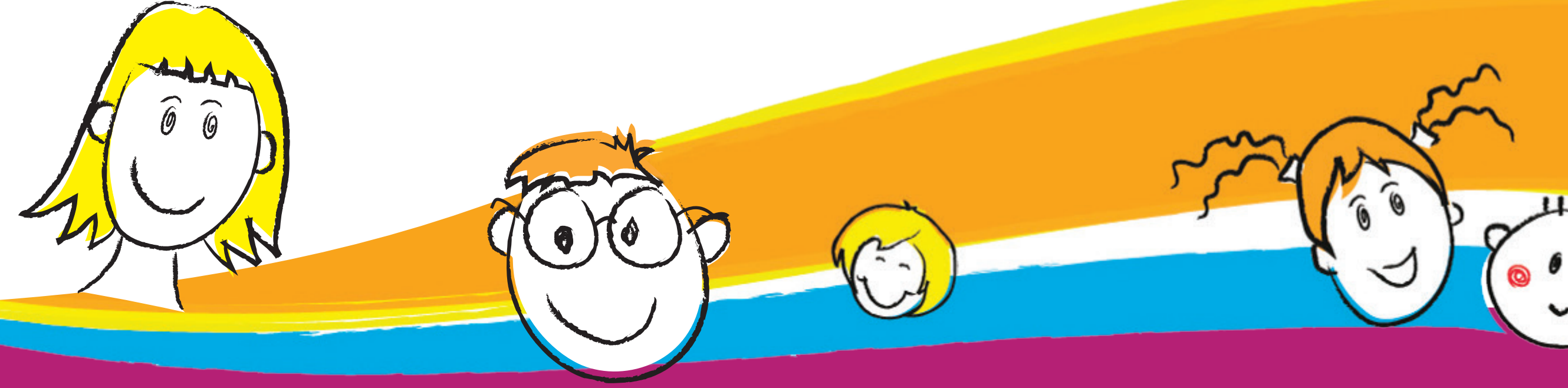


Listening: The building block for language and literacy

Changing progress, changing outcomes for children with hearing loss

Aleisha Davis MSLP Cert LSL[®] • Alyshia Hansen BA • Katie Neal MCLinAud

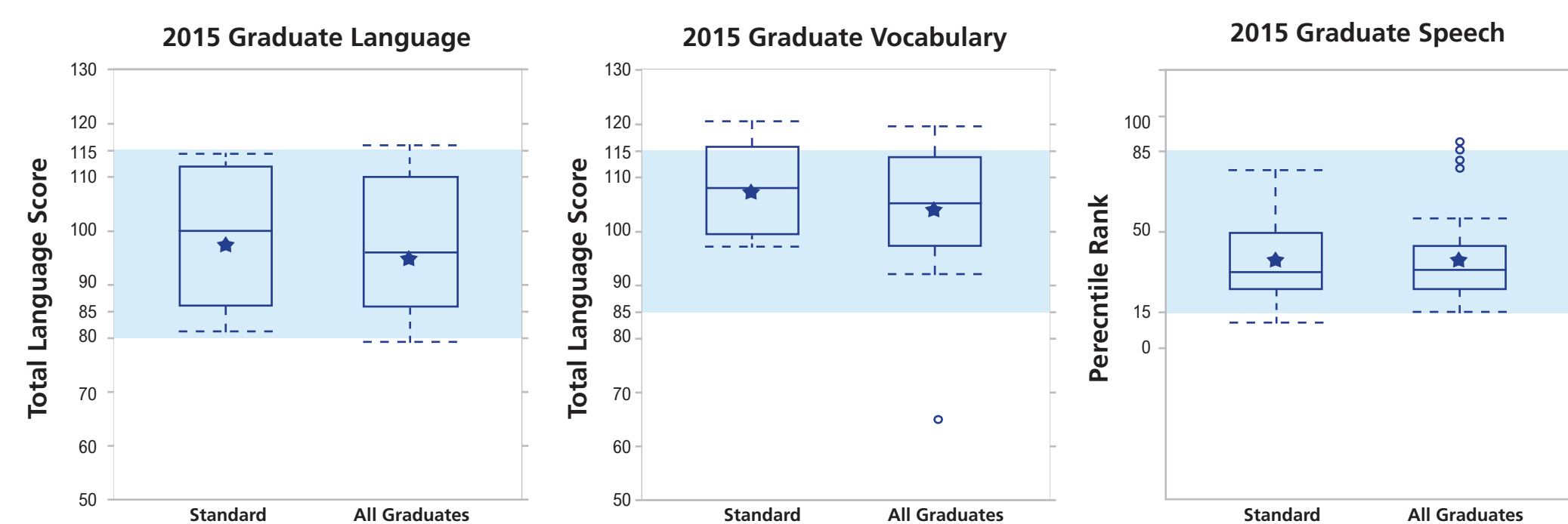


The Shepherd Centre, AUSTRALIA: Canberra / Liverpool / Newtown / The Australian Hearing Hub Macquarie University / Wollongong
 @ research@shepherdcentre.org.au (02) 9370 4400 shepherdcentre.org.au

May 2016

Outcomes for children with hearing loss

In 2016, age appropriate speech, language and vocabulary skills are possible for children with any degree of hearing loss following early diagnosis, early fitting of technology and early intervention.



Is this each child's full spoken language potential?

? What else can be done to improve the spoken language skills of children with hearing loss so they can all reach their full potential?

Speech, language, literacy & social skills

Before speech and language, comes

L I S T E N I N G

"Although children make use of visual cues when learning language, audition is of primary importance for language acquisition"

Bailey & Snowling, (2002), Yoshinaga-Itano, C. (1998) Geers, A., Brenner, C., & Davidson, L. (2003).

How can we identify poor progress before it shows in speech and language assessments?

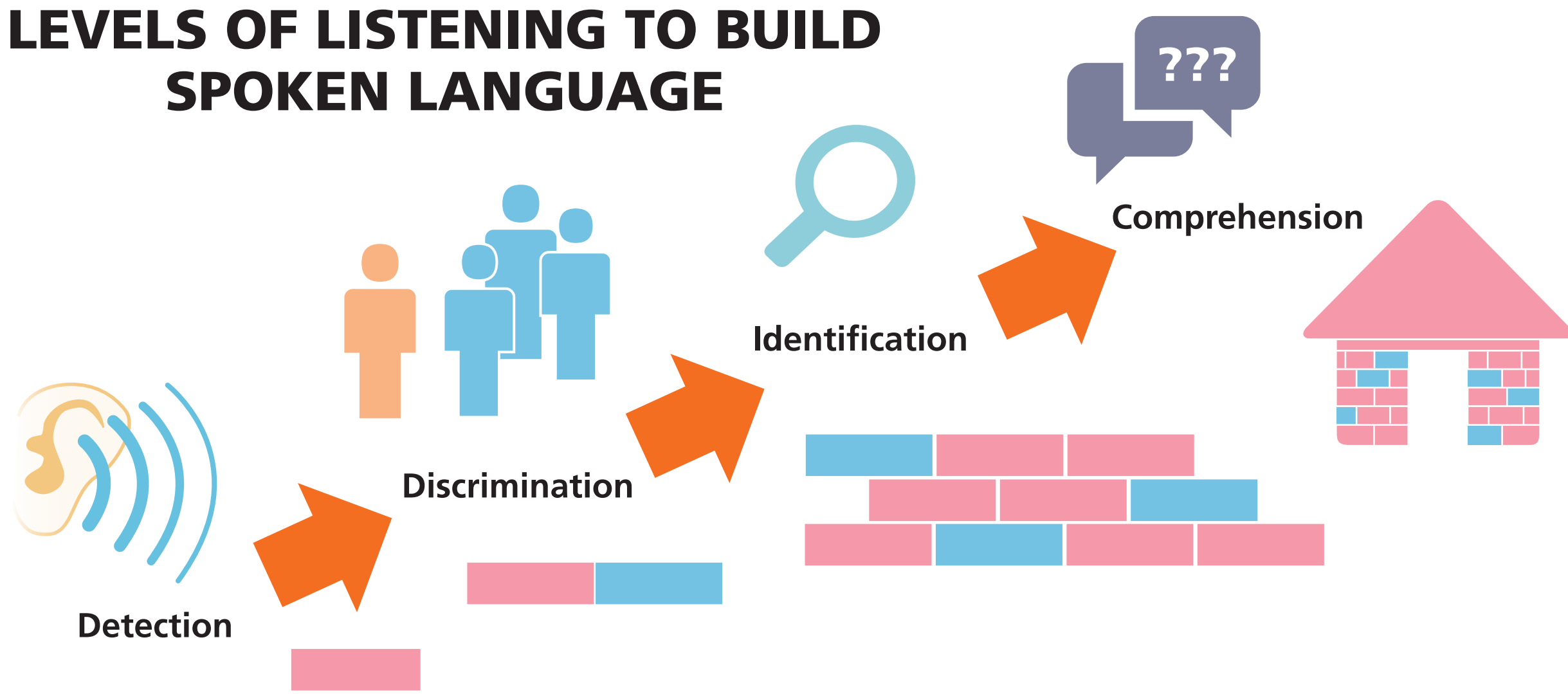
Track development of the prerequisite listening skills on which speech, language and communication are built

More than just Detection

Spoken Language Competency requires acquisition and development of Four Crucial Listening Stages

- **Detection** (hearing a sound),
- **Discrimination** (telling the difference between sounds),
- **Identification** (determining what sounds are), and
- **Comprehension** (understanding what they mean).

LEVELS OF LISTENING TO BUILD SPOKEN LANGUAGE



Development of the Functional Listening Index (FLI)

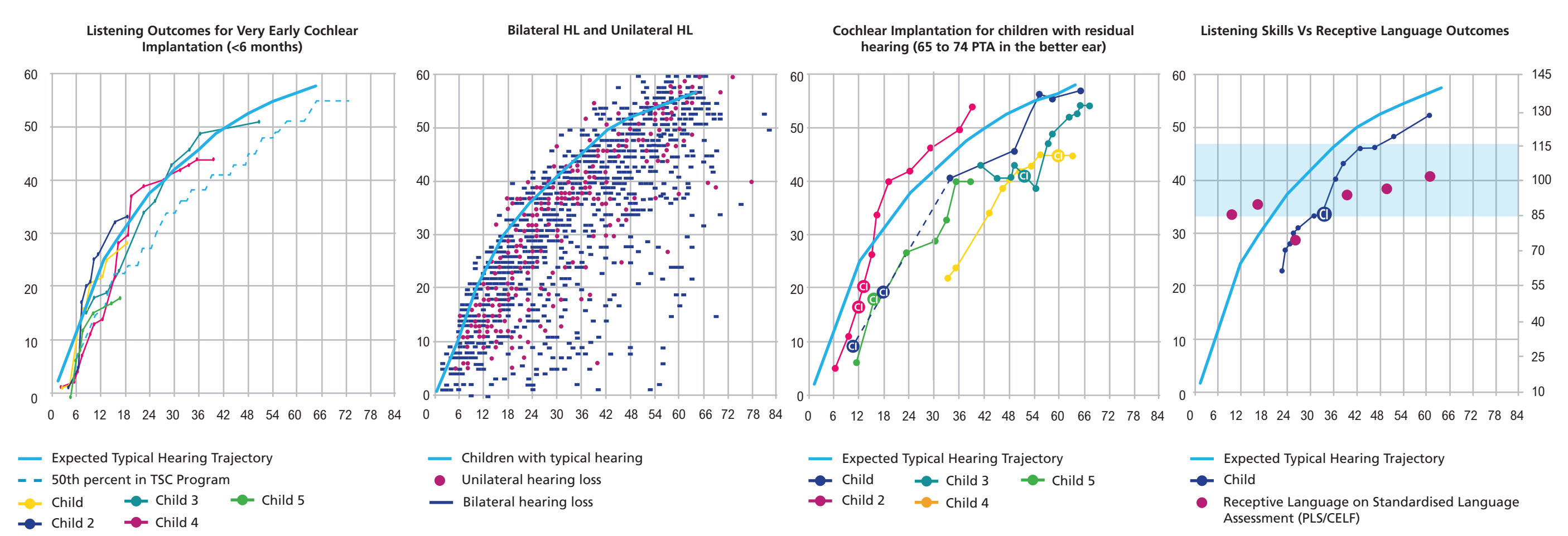
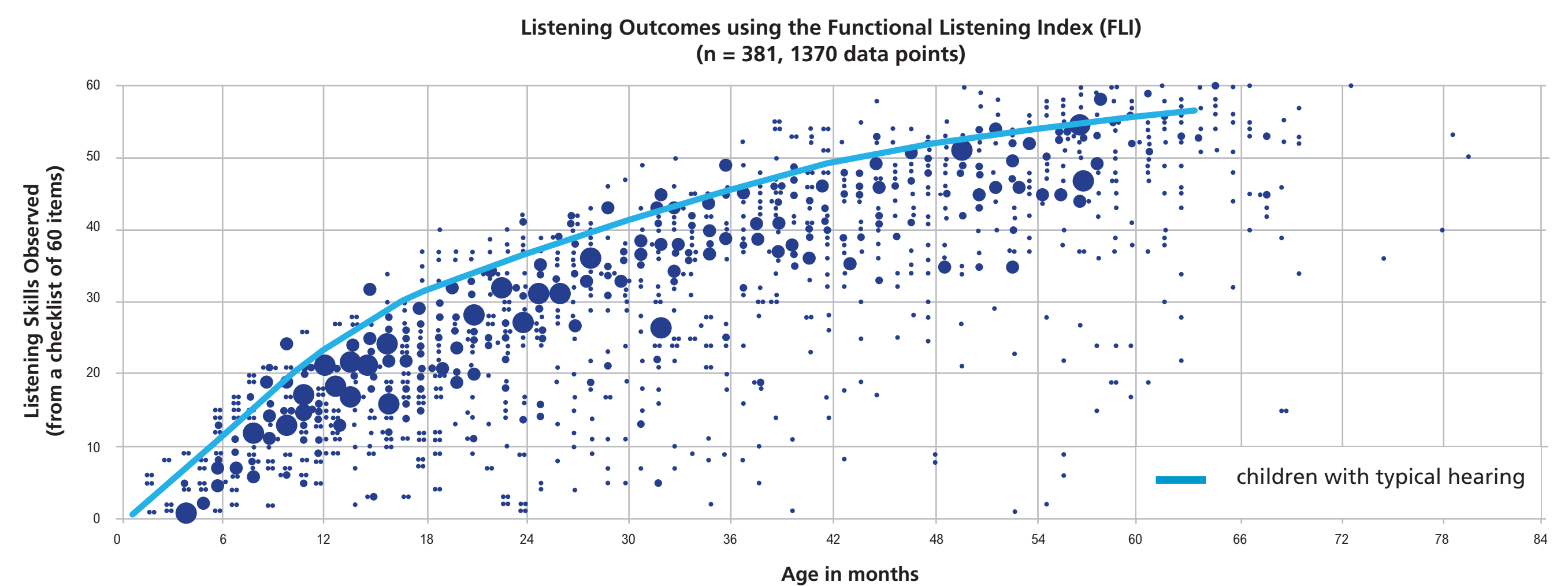
Built to enable the tracking of functional listening skills across the areas of detection, discrimination, identification and comprehension to guide later speech and language development.

- Based on formative auditory scales (see References)
- Enables
 - Clinicians to use the same tool (rather than a large number of different tools according to individual preferences)
 - Children's listening skill development from birth to 7yrs to be tracked
 - Development of early through to advanced listening skills
 - Detailed specific steps in development
 - Comparison of auditory development for children with hearing loss to children with typical hearing
 - Alignment with standardised receptive and expressive language outcomes
 - An index for use rather than a hierarchy as development of skills don't necessarily rely on acquisition of the one before

6 PHASES/60 ITEMS

- 1 Sound Awareness
- 2 Associating Sound with Meaning
- 3 Comprehending Simple Spoken Language
- 4 Comprehending Language in Different Listening Conditions
- 5 Listening Through Discourse and Narratives
- 6 Advanced Open Listening Set

Outcomes of the Functional Listening Index (FLI)



- Children with profound hearing loss demonstrating listening skills on par to children with typical hearing from 12-18mths of age
- Simultaneous cochlear implantation excluding children with additional needs and primary languages other than English
- Range of listening skills for children with Unilateral Hearing Loss, even though speech and language may be in typical range
- Indicates possibility listening with one ear only may not be enabling child to reach their communicative potential
- Significant improvements in listening skills directly post CI
- Provides evidence for children with more hearing to benefit from CI without needing to wait for speech and language skills to drop out of typical range
- CI resulted in steeper trajectory of listening skill acquisition, resulting improvement in formal language assessment results

Key Messages

The FLI provides evidence to act before the impact of poor listening on speech and language becomes apparent and delays exist. Its use has led to:

- ✓ Objective information and evidence for families and clinicians
- ✓ Direct changes in clinical management and intervention decisions
- ✓ Improved speech and language outcomes

References

Ling 6 (Ling & Ling 1978)
 The Phonetic-Phonologic Speech Evaluation Record: A Manual (Ling, D. Ph.D. 1991)
 Categories of Auditory Performance (CAP) / CAP - Revised
 Cole, E. B., & Flexer, C. A. (2007). Children with hearing loss: developing listening and talking birth to six
 Estabrooks, W. (1998). Cochlear implants for kids
 Supplement to the JCIH 2007 Position Statement: Principles and Guidelines for Early Intervention After Confirmation That a Child Is Deaf or Hard of Hearing.

St. Gabriel's Curriculum for the Development of Audition, Language, Speech, Cognition, (Tuohy, J., Brown, J. and Mercer-Moseley, C., 2001)
 Integrated Scales of Development, Cochlear Limited
 Auditory Skills Checklist, (1992).
 Cottage Acquisition Scales for Listening, Language and Speech. Simple Sentence Level (Wilkes, E.M. 1999)
 Auditory Learning Guide, Beth Walker, (2009)
 Pollack, D., Goldberg, D. M., & Caleffe-Schenck, N. (1997). Educational audiology for the limited-hearing infant and preschooler: An auditory-verbal program: Charles C Thomas Pub Ltd.