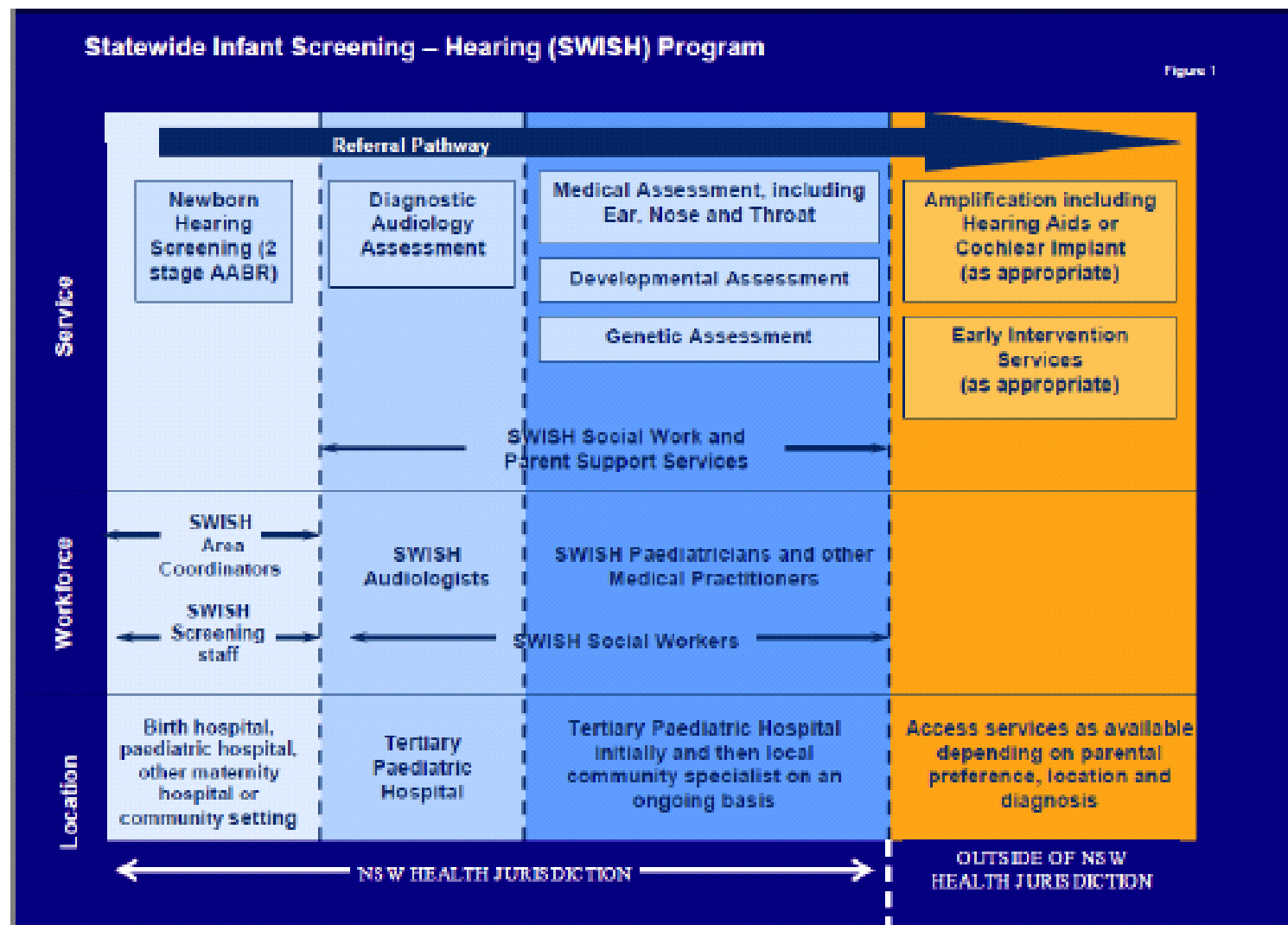
Well Baby Screening Pathway

Figure 2.5: Well Baby Screening Pathway



SWISH Referral Pathway

Figure 2.6: SWISH Referral Pathway



SUMMARY – against international benchmarks

With respect to the performance of the SWISH program against international benchmarks the following can be concluded:

- The program has been highly effective in achieving and exceeding the benchmark of screening greater than 95% of the total number of live births. All AHSs are consistently screening 98% or more of live births in their area.
- There is evidence of good follow up with over 98% of children who require a second screen receiving one.
- Less than 4% of babies being screened are being sent to audiology. The model is therefore effectively funnelling a small number of babies who require diagnostic assessment.
- The program has identified significant permanent bilateral hearing loss (>40dB) at a rate of about 1 per thousand since the beginning of the program which is in line with international programs of similar nature.
- The deidentified aggregated data maintained by the Department indicates that more than 99 % of babies are screened. SWISH Coordinators maintain databases of personal client records which they monitor to ensure timeliness of screening (within one month of age) and referral.

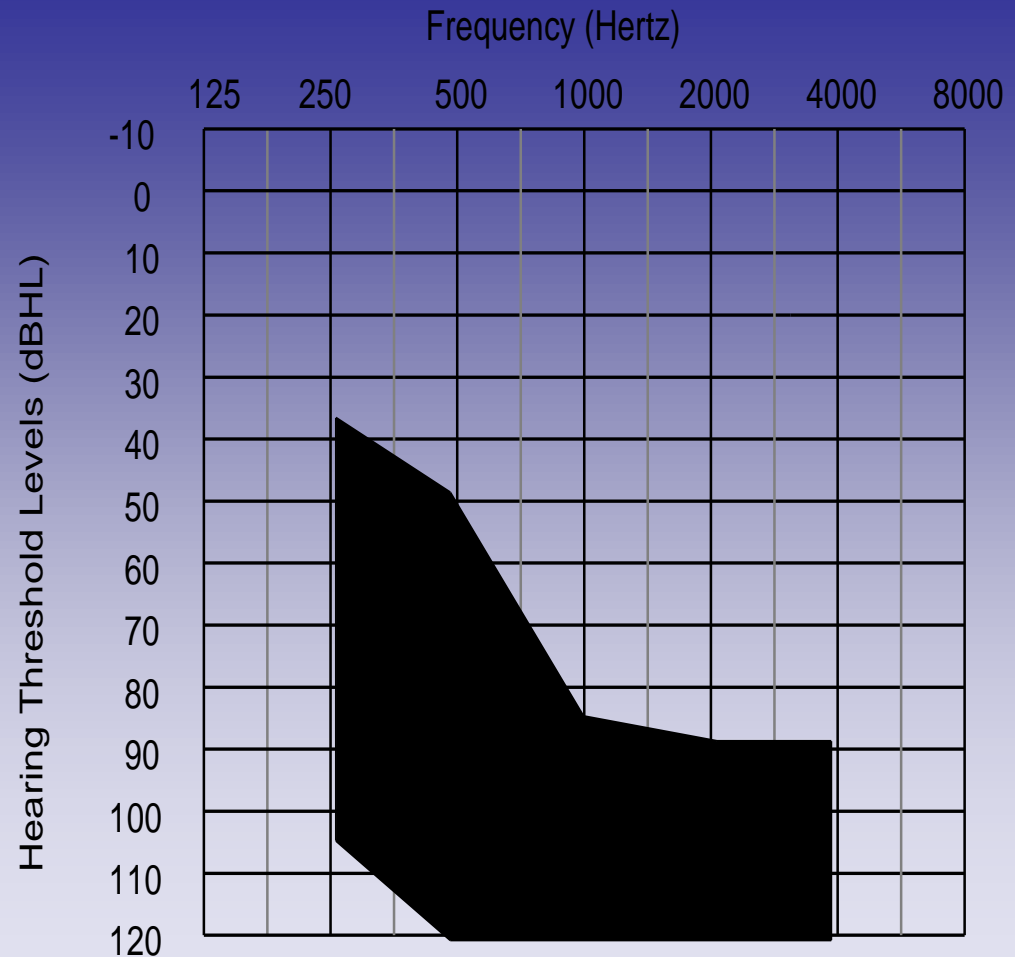
Early Intervention In Australia

Hear now. And always



Current Australian Cochlear Implant Candidacy Guideline Criteria

Unaided hearing



- Moderate-severe sensorineural hearing loss in the low-mid frequencies (*and poor speech scores*)
- Severe-profound sensorineural hearing loss in the mid-high frequencies

FIRST VOICE

**Six Centre Alliance in Australia
and New Zealand**

Hear now. And always



firstvoice

THE FUTURE IS HEAR

CONFIDENTIAL

A Nation Wide Review

Early Intervention and Cochlear Implant Access, Timing and Services



Presentation to Cochlear Ltd, July 2011

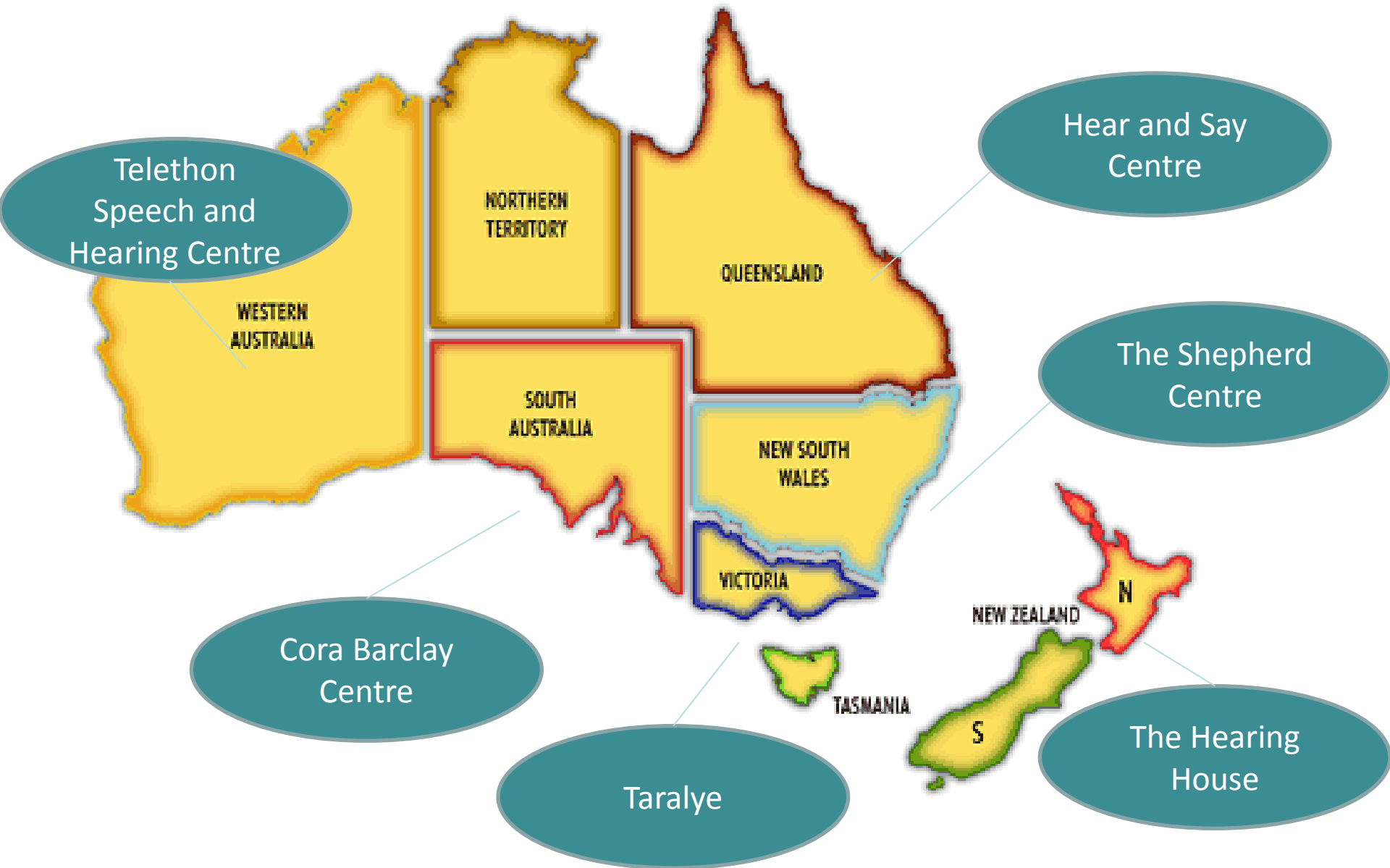
**Aleisha Davis, Cheryl Dickson, Ellen Panjari,
Robyn Philips, Emma Rushbrooke, Wendy Tunbridge**

First Voice

CONFIDENTIAL

- National voice for member organisations
- **Early Intervention services for children with hearing loss to develop listening and spoken language**
- Across Australia and NZ
- Evolved from The Alliance for Deaf Children (formed in 2002/3) and the 6 centre Alliance
- **Market share** ranging from 24% to 70% of EI children dependant upon states and other services.
- 36 SLP's, 32 Teachers of the Deaf, 21 paediatric audiologists, 7 social work/child and family counsellors, 8 psychologists, 3 OT's, 17 ENT specialists & 5 cochlear implant programs
- Of these, 31 LSLS Cert AVT's of 52 currently in Australia and NZ

The centres

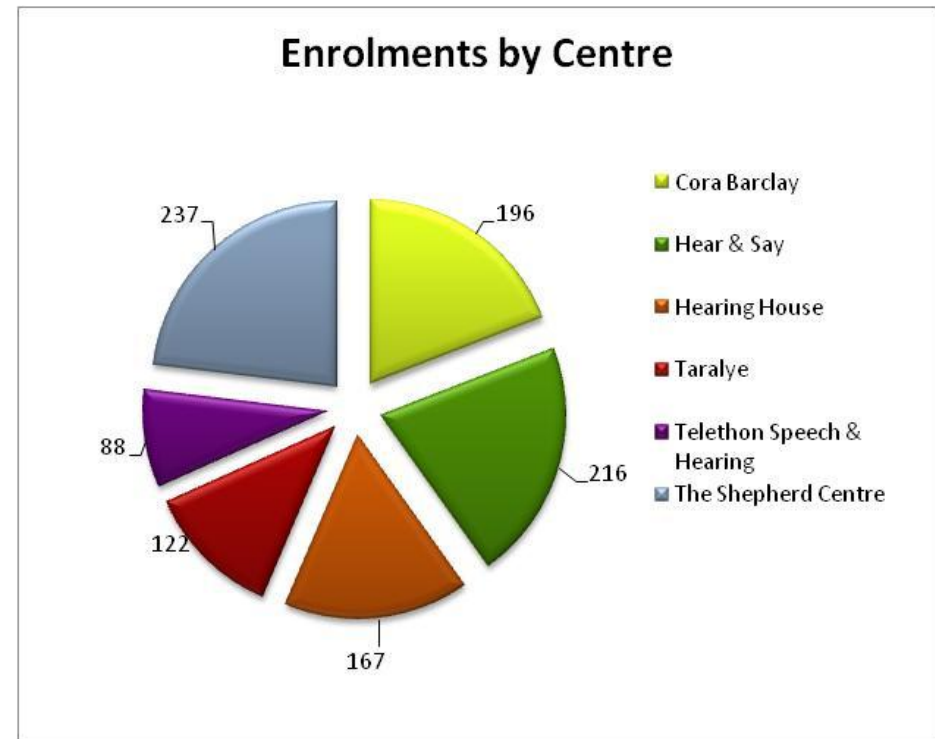




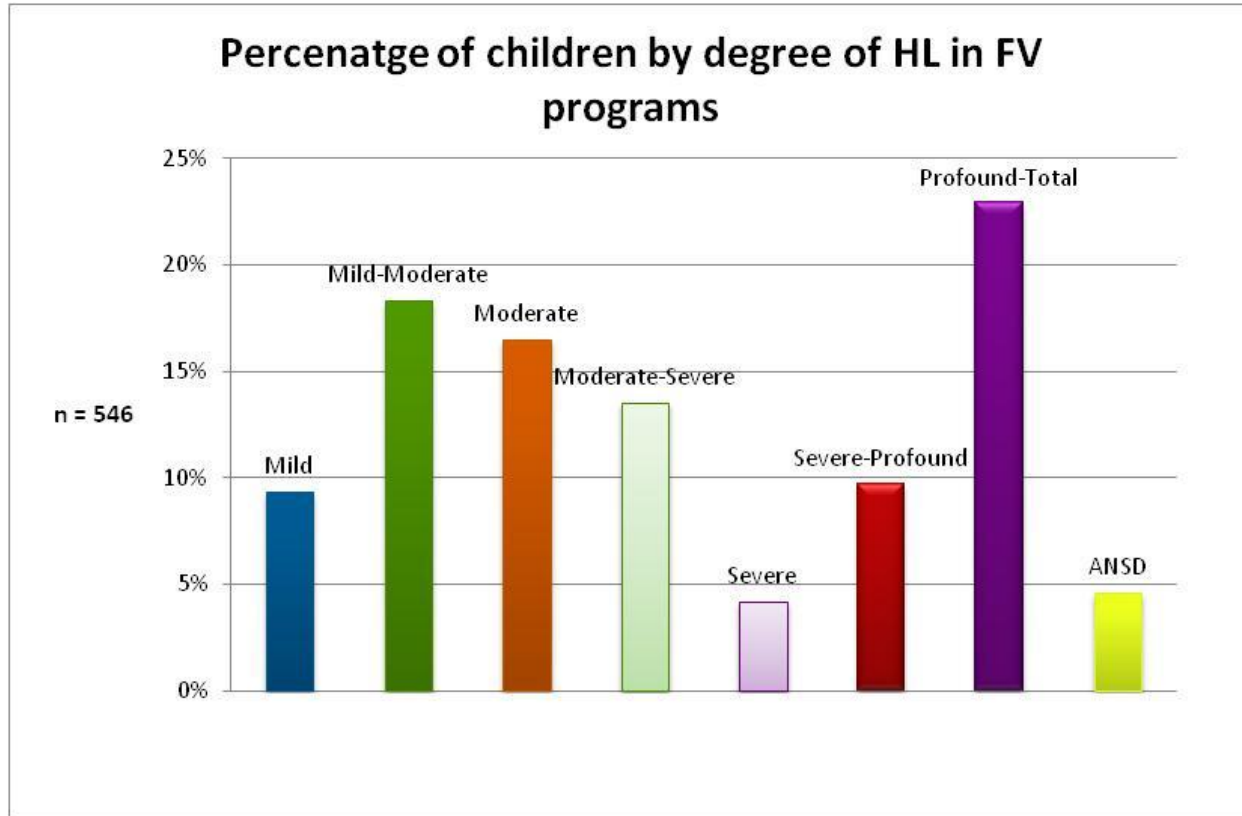
First Voice was officially launched by the Governor General, Ms Quentin Bryce AC,
7 October 2010.

Child Numbers across FV programs

- Total enrolments = 1,026
- Early Intervention = 2/3rds of this number (n=650)
- Remainder = school age CI (n= 376)



Distribution of Hearing Loss

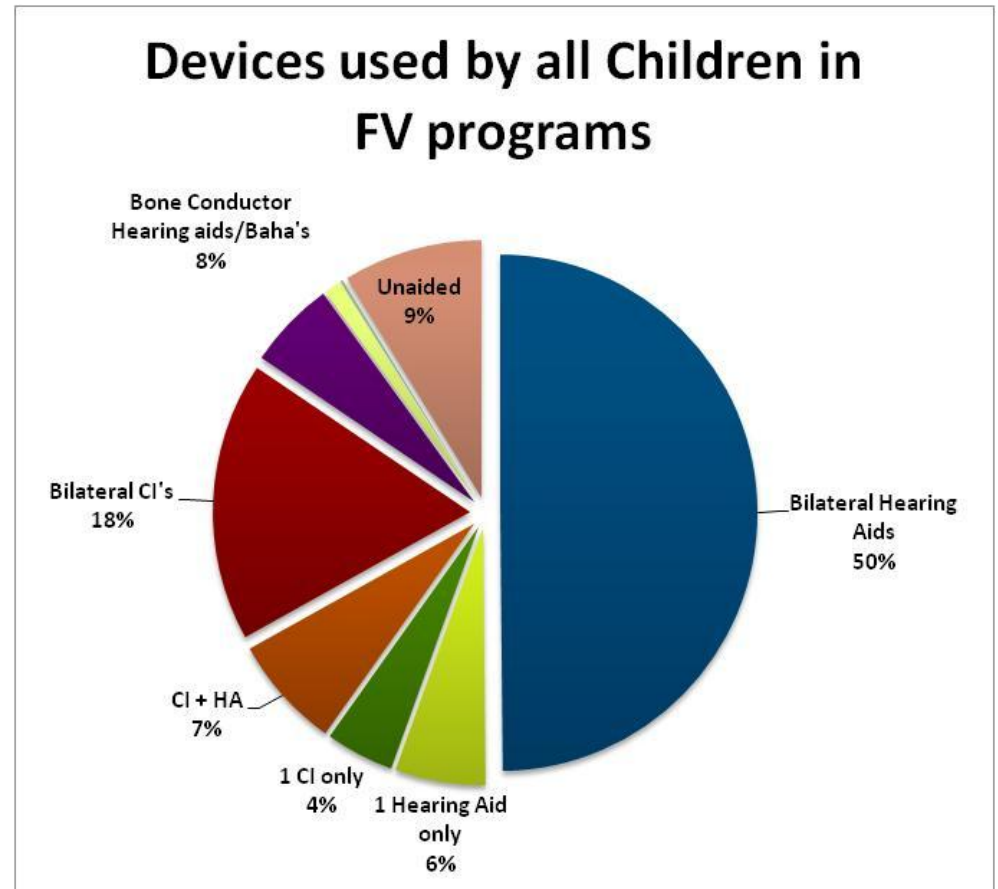


104 children in EI not included in this data set
= unilateral losses, and
= asymmetrical losses by some centres
significantly skew percentages)

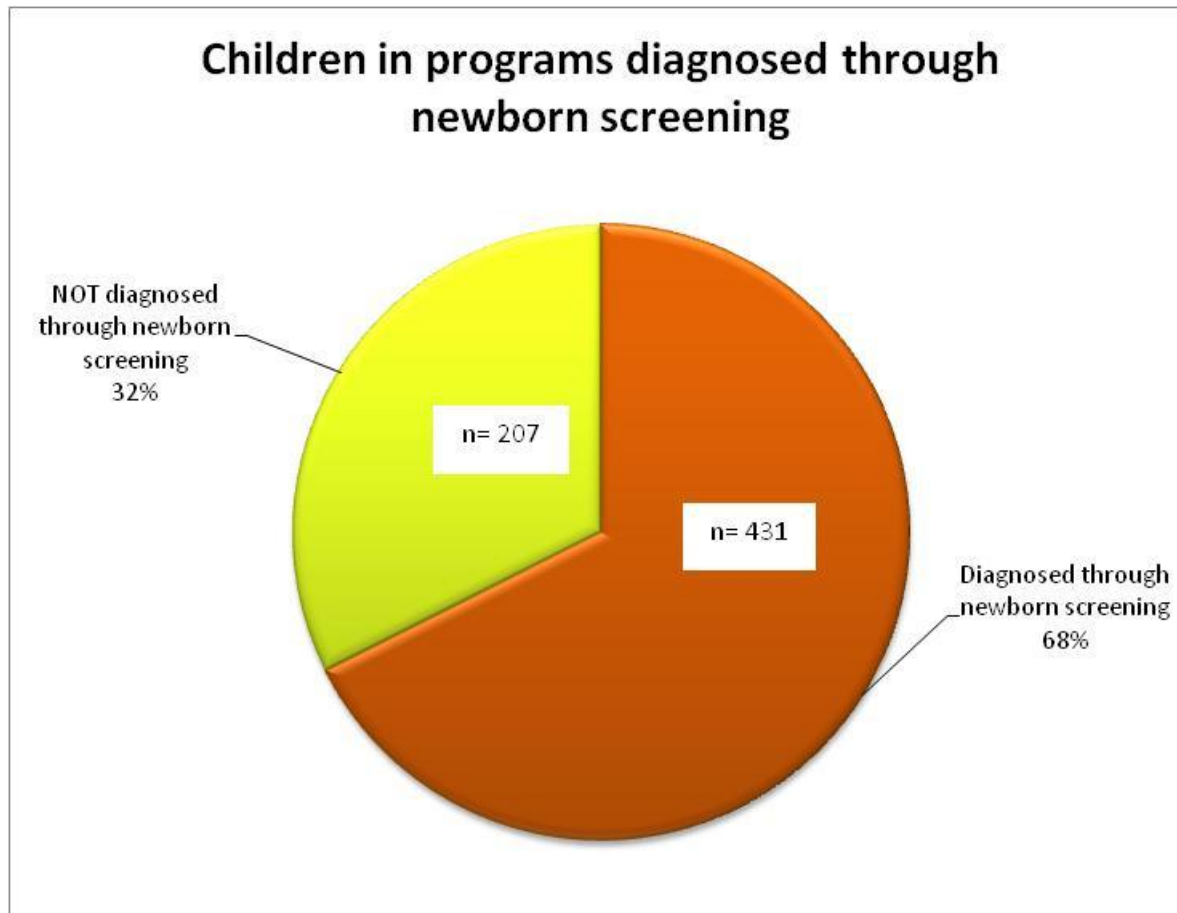
(does not

Devices Used by all children in FV programs

- 50% Bilateral Hearing Aids
- 18% Bilateral CI's
- 9% unaided
- 8% Bone conduction hearing aids & Baha
- 4% unilateral CI
- 7% bimodal CI + HA



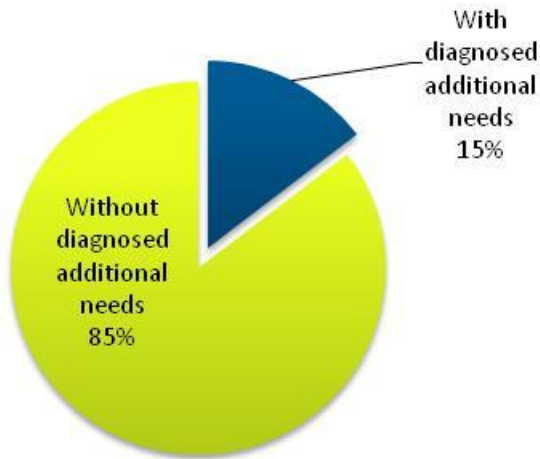
Newborn Screening of children in FV programs



Additional Needs and ESL of children in FV programs

15% of children in programs have additional needs

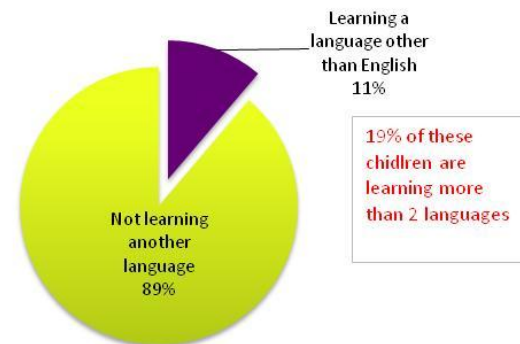
Children with Additional needs



- 11% are learning a language bilingually (Census shows 17% of Aust population have 2nd language)
- 19% of those learning another language are trilingual

Top languages
Arabic
Vietnamese
Cantonese
Mandarin
Hindi
Indian
German
Tagalog
Turkish

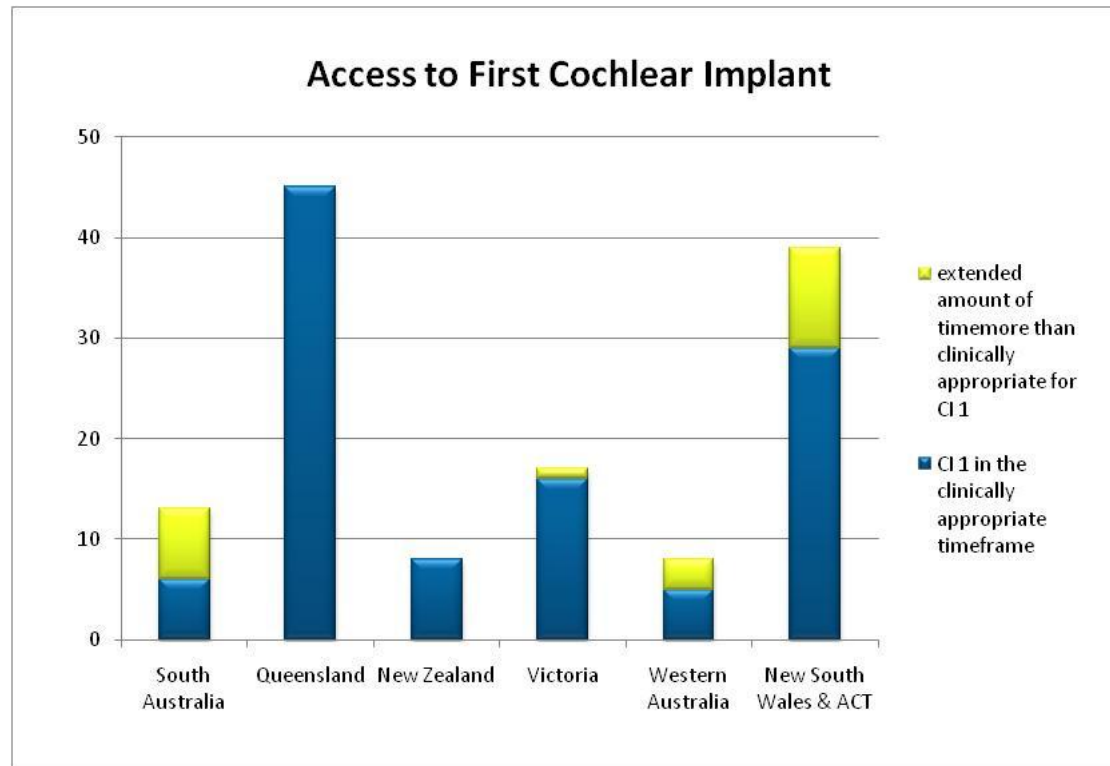
Children learning another language



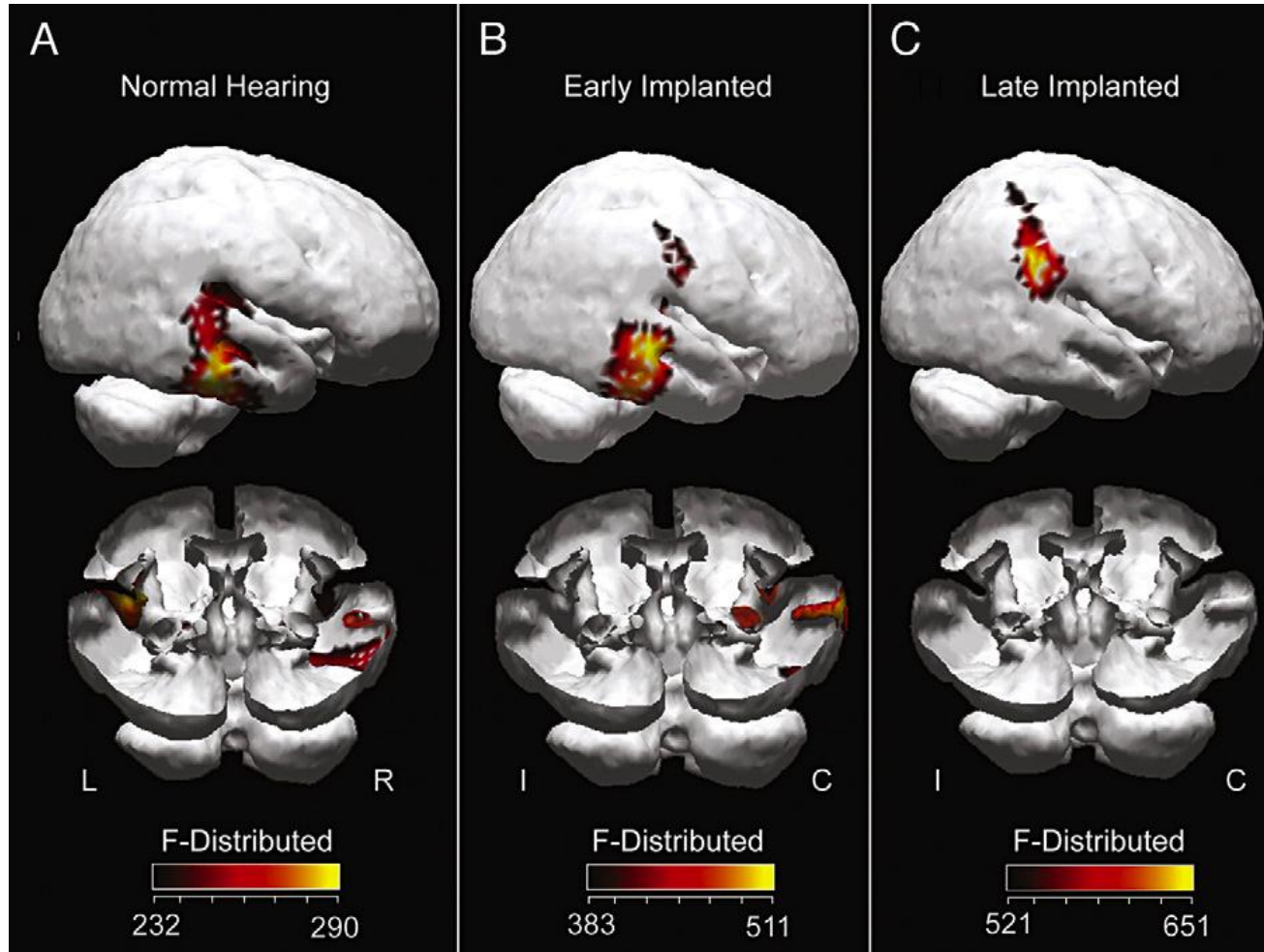
Access to 1st CI in a clinically appropriate time frame?

Of children in FV programs

- Qld, Victoria and NZ good access to 1st CI
- Some wait for 1st CI's in SA, NSW/ACT and WA



The need for early intervention



First Voice Contact us & position statements

<http://firstvoice.org.au/>

AIMING HIGH

First Voice National Best Practice Policy for Children with Hearing Loss Using
Listening and Spoken Language

08 June 2011

<http://firstvoice.org.au/userfiles/file/110608%20Aiming%20High.pdf>



The Shepherd Centre

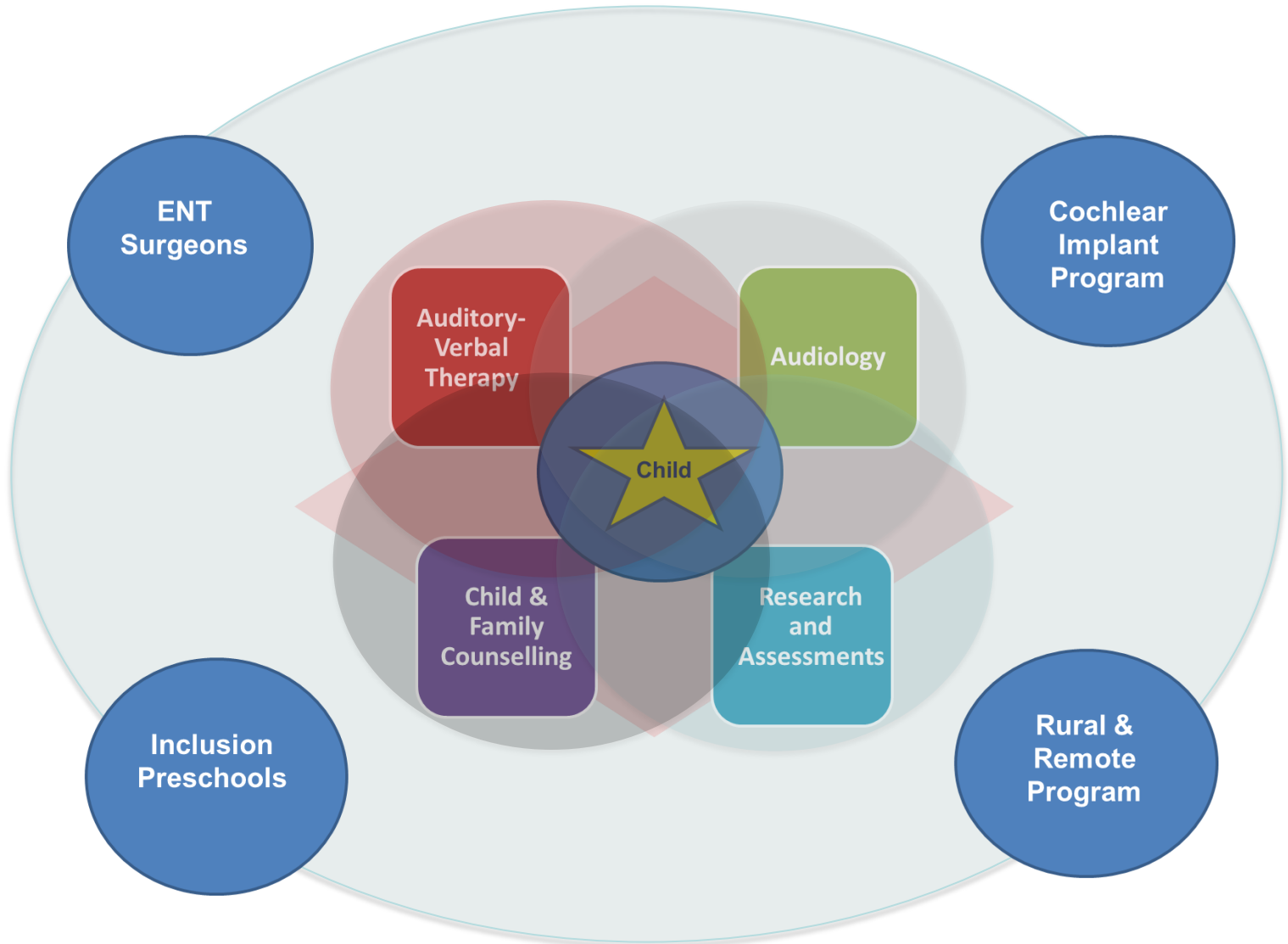
Giving deaf children a voice



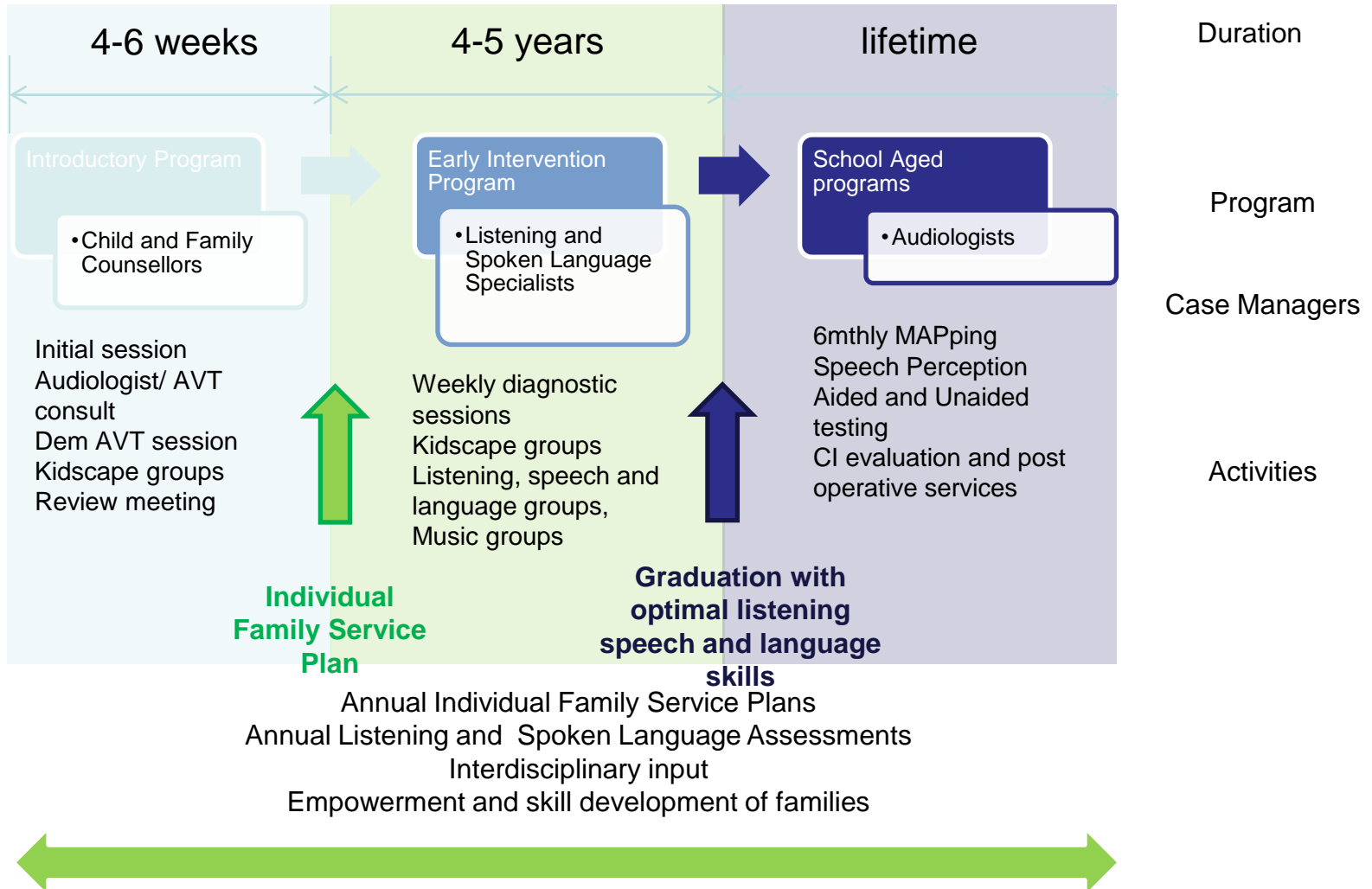
THE SHEPHERD CENTRE



Interdisciplinary team at TSC

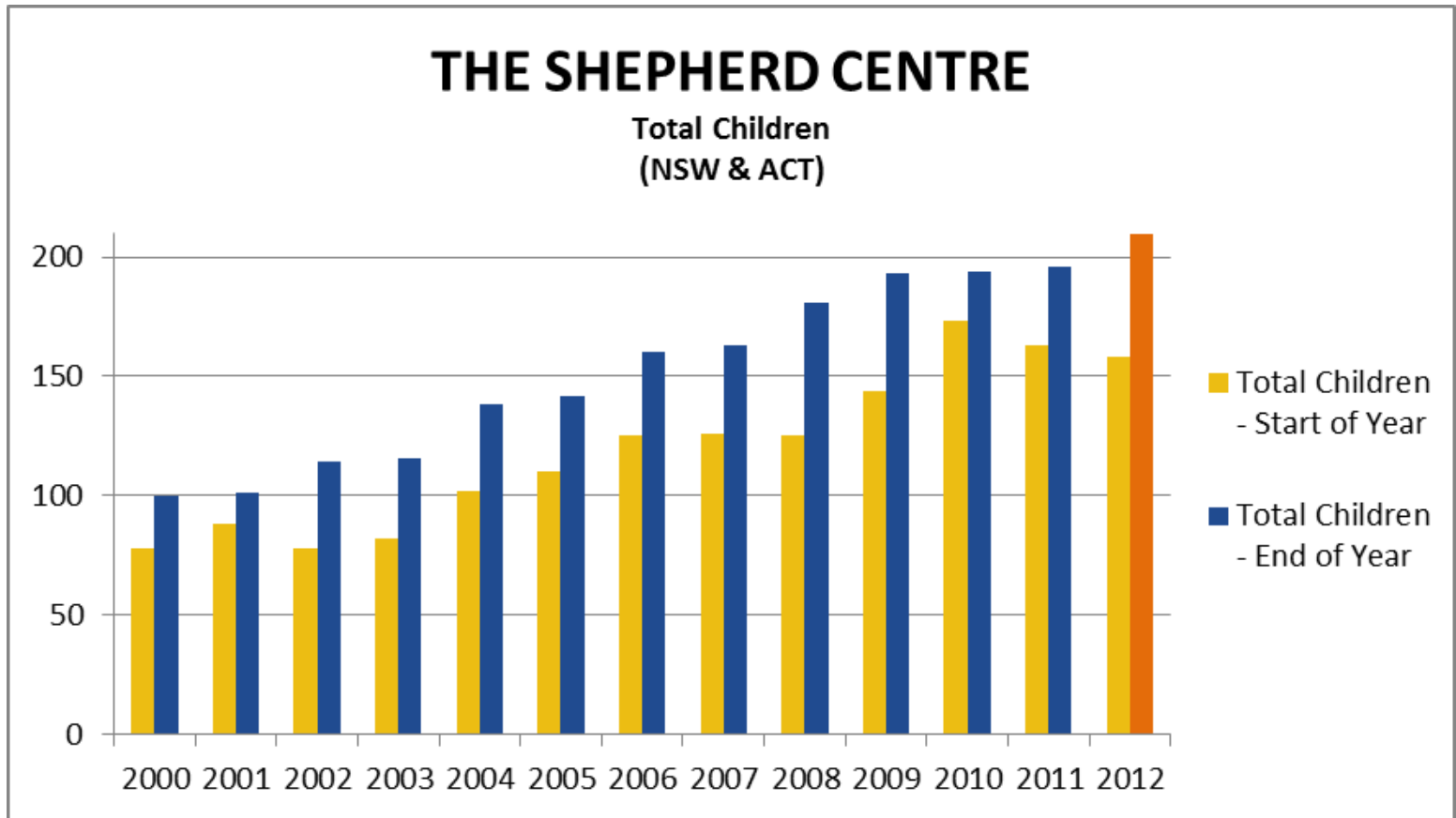


The client journey: Simple

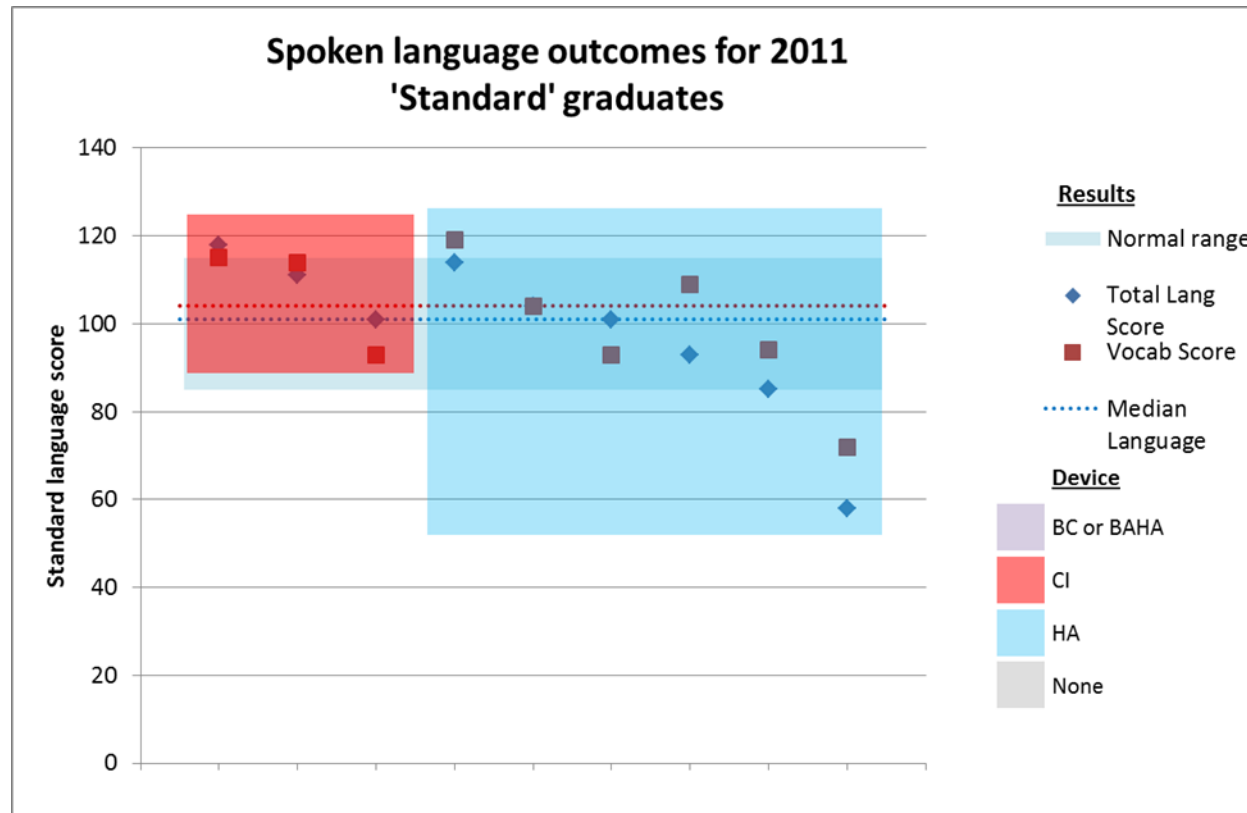




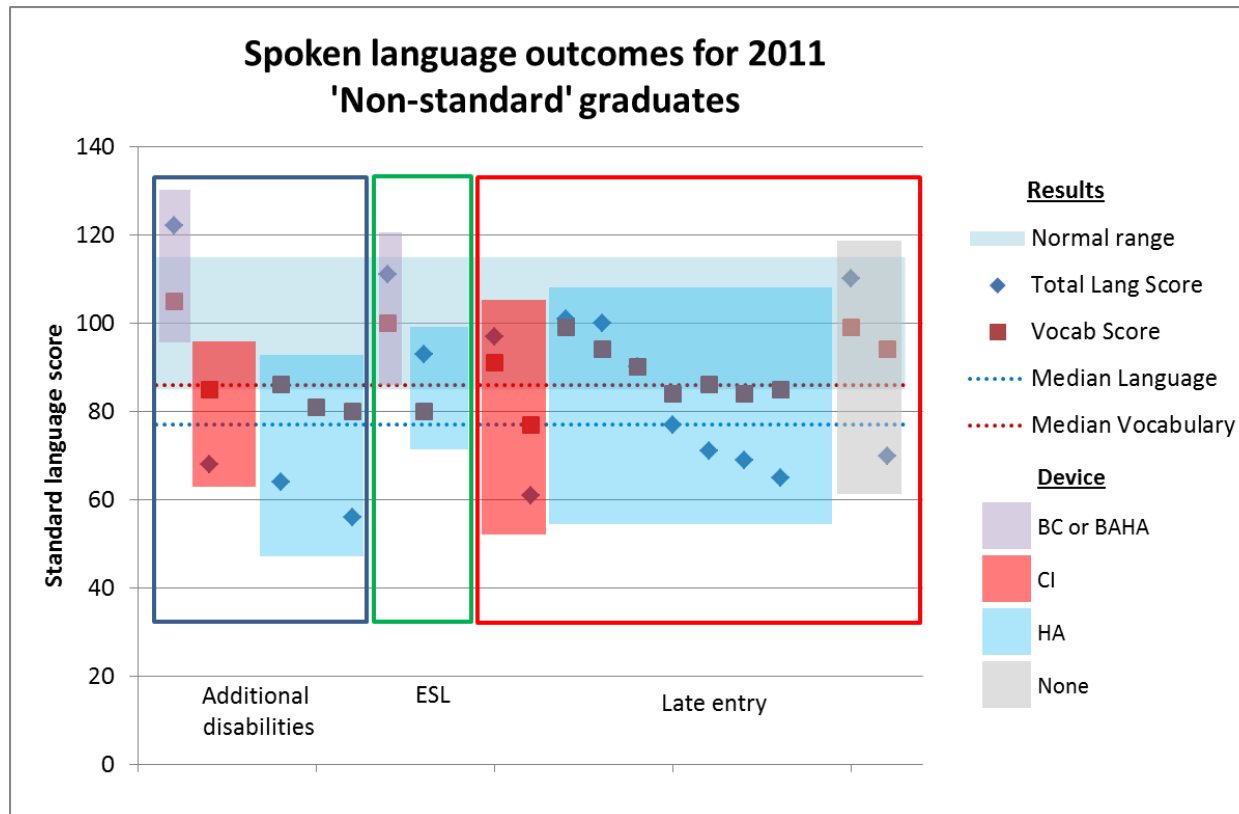
Enrolments 2000 - 2011



Outcomes



Outcomes





The Shepherd Centre

Giving deaf children a voice

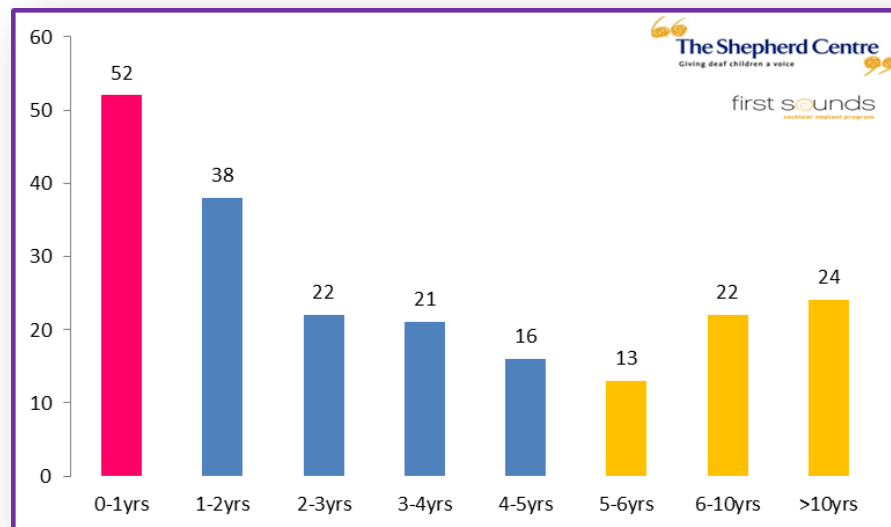


FIRST SOUNDS COCHLEAR IMPLANT PROGRAM



First Sounds Cochlear Implant Program

- Established in 2001
- In collaboration with The Sydney Children's Hospital
- Small number of publicly funded per year including bilateral, others private health insurance
- Young paediatric focus, over 210 CIs



Statistics

- Paediatric focus – the program has performed 45 implants with infants less than 12 months of age.

In the 2011/12 financial year:

- 32% of implants were with children under 12 months;
- 44% were simultaneous bilateral; and
- Median age at first implant (for those diagnosed at SWISH) was 7 months.

Median duration of activities in the program are:

- Evaluation: 2 months,
- Completion of evaluation to surgery: 1 month;
- Total from commencement of evaluation to surgery: 3 months;
- Ongoing therapy: in excess of 3 years

Statistics

Of SWISH diagnosed children,

- 100% were implanted by 9 months of age (the clinically appropriate timeframe).

No surgical complications in last 3 years

- In 10 years there have been 2 re-implants due to infection/failure to heal from initial surgery (<1%).

Over 90% of children (without additional needs) go on to mainstream school.

Program measures

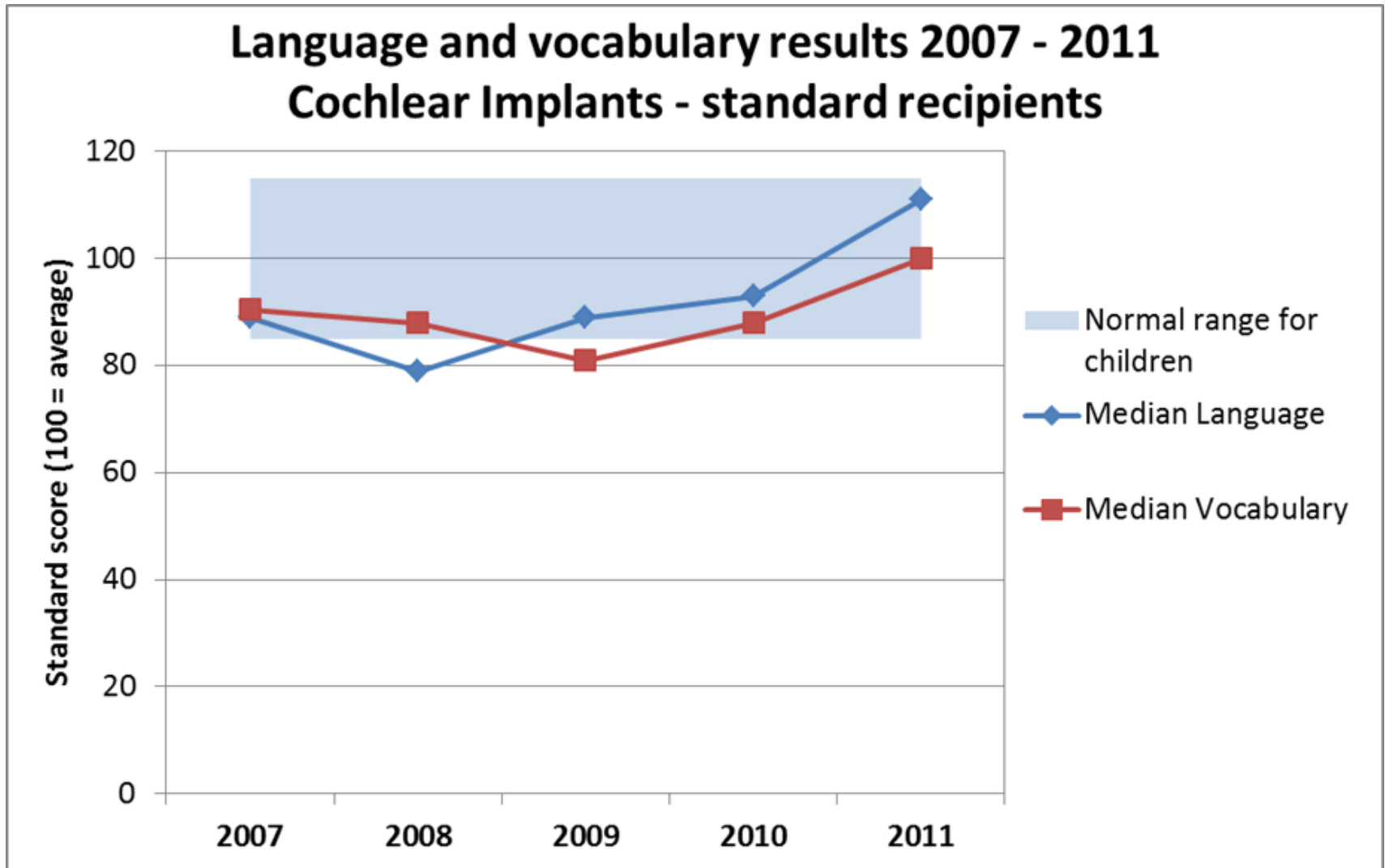
1st CI in clinically appropriate timeframe

‘For children with a hearing loss that clearly calls within the evidence based thresholds for cochlear implantation’

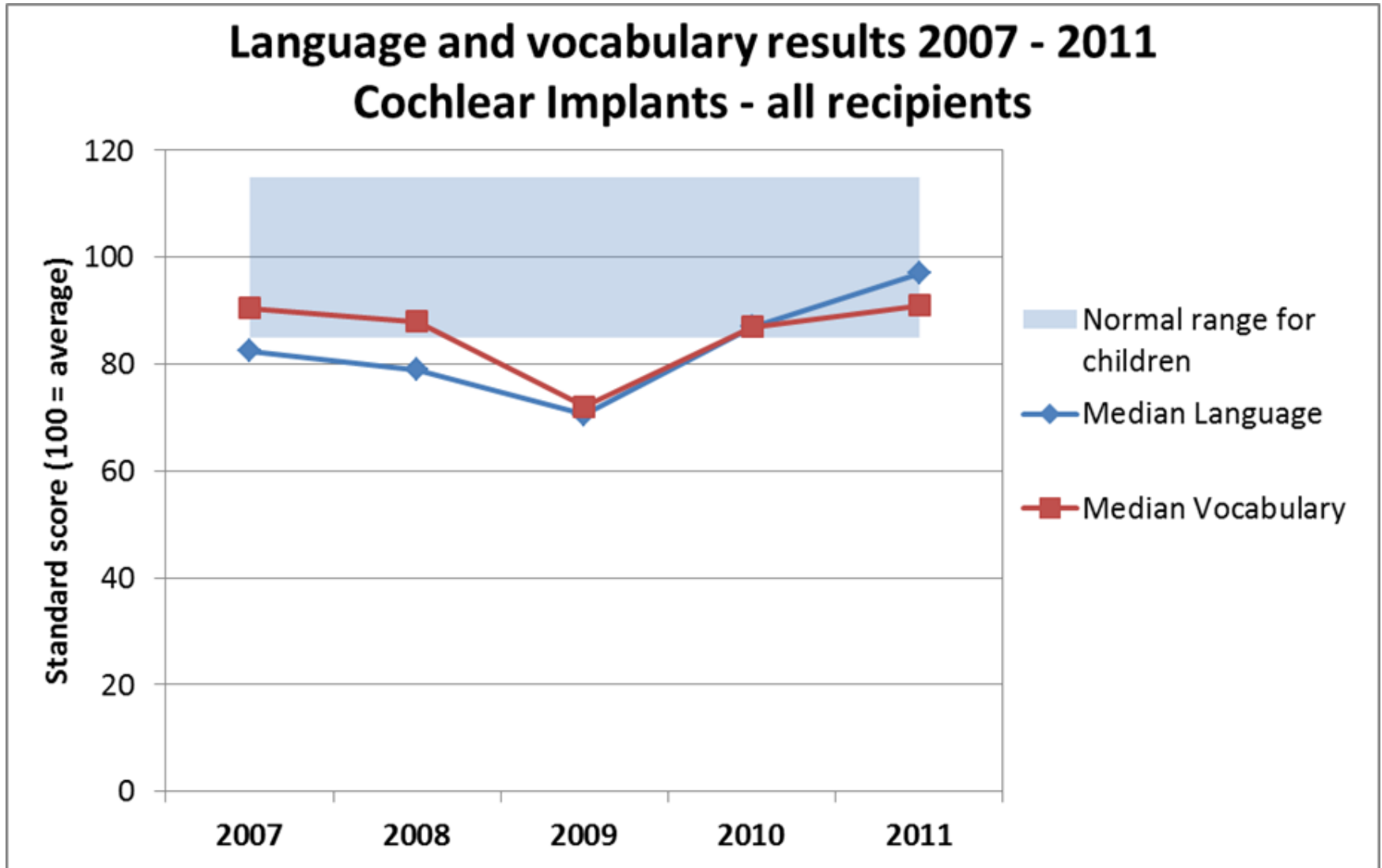
- a) Simultaneous cochlear implants between 6-8mths old
- b) A very short sequential gap under 3 months

Spoken language outcomes:

Children who are early diagnosed, with no additional needs, English as a first language



Spoken language outcomes: All children



**Sydney Cochlear Implant
Centre**

SCIC

Some Facts about SCIC

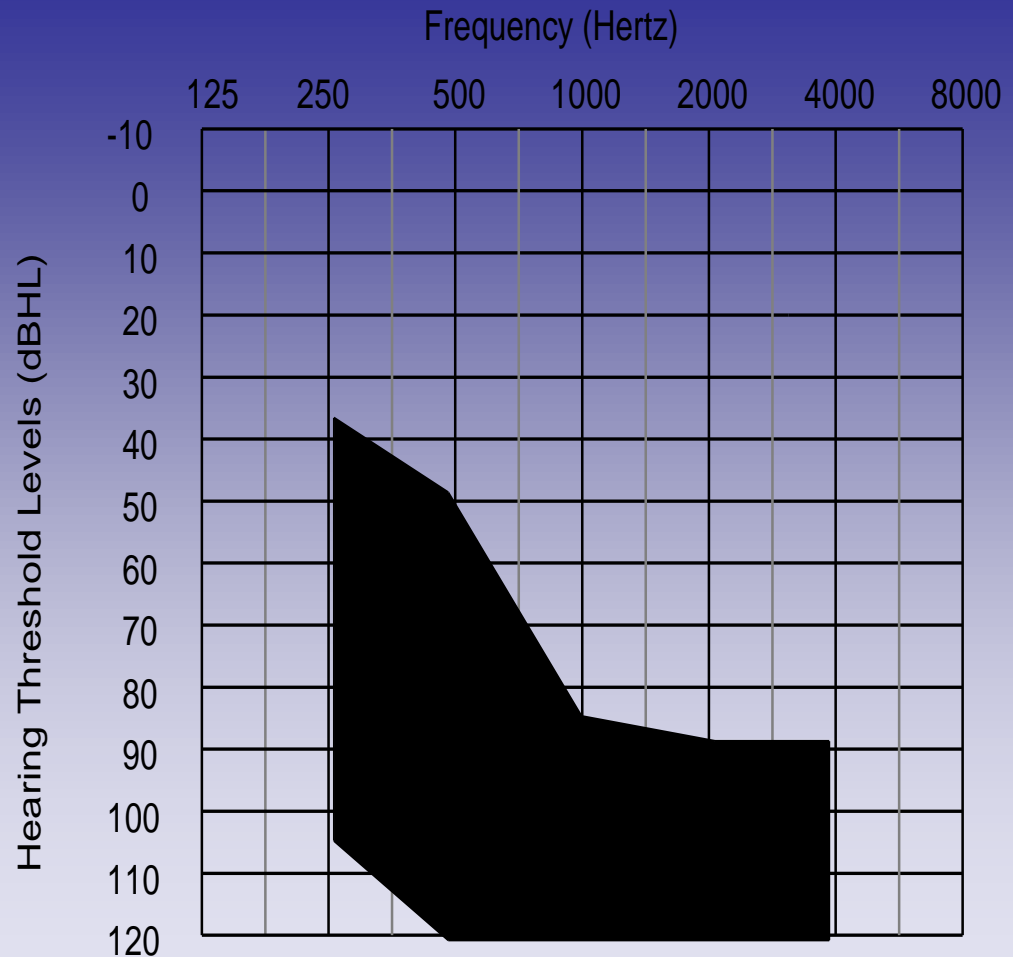
27 years of experience, research and pioneering work with complex populations

- Total CIs through SCIC = 2500
- 344 surgeries in 2010
- First Brainstem Implant at SCIC 2010
- World's first congenitally deaf child = 1987
- Youngest congenitally deaf child = 3 months
- Youngest child to receive bilateral CI = 7 months
- Oldest adult implanted = 94 years



Current Australian Cochlear Implant Candidacy Guideline Criteria

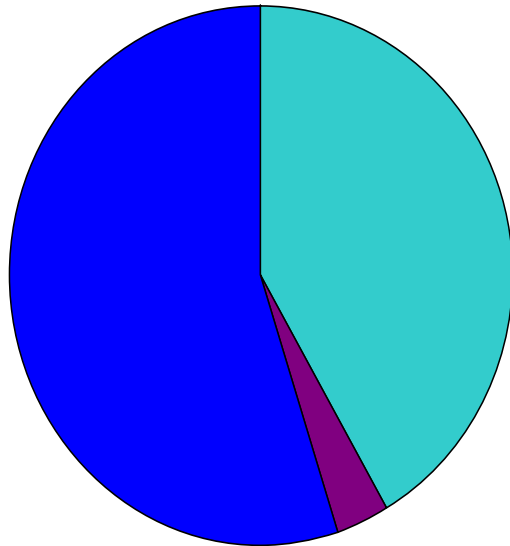
Unaided hearing



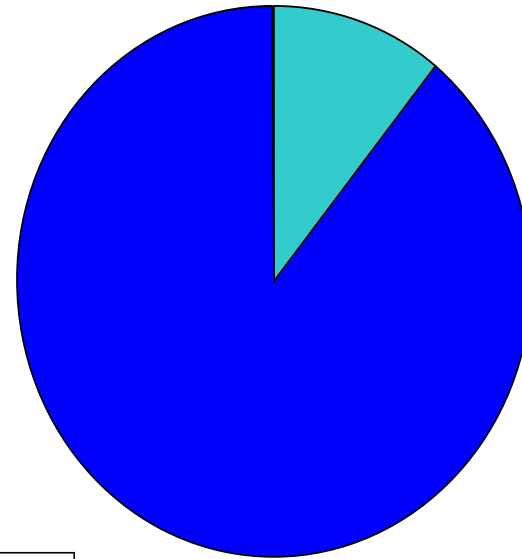
- Moderate-severe sensorineural hearing loss in the low-mid frequencies (*and poor speech scores*)
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SCIC CI Funding

First CI



Second CI

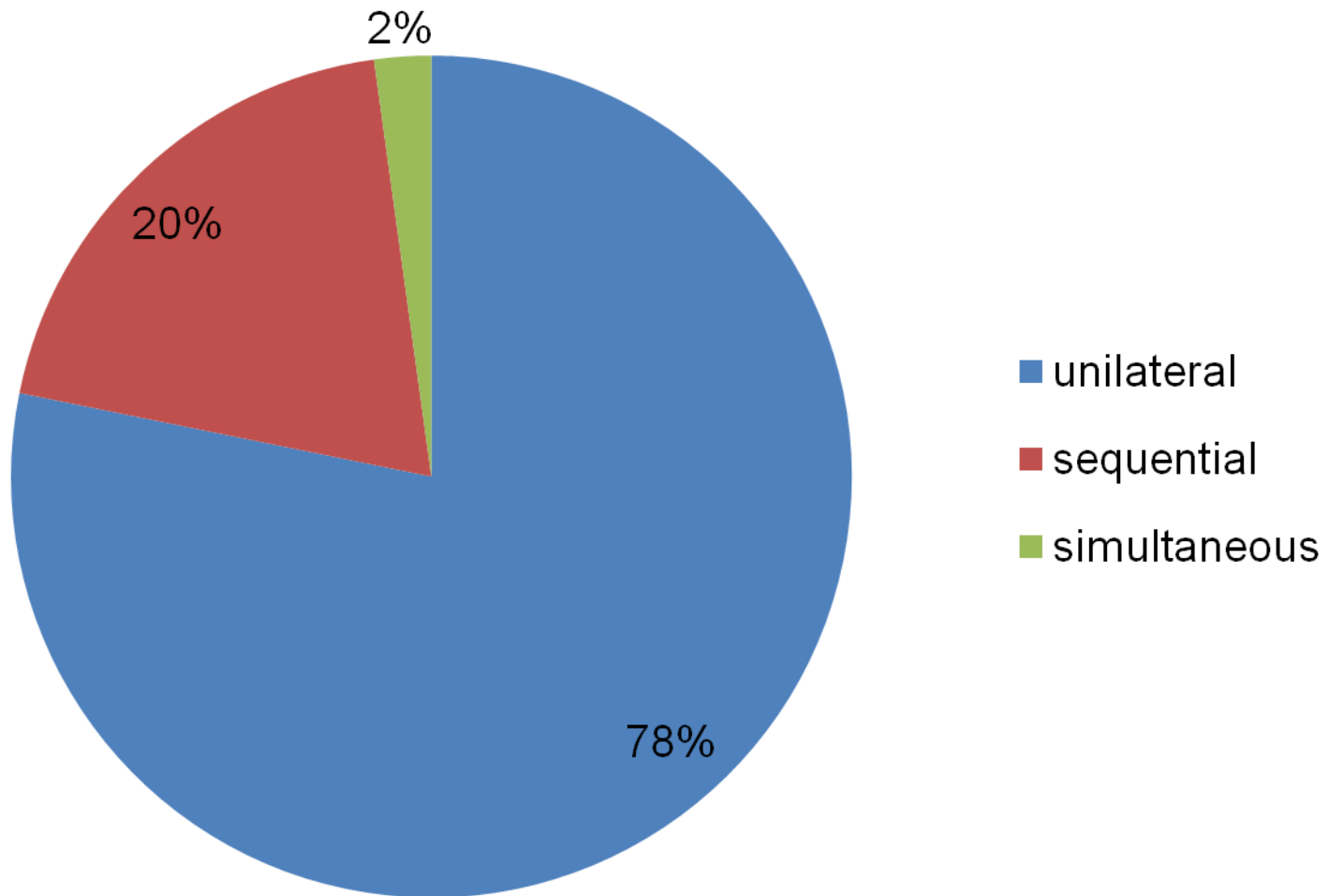


No public funding for bilateral CI's except for cases outlined

Who is suitable for funded bilateral?

- Visual impairment (deaf-blind or Usher's Syndrome)
- Current CI compromised (e.g. limited electrodes)
- Children with additional needs
- Children with auditory desynchrony (hearing aid interferes with bimodal listening)
- No demonstrated bimodal advantage

CIs in children at SCIC N=917



Hear now. And always

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