

# **Communication in Infant Diagnostic Audiology**

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## Statement

I state that this work has been submitted exclusively to Macquarie University (Sydney, Australia) for the consideration of a PhD degree.

The empirical content of this thesis is based on data collected from a specialist paediatric hospital in Sydney, Australia. Ethics approval was obtained from the University of Wollongong/SESIAHS Health and Medical Human Research Ethics Committee (HE09/271) and Macquarie University Ethics Review Committee (Human Research) (HE27MAR2009-D06380HS).

I certify that I developed the original research idea and took leadership to conduct all parts of this research, including writing the content of this thesis. My supervisors, Professor Catherine McMahon and Dr Jeannette McGregor have assisted with the analyses, review of results, and framing of the results and conclusions.

To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

A handwritten signature in dark ink, appearing to read 'Rebecca Kim', is centered on the page. The signature is fluid and cursive, with a small mark above the 'i'.

Rebecca Kim (nee Summons)

March, 2018

## **Abstract**

Effective communication is an essential skill for healthcare professionals and necessary for the provision of family-centred service delivery. Within Audiology, it has become increasingly important for Universal Newborn Hearing Screening (UNHS), where babies are diagnosed with permanent hearing loss within a few weeks of life - before any visible signs exist. However, few published qualitative studies looking at communication in infant diagnostic audiology exist. These could target areas to improve or provide exemplar models of practice. Therefore, this thesis aims to investigate communicative interactions and competence using recorded audiological appointments, where infants are being tested for hearing loss, following referral from UNHS.

Four in-depth qualitative linguistic analyses of the communication between parents and experienced audiologists were conducted with nine audio-recorded and transcribed infant diagnostic appointments. Analyses focussed on; the type of communication that takes place in these appointments and levels of communicative engagement (Chapter 4), how relationships are built within these appointments (rapport building; Chapter 5), the ways that relationships are threatened (through the delivery of the diagnosis; Chapter 6) and, the way that emotional reactions to the diagnosis are expressed and responded to (Chapter 7).

Results show that mothers and audiologists have equal communicative engagement throughout the appointment, whereas fathers have significantly less. However, separate analysis of the audiometric testing phase and the results dissemination phase shows that the mothers' level of communicative engagement decreases significantly after a diagnosis. Further, audiologists employ numerous rapport building strategies and continue to use these throughout the appointment, employing them when the relationship is threatened as a result of the diagnosis. They also attempt to frame the diagnosis of hearing loss in neutral or

positive terms, whilst attending to the emotional needs of parents. These studies highlight the importance of good communication skills within this sensitive area of audiology.



## **Acknowledgments and Preamble**

As an audiologist with one-year clinical experience, I began working at a specialist tertiary paediatric hospital in Sydney. As part of my role, I was to perform auditory brainstem response testing on infants referred through the relatively new universal newborn hearing screening program, the State-Wide Infant Screening-Hearing (SWIS-H) Program. I was provided thorough training on the equipment, testing and waveform analysis, however when I requested training on how to deliver a diagnosis I was told that no such training existed. It had not been covered in my Master's degree, and was not something I had ever seen performed. I was warned though: it wouldn't go well.

I began to talk to other professionals that delivered diagnoses or managed the aftermath, and whilst this was helpful, it was inadequate for the situations I was to find myself in.

Communication, counselling and diagnosis delivery are skills, like any other, that can be described, taught, developed and improved. After three years in the hospital I decided to begin my PhD with a view to learning from experienced audiologists how to communicate, and then teaching these skills to audiology students.

First and foremost, I would like to thank the participants in this study. The audiologists, for allowing me to record some of the most difficult interactions that they have. It took a great deal of trust to allow me to do this. I hope that it has been a positive experience for you. And to the parents, thank you for allowing me to be a part of such a stressful time in your life. I hope that the knowledge gained from this will help to improve the experiences for other families in the same situation.

Thank you to my supervisors, Professor Catherine McMahon and Dr Jeannette McGregor for their continued support and encouragement over such a long time. Catherine, you have been a great source of knowledge and encouragement and advice. Juggling the, at times, competing commitments of being both my principal supervisor, and my boss cannot have been easy. You are an amazing role model in everything that you do. Jeannette, I have learnt so much from you about communication, linguistics and research. You too, are an amazing support and role model.

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I would like to thank my colleagues Jean Tsembis and Latha Ramesh, who supported me when I was learning to deliver diagnoses, allowing me to sit in on countless appointments, and even at times, leaving doors slightly ajar so I could hover in corridors and listen to their pearls of wisdom, turns of phrase and how they navigated difficult questions.

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## **List of Abbreviations**

A: Audiologist

AABR: Automated Auditory Brainstem Response

ABR: Auditory Brainstem Response

ANSD: Auditory Neuropathy Spectrum Disorder

ASHA: American Speech-Language –Hearing Association

DPAOE: Distortion Product Otoacoustic Emissions

F: Father

HL: Hearing Loss

IS: Interactional Sociolinguistics

M: Mother

SFL: Systemic Functional Linguistics

SNHL: Sensorineural Hearing Loss

SWIS-H: State-Wide Infant Screening-Hearing Program

UNHS: Universal Newborn Hearing Screening

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# **Chapter 1 Introduction**

## **1.1 The silent effects of UNHS on the profession of audiology**

Universal Newborn Hearing Screening (UNHS), first implemented in Rhode Island in 1989 (White, Vohr, & Behrens, 1993), significantly lowers the average age of diagnosis of congenital hearing loss in infants (Harrison, Roush, & Wallace, 2003; Prieve & Stevens, 2000), leading to early intervention, better language outcomes at school age (Nelson, Bougatsos, & Nygren, 2008), and reading comprehension in adolescence (Pimperton et al., 2014). Permanent hearing loss is one of the most common disorders present at birth, with 1-2 per 1000 infants born in developed countries having a permanent congenital hearing loss (Russ, Poulakis et al. 2003). For UNHS to be implemented, it was necessary that non-invasive objective test methods (such as OAEs, which were clinically introduced in the mid-1990s (Kemp, 1998) were developed to detect these losses, and that the benefits of early detection, over later detection be demonstrated (Morton & Nance 2006). Arguably, the most comprehensive population-based study of the benefits of newborn hearing screening was conducted across two Australian states, which compared UNHS to a program of risk factor screening and a program of opportunistic detection (Wake et al., 2016). The results from this study strongly supported the implementation of UNHS, which enables early intervention for language development. Unsurprisingly, the benefit of early intervention increases with greater magnitudes of hearing loss; Ching et al. (2017) showed that, compared with those children who received equivalent intervention at 24 months, those with 70dB average HL fitted with hearing aids showed improvements of 0.8SD for 5 year language scores, and those with cochlear implants showed improvements of 1.4SD. However, the cost-benefit of UNHS remains a debated topic (Chiou et al., 2017; Chorooglou, Mahon, Pimperton, Worsfold, & Kennedy, 2018; Santos-Cortez & Chiong, 2013).

Prior to the introduction of UNHS, children were usually tested for hearing loss within the first few months of life due to the presence of risk factors (such as prematurity, or family history), or considerably later (on average at 24 months of age) (Durieux-Smith & Whittingham, 2000), often as a consequence of parental concerns about speech development, attention or behaviour (Harrison & Roush, 1996, 2002; Prendergast, Lartz, & Fiedler, 2002). A delayed parent-led diagnosis provides parents with an opportunity to observe the consequences of hearing loss on their child's behaviour and interactions with others (Hogan, Shipley, Strazdins, Purcell, & Baker, 2011; Stevenson, McCann, Watkin, Worsfold, & Kennedy, 2010), presumably increasing the preparedness to receive the diagnosis (Gilbey, 2010). Studies in other areas of health care have found that the longer parents worry about a disorder, the more prepared they are to receive the diagnosis (Woolley, Stein, Forrest, & Baum, 1989).

On the other hand, UNHS has resulted in a shift from a parent-led diagnosis to an "institution-led" diagnosis (Luterman, 2001) whereby many parents are unprepared to hear the news. As described by Grob (2008) in a study investigating the effects of mandatory newborn hearing screening of cystic fibrosis, "the early unsought diagnosis deeply affects parents' feeling of competence to care for their newborn and their sense of who the child is, and places the disease, rather than the process of "falling in love with" the new baby – at the centre stage during the child's early weeks and months" (p 1063). Certainly, parental reactions to a diagnosis of hearing loss at this age can include shock, anger and grief (Russ et al., 2004). Moreover, approximately 95% children with hearing loss are born to normally hearing parents (Mitchell & Karchmer, 2004), who often have little or no experience with hearing loss. Having not had the chance to observe their child they may have less of an understanding of the potential impacts of hearing loss (Kurtzer-White & Luterman, 2003).

Initial interactions with health care professionals have lasting impacts on parents' ability to cope (Graungaard & Skov, 2007), with the period just after diagnosis one of the most stressful reported by parents (Burger et al., 2005). There is evidence to show that parents of infants diagnosed through UNHS often do not have time to process and understand the information given at this time, resulting in feelings of time pressure, ambivalence (Young & Tattersall, 2007) and, potentially, a disruption to the maternal bonding process (Bess & Paradise, 1993). Importantly, higher parental stress is associated with more frequent socio-emotional problems in children born with hearing loss (Hintermair, 2006). Parents are very sensitive to the way the diagnosis is delivered, and the manner of the audiologist partially determines how satisfied they are with the testing process (Hasnat & Graves, 2000; Tattersall & Young, 2006). In some cases, the relationship between audiologists and parents can influence the successful implementation of habilitation (Sjogblad et al. 2001). Parents also report vivid memories of the diagnosis, even years later, particularly the manner in which the diagnosis was delivered, for instance, whether they found the professional to be understanding and sympathetic (Woolley et al., 1989). Therefore, recalling the diagnostic process can evoke powerful emotional reactions even years later (Gilbey, 2010).

Such a dramatic change in the diagnostic process from a parent-led to an institution-led diagnosis required a change in the manner of delivering the diagnosis and greater consideration of the level of support provided to parents (Kurtzer-White & Luterman, 2003). Parents report wanting to be told the news by an audiologist who is empathetic and skilled in counselling (Luterman & Kurtzer-White, 1999; Russ et al., 2004). Despite the development of guidelines for the delivery of diagnoses of disability in children, parental satisfaction with the process is often quite low (Graungaard & Skov, 2007). In audiology in particular, parents of children who have hearing loss often report that their needs for both information and emotional support are not being met by audiologists (Crandell & Weiner, 2002; English et al,



1999; Hasnat & Graves, 2000; Roush, 2000; Tattersall & Young, 2006; Fitzpatrick, Graham, Durieux-Smith, Angus, & Coyle, 2007). One study in Haifa, Israel, found that 50% of parents were dissatisfied with the diagnosis of hearing loss in their child following UNHS, whereby the majority felt an absence of support within the initial acute stage of shock (Gilbey, 2010). One of the most significant predictive factors in parental satisfaction has been found to be the communication and manner of the audiologist delivering the news (Tattersall & Young, 2006).

Communicating difficult diagnoses can also be stressful for medical and allied health professionals (Ptacek & McIntosh, 2009). Doctors may delay delivering diagnoses due to their own discomfort with these interactions and their concerns with the impacts upon the patient (Ptacek & Eberhardt, 1996). There is concern expressed in other neonatal screening programs of the potential psychological impacts of diagnosis of disability or illness in an infant on the infant's parents (Al-Jader, Goodchild, Ryley, & Harper, 1990; Helton, Harmon, Robinson, & Accurso, 1991). Audiologists are likely aware of potential psychological impacts of the delivery of the diagnosis on the family, and that parents are likely to vividly remember this process. There may also be other pressures on the audiologist such as institutional pressures (Ptacek & McIntosh, 2009) including time pressures, needing to gather quality information from a restless infant and complete all tasks within a set appointment time. Audiologists may also be underprepared due to lack of education and training in communication skills (discussed below).

As stated previously, the diagnosis of a hearing loss in a child represents a difficult time for families. Audiologists have an obligation to help families adjust to the diagnosis and navigate the hearing health care pathway as smoothly as possible. The best way to achieve this is by offering a timely and accurate diagnosis, appropriate support, useful and relevant information, and timely follow up (Larsen et al 2012). The diagnostic process is often the

family's first contact with the hearing health care industry, therefore the diagnostic audiologist is uniquely placed to offer this support, and as such, they have a large influence over the family's experiences (Young and Tattersall, 2005). It is essential that audiologists working with families tailor their communication to the needs of each individual family. This requires high-level communication skills, and is the basis of family-centred practice.

## **1.2 Insufficient formal training on communication and counselling**

Historically, there was little emphasis on developing counselling and communication skills within audiology programs. In Australia, the first audiologists were trained psychologists, who underwent further training in hearing testing, hearing aid fitting and aural rehabilitation. The high level counselling and communication skills of psychologists were essential for working with people with hearing loss of significant degree, who experienced minimal benefit from hearing aids with poor gain, output and frequency responses (Dillon, 2001). The first Masters programs for audiology began in Australia in the 1980s. These programs allowed people from more diverse backgrounds to train as audiologists. However this also coincided with improvements in hearing device technology (Upfold, 2008). This, arguably, has contributed to a shift away from the high level of counselling skills required for clients who received minimal benefit from hearing devices to a greater reliance on technology. Whilst some audiology programs explicitly incorporate counselling into their curriculum, it is often minimal (Crandell & Weiner, 2002). The topics covered and amount of time allocated vary greatly (Crandell, 1997; Culpepper & Mendel, 1994). Given the paucity of education in this area, it is not surprising that Martin and colleagues (1992) found that only 40 % of American audiologists felt prepared to counsel their clients when they graduated from their Masters and PhD programs. Anecdotal evidence also suggests that clinical educators are reluctant to critique the counselling skills of students, preferring to concentrate

on technical skill development, which would partially account for the lack of confidence in this skill (Clark, 2006). Supervisor reluctance to provide feedback on counselling skills has even been identified as a concern in psychology (Hoffman, Hill, Holmes, & Freitas, 2005). More recently, there has been considerable interest in the importance of communication and counselling training in audiology (Clark & English, 2004; English, 2005; English & Zoladkiewicz, 2005; Leplante-Lévesque, Pichora-Fuller Gagné, 2006; Vuorialho et al, 2006; Whicker, Munoz, Butcher, Schultz, & Twohig, 2017) which could partly be associated with the introduction of UNHS. However, concurrent to the introduction of UNHS was the introduction of Doctor of Audiology (AuD) programs as the minimum qualification for audiologists practicing in the United States of America. Many AuD programs now include curricula on counselling, although a recent study has shown that 25% of do not, either as a unit, or incorporated into other units. There is also much variation in the syllabi across programs (English & Weist, 2005; Whicker, Munoz, Butcher, Schultz, & Twohig, 2017). There has been no such shift in Australian audiology programs.

### **1.3 Family-centred practice as a model for audiological service delivery**

Professional bodies and policy documents state that family-centred practice and counselling is within the scope of practice of audiologists (Audiology Australia, n.d; ASHA, n.d) although in some cases no explanation is given as to what this entails (Audiology Australia, n.d). The American Speech-Language-Hearing Association (ASHA) does provide published guidelines for counselling that should be provided to some populations (ASHA, 2008), especially families of children under the age of 5 years. Policy documents for UNHS and the management of childhood deafness recommend family-centred practice as the preferred model of service delivery (Muse, Harrison et al. 2013).

Family-centred practice (also called patient-centred care, client-centred care) has many definitions within the literature (see reviews by Grenness, Hickson, Laplante-Lévesque, & Davidson (2014b) and (Mead & Bower, 2000)). It differs from traditional biomedical, doctor-centred and disease-centred approaches to practice in that it takes a bio-psycho-social approach (Stewart, 2001). At the heart of definitions of family-centred practice are appropriate communication, partnership and shared-decision making (Grenness et al., 2014b; Mead & Bower, 2000). Studies of the impacts of family-centred practice, and specifically family-centred communication, in the wider health-care context have shown that family-centred practice leads to better outcomes (Oates, Weston, & Jordan, 2000), patient satisfaction (Schmid Mast, Kindlimann, & Langewitz, 2005; Wanzer, Booth-Butterfield, & Gruber, 2004; Williams, Weinman, & Dale, 1998), adherence to treatment (Adams, Cimino, Arnold, & Anderson, 2012; Blanch-Hartigan, 2013; Finset, 2012; Stewart, 1995; Zolnieriek & DiMatteo, 2009), and better patient emotional health (Oates et al., 2000). Studies have also shown that the majority of patients prefer family-centred care, in contrast to a biomedical approach (Swenson, Zettler, & Lo, 2006). Further, most health care complaints in Australia stem from poor or inadequate communication (Slade et al., 2011). The NSW Health Complaints Commission Annual report 2015-2016 showed communication between patient and practitioner was the second highest cause for complaint (17.2% of all complaints) (NHCCC, 2016).

The benefits of family-centred practice have also been seen in audiology (Stredler Brown, 2005), with better client-professional relationships leading to better outcomes for clients and greater adherence to management recommendations (Stewart 1995, Sjoblad, Harrison et al. 2001, Haskard Zolnieriek and DiMatteo 2009). There is evidence to show that clients prefer communicative behaviours associated with a family-centred approach in both rehabilitative audiology (Laplante-Lévesque, Hickson, & Worrall, 2010) and paediatric

audiology (Minchom, Shepherd, White, Hill, & Lund, 2003). Further, audiologists also appear to value a family-centred approach (Boisvert et al., 2017; Hickson, 2012; Laplante-Lévesque, Hickson, & Grenness, 2014), although behaviours associated with family-centred practice are not always demonstrated in audiological appointments (Grenness, Hickson, Laplante-Lévesque, Meyer, & Davidson, 2015b). In paediatric audiology, greater levels of family involvement are correlated with better outcomes for children with hearing loss (Moeller, 2000). Family-centred practice is the recommended model of service provision in paediatric audiology (Gravel & McCaughey, 2004; Moeller, Carr, Seaver, Stredler-Brown, & Holzinger, 2013). A family-centred approach is useful for audiology as it emphasises client empowerment to manage chronic health conditions and shared decision making. This is essential for the management of permanent hearing loss in children.

#### **1.4 A paucity of research exists on communication in audiological practice**

To determine if and how family-centred practice is delivered in audiology, communication needs to be investigated directly within clinical appointments. The majority of the literature investigating communication, counselling and diagnosis delivery in clinical environments stems from the field of medicine (Heritage & Maynard, 2006; Ong, de Haes, Hoos, & Lammes, 1995; Slade et al., 2011; Slade et al., 2008; Tannen & Wallat, 1986), particularly primary health care (Paasche-Orlow & Roter, 2003), oncology (Lutfey & Maynard, 1998; Ong, Visser, Lammes, & de Haes, 2000) and nursing (Poskiparta, Kettunen, & Liimatainen, 2000; Poskiparta, Liimatainen, Kettunen, & Karhila, 2001), although some studies have been conducted in allied health professions, such as speech-language pathology and occupational therapy (Ferguson & Elliot, 2001; Klein et al., 2011; Walsh, 2011). These types of qualitative, descriptive studies of consultations can facilitate audiologists' reflection on their own clinical behaviour, identify areas for improvement or provide exemplar models

of clinical practice (Leahy, 2004). Despite the obvious clinical benefits of this type of reflective practice, there are few such studies in audiology. Whilst there are now some studies of interaction in adult audiology (Doyle, 1994; Grenness, Hickson, Laplante-Lévesque, Meyer, & Davidson, 2015a), we are unaware of any linguistic studies of communication in paediatric audiology.

This type of research, conducted on clinical appointments, with naturally occurring conversational data, is particularly important when practice changes rapidly, as was seen with the introduction of UNHS, or when interactions are challenging, as seen with the diagnosis of hearing loss in infants. Further, in order to teach communication skills to audiology students and determine where improvements in service delivery are required, we must first describe the communication that takes place in real clinical contexts and identify the skills that audiologists use when communicating with families.

## **1.5 Research aims**

The aims of this thesis are to describe the communication that experienced audiologists use within infant diagnostic appointments and to compare this with published models and descriptors of family-centred care. This study uses audio-recorded conversations from audiological appointments to describe the conversational dynamics that occur between audiologists and parents, and triangulates this with survey and focus group data. This thesis attempts to closely explore these relational elements with investigations into (i) rapport building, where relationships are built; (ii) the delivery of the diagnosis, where relationships are threatened; and (iii) management of emotional reactions, where relationships are repaired.

## **1.6 Thesis organisation**

Chapter 2 is a discussion of the methods, justification for a linguistic analysis of the data, and provides information about the specific clinic being researched.

Chapter 3 presents information from the supporting data sources that enabled triangulation to occur, including the results of the audiologist's pre-study surveys, reflections on appointments and focus group data, and the results of parent surveys completed after the appointments.

Chapter 4 presents an in depth linguistic move analysis of nine infant ABR appointments following referral from UNHS. This study investigates the types of utterances (for example, questions and statements etc.) that participants (audiologists, mothers and fathers) in these appointments make, and the differing levels of communicative engagement for each participant.

Chapter 5 is an investigation into the rapport building strategies used by paediatric audiologists in the nine appointments described in Chapter 4. Fifteen specific rapport building strategies were identified and described with examples provided. In this Chapter, we see how relationships are built and maintained throughout the appointment, and how audiologists negotiate power relationships during these appointments.

Chapter 6 describes how audiological diagnoses are delivered (of both hearing loss and normal hearing) in these nine appointments, and the topics raised by audiologists and parents when hearing loss is diagnosed. Audiological diagnoses represent a threat to the clinical relationship.

Chapter 7 discusses emotional expressions and opportunities to show empathy within these nine appointments. This Chapter also presents more effective and less effective ways to

respond to parent expressions of emotion, with examples from the data. Appropriate responses to parents' expressions of emotion are needed to support parents through their initial reactions to the diagnosis and repair the relationships that were threatened by the diagnosis.

Chapter 8 presents conclusions drawn from the four analyses presented, discusses study limitations and directions for future research.



## **Chapter 2 Methodology**

### **2.1 Data collection**

Data collection occurred between June and September, 2010. Data included pre-study questionnaires completed by the audiologists who were involved in the current study, audio-recordings of appointments with an audiologist and parents present, transcriptions of the audio-recorded appointments, post-appointment surveys completed by the parents, optional post-appointment reflections by the audiologists and a focus group session with all participant audiologists. Further details of each component are provided below.

#### **2.1.1 Audio-recordings**

Twenty-three infant diagnostic audiology appointments were audio recorded using a Sony ICD-UX200F MP3 stereo IC voice recorder, placed on the desk within the testing booth. Nine of these appointments were transcribed in full by either the lead researcher (RK) or a professional transcription service, and form the basis of the analysis of this thesis. These nine appointments include all appointments where a diagnosis of permanent hearing loss occurred (three bilateral and three unilateral) and three randomly selected appointments where the infant was found to have normal hearing. These three appointments were selected with the use of a random number selector (random.org). The other 14 appointments all involved infants who were found to have normal hearing.

#### **2.1.2 Transcription notes**

Interactions have been transcribed using Standard English spelling. Interactions were transcribed without standardisation or editing. Non-standard spellings are used when they are needed to capture idioms or idiosyncrasies (e.g. ‘gunna’). For word count, contractions are counted as one word (e.g. ‘we’ll’) and laughter is also counted as one word.

Acknowledgements are transcribed using standard spellings e.g. ‘Aha’, ‘Mm hmm’, ‘yep’ etc. Most punctuation used in the transcripts is Standard English however = = indicates simultaneous talk.

## **2.2 Participant information**

### **2.2.1 Audiologists**

Four audiologists, three female and one male, (labelled A-D for the purposes of data collection) participated in this study. Details of the participants are shown in Table 2.1. In New South Wales (NSW), at the time of data collection, there were only three males conducting this type of infant assessment. In an effort to maintain anonymity of participants it is therefore necessary that within the chapters of this thesis that minimal details are provided regarding the gender of the audiologists. All have English as their first language and all trained as audiologists in Australia. All were asked to fill in a survey prior to participation (Appendix 4). The details of these are presented in the next chapter (Chapter 3). The four audiologists in this study represent approximately a third of the full-time equivalent audiologists working in the state of New South Wales in this specialised area of paediatric audiology at the time of data collection. It is partly for this reason that the participant numbers of audiologists are so small. All audiologists working in infant diagnosis in NSW were invited to participate in this research, as were some in Victoria and Queensland. Many of the audiologists who were approached expressed concern about their clinical practice being evaluated and critiqued in such fine detail. Their concerns were increased given the sensitive nature of the appointments. It is for this reason also that participant numbers remain so low.

Audiologists were given the opportunity to provide a reflection on each appointment following the recording. Prompts were provided to facilitate this reflection (Appendix 6). Information from these reflections is presented in Chapter 3.

Appointments are coded with the code letter of the audiologist (A-D) and appointment number in the order that the appointments were conducted. For example, appointment A3 is the third appointment recorded with audiologist A. This code is maintained throughout the thesis and is used to identify excerpts and quotes.

**Table 2.1 Details of the participant audiologists (at the time of data collection).**

Audiologist	A	B	C	D
<b>Qualification</b>	Master of Clinical Audiology	Post-Graduate Diploma in Audiology	Master of Clinical Audiology	Post-Graduate Diploma in Audiology
<b>Years practicing</b>	30	18	7.5	24
<b>Years in Paediatric Audiology</b>	29	10	6	15
<b>Counselling training?</b>	Continuing Professional Development	Nil	1 unit	1 unit (and undergraduate program).

After preliminary data analysis, a focus group was conducted with the participating audiologists on February 7<sup>th</sup> 2012. The purpose of this session was for audiologists to receive feedback on the data. However, it was also to allow them the opportunity to discuss and comment on the discourse. The focus group is also discussed in Chapter 3.

### 2.2.2 Parents

No demographic information was collected from parents participating within this study, however all parents were competent English speakers and none of the recorded appointments had interpreters present. The mother was present in all of the nine appointments included in the final analysis, and the father was present in six. No other family members attended these appointments. Details are shown in Table 2.2.

A short take away survey (and reply-paid envelope) was provided to parents following the appointments. Individual surveys were provided for each parent attending the appointment. The survey was based on the Audiologic Counseling Evaluation by English and Naeve-Velguth (2007) and can be found in Appendix 5. Permission to use this survey can be seen in Appendix 3. The results of these surveys are presented in Chapter 3.

**Table 2.2 Table shows the outcome of the appointment and which parents were present. (Sensorineural Hearing Loss- SNHL)**

Appointment Code	Outcome	Mother present	Father Present
<b>A3</b>	Unilateral SNHL	Yes	Yes
<b>A5</b>	Normal Hearing	Yes	Yes
<b>B1</b>	Bilateral SNHL	Yes	Yes
<b>B4</b>	Normal Hearing	Yes	Yes
<b>B5</b>	Unilateral Mixed Hearing Loss	Yes	Yes
<b>C1</b>	Bilateral SNHL	Yes	No
<b>C4</b>	Unilateral SNHL	Yes	No
<b>D2</b>	Normal Hearing	Yes	No
<b>D3</b>	Bilateral SNHL	Yes	Yes

## **2.3 The clinic being researched**

The audiology clinic where data collection took place is in a specialist paediatric hospital in metropolitan Sydney, Australia. Referrals for the diagnostic appointments used in this study are from the Universal Newborn Hearing Screening Program in New South Wales: the State-Wide Infant Screening-Hearing (SWIS-H) Program (NSW Health, 2010). The SWIS-H program uses a two-stage screening process using Automated-Auditory Brainstem Response (AABR) testing. In order to pass the screening, an infant must record a pass result in both ears during the same test. The clinic receives referrals for infants who do not pass the two-stage screening in both ears (bilateral refers), one ear only (unilateral refers) and one ear at a time (swap-over refers).

Referral information is sent to the clinic manager. The family may be contacted by the administration officer or the clinic manager to arrange the appointment. If the administration officer arranges the appointment the family also receives a call from an audiologist prior to the appointment so that any questions and concerns may be discussed.

Parents are told to ensure that the infant is tired and hungry when they arrive for the appointment as the infant must be asleep for testing. This can add to parental anxiety if their infant is distressed due to having a feed delayed, or if the infant has fallen asleep in the car on the way to the hospital and parents are concerned that the infant will not resettle during the appointment.

After the family arrives and completes paperwork the audiologist takes the family into the clinic. Firstly the audiologist performs otoscopy, tympanometry and distortion product otoacoustic emissions (DPOAE) testing. The equipment for these tests is within a corridor outside the audiometric testing booths, but not in view of the waiting room. Some case history information may be obtained at this time. The audiologist primarily conducts the

appointment alone, but they may request assistance from another audiologist to help with the equipment for tympanometry and DPOAE testing. Following this, the audiologist takes the family to the main testing booth for Auditory Brainstem Response (ABR) testing. The test takes place in a sound treated Faraday cage (electrically shielded room) that has dimmed lighting and a window, with a curtain, to the corridor outside. The room has a recliner chair, a hospital bassinet on wheels, the equipment for testing and two desk chairs. The testing room is across the corridor from a tearoom where parents can access a microwave, bottle warmer, water and tea and coffee making facilities.

Parents are able to begin feeding the infant when they are settled in the room. While the infant is being fed, the audiologist prepares the infant for ABR testing by abrading the skin behind the ears, on the high forehead and on one cheek. This can be uncomfortable for the infant and the feeding acts as a distraction and minimises the distress of the infant. Electrodes (to record auditory nerve responses) are then attached to the abraded areas. The connections between the electrodes and the equipment are checked to ensure that impedance is low enough for testing. If not, the areas need to be further abraded. Once the electrode impedance is adequate, the infant is disconnected from the equipment and the parents are able to feed, change and settle the infant to sleep. Whilst this occurs, the audiologist will continue to ask case-history questions, make small talk and will offer tea, coffee or water to the parents. If the infant is difficult to settle, the audiologist may leave the room. The infant may be settled to sleep in the bassinet or in the arms of the parent in the recliner chair, depending on the preference of the parents.

Once the infant is asleep, the audiologist re-attaches the testing leads to the electrodes and place some insert earphones to deliver the testing stimulus via air-conduction at 2000Hz, 500Hz, 4000Hz and 1000Hz. A click stimulus is also used if Auditory Neuropathy Spectrum Disorder (ANSD) is suspected. Bone conduction testing is also performed after air

conduction testing if air-conducted thresholds are outside the normal range. The average appointment time, of the appointments within this study, is 2 hours and 37 minutes (see Table 2.3 for further details).

During testing, talk continues quietly between the parents and the audiologist. Once testing is complete, the audiologist requests that a colleague double checks their results by viewing the waveforms obtained. This either occurs within the testing room, in front of the parents, or outside the room with printed copies. In the analysis, we referred to all the above as the audiological testing phase of the appointment.

Once testing is complete, the infant is detached from the equipment and the diagnosis is delivered. We refer to this as the ‘results dissemination phase’. If the diagnosis is of permanent hearing loss (unilateral or bilateral) the family is referred to a multi-disciplinary clinic within the hospital (for investigations into the cause of hearing loss), the hospital pathology collection (for urinalysis for Cytomegalovirus) and Australian Hearing (for management of the hearing loss). The family have these appointments in place when they leave the hospital after the diagnosis. Reports are also sent to the family’s general practitioner, any other professional that they request (such as a paediatrician) and the parents themselves.

A social worker works part time for the service and may be called to attend the appointment after the audiologist explains the diagnosis and management. The conversations between parents and the social worker do not form part of this study.

Australian Hearing is a federally funded organisation that is responsible for the management of hearing loss of people under the age of 26 in Australia. They provide fully subsidised hearing aids and assistive listening devices, or referral to cochlear implant services. Australian Hearing ensures that there is equitable access to hearing devices for all

young people, 26 years of age and below, across Australia. They also provide information about early intervention services (for language development) and other government assistance available (such as financial assistance). As all infants diagnosed with permanent hearing loss are referred to Australian Hearing for management, diagnostic audiologists may only see the family once, at the diagnostic appointment, and sometimes through the multidisciplinary clinic.

Parents are provided with a folder produced by NSW Health called ‘Hearing Loss and Your Baby: The Next Step’ (<http://www.health.nsw.gov.au/kidsfamilies/MCFhealth/Publications/hearing-loss-and-your-baby-the-next-step.pdf>). They are also provided with a hospital produced information sheet that contains information about the service and recommended websites. This cannot be included here as it would compromise the anonymity of participants.

Parents of infants diagnosed with unilateral hearing loss are also provided with further targeted information about unilateral hearing loss, including information about a biannual seminar for parents of children with unilateral hearing loss, run by the Royal Institute for Deaf and Blind Children.

## **2.4 Appointment time**

The average appointment length was 2 hours and 37 minutes (range: 1 hour 43 minutes to 3 hours 15 minutes). A distinction is made between the communication that occurs in the audiometric testing phase of the appointment and the results dissemination phase of the appointment. Table 2.3 provides a breakdown of the overall time taken for each appointment and for each of the two phases.



**Table 2.3. Table shows duration of each phase of the appointment and the total appointment time (hours:minutes:seconds)**

Appointment	Outcome	Audiological Testing Phase	Diagnosis delivery Phase	Total Time
<b>A3</b>	Unilateral SNHL	01:49:53	00:24:20	02:14:13
<b>A5</b>	Normal Hearing	01:26:26	00:16:34	01:43:00
<b>B1</b>	Bilateral SNHL	01:54:31	00:45:29	02:40:00
<b>B4</b>	Normal Hearing	02:09:50	00:20:35	02:30:25
<b>B5</b>	Unilateral Mixed HL	02:26:04	00:44:56	03:11:00
<b>C1</b>	Bilateral SNHL	01:38:39	00:31:28	02:10:07
<b>C4</b>	Unilateral SNHL	02:24:27	00:50:33	03:15:00
<b>D2</b>	Normal Hearing	02:28:20	00:20:40	02:49:00
<b>D3</b>	Bilateral SNHL	02:15:51	00:46:09	03:02:00

## 2.5 Methodological framework

Quantitative analyses typically use a deductive approach that investigate phenomena and behaviours that are pre-determined. They are typically narrow in their approach and are testing particular hypotheses. In contrast, qualitative analyses typically use an inductive approach, where the phenomena, behaviour and theories are determined from the data (Creswell, 2003). This latter analysis also allows for a greater degree of depth of analysis than is often the case for a quantitative analysis.

Given that communication in paediatric audiology is an area that has not been evaluated extensively, a mixed methods approach was employed. A linguistic discourse analysis was used to describe the communicative behaviours that were observed and simple inferential statistics were used to look for significant differences in the behaviours of the individuals involved within the appointments (audiologists, mothers and fathers), when it was appropriate to do so. This quantitative analysis was primarily employed when looking the

numerous at utterance types across the whole appointment and with parental survey data. Statistical analyses could not be employed further given the small sample size.

### **2.5.1 Linguistic discourse analysis of the talk between audiologists and parents**

Discourse analysis refers to a number of qualitative methods for the empirical analysis of language in action. Discourse analysis as an umbrella term has four main features. These are: 1. talk is naturally occurring; 2. talk is understood in the context of the talk that occurs prior to it; 3. words may be understood by their non-literal meaning; and, 4. analysis is used to understand the actions and consequences achieved by the talk (Antaki, 2008). Included under discourse analysis are many methodologies, each with a different focus. The methods of discourse analysis primarily used in this thesis were Interactional Sociolinguistics (IS) (Gumperz, 1982), Systemic Functional Linguistics (SFL) (Halliday, 1994) and a general inductive approach (Thomas, 2006). IS and SFL allow us to analyse conversation in its wider socio-cultural context. IS is concerned with linguistic features such as turn-taking, content, pronoun use, disfluencies and hedging, and draws on the analyst's knowledge of the context when interpreting the data (Marra, 2012). SFL is concerned with what is going on (described by Halliday as Field), the social roles and relationships between the participants (described as Tenor), and the aspects of the channel of communication, e.g., monologic/dialogic (described as Mode). These analyses allow us to make observations about interactions that determine both what is being said and why the interaction occurs as it does. Such discursive methodologies have been used in multiple healthcare fields to describe patient-professional interaction (Pan, 2012). A general inductive approach to analysis of discourse allows for classification of themes and categories within the discourse. This strategy allows for classification of the data on semantic content, rather than pre-determined categories (Thomas, 2006).

Rigor in discourse analysis, and indeed any qualitative methodology, is determined differently to that of quantitative analysis. Rigor is determined by the degree to which the data is credible, dependable, confirmable and transferable (Tobin & Begley, 2004). Data that is credible accurately reflects the lived experience of the participants.

To achieve credibility, the methodology should be appropriate for the research question, data collection should be as unobtrusive as possible, and triangulation should be used during data analysis (Demuth, 2013). Each chapter of this thesis addressed a different research question and different research methods were therefore required to address them. In some cases, both qualitative and quantitative methodologies were used. Specific details are provided within each chapter. Data collection was as unobtrusive as possible. The audio-recordings of the clinical appointments were collected using a small voice recorder placed on a table on the side of the testing booth. The voice-recorder was activated by the audiologist running the appointment, and the researcher was not present. Data were triangulated using more than one methodological approach (both qualitative and quantitative analyses), and by using multiple related data sources. That is, the data consisted of the original audio-recordings of the appointments, the transcriptions of those recordings, the reflections of the audiologists, the responses of the audiologists during the focus group session, and the survey responses of the parents. Together, multiple sources of data provide a robust representation of the appointments under study (Iedema, 2007).

Dependability can be achieved through the use of multiple coders and transparency in the strategies used. Dependable analysis is such that multiple coders reach the same conclusions (Demuth, 2013; Seale & Silverman, 1997). In this research, all data were coded by the PhD candidate (RK) and a selection of more than 10% was independently coded by the adjunct supervisor (JM, an expert in discourse analysis). The few discrepancies in coding

were discussed and resolved. Checking occurred for other sections and 100% agreement was reached.

Data are said to be confirmable if the conclusions are evident from the data. Transcripts are presented alongside their interpretations allowing the reader to assess for themselves whether they agree with the researchers' conclusions. The presentation of transcripts is designed to demonstrate how and why things occur, rather than the frequency with which they occur (Demuth, 2013), although it can, in some instances, be useful to comment on the frequency to illustrate how 'typical' the data is (Seale & Silverman, 1997).

Transferability refers to the degree that the data set is representative of other similar contexts. In this case, the data may not be transferable. Inductive approaches, such as the one used here, seek to describe phenomena that are observed only in the narrow situation in which they occur, and as such, results cannot be generalised to other situations. However, we are confident that we have provided enough contextual information for readers to determine for themselves if the data applies to their clinical experience (Knudsen et al., 2012).

Other discursive methodologies, such as Conversation Analysis (CA) (Sacks, Schegloff & Jefferson, 1974) have been used in studies of clinical interaction in Audiology (Collingridge, 2009). CA is a methodology that analyses conversation on a turn-by-turn basis, using only the preceding turn for context. This method was deemed too restrictive for the current study. The use of SFL and IS allows us to view conversation in its wider socio-cultural context and allows us to make observations on wider influences on the conversation itself, such as the influence and negotiation of power within the interaction and across the audiological appointments as a whole.

Quantitative methods for evaluating clinical communication, for example the ROTOR/RIAS (Roter & Larson, 2002), have also been used in audiology. Whilst these

methods certainly have their place, they do not always capture the true intent behind utterances. For instance, the ROTOR/RIAS codes all minimal acknowledgements as agreements or positive talk, however discourse analysis shows that these can in fact be used to question or as passive resistance. Similarly, laughter in the ROTOR/RIAS is coded as positive talk, however in these appointments we found that laughter might in fact be nervous or awkward laughter, which is captured with discourse analysis (Ekberg, Meyer, Scarinci, Grenness, & Hickson, 2014).

#### *2.5.1.1 Selection and analysis of the linguistic data*

This section outlines the processes of the coding and analysis of the data using IS (Gumperz, 1982) SFL (Halliday, 1994) and a general inductive approach (Thomas, 2006). Analyses of the discourse consisted of multiple stages. The audio-recordings remain the primary data source, with the transcripts being a detailed representation of these. Audio-recordings were listened to periodically, to both inform the analysis and to check the analysis at each stage. Further, at each stage a proportion of the data was independently coded by both the researcher and a supervisor (JM), and then discussed to ensure agreement. For all analyses, illustrative quotes and excerpts are presented.

Firstly, the entire transcripts were coded with the move analysis (Slade et al, 2011) presented in Chapter 4. This allowed classification of every utterance type within the data based on the semantic content (question, statement and so forth). The definitions of each move type are shown in Table 5.2.

Following the move analysis, the entire transcripts were then coded to identify relational and transactional talk (Candlin & Roger, 2013; Coupland, 2000, 2003). Relational talk serves to build and maintain relationships (Coupland, 2003; Hudak & Maynard, 2011;

McCreaddie & Payne, 2014) and is critical in family centred practice. All relational talk was coded and grouped into relational strategies. These strategies were then grouped according to their effect on the power dynamics of appointments. The results of this analysis are presented in Chapter 5.

The delivery of the diagnosis is a critical stage in audiology appointments. The delivery of the diagnosis in all nine appointments was analysed in detail with IS (Gumpertz, 1982). This served to identify features and trends in the way the diagnosis was delivered to parents, and in the responses of parents to the diagnosis. A thematic analysis was also conducted to determine the topics raised by both audiologists and parents in the results dissemination phase of the appointment. The results of this analysis are presented in Chapter 6.

Finally, the data were again reanalysed to determine the presence of emotional expression. This analysis relied more heavily on the audio-recordings, due to the non-linguistic features of emotional expression, such as tone, pitch, rate of speech and so forth (Thompson, 2010). All instances of emotional expression were then grouped as direct (explicitly stated) or indirect (not explicitly stated), and whether they were parent initiated or audiologist initiated. The responses to these expressions of emotion were also grouped and analysed. Responses were found to be ‘continuers’, where further exploration of the emotion was encouraged or the emotion was stated, validated or normalised; ‘neutral responses’, which were acknowledgements or clarifying questions; and, ‘terminators’, where the emotion was not responded to and often the topic is changed. The results of this analysis are presented in Chapter 7.

A thematic analysis (Braun & Clarke, 2006) was used to analyse the results of the audiologist’s pre-study questionnaires, reflections and focus group contributions. A thematic analysis allows identification of patterns (themes) across data (O’Leary, 2004). Coding of the

data occurred within the NVivo (version 9) software. The thematic analysis was conducted using the steps outlined by Braun and Clarke (2006), that is, familiarising yourself with the data, generating initial codes, collating those codes into themes, reviewing codes and defining and naming the themes. This was performed by the researcher and discussed with her supervisor (JM) to ensure agreement.

### **2.5.2 Quantitative analyses**

Where required, simple inferential statistics (MANOVAs, ANOVAs and t-tests) were used to determine if significant differences existed between the behaviours of participants within appointments, and to comment on the frequency of occurrences of some communication strategies identified within the data. Statistical analyses was also conducted of the parent survey data. Further detail is provided in each chapter where quantitative analyses are used. Analyses were performed using IBM SPSS statistics version 24.

### **2.5.3 The researcher as an insider**

This study examined the communication in audiological diagnostic appointments from an insider's perspective. That is, the researcher is an audiologist with years of experience conducting the type of diagnostic appointment under study, and teaching Master of Clinical Audiology students how to conduct these appointments, with regards to both the testing and the communication. Insider-researchers are at an advantage when conducting qualitative research. Firstly, insiders share a language, culture and experience with the study participants. This can lead to faster acceptance of the researcher by the participants, and participants are typically more open with the researcher, allowing for richer data to be collected (Dwyer & Buckle, 2009). It is the belief of the researcher, based on the discussion and negotiation required to recruit participant audiologists, that this research would not have been able to be conducted had the researcher been an outsider. Certainly, the researcher's

insider role was a main motivation for conducting the research. Secondly, as insider-researchers share a culture with participants they are more aware of broader macro-influences on behaviour (Bonner & Tolhurst, 2002).

However, being an insider-researcher may lead to bias when analysing the data (Breen, 2007). It is therefore imperative that data is appropriately triangulated and evidence is viewed in the context of the individual appointment. The reduction of bias was ensured through the use of multiple data sources and cross-checking of data. Specifically, the focus group allowed the researcher to present her findings to the audiologist participants and determine if her conclusions were sound. The researcher's adjunct supervisor was also an 'outsider' to the researcher, being a linguist, not an audiologist, which allowed objectivity when coding and discussing the analyses. Parent survey results allowed the researcher some limited insight into the parent experiences and perceptions of these appointments and the audiologist reflections allowed some insight into the motivations of the audiologists in the study.



## Chapter 3 Information from supporting data sources

In this chapter, the information collected from the audiologist pre-study survey is presented, followed by the results of the parent surveys, and the results of the audiologist reflections and focus group. These data was used for triangulation.

### 3.1 Audiologist pre-study survey results

The four audiologists were asked to fill in a short survey prior to commencing the study (Appendix 4). The purpose of this survey was to understand the formal counselling training that they had received, their clinical experience, and their perceptions of the impact of UNHS on audiological practice. The demographic information is shown in Table 2.1 (Chapter 2). Their other responses are presented below.

*When you first began working in paediatric diagnosis, how prepared did you feel to deliver the diagnosis of hearing loss in a child?*

All participants stated they were not well prepared when they began working in this area. There was no further elaboration of the ways in which they felt unprepared.

*In your experience, how much and what type of information do parents want at the time of diagnosis of a hearing loss in their infant?*

In answering this question, there was consistency within the audiologists' responses. Audiologists reported parents wanting high quality written information, and information about causes of the loss, treatments for the loss, and how the loss will affect the child in the future. Audiologists also commented that each family is different and would require different responses. The audiologists also expressed concerns about each family's ability to retain information in the initial appointment.

*What do you feel are the main challenges you face as an audiologist working in the area of newborn diagnostic testing?*

Each audiologist reported experiencing different challenges. Below is a summary of each audiologist's response:

Audiologist A: "Definitely the main challenge is being able to 'read' how much the parents will be able to take in at the time of diagnosis and provide information in an easy to understand way."

Audiologist B: "Logistic problems-patients turning up late, babies not sleeping or moving too much in sleep."

Audiologist C: "Time! It's a race against time to get all the info you need while the baby is sleeping in one three-hour appointment. Giving a diagnosis of hearing loss is always a challenge."

Audiologist D: "Delivering a diagnosis of a significant loss and it's (sic) potential impact on a child's life. Ruining the parent's aspirations for their child."

*How do you think the field of paediatric Audiology has changed for audiologists since the introduction of newborn hearing screening?*

The audiologists stated that the field had changed dramatically, that diagnosing infants required many extra skills in testing, counselling and management. One also mentioned the complex diagnosis of Auditory Neuropathy Spectrum Disorder (ANSD) where the individual potential outcomes are largely unknown at the time of diagnosis.

*How do you think the field of paediatric audiology has changed for parents since the introduction of newborn hearing screening?*

Again, there was consistency within the responses, with audiologists concerned about the newborn period being a stressful time for parents and the potential for interrupting the bonding process and depriving the parents of having a 'perfect' child. They also mentioned

the positives, such as parents not wondering about other diagnoses (e.g. Attention Deficit Disorder, Autism) and knowing that they are doing everything to help their child from birth.

### **3.2 Parent Surveys Results**

Parents were asked to complete and return a survey directly to the researcher within 2 weeks of their appointment. Surveys and reply-paid envelopes were provided at the conclusion of the appointment. When both the mother and father attended the appointment they were provided with a survey each. The survey was based on the Audiologic Counseling Evaluation by English and Naeve-Velguth (2007) and can be found in Appendix 5 (used with permission, see Appendix 3). Table 3.1 shows the average scores for each question for both diagnostic outcomes (permanent hearing loss and normal hearing). Of 39 surveys distributed, only 14 were returned. No follow-up prompts were used to remind parents, as the researchers did not have contact details of the parents. This is a poor response rate. Five of the surveys returned were for appointments where a permanent hearing loss was diagnosed. The remaining nine were for appointments where the infant was found to have normal hearing.

Overall, the survey responses were overwhelmingly positive. All questions had an average score above 4, except for the following three questions, when answered by parents whose infant was diagnosed with a hearing loss:

*“Did the audiologist enquire about your child’s wellbeing?”* The average score as 3.8 out of 5.

*“Did the audiologist describe the test results briefly and simply?”* The average score was 3.8 out of 5.

*“Did the audiologist suggest a set of activities to consider between appointments (such as providing written material about hearing and hearing loss, keeping a log of your babies’*

*responses to sounds, or giving you a checklist of age appropriate listening behaviours)?”*

The average score was 3.2 out of 5. This question also had the largest range of responses (1-5 for both diagnostic outcomes).

A Multivariate Analysis of Variance was conducted to investigate the response pattern of the two groups across all survey questions. There was no significant difference between the groups (Wilk's  $\lambda = 0.153$ ,  $df=2,6$ ,  $p>0.05$ ).

Overall, the information gained from the surveys was limited, very few parents left comments. Amongst those who did, comments were all positive. What the survey results do suggest is that the parents attending this clinic were happy with the service they received.

The lack of information gained from the surveys adds to the justification of linguistic analysis of the data. It is clear that the survey data did not capture differences between the experiences of the two groups of parents nor does it capture the complexities of the communication identified in the detailed linguistic analysis.

**Table 3.1. Average score out of 5 (range) for each survey question, by audiological diagnosis.** 5 indicates yes/most positive, 1 indicates no/ least positive.

Question	Normal Hearing (N=9)	Hearing loss (N=5)
Did the audiologist greet you and your baby with a warm and welcoming manner?	4.6 (4-5)	4.8 (4-5)
Did the audiologist enquire about your child's wellbeing?	4.4 (3-5)	3.8 (3-5)
Did the audiologist arrange the environment well?	4.7 (4-5)	4.6 (4-5)
Did the audiologist make you feel comfortable?	5 (5)	4.6 (4-5)
Did the audiologist clearly explain the purpose of the appointment and what would be happening in the appointment?	4.8(4-5)	4.2 (3-5)
Did the audiologist ask you if you had any questions before they began the testing?	4.9 (4-5)	4.4 (3-5)
Did the audiologist explain what the testing involved?	4.8 (4-5)	4 (3-5)

Were you present for testing?	Yes	Yes
If you were not present for the test, would you have liked to be?	N/A	N/A
Did the audiologist explain the test results as they were acquired?	4.8 (4-5)	4.25 (3-5)
Did the audiologist begin with a 'warm up' comment such as "I know you have been anxious about the results of these tests" or "I have some difficult news for you"?	4.3 (2-5)	4 (3-5)
Did the audiologist describe the test results briefly and simply?	4.8 (4-5)	3.8 (3-5)
Did the audiologist wait for your response after telling you the test results?	4.7 (4-5)	4.2 (3-5)
Did you understand the test results?	4.8 (4-5)	4.4 (3-5)
Did the audiologist acknowledge your emotional reactions to the test results?	4.7 (4-5)	4 (1-5)
Did you feel comfortable reacting to the test results?	4.9 (4-5)	4 (2-5)
Did the audiologist allow you to set the pace for the discussion of the results?	4.5 (3-5)	4 (3-5)
Did the audiologist give you the information that you had asked for?	4.8 (4-5)	4.6 (4-5)
Did the audiologist specifically invite you to ask questions?	4.8 (3-5)	4.6 (4-5)
Did the audiologist check that you had understood what was being discussed?	4.8 (4-5)	4.4 (3-5)
Did the audiologist respond to both the content and the underlying emotional concern of your questioning?	4.8 (4-5)	4.4 (3-5)
Did the audiologist describe the steps that you need to take in the near future (scheduling follow up appointments and so forth)?	4.8 (4-5)	4.8 (4-5)
Did the audiologist suggest a set of activities to consider between appointments (such as providing written material about hearing and hearing loss, keeping a log of your babies' responses to sounds, or giving you a checklist of age appropriate listening behaviours)?	4.2 (1-5)	3.2 (1-5)
Did the audiologist appear supportive during the consultation?	5 (5)	4.6 (4-5)
Did the audiologist use appropriate body language during the appointment?	5 (5)	4.6 (4-5)
Did the audiologist convey compassion during the appointment?	5 (5)	4.4 (3-5)
Did the audiologist tailor the pace of the appointment to suit you?	4.8 (4-5)	4.2 (2-5)
Did the audiologist effectively manage the time available?	4.8 (4-5)	4.4 (4-5)

### 3.3 Audiologist Reflections

Audiologists were provided with the opportunity to write a reflective statement following each appointment (see Appendix 6). This was optional. The purpose of this was to allow the audiologist to explain any circumstances that would have affected the appointment, that were not evident from the recording, and to discuss their perceptions of the appointments. For the twenty-three recorded appointments, only six audiologist reflections were returned.

The reflective statement included potential prompt questions that covered what the audiologist considered went well, what could be improved, if they felt the parents understood and accepted the diagnosis and information provided, and finally if the audiologist felt they were able to effectively attend to the parent's needs. Within the reflective statements, the audiologists primarily commented on the parent's ability to understand the results and their own ability to attend to the parent's emotional needs.

For example, the following comments were made when audiologists were asked if they considered the parents understood the diagnosis:

Appointment B7: "I was concerned that Dad would take away only what he wanted to hear, whether it was good bits or bad. So I iterated and reiterated the results and what they meant."

Appointment B5: "Both were okay with questioning me on the results, and seemed on the ball with what they asked."

Appointment C1: "I believe I provided adequate information for Mum – it's a fine line between answering all possible questions and providing so much information they feel bombarded."

With regards to responding to the parents' emotional needs, the audiologists expressed doubt over their ability to do this effectively. For example, the following were responses to the survey question: Do you think you were able to effectively attend to the emotional needs of the parent?

Appointment C3: "Perhaps I would have tried to calm the father a little prior to testing (he was a bit anxious) but you also don't want to give false hope."

Appointment C2: "I hope so!"

Appointment B7: "No. I am not easily able to run the assessment and chat at the same time, but this is what Dad seemed to want. Mum was pretty calm though."

The above comments indicate that the audiologists attempted to consider the needs of the individual parents within the appointments for information provision and emotional support. Individualised communication and support are critical aims of family-centred practice (Mead & Bower, 2000).

### **3.4 Focus group results**

A 2.5-hour focus group was also run on February 7<sup>th</sup> 2012, in which all four audiologists participated. During the focus group, the audiologists were provided with excerpts of the transcripts and results of preliminary analyses and asked to discuss them. This session was audio-recorded and transcribed in full and analysed for themes using a thematic analysis as outlined by Braun and Clark (2006). This began with, generating initial codes, collating those codes into themes, reviewing codes and defining and naming the themes. This was performed by the researcher and discussed with her supervisor to ensure (JM) agreement.

The following six themes emerged from discussions during the focus group session:

1. Concerns about parent understanding of results;
2. Awareness of other stressors of new parenthood;
3. Concern about providing appropriate emotional support;
4. Concerns about their own limitations;
5. The need to give parents control over what is discussed and when; and,
6. Competing demands of the appointment. Examples of each theme are provided below.

### ***1. Concerns about parent understanding of results***

Audiologist A: "You get the parents who say they haven't been given the information when in fact they have been given the information... Well because they are thinking "my baby's deaf my baby's deaf my baby's deaf""

Audiologist D: " 'Cause we are already good at going "this is how it all works" but then we go, and you know they are not taking much on board you can just see that they really get- they want me out of the room"

Audiologist C: " 'Cause you can't think of something straight away, if you get bad news you'll usually just blank for a bit won't you"

### ***2. Awareness of other stressors of new parenthood***

Audiologist A: "I just wonder whether we are putting too much on the parent at that stage anyway because they are going home, they've got a new baby, they have to learn how to look after that baby, they're often don't have an extended family so they are having to deal with all that and then now they are having to deal with the hearing loss as well"

Audiologist D: "And you put on top of that sleep deprivation, and you get Mum's feeling not on top of it anyway maybe, might have a bit a bit of post-natal depression so it's even worse."

Audiologist D: "All mothers blame themselves, rule number 1."

Audiologist A: "I think probably what's important at that stage when they leave us is to keep on carrying on with what they were doing so that they can get that bond established. "

### ***3. Concern about providing appropriate emotional support***

Audiologist D: "But will they be getting the emotional backup support that they need, like at the point of diagnosis we've ruined their day, their month, their year, that's when they're out there sometimes trying to get their head above water and not necessarily-"

Audiologist C: "Well that lady the other week with the nothing, they think she has no auditory nerves, already as well and we got nothing in the test. So she said "so could this be wrong?" so I said "well it's a bit unlikely" um, what else should you say? What are you going to say?"

Audiologist C: "I would say it is not particularly an appropriate response, because, well I guess the mother is saying I am shocked and I wasn't expecting anything to be wrong and the audiologist is answering with something completely different."

Audiologist D: "And you were hoping that that first comment, the technical one is going to be reassuring, but when you read it back you go "Oh! It's not reassuring!"

### ***4. Concerns about their own limitations***

Audiologist D: ""It's only a unilateral loss" and I didn't mean it to come out that way."



Audiologist B: "It's easier to ask parents how they are going if they are okay."

Audiologist C: "Yeah, I don't think I could see myself saying that. I don't know".

Audiologist B: "I wouldn't have been confident that I would have been able to give them advice on how to manage it though."

### ***5. The need to give parents some control***

Audiologist A: "I think that we have to put the control into their court, whereas we control the start of the whole process, they should control the second part of the process, post diagnosis, 'cause we don't know really how they are feeling 'cause they're not telling us. So we just need to wait and see what they say."

Audiologist B: "Making it as comfortable for the parents as possible (all yep) keeping them as part of the process even if they are not that interested or don't really understand what you are doing."

Audiologist A: "And then you are expecting them to say well I took blah blah blah and then you start a conversation from that. So your whole reason for doing that is so that you can make them open up to you so that you don't have to do all the talking."

### ***6. Competing demands of the appointment***

Audiologist D: " 'Cause I think at that stage the audiologist is also stressed"

Audiologist C: "Yeah, [pathology] closes at 4.30 and then we are stuffed, it gets complicated."

Audiologist B: "We are time limited if you have taken up most of your appointment to get a result, then there's really, you've got to basically make sure that there is then time to do all the other things that the parents have to do straight away, understand what you are saying, get the appointment for them, get urine tests done, it doesn't give you much time to see how they are going."

Audiologist D: "It is true, our comfort zone, and to some extent we have three or four hours and we know we have to get all of this information the orange book, the blue book, the appointments made and dah dah dah dah dah we know we've got so much to give them."

**Overall, the results of the reflections and the focus groups showed that the audiologists were very concerned about involving the parents in the appointments, presenting information in a way that parents could understand and supporting parent's emotional needs. Again, these are critical elements in family-centred practice (Mead & Bower, 2000) and show a desire of these audiologists to act in a family-centred way. The audiologists were also concerned with**

their own abilities and limitations, perhaps judging their own abilities more harshly than the parents do, as evidenced by the parent survey responses. Providing audiologists with better training in counselling and communication could increase their confidence in their own practice.

As a result of their participation within this study, the audiologists decided that they would change their practice to include a second appointment with the family whenever a permanent hearing loss is diagnosed. This would allow them to better support the emotional needs of the parents during the initial appointment and prioritise the information parents requested, without the competing pressures of needing to convey all technical information in a short timeframe. The second appointment would also allow them more time to reiterate important information when the parents have had time to consider the diagnosis and formulate questions, and provide a point of contact between the diagnosis and the appointment with Australian Hearing (within two weeks of the diagnosis). This again demonstrated the audiologists' commitment to family-centred practice.

### **3.5 Conclusions from supporting data sources**

The supporting data sources identified that whilst the audiologists all had many years of paediatric clinical experience, they had received little formal training in counselling. They all stated that they felt underprepared to deliver the diagnosis of hearing loss to parents when they began working in this field, and that the introduction of UNHS had changed their practice dramatically, requiring the development of specialist testing and counselling skills. They expressed concerns over their abilities to manage parent reactions to the diagnosis and provide parents with the high quality information they needed. The themes that were identified from the focus group suggest that the audiologists were family-centred in their

approach to these appointments; however, they were simultaneously attempting to manage multiple sources of pressure, which can lead to conflicting demands on their practice.

The results of the parent surveys revealed that overall, parents reported positive experiences with the diagnostic appointment which, as mentioned above, did not capture the complexities of the communication that were identified in the detailed analysis of the talk.

## Chapter 4. Communication in Paediatric Audiology

### Appointments

#### 4.1 Abstract

**Objective:** Family-centred care relies on a more equal level of communication between families and professionals compared with a medical model of service delivery (Goodyear-Smith & Buetow, 2001). Currently no linguistic studies of communication between audiologists and the parents of infants exist in paediatric diagnostic audiology appointments and, while recognised as important, it is unclear whether effective communication is achieved in paediatric audiology clinics. Therefore, the aim of this study was to describe the communication between parents and audiologists qualitatively, during a limited number of diagnostic appointments, following referral from the New South Wales (NSW) state-wide newborn hearing screening program. Contributions from each participant (including the audiologist, mother and father) during the appointments were evaluated, focussing on the types of utterances (e.g. statements, questions) and the depth of communication (initiating conversation vs. responding), which could provide an indicator of the level of family-centred care provided during audiological appointments in the Australian context.

**Design:** This is a descriptive, mixed methods study. The results were analysed using a qualitative linguistic move analysis, adapted from Eggins and Slade (1997) and Halliday (1994) that allows for classification of the types of utterances (moves) that were made and by whom. Then a systematic classification of move types was used to determine the depth of participation of mothers, fathers and audiologists; (a) before and (b) after the delivery of the diagnosis. Simple inferential statistics (t-tests and one-way ANOVAs) were used to indicate the strength of the qualitative results. Twenty-three infant diagnostic appointments were

audio-recorded at a specialist audiology clinic in a large metropolitan hospital in Sydney, NSW. The current study comprises an in-depth analysis of nine of these, and includes all appointments where a diagnosis of permanent hearing loss occurred (three bilateral, three unilateral) and three where normal hearing was found. This enabled sufficient depth of linguistic analysis to show differences in the participation rate of audiologists, mothers and fathers, although it does not allow for generalisation of these results. The mother was present in all nine appointments, whereas the father was present in six.

**Results:** Mothers and audiologists were found to have made a similar number of moves (average: 285.2 and 350.1 respectively), whereas fathers made significantly fewer moves (average: 45.8) throughout these appointments. Prior to the delivery of the diagnosis, in the audiometric testing phase, the mothers' moves were typically varied and included both initiating and responding moves. However, following the delivery of the diagnosis, in the results dissemination phase, mothers' moves became primarily responding moves (particularly acknowledgements), signalling a change in the level of participation. No such change was seen in the audiologists' contributions. When a hearing loss was diagnosed, few questions were asked during the results dissemination phase by any of the participants (average: 6.8 by mothers, 4.5 by fathers and 10.3 by audiologists). This indicated limited engagement in the process of communication by mothers and fathers during this phase, and suggested that audiologists were not evaluating parent understanding. Overall, audiologists asked the majority of questions and made the majority of statements during all appointments.

**Conclusions:** In this study, mothers made a similar number of moves compared to audiologists during the audiometric testing phase, suggesting similar levels of engagement or participation between these two groups. However, during the results dissemination phase, the change from making varied utterances to making mainly acknowledgements showed a marked decrease in the level of engagement by mothers and suggests that there was little

depth in the level of the mothers' participation. By offering acknowledgements in response to an audiologist's utterances, parents appeared to forfeit their turn to speak which encouraged audiologists to continue talking. Audiologists and mothers made similar numbers of utterances, whereas fathers made significantly fewer. This suggests that audiologists may need to encourage parent participation more actively, particularly that of fathers, by asking more open-ended questions and providing space for parents to talk during appointments, or by offering a follow-up appointment to give parents time to reflect and consider what information they need. This study uses an evidenced-based method of analysing the talk within paediatric diagnostic practice, which can be used to assist audiologists to reflect upon their own clinical practice and will lead to other similar qualitative studies of communication in audiology.

## 4.2 Introduction

In Australia, approximately one in 1000 infants are diagnosed with a significant bilateral permanent hearing loss within the first six weeks of life (Health Outcomes International, 2001). Prior to the introduction of Universal Newborn Hearing Screening (UNHS), the mean age of diagnosis and hearing aid fitting was 2.5 years of age. Diagnosis followed behavioural signs of hearing difficulty often identified by parents, such as not turning towards a loud noise (Harrison & Roush, 1996), whereupon parents sought audiological assessment to address their concerns. As the diagnosis of a hearing loss in infancy usually occurs in the absence of specific signs or symptoms, it is often unexpected and parents' responses to the diagnosis may be emotional (Russ et al., 2004). Certainly, within Australia, there is an absence of educational programs which enable audiologists to develop the skills to manage this complex interaction. Yet skills in managing the frequently expressed emotions of grief and loss experienced by many parents who have a baby diagnosed with hearing loss, could assist in reducing parental anxiety and increase compliance towards early intervention and management (Sjoblad, Harrison et al. 2001; ASHA, 2008).

Good communication between parents and professionals is critical for optimal health outcomes. Research within the field of medicine has consistently shown that good communication leads to better patient outcomes (Stewart, 1995), better adherence to management strategies and treatments (Haskard Zolnierrek & DiMatteo, 2009) and greater patient satisfaction (Ha & Longnecker, 2010). These findings have also been observed in audiological studies, with good communication leading to better adherence to management programs (Sjoblad, Harrison, Roush, & McWilliam, 2001) and better information recall (Watermeyer, Kanji, & Cohen, 2012). Within audiology, and as a result of the UNHS

program, the diagnosis of hearing loss often occurs within the first few weeks of life, before any behavioural signs of hearing loss are evident. This, arguably, leads to many parents experiencing shock and grief if the diagnosis is of permanent hearing loss. As a result, parents may be reluctant to communicate actively following the diagnosis of a hearing loss in their infant. As they experience emotional reactions to the diagnosis, parents may withdraw rather than engage with audiologists to the benefit of their child. It is necessary for the audiologist delivering the diagnosis to recognise when this occurs and provide appropriate support, through effective communication. When people are highly emotional, they are limited in their ability to process and remember new information (Margolis, 2004). Audiologists may want to provide information to parents; however, it is necessary that they first respond appropriately to parents' emotions. Doing this effectively can increase recall (Jansen et al., 2010). It is therefore important that audiologists have the necessary communication skills to manage these conversations and recognise the elements of parental communication that signal their level of engagement.

While audiologists aim to deliver family-centred care (also called family-focused care), which has been shown to lead to improved outcomes and greater adherence to rehabilitation (Grenness et al., 2014b; Sjoblad et al., 2001), practical methods of how to deliver family-centred care are not well defined within the audiological literature (Grenness et al., 2014b). There have been notable attempts to define it for different areas of audiological practice (Grenness, Hickson, Laplante-Lévesque, & Davidson, 2014a; Moeller et al., 2013) as well as in other, related medical and allied health, disciplines (for example (Harrison, 2010; American Academy of Pediatrics, 2012; Shields, Pratt, & Hunter, 2006). Whilst many definitions exist, central to all definitions are shared decision-making and family/provider partnerships. These partnerships are formed and negotiated through open communication between the family and the professional. That is, what health-care professionals say, and the



way in which they say it, influences the relationships they form with our clients (Candlin & Roger, 2013).

Therefore, given the benefits of good balanced communication, the aim of this study was to examine in detail the communication during a limited number of paediatric audiology appointments by qualitatively evaluating the communication of each participant (audiologist, mother and father) during these appointments. The state of New South Wales in Australia provides a good location for evaluating communication between parents and audiologists because all babies who do not pass UNHS are referred to one of only three central diagnostic clinics within major paediatric hospitals. As these paediatric audiologists are only diagnosing hearing loss in babies and young children, they rapidly develop expertise within this field.

In this paper, the focus is on utterances that initiated conversation and signalled engagement, such as asking questions and making statements, and those that were responsive and signalled a more passive role, such as answering questions and providing acknowledgements. By describing communication in this way we can determine if the communication was equal in these appointments or if the communication was directed by particular individuals.

### **4.3 Methods**

Twenty-three audiology appointments were audio-recorded at an Australian metropolitan children's hospital audiology clinic between June-September, 2010. All infants included in this study were referred for diagnostic testing after referral from Automated Auditory Brainstem Response (AABR) screening conducted in the UNHS program. Nine of these appointments form the basis of this study. Those selected include all appointments in which a diagnosis of sensorineural hearing loss (SNHL) was delivered: three bilateral SNHL, and three unilateral hearing loss (mixed or SNHL); and a random selection of three of the

remaining 14 appointments in which a diagnosis of normal hearing was delivered. The nine appointments were included in the final analysis and transcribed in full. This number was deemed sufficient for the depth of analysis that took place and is in line with similar linguistic studies of professional-patient interaction (Ferguson & Elliot, 2001; Leahy, 2004; Lehtinen, 2013; Togher, 2001). We refer to cases where a permanent hearing loss was diagnosed as ‘a positive result’, and to those where normal hearing was diagnosed as ‘a negative result’. Audiologists were encouraged to provide a reflection following the appointments and they participated in a focus group following preliminary data analysis. In this session, transcript excerpts were discussed and the audiologists could discuss the scenarios and comment on the discourse. Parents were also asked to fill in a questionnaire (Appendix 5) following the appointment, the results of this are presented in Chapter 3. The data were comprised of four related data sources, the audio-recordings, the transcripts of these, the audiologist reflections and the focus group. Together these form a robust representation of the appointments under study.

#### **4.3.1 Participants**

The appointments were conducted by four paediatric diagnostic audiologists all with over 6 years of experience (mean 15 years). Three of the audiologists were female, one male. Given the centralised way that newborn hearing screening is conducted in New South Wales in specialist hospital-based clinics, this represents around one third of the infant diagnostic audiologists working at the time of data collection. Children diagnosed with permanent hearing loss are then referred to the federal government’s hearing healthcare organisation, Australian Hearing, for device fitting and management. Therefore, only a relatively small number of paediatric audiologists are employed within these specialist clinics throughout Australia, and hence the limited number of paediatric diagnostic audiologists available for the study.

Parents were invited to participate in the study at the time of appointment booking by an audiologist. Consent was re-established at the time of the appointment. The study was approved and conducted under the ethical oversight of the hospital Human Research Ethics Committee and Macquarie University's Human Research Ethics Committee. Both the mother and father were present in six of the appointments, whereas three appointments were attended by the mother only. All participants were native English speakers.

### **4.3.2 Analysis**

This is a mixed methods study using a qualitative move analysis combined with a simple quantitative analysis using simple inferential statistics.

#### *4.3.2.1. Qualitative Analysis*

A qualitative move analysis, a methodology of Systemic Functional Linguistics (SFL) (Halliday, 1994) was performed. This move analysis was adapted for the current study from those described by Eggins and Slade (1997) and Halliday (1994). The move analysis allowed us to classify what utterances occurred during these appointments. Moves are defined by Halliday (1994) as discourse units, which may be made up of single, or multiple clauses. The end point of a move indicates a possible point where the speaker *can* change, without this change being seen as an interruption. However, the speaker does not always change following a move. A single speaker may make multiple moves in sequence before the speaker changes. The final move code used in this study was based on that developed for healthcare contexts (Slade et al., 2011) and is shown in Appendix 7. Definitions and examples of each move type identified are outlined in the results section in Table 4.2.

A move analysis allows for the development of a move code structure based on the moves observed. This was deemed more appropriate than attempting to apply a developed coding strategy, such as the Roter Interaction Analysis System (Roter & Larson, 2002),

because this detailed qualitative analysis enables us to understand how audiologists managed the communication process involved in delivering the diagnosis of hearing loss to parents, and how the information was organised (Iedema, 2009).

The coding of moves was performed by researcher RK, and a random sample of 10% was re-coded and cross-checked by a fellow researcher. There was 100% coding agreement between the researchers.

Notes on transcription - Interactions have been transcribed using Standard English spelling. Interactions were transcribed without standardisation or editing. Non-standard spellings are used when they are needed to capture idioms or idiosyncrasies (e.g. ‘gunna’). Most punctuation used in the transcripts is Standard English however = = indicates simultaneous talk.

#### *4.3.2.2. Quantitative Analysis*

Simple inferential statistics (t-tests and one-way ANOVAs) were used to determine the strength of qualitative conclusions and to determine if differences between participant utterances were significant. All analyses were conducted using SPSS.

#### **4.3.3. Appointment structure**

All appointments followed the same broad structure with two distinct phases, each having defined activities. These were: the audiometric testing phase and the results dissemination phase. In the audiometric testing phase, case history information was gathered, preliminary testing was performed (otoscopy, tympanometry and otoacoustic emissions testing), and the infant was prepared for Auditory Brainstem Response (ABR) testing. The infant was settled to sleep by the parents and the ABR testing began. The results dissemination phase began with an indication that testing was finished (e.g. “We’re all

finished up now so I'll go through the results with you" *Appointment C1*), followed by the delivery of the results and discussion of the implications of the results and management.

Analysis was performed on all nine appointments as a whole, then a separate analysis was performed on the two different diagnoses (normal hearing and hearing loss) in the results dissemination phase.

The average appointment length was 2 hours and 37 minutes (range: 1 hour 43 minutes to 3 hours 15 minutes). Table 4.1 provides a breakdown of the overall time taken for each appointment and for each of the two phases.

**Table 4.1 Appointment time for each appointment. (SNHL-sensorineural hearing loss). Time in (hh:mm:ss)**

Appointment	Outcome	Audiometric Testing Phase	Diagnosis Delivery Phase	Total Time
<b>A3</b>	Unilateral SNHL	1:49:53	00:24:20	02:14:13
<b>A5</b>	Normal Hearing	01:26:26	00:16:34	01:43:00
<b>B1</b>	Bilateral SNHL	01:54:31	00:45:29	02:40:00
<b>B4</b>	Normal Hearing	02:09:50	00:20:35	02:30:25
<b>B5</b>	Unilateral Mixed HL	02:26:04	00:44:56	03:11:00
<b>C1</b>	Bilateral SNHL	01:38:39	00:31:28	02:10:07
<b>C4</b>	Unilateral SNHL	02:24:27	00:50:33	03:15:00
<b>D2</b>	Normal Hearing	02:28:20	00:20:40	02:49:00
<b>D3</b>	Bilateral SNHL	02:15:51	00:46:09	03:02:00

#### **4.3.4 A framework for analysis of talk**

This section begins with a discussion of the different types of moves that were identified, a definition of each is provided in Table 4.2. We then provide examples from each from the transcripts. The moves were identified based on the framework provided by Slade et al., 2011.

There were two broad groups of move types: initiating moves and responding moves. Initiating moves were used to begin a conversation, change the course or topic of the conversation and include questions, statement and commands. Responding moves generally followed an initiating move and included answers, tracking, responses, acknowledgements and backchannels. Initiating moves set up an expectation that a responding move will follow, for instance, questions are generally followed by answers, and statements are often followed by an acknowledgment. Each transcript is labelled with the appointment code and speaker.

Talk directed at the baby was so frequent that a category was developed to capture this.

**Table 4.2 Coding definitions for each utterance type.** Modified from Slade et al., 2011.

<b>Move Structure</b>	
<b>Initiating moves</b>	
Questions	Demand factual information; demand opinion; request action
Closed	Prompts only yes/no answers; does not allow for elaboration; <i>not</i> clarifying/confirming/checking
Assumptive	Narrows the field of responses able to be provided; leading questions; reveal supposition of the speaker
Open	Do not narrow the field of responses; seeks information only the receiver knows
Command	Demand action
Statement	Provide factual information; provide attitudinal/evaluative information
Hearing	Main topic related to hearing
System	Procedural talk; testing; hearing health care processes
Baby	Talk about the baby not covered in hearing or system
Emotion	Direct and indirect statements of emotion. Direct statements include the emotion. Indirect statements determined by suprasegmental information and tone.
General	Topic not covered in other classifications; rapport building; small talk
<b>Responding moves</b>	
Answer	Provide information on demand
Tracking	Check; confirm; clarify
Respond to track	Provide information following tracking
Acknowledgements	Indicate knowledge of information; greater energy/higher tone
Backchannels	Used to maintain the flow of conversation; lower energy/falling intonation
<b>Talk directed to baby</b>	Talk where the baby was the intended recipient of the utterance; determined by tone/content

#### 4.3.4 Initiating Moves

The following initiating moves were identified: Questions, Statements and Commands, and examples of each are given below.

##### 4.4.1.1 Questions

For an utterance to be coded as a question, it needed to be a substantive request for information. Questions were distinct from requests for confirmation or elaboration, which were coded as tracking (see below). They were also distinct from acknowledgement stated with a questioning intonation (e.g. “right?”) (see below). Three question types were identified. Closed questions were questions that prompt a yes/no answer and did not allow for elaboration. These were distinct from requests for confirmation or elaboration, which were coded as tracking (see below).

1. “Does she sleep on her side?” *A3 audiologist*
2. “If you need food or coffees or something, do you know where the café is downstairs?”  
*B4 audiologist*
3. “Is your partner at work today?” *C1 audiologist*
4. “Okay. Did he have any special medication or anything when he was there?” *D2 audiologist*

Assumptive questions were questions that narrowed the field of responses that the parents can provide (Slade et al., 2015). They may be phrased as a statement, however rising intonation on the last word indicated that they were a question. They were used as a reassurance that the speaker had the correct information, and frequently elicited agreement. Audiologists frequently used assumptive questions.



5. "The other thing is you've obviously been on the internet?" *A3 audiologist*
6. "And he was a well boy when he was born?" *A5 audiologist*
7. "Um, she's going to have surgery - the first surgery what around three months?" *B5 audiologist*
8. "And um there was no family history of hearing loss or anything was there?" *C1 audiologist*
9. "That's good. She seems to soothe to your voice as well?" *C1 audiologist*
10. "He had some jaundice when he was born, didn't he?" *C4 audiologist*
11. "And, your eldest son, he's just at the local school there?" *D2 audiologist*

Open questions, in contrast, were those that do not narrow the field of responses and seek information that only the receiver knows. They do not reveal any supposition of the asker.

12. "And, how are the boys coping?" *A3 audiologist*
13. "How do you think he's responding to sound at home?" *D2 audiologist*
14. "It's moderate, so what's that mean like?" *B5 mother*
15. "How are you managing?" *B4 audiologist*
16. "So what can we do to fix-" *C1 mother*

#### 4.4.1.2 Statements

A statement was defined as an expression of factual information or attitudinal/evaluative information. Statements were further categorised by their topic. These topics were as follows: 1) general statements, 2) statements about the baby, 3) statements about hearing, 4) statements about the system (including the hospital procedures and the hearing healthcare system) and, 5) statements of emotion. In cases where statements were made that crossed two topics they were coded by the following hierarchy: emotion, system, hearing, baby, general. For example, if a statement was made about the baby's hearing, it was coded as 'hearing'. If a statement was a general statement about the baby, it was coded as

‘baby’. In this way, only truly general statements were coded as ‘general’, and all emotional statement were coded as ‘emotional’.

### *General statements*

General statements were used to make small talk and develop rapport.

17. “Oh, she'll get sick of the novelty pretty soon.” *A5 audiologist*
18. “If you need a coffee the cafe will be open for a little while yet.” *B1 audiologist*
19. “The boys and girls are just as whingey as each other when they get whingey.” *B1 audiologist*
20. “I was out there this time of year about - must have been about five, six years ago - I was camping out down at Menindee.” *D2 audiologist*

### *Statements about hearing*

Statements about hearing were any statements that related to hearing.

21. “So that’s telling me, when I put all the results together, that she has got a permanent hearing loss in that left ear.” *A3 audiologist*
22. “He’s not going to get grommets 'cause his middle ears are very normal.” *A5 audiologist*
23. “It’s, it’s more a permanent loss.” *C1 audiologist*
24. “We’ve got the high pitch mum and that’s all within the normal range so that’s good.” *D2 audiologist*

### *Statements about the system*

Statements about the system were classified as any statements which were related to the procedural aspects including readying the baby for testing, the testing itself, follow-up appointments, hearing health care processes and so forth.

25. "We can wait for her... We don't have a long way to go anyway." *A3 audiologist*
26. "Of course we will provide you with information on all of those sorts of things." *A3 audiologist*
27. "I'll just get, while that's running, I'll just get that other piece of equipment we need too." *A3 audiologist*
28. "Okay. I'm not going to put the stickers on until he's asleep, 'cause otherwise they're going to fall off all the time, it's going to be a real nuisance." *A5 audiologist*
29. "He'll end up with some red marks where I have been scrubbing here." *B1 audiologist*
30. "So yeah, the test can - I think I told you on the phone - the test can take a few hours just sort of depending how well she sleeps, um but it will, you know, take us at least an hour and that would be a quick test you know. It's going to take a few probably." *C1 audiologist*

#### *Statements about the baby*

Statements about the baby included any statements made about the baby that did not pertain to the baby's hearing or the system.

31. "Oh, goodness me. When she moves, she moves." *A3 mother*
32. "Well considering I'm sandpapering his head he's not too worried." *B1 audiologist*
33. "He's a gorgeous boy." *D4 audiologist*

#### *Statements about emotion*

Statements about emotion were classified here as direct and indirect statements of emotion. Direct statements referred to emotion explicitly as in the following examples:

34. "Don't blame yourself for this at all." *C1 audiologist*
35. "I know it's difficult for you as a parent, but for him, it's not going to worry him at all."  
*B5 audiologist*
36. "News like this, sort of, is upsetting because it throws you, sort of, unknowingly - we always have these preconceptions about what your kid's life's going to be like. Then at two weeks old, you're told that there's something wrong, okay then? That's hard to take and it's devastating to some extent. Okay? And how you're feeling is entirely how you're supposed to feel, okay?" *D3 audiologist*

Indirect statements of emotion were coded as those where an emotion was not directly stated, however it was alluded to.

37. "That's the reason when something goes wrong you start going 'did I do this, did I do that, what'd I do?'" *B1 mother*

In the above example (37), the mother questioning whether she had caused a problem is likely indirectly talking about feelings of guilt and blame. As stated above, statements were coded by the main topic, such that a statement about the baby's hearing was coded under the topic of hearing, rather than the topic of baby. However, indirect emotional statements were given two topic codes. In the following example (38), the mother was making a comment about the baby, however she was also making inexplicit reference to the difficulties experienced with the pregnancy, birth and subsequent health issues. This statement was coded as both a statement about the baby and a statement of emotion. However, for the move counts discussed below, it was only counted once, as a statement about the baby.

38. "So I'm, I'm yeah, and *because he's been so sick* - usually, I hold him up for a little bit."

*C4 mother*

#### 4.4.1.3 Commands

Commands were direct orders for action.

39. "Now bring that closer to you." *A5 audiologist*

40. "Watch your step there." *D3 audiologist*

Commands often included politeness strategies as seen in the following examples. First, commands were sometimes framed as requests ("If you can") and second, minimisers were often used ("just" and "try").

41. "If you can just put your - try not to move though because it makes noise." *A3 audiologist*

42. "I'll just get you to hold that with one finger there." *B5 audiologist*

#### 4.4.2 Responding moves

Responding moves generally followed initiating moves and included answers, tracking, responses, acknowledgements and backchannels. Each are described below with examples provided.

##### 4.4.2.1 Answers

Utterances were coded as answers when they came in response to a question.

43.

Audiologist: “Is he better with a little blanket on him or something? Would that make him feel more like he should be sleeping?”

Mother: “Yeah, we can try I guess. I’ll just get one. Normally – he doesn’t be wrapped, but I’d normally tuck him in pretty tight.”

*Appointment A5*

#### 4.4.2.2 Tracking and responses

Tracking referred to utterances that were designed to check, confirm or clarify.

Tracking could follow answers to questions to elicit more information, or could follow statements. Utterances were coded as responses when they followed tracking.

44.

Audiologist:	“Now, when you were pregnant everything was okay?”	Closed assumptive question
--------------	--	----------------------------

Mother:	“Yep.”	Answer
---------	--------	--------

Audiologist:	“You were well?”	Track
--------------	------------------	-------

Mother:	“Yep. No dramas.”	Respond to track
---------	-------------------	------------------

*Appointment A3*

45.

Audiologist: "Have you got a dummy for her?" *Closed Question*

Mother: "No." *Answer*

Audiologist: "She doesn't take it?" *Track*

Mother: "Nope." *Respond to track*

*Appointment B4*

46.

Mother: "Then, we've just had these other - he did really well.  
When he came out, he did respiratory wise, better than  
==

Audiologist: "Yeah, wow." *Backchannel*

Mother: == my other little boy did really well."

Audiologist: "Yeah." *Backchannel*

Mother: "As they all tell me now, the weeks following is when..." *Statement about baby*

Audiologist: "When things start showing up, yeah?" *Track*

Mother: "Yes, with this and with that." *Respond to track*

So, he's been through a lot." *Statement about baby  
(indirect statement of  
emotion)*

Audiologist: "Yeah, like twins isn't tricky enough already hey?" *Track*

*(Recognise indirect  
statement of emotion)*

Mother: "No that's right, yeah. It's been a long road." *Respond to track*

*Appointment C4*

#### 4.4.2.3 Acknowledgements and Backchannels

Acknowledgments and backchannels fall under the broad category of minimal tokens. In the data, they included utterances such as ‘mm-hmm’, ‘yeah’, ‘okay’, ‘right’ and ‘good’. Backchannels helped to maintain the flow of conversation, signal engagement by the listener and encourage the speaker to continue. Acknowledgments had a similar function however they also signalled agreement with the speaker (Dushku, 2010; Lambertz, 2011). The distinction between backchannels and acknowledgments was not always apparent when looking at content, for instance the words *right* and *okay* could both function as either acknowledgments or backchannels. Backchannels and acknowledgments differed in their tonal quality, with acknowledgments having greater energy, and often a higher tone. Backchannels had lower energy, tone and sometimes falling intonation (Wichmann, 2015).

Acknowledgments and backchannels were not included as separate moves when they occurred at the beginning of a turn. For example, the following utterance was coded as a single move even though it began with okay as an acknowledgement.

47. “Okay. Now, who would like to hold onto (baby)...?” *B5 audiologist*

#### 4.4.3 Utterances to the baby

During these audiological appointments, many of the utterances were directed towards the baby. The utterances towards the baby were so frequent that they warranted a specific category for coding.



48. "Shh lovely big bonny boy." *D2 audiologist*
49. "It's okay, and then I'll stop hassling you." *D3 audiologist*
50. "I know this is yucky and goopy. And it's cold too. There we go. Finished with the yucky goop." *B5 audiologist*
51. "You don't look tired to me." *A5 audiologist*
52. "Oh, did you? Giving your mummy grief? You have beautiful eyes, don't you? I'll have a little look in your ears." *C1 audiologist*

## 4.4 Results

In this section, the analysis of the numbers of moves made by each person who contributed to the appointment is then presented, followed by a discussion of communicative engagement of participants in the appointments, with further illustrative excerpts from the transcripts.

### 4.4.1 Statistical analysis of the frequency of move types across appointments.

A one-way ANOVA showed a significant difference in the average number of moves spoken between groups ( $df = 2, 21, F = 14.498, p = <0.001$ ). There was a significant main effect of move and participant type. On average, fathers made less moves than audiologists (mean = -304 moves per appointment [CI: -455, -153]) and less moves than mothers (mean = -239 moves per appointment [CI: -390, -88]).

Post hoc Bonferroni analysis showed that both mothers and audiologists made similar numbers of moves within the appointment. The average number of moves spoken by audiologists was 350.1 and by mothers was 285.2.

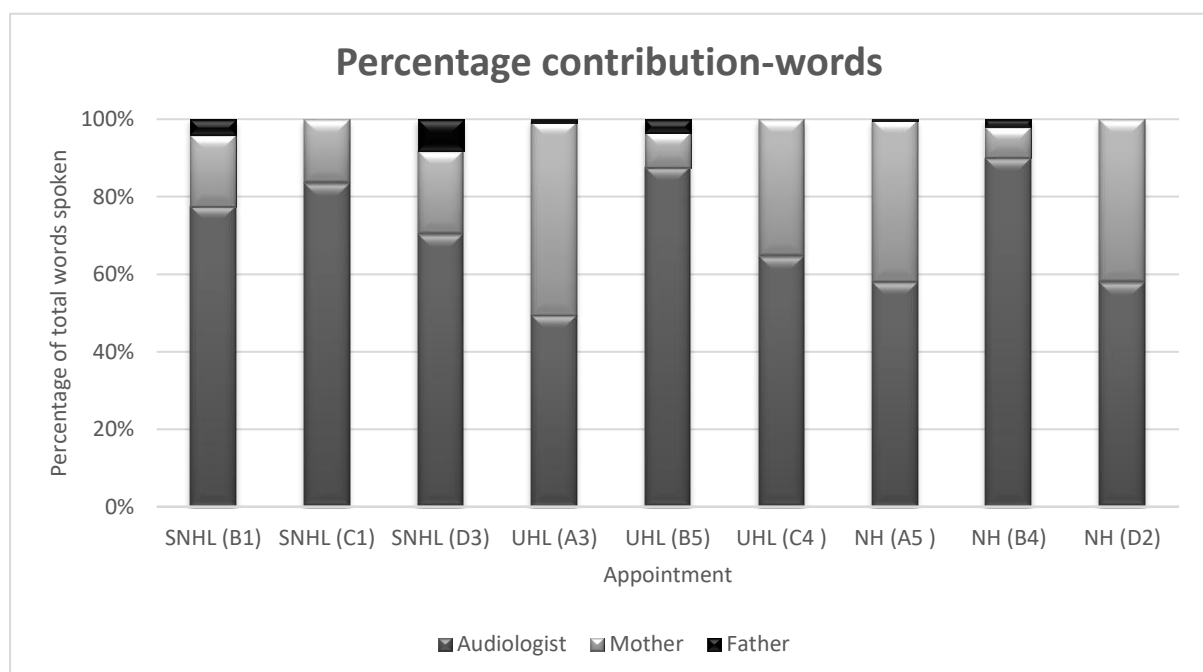
The significant differences between the number of moves made by audiologists and fathers ( $p < 0.001$ ) and by mothers and fathers ( $p < 0.001$ ) suggests that fathers participate considerably less within the appointment (mean = 45.8 moves). Table 4.3 shows the mean,

range and standard deviation of moves, made by each participant within an appointment.

Although the average number of moves did not significantly differ between audiologists and mothers, there were differences in the number of words uttered, with audiologists uttering more words in all but one appointment. Figure 4.1 shows the percentage of words made by each participant in each of the nine appointments; both mothers and fathers were present in six appointments only.

**Table 4.3. Average number of moves made by each participant during the nine appointments (\* statistically significant)**

	<b>n</b>	<b>Mean</b>	<b>SD</b>	<b>Range</b>
<b>Audiologist</b>	9	350.1	109.2	168-537
<b>Mother</b>	9	285.2	137.6	61-528
<b>Father</b>	6	45.8*	39.3	8-120



**Figure 4.1. The percentage words of each participant (mother, father and audiologist) to the discussion. SNHL: bilateral sensorineural hearing loss; UHL: Unilateral Hearing Loss; NH: Normal Hearing.**

#### 4.4.2 Question asking within the entire appointment

Overall, audiologists asked the majority of questions within the appointment, with an average of 48.9 questions per appointment. A one-way ANOVA and showed that both mothers and fathers asked significantly fewer questions than audiologists ( $df = 2, 21, F = 23.197, p = <0.001$ ). On average, mothers asked less questions than audiologists (mean= -33 questions per appointment [CI: -49, -16]) and fathers asked less questions than audiologists (mean= -43 questions per appointment [CI: -61, -24]). Post hoc Bonferroni analysis showed that there was no significant difference found between the number of questions asked by mothers and fathers ( $p = 4.89$ ). Within the entire sample, this accounted for audiologists asking 71% of the questions, mothers asking 23% and fathers asking only 6%. Table 4.4 shows the mean, range and standard deviation of questions asked by each participant within the appointment.

**Table 4.4. Average number of questions asked within the appointments. (\*statistically significant)**

	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>Range</b>
<b>Audiologist</b>	9	48.9	17.6	28-82
<b>Mother</b>	9	15.9*	11.2	4-31
<b>Father</b>	6	5.8*	6	1-17

During these appointments, mothers answered the majority of questions. In appointments where both mothers and fathers were present ( $n=6$ ), on average, mothers answered 82% of questions, significantly more than fathers (18%) ( $p < 0.01$ ).

The vast majority of questions asked were closed questions (see Table 4.5 for the breakdown of open, closed and assumptive questions asked by audiologists, mothers and fathers). Audiologists asked assumptive questions, whereas mothers and fathers did not.

**Table 4.5. Percentage of open, closed and assumptive questions asked by each participant.**

	Open questions (%)	Closed questions (%)	Assumptive questions (%)
<b>Audiologist</b>	16.6	59.5	23.8
<b>Mother</b>	14.7	85.3	0
<b>Father</b>	14.3	85.7	0

The results dissemination phase began with the statement of the diagnosis (hearing loss or normal hearing). When a hearing loss was diagnosed, mothers asked an average of 6.8 questions (range: 0-21, n=6) and fathers asked an average of 4.5 questions (range: 0-21, n=4) during each appointment. By comparison, the average number of questions asked by audiologists was 10.3 (range: 6-20, n=6) during the results dissemination phase.

When normal hearing was diagnosed, mothers asked an average of 2.3 questions (range: 0-5, n=3) and the fathers did not ask any questions in this limited data set (n=2). The average number of questions asked by audiologists was 8 (range: 3-14, n=3). Thus, there was no significant difference between the numbers of questions asked by mothers who received a diagnosis of hearing loss and those who received a diagnosis of normal hearing ( $t(7) = 1.254$ ,  $p=0.25$ ), with few questions being asked with either diagnosis type.

#### **4.4.3 Responding moves**

Across all the appointments analysed, mothers answered significantly more questions than fathers did. A one-way ANOVA and showed that fathers answered significantly fewer

questions than mothers ( $df = 2, 21, F = 13.340, p = <0.001$ ). On average, fathers answered less questions than mothers (mean = -32 questions per appointment [CI: -49, -14]). Mothers also made significantly more acknowledgements than both audiologists and fathers ( $df = 2, 21, F = 12.219, p = <0.001$ ). On average fathers made less acknowledgements than mothers (mean = -82, [CI: -122, -43]), and audiologists made less acknowledgements than mothers (mean = -76, [CI: -114, -34]).

There was no significant difference between the overall numbers of acknowledgements made by mothers or fathers in the audiometric testing phase versus the results dissemination phase; however, the overall number did increase relative to the other moves made. That is, in the audiometric testing phase 20.5% of mothers' communication were acknowledgements, whereas in the results dissemination phase, the percentage increased to 65.2%. For fathers, these percentages were 26% and 57% respectively.

#### **4.4.4 Changes to communication between phases**

##### *4.4.4.1 Communicative Engagement*

Communicative engagement was determined by the relative number of initiating moves (questions/statements) to responding moves (answers/acknowledgements/backchannels). Communicative engagement was markedly different between the audiometric testing phase and the results dissemination phase for both mothers and fathers, whereby engagement significantly decreased from the former to the latter.

Audiologists had varied communication, using all move types, and this was consistent throughout the appointment. There was a change in the audiologists' communication from asking questions in the audiometric testing phase, to uttering mainly statements in the results dissemination phase. This is expected, as case history taking occurs during the audiometric testing phase, and result explanation occurs during the results dissemination phase. Of note

though, was that relative to the audiometric testing phase, audiologists asked fewer questions in the results dissemination phase.

#### *4.4.4.2 Mothers*

As previously stated, there was no significant difference between the average number of moves spoken by mothers and those spoken by audiologists across all appointments. There was a difference in the depth of engagement during the interaction between mothers and audiologists in the results dissemination phase compared to the audiometric testing phase, and this was evident whether both a hearing loss was diagnosed or normal hearing was found. During this phase, mothers' communication was seen to change from varied utterances (both initiating and responding moves) to primarily responding moves. The effect was more pronounced when a hearing loss was diagnosed, as the results dissemination phase in these appointments was longer, and contained many more moves.

Table 4.6 shows a count of all the moves made by participants during a single appointment, D3, where a hearing loss was diagnosed. The Table shows that the audiologist and the mother made a similar number of total moves. During the results dissemination phase however, the type of moves made by the mother changed. In the audiometric testing phase, the mother's communication was varied, whereas during the results dissemination phase it was comprised of mostly responding moves, particularly acknowledgements and backchannels. This suggests that the mother remained active within the communication but did not initiate talk. Whilst she was active, there appeared to be little depth of engagement in her communication as she forfeited the majority of her turns to the audiologist.

**Table 4.6. The number of different types of moves made within a single appointment when a permanent hearing loss in both ears was diagnosed is shown (D3). This Table illustrates the change in depth of engagement by the mother in the audiometric testing phase of the appointment and the results dissemination phase.**

	Audiometric testing phase			Results dissemination phase		
	Audiologist	Mother	Father	Audiologist	Mother	Father
<b>Initiating moves</b>						
Command	4					
Question-Open	7					
Question-Closed	35	8	3	8		14
Question-Assumptive	31			1		
Statement-General	81	22	12	31	6	3
Statement-Emotion		1		3	1 (crying)	
Statement-Baby	3	16			1	
Statement- Hearing	3	2		42		
Statement-System	25	2	2	46		
Talk directly to Baby	21	64	3		2	
<b>Responding moves</b>						
Answer Question	8	54	19	14	5	1
Acknowledging	21	38	14		28	12
Backchannel		2	1		68	26
Tracking	11	7		6	2	1
Responding to statements/tracking	7	8	8	5	5	3
Total Utterances	257	224	62	157	117	60

The following transcript (53) illustrates the level of engagement by the mother in the results dissemination phase of this same appointment (D3). The audiologist was explaining results, providing pauses (in parentheses, in seconds) for the parents to participate, however

very little was being said in response. It is important to note that the average pause between turns in a conversation is 250ms (0.25 seconds) (Stivers et al., 2009). When pauses become longer, and a response is not provided, speakers begin to feel compelled to continue. In conversation analysis this is referred to as a “preference for progressivity” (Stivers & Robinson, 2006). That is, there is a bias within conversation for it to move forward, when pauses are met with silence there is pressure on the original speaker to continue.



53.

Audiologist: "You had a question?" (0.8)

Mother: "Nup."

Audiologist: "I thought you were about to ask me something."

Mother: "Nup."

Audiologist: "No, no, no. (0.9)

Okay. (3.6)

So walk away knowing mild to moderate hearing loss, both ears, permanent nature, okay?" (0.5)

Mother: "Sure."

Audiologist: "Definitely be hearing sound, definitely be hearing speech, definitely be able to be talking fine, okay? (2.5)

Won't be needing sign language, won't be needing - going to a special school, can do everything else all the other kids do, and definitely do music and singing and all that sort of stuff, absolutely." (0.7)

Mother: "Mm."

Audiologist: "Sort of, news like this, sort of, is upsetting because it throws - you, sort of, unknowingly - we always have these preconceptions about what your kid's life's going to be like. Then at two weeks old, you're told that there's something wrong. (0.5)

Okay then? That's hard to take and it's devastating to some extent. Okay? And how you're feeling is entirely how you're supposed to feel. (1.0)

Okay? (2.3)

Ahhh. (11.7)

Okay. (1.4)

This is that folder I was telling you about. (1.2)

Okay? And it's got that parent to parent support pamphlet I was talking about so that's at the front. It tells you a little bit about the program - as in the

hearing screening program. It talks about how you use the book, what are the next steps, what's involved, hearing, hearing loss, and all that sort of stuff, communicating with your baby. Now, this whole book is a one size fits all."

Mother: "Sure."

Audiologist: "Okay? There's some information in here which may not be relevant to you, okay, so just bear that in mind. That's for you."

*Appointment D3*

It is evident in this interaction that the audiologist was attempting to obtain feedback by saying “Okay?” with rising intonation, and provided sufficient pauses for the mother to respond, however the mother provided only minimal responses. This indicated a low level of engagement by the mother in this interaction.

#### *4.4.4.3 Fathers*

Fathers made fewer moves overall, and showed less varied communication than either mothers or audiologists. However, as there were too few fathers present in these appointments, further discussion on their participation would be speculative.

### **4.5 Discussion**

Qualitative analysis of nine diagnostic audiology appointments, following referral from newborn hearing screening, showed that mothers and audiologists were more active participants in the communicative exchange, both in the audiometric testing phase and the results dissemination phase when compared with fathers. However, the change in the pattern of engagement and the type of utterances made by mothers and fathers in the results dissemination phase, compared with the audiometric testing phase, suggest that audiologists and parents were not equal participants.

In this study, audiologists appeared to control the interaction during these diagnostic appointments. However, the evidence of reduced engagement by parents suggests that this may have, in part, been facilitated by the parents themselves, particularly during the results dissemination phase. We concluded in the results dissemination phase that mothers and fathers appeared to be less engaged with the conversation as they made fewer initiating moves (asking questions, making statements) and a greater proportion of their utterances were backchannels and acknowledgments. During conversation, a pause by a speaker indicates a point at which the communication partner may choose to speak. By offering only

a backchannel or acknowledgment at this point a speaker forfeits their turn to speak and the original speaker is encouraged to recommence (Eggins & Slade 1997). There is a bias in interaction that favours conversation moving forward and this is encouraged by the use of backchannels (Stivers & Robinson, 2006). In counselling literature, backchannels and acknowledgments are also referred to as ‘verbal encouragers’ as they encourage a speaker to continue with limited input from the communication partner (Flasher & Fogle, 2004). Whilst the audiologist has inherent power within these appointments (English & Archbold, 2013; Goodyear-Smith & Buetow, 2001), it appears that parents can also relinquish their power, by uttering mainly backchannels and acknowledgements. In this way, it appears that power is not always taken, but can be given.

Typically, the onus of communication during medical and allied health appointments sits with the professional. The professional has inherent power during the clinical encounter that can be used to either control the interaction, or open the space for others to talk (Goodyear-Smith & Buetow, 2001; Gwyn & Elwyn, 1999; Simmons-Mackie & Damico, 2011). Family-centred practice encourages a balance of power allowing a more equal level of communication (Goodyear-Smith & Buetow, 2001; Grenness et al., 2014b). Audiologists should be mindful of the inherent power imbalance that can exist during these appointments and explicitly invite parents to engage with the discussion that takes place (Malusky, 2005; Simmons-Mackie & Damico, 2011) in order to achieve shared decision-making and more equal communication partnerships. It may also be helpful to view the communication as a meeting of experts, the audiologist being the expert on hearing healthcare and the parents being the experts on the child (Harrison, 2010). Throughout the appointment it is important for parents to be engaged with and to contribute to the discussion. Parental involvement and engagement is imperative so the audiologist can determine what is understood by the parents and respond to their emotional reactions to the diagnosis. Increased parental engagement also

allows for negotiation of management strategies leading to greater adherence to management plans.

Limited parent involvement can occur due to the emotional reaction to the diagnosis or because parents may not want to disrupt the flow or order of the appointment. Studies in other health care fields have found minimal involvement of patients after a diagnosis delivery (Heath, 1992; Peräkylä, 2006). For example, in a study of medical appointments, Heath (1992) found that patients were frequently passive when receiving diagnoses. Minimal responses to a diagnostic statement allow the professional to begin discussion of the management required and maintain the power within the appointment. However, this does not necessarily lead to a good understanding of the information presented, and in fact, it may hinder understanding and recall (Watermeyer et al., 2012).

Limited communicative involvement may also signify that parents are experiencing a grief reaction in response to the diagnosis (Kurtzer-White & Luterman, 2003). When reacting to the diagnosis of a hearing loss, parents are unable to learn and retain new information. Instead they must be given time to process the diagnosis and their reaction to it. Within this study, audiologists continued to present information to parents even though there were indications that they had disengaged from the conversation. This phenomenon is not unusual and has been referred to in the audiological literature as one-way communication or an “information dump” (English, 2008 ; Sexton, 2009). Whilst we cannot know for sure why audiologists continue to present information at this time there may be several explanations. Firstly, audiologists may be feeling pressured for time to complete the appointment, secondly they may be uncomfortable responding to the emotional reactions of the parents or thirdly, they may be uncomfortable sitting in silence whilst parents process the diagnosis. Discomfort with conversational silence is a recognised phenomenon that is utilised in counselling (DiLollo & Favreau, 2010; Flasher & Fogle, 2004). Silence is necessary to allow

people to process diagnoses, and formulate questions; however, discomfort with silence can motivate a clinician to talk, before the necessary reflection has taken place. It is useful to be aware of this phenomenon, so that silence is not prematurely broken. Further, parents will also experience discomfort with silence, and it can therefore be used as a way to encourage parents to talk.

In the results dissemination phase of the appointment, very few questions were asked by any participants. It could be expected that parents who received a diagnosis of hearing loss would ask more questions than those who received a diagnosis of normal hearing, however this was not the case in this study. Again, this could have been due to parents experiencing a grief reaction, having not had time to formulate questions, or they may have had so many questions that they did not know where to begin. That audiologists were also asking few questions during this phase is also of interest. Asking questions of the parents would have allowed audiologists to gauge parent understanding of the diagnosis, and to encourage more active parent participation. This is particularly important given the finding that parent engagement decreases in the results dissemination phase. In order for audiologists to tailor discussion to the needs of parents, understand their reactions and concerns and gauge their understanding of the diagnosis and follow up procedures, parents must be active in the communication (Graham & Brookey, 2008; Vermeire, Hearnshaw, Royen, & Denekens, 2001). Questions can be used to open up the space for parents to talk and they can be used to assess parent understanding. However, we see relatively few questions being asked by audiologists, especially open-ended questions. Asking open-ended questions is a relatively easy way to increase participation. Audiologists may initially encounter resistance from their clients as client expectations about the professional/client relationship may be in opposition to this. Indeed, in a study looking at the diagnosis of cleft lip and/or palate in infants, parents expressed the desire for the physician to control the interaction, however they also wanted

time to talk themselves and express their feelings (Strauss, Sharp, Lorch, & Kachalia, 1995). For this to be achieved audiologists may need to actively invite and encourage parental participation.

This study was limited in its data about father's participation. However, reduced participation of fathers in appointments for their children is not limited to the profession of audiology (Phares, Lopez, Fields, Kamboukos, & Duhig, 2005; Walters, Tasker, & Bichard, 2001). Observations from the audio-recordings in this study show that audiologists primarily direct questions about the baby to the mother. As these appointments occur so soon after pregnancy and birth, they may be seen as an extension of the birth process, or fathers are fulfilling the socially expected role of stoic provider. Increasing father participation is an area of interest in many fields and is one that may benefit the whole family (Berlyn, Wise, & Soriano, 2008; Moore & Kotelchuck, 2004). This is an area that the profession of audiology may consider more fully in future research and clinical education.

While it is acknowledged that this study was based on a limited number of clinical appointments and participants, it highlights some important elements of clinical interaction that have not been researched before. Whilst audiologists may feel that they have equal communication with their clients this is often not the case. The value of this study lies in the depth of analysis of real talk between audiologists and parents in clinical contexts and allows audiologists to reflect on their own communication in their clinical practice, the way that they organise their communication and how this may be modified to encourage parental involvement.

## **Chapter 5. Rapport Building Strategies in Paediatric Audiology**

### **Appointments**

#### **5.1 Abstract**

**Objective:** This study investigates the conversational strategies that audiologists use to build and maintain relationships in paediatric audiology appointments. In particular, this research identifies and describes rapport and relationship building as a key aspect of family-centred practice in paediatric audiology.

**Design:** This descriptive, qualitative linguistic study uses a general inductive approach to analyse the discourse to identify rapport building strategies. Strategies were then categorised based on the epistemic content (i.e. how knowledge and rights to knowledge were held and negotiated).

**Study Sample:** Nine audio-recordings, of paediatric audiology diagnostic appointments with four experienced audiologist, were analysed for this study. Specifically, we chose diagnoses of three children with bilateral sensorineural hearing loss; three with unilateral hearing loss and three with normal hearing.

**Results:** Fifteen specific rapport building strategies were identified, in three broad epistemic categories: 1) Impact/threat minimisers, 2) Finding common ground and 3) Encouragers.

**Conclusions:** A major gap in the teaching of student / novice audiologists to deliver family-centred practice is that specific strategies to manipulate the clinical encounter through talk in paediatric appointments are not consistently described during training programs (Whicker, Munoz, Butcher, Schultz, & Twohig, 2017). This study identifies multiple

strategies used by experienced audiologists throughout paediatric diagnostic appointments, and discusses how these are used to build rapport and relationships with the parents of these babies. These strategies could be practiced during audiology training and honed through continuing professional development. It is likely these strategies would be useful in other types of health-related appointments.

## **5.2 Introduction**

The aim of Universal Newborn Hearing Screening (UNHS) is to facilitate early identification and re/habilitation for children with hearing loss, whereby the time from a screening appointment to the diagnostic appointment is often only six weeks. In many cases, however, this time is insufficient for parents to assimilate and understand information given at the time of diagnosis (Watermeyer, Kanji, & Cohen, 2012; Young & Tattersall, 2005), understand the implications of hearing loss on their child's social and educational development, and to accept the diagnosis and seek habilitation (Young & Tattersall, 2007). The development of a positive relationship between the audiologist who is delivering a diagnosis of hearing loss and the family is critical to ensure that babies with hearing loss receive early and effective habilitation (Sjoblad, Harrison, Roush, & McWilliam, 2001).

Positive clinical relationships are fostered through family-centred practice and the use of the social and narrative models of professional practice (Duchan, 2004). Policy documents state that audiologists, particularly those working in a paediatric setting, should engage in family-centred practice (Moeller, Carr et al 2013; AAA, 2012; ASHA, 2008; NDCS, 2003). Despite this, many definitions exist within the literature of what family-centred practice involves (Grenness, Hickson, Laplante-Lévesque, & Davidson, 2014; Hutchfield, 1999; Laplante-Lévesque, Hickson, & Grenness, 2014), and, it is clear that family-centred practice is primarily achieved through appropriate communication. What we say, and the way in



which we say it, influences the relationships we form and demonstrates professional expertise to our clients (Candlin & Roger, 2013). This model of practice has been emerging as an area of interest in the field of rehabilitative audiology (Hickson, 2012; Laplante-Lévesque, Hickson, & Worrall, 2010a, 2010b), which suggests that positive clinical relationships, fostered through family-centred practice, are influential in the acceptance of a diagnosis and adherence to habilitation programs. Studies have shown that parents are sensitive to the way a diagnosis of hearing loss is delivered, and the way in which audiologists conduct appointments is associated with how satisfied parents are with the testing process (Hasnat & Graves, 2000; Tattersall & Young, 2006). For example, Sjoblad et al. (2001) reported that the audiologists' sensitivity when delivering a diagnosis of hearing loss can either help or hinder parents' acceptance of a diagnosis of hearing loss and indeed their acceptance of the habilitation process, which typically includes amplification and early intervention. Parallels are seen in medicine with one study showing that doctor-patient communication effects treatment adherence for asthma. Specifically, the communicative functions including exchanging information, responding to emotions, and fostering relationships, lead to greater patient trust in the clinician, greater patient-motivation and greater treatment adherence. This, in turn, leads to better treatment outcomes (Young, Len-Rios, Brown, Moreno, & Cox, 2017).

Family-centred practice is achieved through 'talk'. Linguistic research of talk in therapeutic environments makes the distinction between transactional talk and relational talk (Candlin & Roger, 2013; Coupland, 2000, 2003). The transactional talk is what is required to achieve the goals of the appointment. In an audiological context, this pertains to the task at hand: case history taking, preparing the infant for testing, testing, delivering results, and formulating plans for action. Relational talk, also called small talk or off-task talk, serves to build and maintain relationships (Coupland, 2003; Hudak & Maynard, 2011; McCreaddie & Payne, 2014). It is also used to repair relationships that have been threatened by certain

diagnostic outcomes (Maynard and Frankel, 2006). The ability to perform relational talk is often taken for granted, however it has been shown that it is a skill required for transactional success (Coupland, 2003; Walsh, 2007). In cases where relational talk is not appropriately engaged in, transactional work suffers as a consequence, leading to the conclusion that relational talk is pivotal for successful transactional outcomes (Coupland, 2003). In healthcare appointments, there are many goals in the interaction. Relational talk is interspersed throughout the transactional talk (Coupland, 2000) and has been described as the “talk that oils the social wheels” (Holmes, 2003, p 65). It is used to manage information and demonstrate professionalism, politeness, show respect and show compassion (Coupland, 2014; Koester, 2013; Pullin, 2010). Without it, transactional work cannot occur (Koester, 2013; Walsh, 2007).

The transactional elements of the clinical appointment are led by the healthcare professional as there are clear goals that must be achieved (Leahy, 2004), whereas the relational elements can be more collaborative, with both healthcare professional and the client choosing topics and driving the interaction. Arguably though, the diagnostic phase of the appointment should involve a more collaborative approach as parents need to be empowered to act on the information they are provided with. The groundwork for delivering unwanted diagnostic results and future collaboration between clinician and family in this phase of the appointment is generally done in the initial phases (Candlin & Roger, 2013). In clinical encounters, there are numerous inherent barriers to the success of relational talk. First, the clinical environment may lead to certain expectations from parents that can affect the level of family-centeredness that can be achieved. Studies of general practitioners for example, revealed differences in expectations that challenged attempts by professionals to build relationships with clients (Ruusuvuori, 2005a, 2005b). When doctors attempted to conduct patient-centred appointments, patients did not always collaborate. Patients behaved

in ways which suggested that they expected the communication to occur in an institutionalised fashion, rather than a patient-centred one, reinforcing the division of patient and professional (Ruusuvuori, 2005a, 2005b). This may serve to challenge the relationship-building attempts of the professionals.

Second, there are unequal power relationships inherent within medical and allied health appointments that can affect relational talk (Candlin & Roger, 2013; English & Archbold, 2013; Goodyear-Smith & Buetow, 2001; Gwyn & Elwyn, 1999; Raven, 2008). Within medical appointments, doctors require power in order to manage the appointment, achieve the goals of the appointment, and fulfil their obligations (Goodyear-Smith & Buetow, 2001). On the one hand, the doctor may take a paternalistic approach and make decisions without patient input. On the other hand, they may take a more patient-centred approach, providing information to patients to make their own informed decisions. However, even when a patient-centred approach is taken, power and responsibility can fall to or be taken up by the doctor, especially if the patient desires a course of action that is not clinically supported, such as in the case of antibiotics administration in the case of viral infections (Gwyn & Elwyn, 1999). In paediatric audiology, parents are relatively powerless within the context of the appointment, especially the initial appointment following UNHS. The power lies with the process, which dictates the need for a parent to be present, and the professional, who carries the knowledge of the test battery and implications of hearing loss, thereby increasing the vulnerability of the parent (English & Archbold, 2013). Most importantly, parents have an emotional investment in the outcomes of the appointment, increasing their vulnerability.

Thirdly, small talk must remain ‘small’ in order to not interfere with the transactional elements of the appointment. Much of the small talk that occurs in medical appointments does so when the case history is being taken, or during non-verbal tasks, for example during blood pressure measurement and so forth. If the topic of small talk becomes too involved, it

can interfere in the transactional talk being undertaking, by drawing the attention of the professional away from the task (Benwell & McCreddie, 2016).

Therefore, the focus of this paper is on the importance of relational talk; talk used for rapport and relationship building, within the unique context of paediatric audiology. The types of relational talk used are identified and discussed, and differences in talk used for different diagnostic outcomes are investigated. By studying the conversational interactions, we may determine how audiologists manipulate the clinical encounter to be family-centred, both respecting the parents' needs and role as expert on their child, whilst simultaneously conducting the task at hand, diagnostic hearing testing, diagnosis delivery and empowering the parents to act when necessary. Given the inherent power imbalances within these appointments, the analysis of the data in this study was conducted using an epistemic framework (Heritage, 2012a, 2012b) as this allowed us to determine how knowledge and power relationships are managed and negotiated within the appointment. This framework is described in more detail in the methods section.

### **5.3 Methods**

Twenty-three audiology appointments were audio-recorded at an Australian metropolitan children's hospital audiology clinic between June-September, 2010. All infants included in this study were referred for diagnostic testing after referral from Automated Auditory Brainstem Response (AABR) screening conducted in the Universal Newborn Hearing Screening (UNHS) program. Nine of these appointments form the basis of this study. Those selected include all appointments in which a diagnosis of sensorineural hearing loss (SNHL) was delivered: three bilateral SNHL, and three unilateral hearing loss (mixed or SNHL); and a random selection of three of the remaining 14 appointments in which a diagnosis of normal hearing was delivered. Nine appointments were included in the final

analysis and transcribed in full. This number was deemed sufficient for the depth of analysis that took place and is in line with similar linguistic studies of professional-patient studies (Ferguson & Elliot, 2001; Togher, 2001; Lehtinen, 2013; Leahy, 2004). We refer to cases where a permanent hearing loss was diagnosed as a positive result, and those where normal hearing was diagnosed as a negative result. Audiologists were also encouraged to provide a reflection following the appointments and they participated in a focus group following preliminary data analysis. In this session, transcript excerpts were discussed and the audiologists could discuss the scenarios and comment on the discourse. Parents were also asked to fill in a questionnaire following the appointment, the results of this are presented elsewhere. The data were comprised of four related data sources, the audio-recordings, the transcripts of these, the audiologist reflections and the focus group. Together these form a robust representation of the appointments under study (Iedema, 2007).

Notes on transcription - Interactions have been transcribed using Standard English spelling. Interactions were transcribed without standardisation or editing. Non-standard spellings are used when they are needed to capture idioms or idiosyncrasies (e.g. ‘gunna’). Most punctuation used in the transcripts is Standard English however = = indicates simultaneous talk.

### **5.3.1 Participants**

The appointments were conducted by four paediatric diagnostic audiologists with more than 6 years of experience (mean 15 years). This represents around a third of the infant diagnostic audiologists working in the state at the time of data collection. Diagnosis of hearing loss in infants in Australia typically occurs in specialist hospital-based clinics. Children diagnosed with permanent hearing loss are then referred to the federal government’s hearing healthcare organisation, Australian Hearing, for device fitting and management.

Therefore only a relatively small number of paediatric audiologists are employed within these specialist clinics throughout Australia.

Parents were invited to participate in the study at the time of appointment booking by an audiologist. Consent was re-established at the time of the appointment. The study was approved and conducted under the ethical oversight of the hospital Human Research Ethics Committee and Macquarie University's Human Research Ethics Committee. Both the mother and father were present in six of the appointments, whereas three appointments were attended by the mother only. All participants were native English speakers.

### **5.3.2 Analysis**

We conducted our analysis using both a general inductive approach (Thomas, 2006) and an epistemic approach (Heritage, 2012a, 2012b) to analyse the discourse. A general inductive approach involves categorising and summarising patterns within the data. This allowed for categorisation of the data based on the semantic content, rather than pre-determined categories. Utterances were first categorised as being relational, serving to build or maintain the clinical relationship (Holmes, 2003); or transactional, task oriented talk often focussed on information exchange (Leahy, 2004). Given the nature of the appointments, there was overlap between relational talk and transactional talk. We identified patterns within the relational talk, which we then categorised. Once categories were formed, they were grouped based on their epistemic standing. Epistemic standing is a way of describing who holds the knowledge in an interaction (Heritage, 2012a, 2012b). A participant with greater knowledge has a higher epistemic standing relative to a participant with less. For example, audiologists have greater knowledge about the appointment and therefore have higher standing than the parents have. The parents have greater knowledge about their infant and therefore have higher standing than the audiologist has. Epistemic standing is a dynamic

concept that can change and be negotiated between participants. Three groupings of epistemic standing emerged from the data: 1. utterances where the audiologist reduced their epistemic standing below that of the parent, thus minimising their standing, 2. utterances in which the audiologist attempted to reach equal epistemic standing with the parents, focussing on commonalities between them, and 3. utterances in which the audiologist elevated the epistemic standing of the parents, bringing the parents standing closer to their own. This enabled us to identify how the audiologists managed their standing with respect to the parents (and the infant) within the appointment, through conversation. Relational strategies were coded by the lead researcher (RK). A second researcher (JM) coded no less than 10% of the transcripts and these were compared for consistency. Where disagreement occurred this was discussed until consensus was reached.

When investigating the use of rapport building strategies during the appointment the appointment was analysed in three distinct phases, based on the activities that took place. These were: 1. The pre-testing phase, when case history information was obtained, preliminary testing (otoscopy, tympanometry and otoacoustic emissions testing) was performed, that infant was prepared for testing and settled to sleep; 2. The testing phase, when the Auditory Brainstem Response testing took place; and, 3. The results dissemination phase, when the results were presented to the parents. Simple inferential statistics were used to compare means when looking at differences between the numbers of rapport building strategies used in appointments where hearing loss was diagnosed or when normal hearing was found.

## **5.4 Results**

Fifteen specific relational strategies were identified within the data based on their semantic content. We then classified these based on their epistemic standing, and created

three broad categories: 1) Impact/threat minimisers: utterances in which the audiologist reduced their epistemic standing below that of the parent; 2) Finding common ground: utterances in which the audiologist attempted to reach equal epistemic standing with the parents; and 3) Encouragers: utterances in which the audiologist elevated the epistemic standing of the parents. Note that while introductions are a relational utterance, these were often conducted prior to audio recording commencing, therefore they have not been included in the analysis. The strategies are discussed in detail below (see Table 5.1 for a summary).



**Table 5.1: Rapport building strategies used in infant diagnostic audiology appointments**

Category	Strategy	Techniques
<b>Threat/Impact Minimisers</b>	Ensure physical comfort	Offer drinks, pillows etc.
	Recognise parent as expert	Allow parents to manage baby, ask for permission before touching baby, provide parents with choices.
	Use softening expressions	Reduce the strength of statements (eg. frame commands as requests).
	Compliment the baby	Speak positively about/to the baby.
	Talk directly to the baby	Recognize when the baby appears distressed, respond appropriately. Show concern for the baby's welfare and comfort.
<b>Finding Common Ground</b>	Minimise technical jargon	Speak in plain language (lay terms).
	Intersperse medical with interpersonal talk	Discuss neutral non-audiological topics of general interest.
	Give positive and supportive feedback	Put parents at ease and address their concerns.
	Mirroring	Mirror parents' language where appropriate.
	Share laughter and jokes	Lighten the mood by sharing neutral jokes with the parents.
<b>Encouragers</b>	Recognise parents' experience	Frame discussion in the context of parent prior experience, provide context that is relevant to the parents.
	Recognise the parents' perspective	Recognise parents' emotional states, validate their feelings.
	Use inclusive language	Include parents in the process and create a feeling of teamwork by using 'we', 'us' and so forth.
	Use minimal tokens and linguistic continuers	Signal engagement, open space for parent participation, return floor to parent.

### 5.4.1 Impact/Threat Minimisers

Impact or threat minimisers featured the audiologist minimising their epistemic standing with respect to the parents or baby. Audiologists appeared to do this by complimenting or appearing to prioritise the parents' needs above their own within the appointment. In some cases, the audiologists informed the parent of a specific goal (e.g. "We need him in a nice deep sleep") but allowed the parent to achieve that in the way they thought best without asserting themselves or taking over within the situation. These strategies typically occurred in instances where it would be reasonable, based on the context (hospital clinic), for the healthcare professional to assert themselves and/or their higher knowledge, however in these instances they chose not to. These strategies differed from encouragers (discussed below) which usually occurred when it would not be appropriate for audiologists to assert themselves. The following are examples of the six threat minimising strategies, which served to reduce the epistemic standing of the audiologists. Each transcript is labelled with the appointment code and speaker.

#### 5.4.1.1 *Ensure physical comfort*

From the transcripts it was clear that audiologists made sure parents were comfortable, offering drinks, pillows and so forth. This strategy occurred in all appointments at the beginning of the appointment and throughout the appointment, indicating a continued effort to ensure the parent's comfort.

1. "I'll get another pillow if you like" *Audiologist B1*
2. "Do you need anything? Can I get you anything?" *Audiologist C1*

#### 5.4.1.2 Recognise parent as expert

This strategy involved recognising the parent's role as expert on their child, where in this study, it was observed when audiologists asked for permission before touching the baby and provided parents with a choice (or the illusion of choice), when interacting with the baby. For example,

3. "Now when she falls asleep is she pretty settled or would it be better wrapping her up do you think?" *Audiologist A3*

In the following example, the audiologist asked for permission before beginning testing. In the context of the appointment, it would have been reasonable for the audiologist to begin the test at this point, based on the readiness of the baby who had already fallen asleep and the requirements for testing, however the audiologist chose to respect the parents' wishes and waited.

4.

Audiologist: "How's that little girl of yours?"

Mother: "Yeah, I'm still a bit inclined to-"

Audiologist: "Wait a little bit longer?"

Mother: "Yes, personally."

Audiologist: "Yep. No worries."

Mother: "I'm wondering too, because she's a bit snuffly whether or not that's why she's not, hasn't fallen asleep quite as quickly. She's off, but I'll just give her a few more minutes I think. "

Audiologist: "Okay"

*Appointment A3*

#### 5.4.1.3 Use softening expressions

In this strategy, minimisers (underlined) were used to reduce the strength of statements or frame commands as requests. For example,

5. “I’m going to, if you don’t mind Mum, oh put a bit of tape on her because she does stuff like that. It’s actually not very sticky stuff. It just adds a bit of weight which helps.”  
*Audiologist A3*

The audiologist said, “if you don’t mind Mum” giving the illusion of choice. In this case, the mother didn’t actually have a choice, as for this procedure, the tape was required to adhere the electrodes to ensure that the test could be conducted. However, rather than just attach the tape, the audiologist provided the mother the illusion of choice by framing the utterance as a request. The audiologist also minimised the impact of the tape, by emphasising that it was “actually not very sticky stuff”.

Commands were also softened:

6. “What I might do is to get her actually to lie on you on the pillow.” *Audiologist A3*

In this example also, the parent had little choice in responding to this, as the positioning of the baby away from the parent (i.e. where the head is not in direct contact) was necessary to avoid problems of electrical interference. However, instead of telling the parent to place the child on the pillow, the audiologist softened the command by saying “what I might do” and “actually”. In this case, it was unlikely that the parent would be aware that they did not actually have a choice, given that the reasoning for positioning the baby on the pillow was not explained.

#### 5.4.1.4 Compliment the baby

Frequent examples of compliments were found within the data. A compliment of the baby was also an indirect compliment of the parents. By complimenting the baby, the audiologists communicated to the parents that they did not pose a threat to the baby and conveyed that they meant no harm. They recognised the baby is a distinct and important human being.

7. "What a good boy." *Audiologist A5*

8. "Good girl. You're a little angel, aren't you?" *Audiologist C1*

Some, but not all, compliments were directed towards the baby, as such, there was some overlap with the following category.

#### 5.4.1.5 Talk directly to the baby

By talking directly to the baby, the audiologist recognised the baby as a participant within the appointment, rather than as an object on which they are conducting the testing.

9. "Oh dear oh dear. It's so bad isn't it? Shh shh shh. That's the way. That's the way. We're doing the right thing. Yes." *Audiologist A3*

In the following example (10), the baby reacted to being touched by the audiologist with a whimpering sound and, in response to this, the audiologist first complimented the baby and then used softening expressions when talking to the baby. The audiologist directed their explanation to the baby. As the baby was only a few weeks old, we assumed that the explanation was for the benefit of the parent. In this example, it is likely that the audiologist recognised the baby's distress and made it clear that they were not going to hurt the baby.

10. "You have beautiful eyes, don't you? I'll have a little look in your ears." *Appointment C1*

#### 5.4.1.6 Minimise technical jargon

This strategy involved avoiding technical jargon and using plain language when talking with the parents. The minimisation of technical jargon occurred primarily in the initial phase of the appointment. In the following example, the audiologist said they would be using stickers on the baby, rather than using the technical term "electrode".

11.

Audiologist: "Okay. What I'm going to do =="

Mother: "Yep"

Audiologist: "==is put some stickers on her"

*Appointment A3*

Within these nine appointments, audiologists used jargon more frequently when explaining the results; however, they frequently used an audiological term and then provided a plain language definition of that term.

12. "Hearing losses that occur in the inner ear um, aren't usually treatable. The inner ear is about, in children that age, is a pea sized thing it's like a tiny little snail shell... and ah the part of the part of the spiral that that does the hearing are these little stereocillia little hair like things, and they're even tinier and if they get damaged they're you know, they're microscopic. We can't do anything to fix that, at least not currently"

*Audiologist B1*

The use and explanation of jargon may represent a strategy to begin introducing parents to the language of hearing health care, which they need to become fluent in as their child grows.

### 5.4.2 Finding Common Ground

Strategies aimed at finding common ground were similar to the rapport building strategies that are described in manuals and texts on rapport building (Bakić-Mirić & Bakić, 2008; Benwell & McCreaddie, 2016; Francis, Monahan, & Berger, 1999; Gremler & Gwinner, 2008). They involved minimising the differences between the audiologist and the parents and finding areas of commonality. As such, they highlight areas of similar epistemic standing, so whilst in the audiological context, the audiologist had more power and knowledge, these utterances provided the parents a chance to share their own knowledge. Four strategies were identified within this category.

#### 5.4.2.1 *Intersperse medical with interpersonal talk*

This strategy involved engaging in general “chit-chat” and finding areas of common interest or experience.

13.

Audiologist: “Have you been watching that show on SBS?”

Mother: “We did. Then I turned it off. It was so harrowing; I never want to watch that again. (Laughs)”

Audiologist: “It's amazing how addictive it is.”

*Appointment D3*

#### 5.4.2.2 *Give positive and supportive feedback*

These were positive responses to parents’ expressed concerns and appeared to be designed to put them at ease. In the following example, the parents appeared concerned about getting the baby to sleep.

14.

Audiologist: “So, he essentially really needs to be asleep for that to be still.”

Mother: “yes, yes...and um, that’s the challenge.”

Audiologist: “That’s going to be the challenge yes. All we can do is our best.”

*Appointment C4*

The audiologist acknowledged the parents’ concerns and responded with “All we can do is our best”. The audiologist simultaneously reassured the parents that it was okay, and also by using the pronoun ‘we’, took some of the responsibility off the parents.

#### *5.4.2.3 Mirroring*

The audiologist mirrored the parents’ language by using terms and phrases that the parents have used. For example,

15.

Mother: “Darling, is that good?”

...

Audiologist: “Sorry darling”

*Appointment C1*

#### *5.4.2.4 Share laughter and jokes*

Examples of sharing laughter and jokes with the parents were observed within the dataset. Parents made jokes that the audiologist responded to with laughter in all cases, and audiologists also made jokes. All jokes were innocuous and related to non-audiological topics of discussion.



16.

Audiologist: “He's just got rubber skin, protect him from...lightening...bolts...and also from um...”

Mother: “Or his older sister (laughs)”

Audiologist: “Or his older sister (laughs)”

*Appointment B1*

### **5.4.3 Encouragers**

Encouragers were classified as utterances where the audiologist either raised the epistemic standing of the parents or recognised their inherent higher standing in the situation. They served to highlight parental knowledge and skill when it would be unproductive for the audiologist to take on a paternalistic role. This differed from the impact/threat minimisers group, as in these situations it would not be appropriate for the audiologist to assert their knowledge. Four strategies were described as encouragers and these are explained in detail below.

#### *5.4.3.1 Recognise parent experience*

Within the transcripts, some audiologists would use information previously offered by parents to contextualise their experiences within the diagnostic appointment. This strategy was sometimes dependent upon good communication in the initial phases of the appointment, as audiologists needed to have information about parent experiences in order for them to be able to frame their discussion in the context of these experiences.

17. "As you said before, he's definitely hearing the louder sounds because you are getting nice startle responses" *Audiologist C1*

In some cases, the audiologist made assertions about the parent's knowledge based on the expected delay between the failed screening appointment and diagnostic appointment of between 3-6 weeks. That is, the audiologist did not refer back to previous comments made by the parents, rather referred to what their presumed experiences had been.

18.

Audiologist: "The other thing is you've obviously been on the internet?"

Mother: "Yes"

Audiologist: "Can you remember which sites you went to?" *Appointment A3*

In this example, the parents had given no prior indication that they had any knowledge of hearing loss; however, the audiologist correctly assumed that they had been looking on the internet for information about this. This was a reasonable assumption given that they were in an unfamiliar situation following referral on the screening test and had concerns about the testing and results. It is important to note that the audiologist confirmed their assumption first so that the parents had a chance to correct the audiologist if needed.

#### 5.4.3.2 *Recognise the parent's perspective*

Categorising talk for this strategy included recognising the parent's emotional states and perspective, and showing concern for the emotional wellbeing of the parent.

19. "It must be awful listening to us talk about numbers and not know what we're talking about." *Audiologist C4*

In the above example, the audiologist was conferring with a colleague about the results of the test. The audiologist explained to the mother that they would be doing this and why, however they then recognised that it would not have been a pleasant experience for the mother. Recognising the parent's perspective also included acknowledging the parent's need to ask questions, and that it may be difficult given the circumstances. For example,

20. "So any questions you- you've got a lot of information, probably more than you know what to do with right about now, um anything you can think of?" *Audiologist B1*

#### 5.4.3.3 Use inclusive language

The type of language used by audiologists included the use of inclusive pronouns (underlined) such as 'we', 'us' and so forth. This use of language included parents in the process of the appointment and could serve to create a feeling of teamwork.

21. "We're just going to have a look in her ears and then do a check on her middle ear. Then we'll go into another room to do all the rest of the test." *Audiologist C1*

Although it was clear that the parents would not be looking in the infant's ears or checking the middle ear, they were included within the process by the use of the word 'we'.

#### 5.4.3.4 Use linguistic continuers

This strategy involved using linguistic continuers: acknowledgements, backchannels and tracking. Acknowledgments and backchannels (also called minimal tokens) (Dushku, 2010) include utterances such as hmm, mm-hmm, uh-huh, yes, yeah, yep, okay, and right. Backchannels help to maintain the flow of conversation, signal engagement by the listener and encourage the speaker to continue. Acknowledgments have a similar function however they also signal agreement with the speaker (Dushku, 2010). The differences between acknowledgements and backchannels is determined by their tonal quality, with

acknowledgements having greater energy, and often a higher tone. These often carry little linguistic information, however they signal to the speaker that the listener is engaged and encourage the speaker to continue. In the data, they served to open the space for parental participation, to return the floor to the parents and to validate parental experiences.

22.

Mother: "And um, the grommets now have caused a lot of damage to his ears because he's had so much put in and all of that."

Audiologist: "Right, okay"

Mother: "That's what they thought might happen with his ears because they thought it was fluid so they just kept on putting grommets in and nothing was improving, it was just getting worse."

*Appointment D2*

Tracking is another form of linguistic continuer used to confirm, clarify and check the information that is being given. Examples of tracking are seen below,

23.

Mother: "Yeah, for us that's not too bad. That's pretty warm. We've had snow last week."

Audiologist: "Oh, did you?" (Confirming)

Mother: "Yeah."

Audiologist: "Much or?" (Clarifying)

Mother: "It tried to settle but because we've had so much rain it was really wet."

Audiologist: "You had slush?" (Checking)

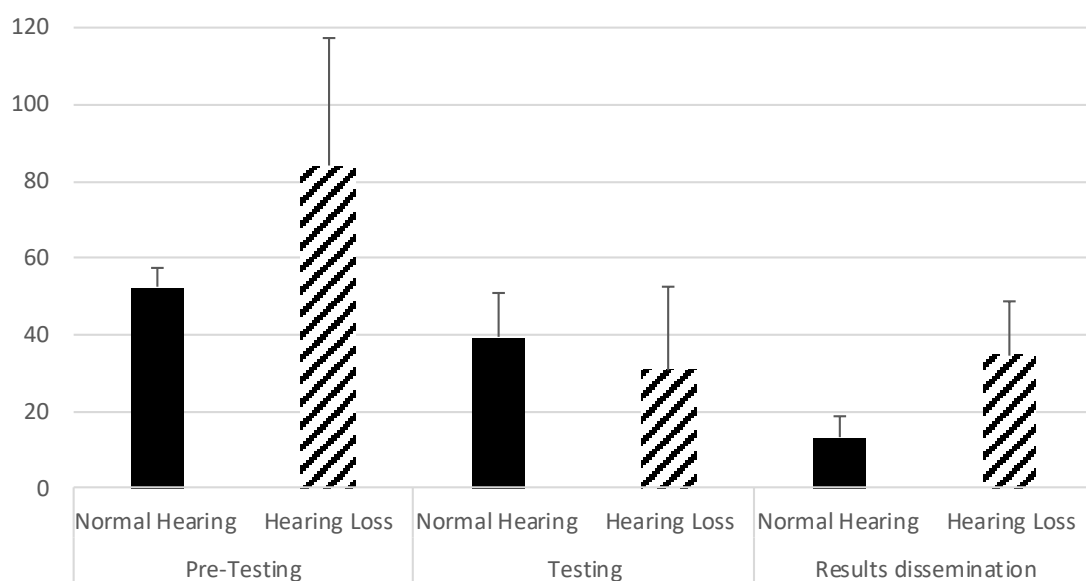
Mother: "Yeah yeah. Didn't even - sort of only fell for a couple of hours, so it did turn a bit slushy in the corners and spots like that, but just melted otherwise."

*Appointment A5*

In the above example, the audiologist used tracking (underlined) in three instances. These did not add to the conversation themselves, however they signalled listener interest through confirming, clarifying and checking. The use of tracking encouraged the mother to add more information and increased her participation in the conversation. It also signalled that the audiologist was interested in the opinions of the mother. Finally, it allowed the mother to talk about a neutral topic, balancing the emotional situation.

#### 5.4.4 Rapport building across the appointment

Within these transcripts, we have identified the types of strategies used in the appointments and when these strategies were used during the appointment. As previously stated, there were three distinct phases within the appointment, pre-testing, testing, and results dissemination phases. The average number of rapport building strategies used in each phase of the appointment is shown in Figure 5.1. When analysing the frequency of use of strategies we chose to exclude the linguistics continuer category as the use of these was so frequent that that they obscured the use of the other categories.



**Figure 5.1. The average number of rapport building strategies used during each phase of the appointment, for both normal hearing and hearing loss diagnostic outcomes. (Error bars show standard deviations).**

The following observations were made: (i) Relationship building occurred throughout the entire appointment, not just in the pre-testing phase. A greater number of rapport building strategies were used in the pre-testing phase of the appointment than the following two phases. Regardless, rapport building continued across the appointments and frequently the appointments concluded with relational talk.

(ii) There were a greater number of rapport building strategies used in cases where a hearing loss was diagnosed, in the pre-test phase, before the testing had occurred. This is an interesting finding as the audiologist was not yet aware of the child's hearing level. However, the audiologist may have had greater cause for concern in these instances based on the referral type (bilateral vs unilateral, vs craniofacial anomaly), the case history information, or the results of preliminary testing (tympanometry and otoacoustic emissions testing).

(iii) In the final phase of the appointments, audiologists used significantly more rapport building strategies when hearing loss was diagnosed and follow-up was required than when hearing was normal ( $P > 0.05$ ). The types of strategies used were primarily impact/threat minimisers and encouragers, whereas common ground strategies occurred only rarely. The sharing of laughter and jokes did not occur at all in this phase when a hearing loss was diagnosed. Repeated measures ANOVA showed a significant difference between the number of rapport building strategies used by the audiologist pre-testing, testing and results dissemination phases of the appointment for both diagnostic outcomes (Wilk's  $\lambda = 0.237$ ,  $df = 2, 6$ ,  $p > 0.05$ ). No significant difference was found when looking at the interaction between the hearing loss group and the appointment phase. However, follow-up analysis of the results

dissemination phase only showed a significant difference between the hearing loss and normal hearing group ( $t= 2.945$ ,  $df=6.9$ ,  $p<0.05$ ).

Following the conclusion of an appointment, the audiologist sometimes offered the parent continued use of the room to feed and change the baby.

24. "There's not going to be anyone using this room this morning anymore 'till 1:00, so if you need to be in here for a bit longer, that's okay." *Audiologist A5*

The appointments also sometimes concluded with general chitchat.

25.

Audiologist: "Yes, not a good look at the airport is it?"

Mother: "No, he chucked on the top just - (name) gave him back to me and he chucked on me top and landed right on front and it looked like I was leaking everywhere. Yeah went on the plane and got a really wet top. So lucky I had the jacket and so I just put the jacket on and cover myself up."

Audiologist: "Well you get used to it after a while, don't you as a mother of a bub?"

*Appointment D2*

If conversation broke down or became challenging, usually due to the diagnosis of hearing loss or a concern or emotion expressed by the parent, work was done to rebuild rapport, through complimenting the baby, or attempting to understand the parent's perspective.

26. "News like this, sort of, is upsetting because it throws - you, sort of, unknowingly - we always have these preconceptions about what your kid's life's going to be like. Then at two weeks old, you're told that there's something wrong, okay then? That's hard to take and it's devastating to some extent. Okay? And how you're feeling is entirely how you're supposed to feel, okay?" *Audiologist D3*

When a hearing loss was diagnosed, the appointment concluded with further rapport building. Even when there was no continuation of the relationship, audiologists attempted to finish the appointment in a positive way.



## 5.5 Discussion

This study has demonstrated the breadth and diversity of rapport building strategies which audiologists use within paediatric diagnostic appointments to build relationships and rapport with parents. Fifteen specific communication strategies were identified within the transcripts and described with examples. The strategies were used throughout the whole appointment, however the final results dissemination phase included significantly more rapport building strategies when a hearing loss was diagnosed, than when normal hearing was found. The strategies used in these appointments were varied, used frequently, and are aligned with the principles of family-centred practice (Corlett & Twycross, 2006; Franck & Callery, 2004; Grenness et al., 2014a). In particular, there is evidence of shared power and responsibility, parent autonomy, empowerment and involvement.

Rapport building is often described as an initial step in a clinical relationship rather than an ongoing process (Walsh, 2011). In the current study, it was evident that rapport building occurred most frequently within the initial phases of the appointment, coinciding with the time when the audiologist was getting to know the parents and baby and gather case history information. However, rapport building strategies were also observed throughout the duration of the appointment, and these increased in number when a hearing loss was diagnosed, compared to when normal hearing was diagnosed. Simmons-Mackie and Damico (2011) found rapport building was necessary throughout clinical appointments, when relationships become threatened due to awkward or uncomfortable moments, and recommended that it be viewed as a goal of treatment rather than in introductory activity.

Within the appointments where hearing loss was diagnosed and follow-up was needed, audiologists used more relational statements which may help to empower parents. Empowerment in healthcare is generally defined as “a positive and helping process that

enables a person to take charge of their lives, make informed choices and make decisions about their lives” (Grealish et al., 2013 p. 136). Adherence with treatment or rehabilitation programs for children diagnosed with chronic disorders, such as SNHL, requires consistent effort on the part of the parents and multiple barriers exist (Fielding & Duff, 1999). Therefore, parent empowerment should begin at diagnosis. In particular, in Australia, infants with hearing loss are diagnosed in specialist clinics and are referred to the federal government’s hearing health care organisation for habilitation and device fitting. Therefore, in most cases, paediatric diagnostic audiologists do not interact the family beyond this initial diagnostic appointment. Empowerment, as defined by Grealish and colleagues (2013) is necessary to facilitate compliance with the referral and recommendations. Literature suggests that parents who feel disempowered are assumed to be less inclined to participate fully with a referral agency in the treatment of their children (Scheel & Rieckmann, 1998; Dempsey & Dunst, 2004). On the other hand, Graves and Shelton (2007) interviewed 79 families of children with problem behaviours and showed that family empowerment is positively associated with improvements in behavioural outcomes. Through using strategies such as recognising parent experience (Coffey, 2006) and using inclusive language, which is associated with positive emotional behaviours (Seider, Hirschberger, Nelson & Lavenson, 2009) and coping (Rohrbaugh et al., 2012), the audiologist begins to empower parents to their new role as advocate for their child. Empowerment is thought to be facilitated by emphasising strengths and skills that people already possess (Dempsey & Dunst, 2004) so again, emphasising parent experience may help to begin this empowerment process.

The use of inclusive language (saying ‘we’ instead of ‘I’ and ‘you’) creates a perception of teamwork and includes parents in the diagnostic process so they feel that they are working *with* the healthcare practitioner, rather than being worked *on by* the practitioner (Skelton, Wearn, & Hobbs, 2002). The use of ‘we’ rather than ‘I’ is associated with greater

problem solving ability (Simmons, Gordon & Chambless, 2005), positive emotional behaviours (Seider, Hirschberger, Nelson & Lavenson, 2009) and coping (Rohrbaugh et al., 2012), as the use of ‘we’ emphasises shared responsibility (Hardee, Platt, & Kasper, 2005). It has long been recommended that parents be involved in the testing process (Luterman, 2001), and the use of inclusive language is likely to help to facilitate this.

Some of the strategies used by the audiologists in this study have been previously identified within the literature (Beck, Daughtridge, & Sloane, 2002; Slade et al., 2011), however we are unaware of any research that has described rapport building strategies in detail in audiological contexts. Some of the identified strategies fall into wider strategies described within the literature. For instance, recognising the parent’s perspectives, recognising the parent as expert (Hojat et al, 2002) or as an equal (Jones, Woodhouse, & Rowe, 2007) may be classified as techniques that show empathy. This analysis provides a greater understanding of how the skill of showing empathy may be achieved, by providing specific examples of communication that demonstrates these skills.

By using strategies to include parents in the testing process and by respecting parental knowledge, audiologists decrease their power within these appointments, which is a practice that is in contrast to clinician-centred models of medical communication (Allen, Petrisek, & Laliberte, 2001; Gwyn & Elwyn, 1999). The communication, demonstrated here, used by audiologists is closer to that of a family-centred or shared-care model of communication (Grenness, Hickson, Laplante-Lévesque, & Davidson, 2014). In the context of a hospital setting it is not unreasonable for the audiologist to take the managing lead within the appointment; instead, though, in these appointments, we saw audiologists use a collaborative approach at various points throughout the appointments.

Through the frequent and varied use of the rapport building techniques, described in detail in this paper, audiologists within the current study built clinical relationships that both respected the parents' knowledge and position as experts on their child, whilst simultaneously educating parents about hearing loss. By adopting such rapport building strategies into their own clinical practice, especially when sharing difficult diagnoses, audiologists minimised their impact on families, thus leading to a more respectful and family-centred relationship that will help to empower parents.

Though previous research has shown that the relationship between audiologists and parents is critical for parent satisfaction and uptake of hearing rehabilitation (Hasnat & Graves, 2000; Sjoblad et al., 2001; Tattersall & Young, 2006), future research is needed to determine the specific effects of rapport building strategies on the relationship from the perspectives of the parents. A limitation of this study was the small sample size, and that the audiologists had all been working together for some time. The collaborative nature of the appointments may represent the culture of this clinic in particular and may not be representative of other clinics.

## Chapter 6. The delivery of audiological diagnoses in paediatric audiology

### 6.1 Abstract

**Objective:** Delivery of the diagnosis of hearing loss in infancy has been shown to be beneficial for the long-term development of the child, however it can be a difficult time for parents. The way the diagnosis is delivered is critical to the parent's experiences and can affect their future management decisions (Matthijs, Loots et al., 2012). Despite its importance, there have been no linguistic analyses of diagnosis delivery in paediatric audiology appointments.

**Design:** Therefore, this study analysed the discourse in paediatric diagnostic audiological appointments following referral from UNHS in a specialist paediatric clinic. A linguistic discourse analysis was used to identify the linguistic strategies that audiologists used to deliver the diagnoses of normal hearing and hearing loss. Further, the topics of discussion raised by both parents and audiologists during results dissemination were identified using a thematic analysis.

**Results:** When an infant was found to have normal hearing the diagnosis was delivered explicitly and in a straightforward manner. The positive aspects of this outcome were also highlighted and the audiologists used the pronoun “we”, conveying a feeling of teamwork. In contrast, when a hearing loss was diagnosed, the diagnosis included disfluencies, the use of hedging, therefore minimising the impact, and positive aspects were also emphasised. In these cases audiologists used the pronoun “I”, thereby taking ownership of the results. Further, the topics raised by the audiologists during results dissemination were primarily

medical and procedural in nature, whereas parents were concerned with causes, treatments and experiential information.

**Conclusions:** The delivery of a diagnosis of hearing loss can threaten a therapeutic relationship (Maynard and Frankel, 2006). The use of the above linguistic strategies may serve to minimise the impact of the diagnosis, potentially preserving the clinical relationship.

## 6.2 Introduction

The introduction of Universal Newborn Hearing Screening (UNHS) in Australia in the early 2000s, shifted the time of diagnosis of permanent congenital hearing loss from an average age of 2.5 years to a few months of age (Ching, Oong et al., 2006). The benefits of early diagnosis include early access to audition (through device fitting), spoken language, and intensive speech and language training (Ching et al., 2017). These benefits are often not evident to parents at the time of the diagnosis of hearing loss, and the diagnosis itself often leads to strong negative reactions. The success of implementing any newborn screening program, in part, depends on successful communication between the parents and professionals, due to the lack of observable behaviours within a newborn which would enable parents to more easily accept a medical diagnosis. Importantly the way in which a diagnosis is delivered and the relationship between the professional and parents is a key determinant of parental satisfaction with the process and acceptance of the diagnosis (Graungaard & Skov, 2007; Grob, 2008; Sloper & Turner, 1993). In audiology, the way that a diagnosis is delivered and the relationship between audiologists and parents is critical to the uptake and success of rehabilitation (Sjoblad, Harrison et al., 2001; Matthijs, Loots et al. 2012). Studies have found that parents are very sensitive to the way in which the diagnosis is delivered and the manner of the audiologist determines how satisfied they are with the testing process (Hasnat and Graves, 2000; Tattersall and Young, 2006). It is important, therefore that the

diagnosis be delivered in a sensitive and compassionate manner in order to minimise delays with beginning the habilitation process. Whilst there is now increased interest in the area of diagnosis delivery and counselling of parents in audiology, there have been no linguistic studies looking at the way diagnoses of hearing loss are delivered.

Studies that have investigated the effects of diagnosis delivery in medical appointments have primarily focussed on the delivery of ‘bad news’ rather than good news. Much of the research in this area is concerned with patient or professional recollections of diagnosis delivery (Ptacek & Eberhardt, 1996; Fallowfield & Jenkins, 2004) rather than an analysis of how the diagnosis takes place in real time. The skilled delivery of a diagnosis is a critical element of professional practice and there are many studies which show that the way a diagnosis is delivered has far reaching consequences. That is, if a diagnosis is communicated poorly it can lead to distress, confusion and resentment (Fallowfield & Jenkins 2004; Schmid Mast, Kindlimann et al., 2005). Patients can also have difficulty accepting the diagnosis and management options when communication is poor (Davis, 1968; Vermeire, Hearnshaw et al., 2001). Further, poor communication is a major reason for most healthcare complaints (Reader, Gillespie et al., 2014). For professionals, delivering diagnoses can take an emotional toll (Lefebvre & Levert, 2006), and can lead to the deliverer becoming the recipient of anger or blame (Bies, 2013).

The classification of a diagnosis as ‘bad’ relies on the relative perceptions of those giving and receiving the news. ‘Bad news’ is classified as news that requires the receiver to have to reimagine or re-orient their life in some way, leading to uncertainty or confusion (Maynard, 1996; Maynard, 1998; Maynard & Frankel, 2006; Candlin & Roger, 2013; Lehtinen, 2013). In paediatric audiology, diagnosis of a hearing loss is not always considered ‘bad’ news. For those who are culturally Deaf, and use sign language as their main mode of communication and identifying as part of the Deaf community, the news of hearing loss in a

child can be positive. It makes sense therefore to refer to this as the delivery of ‘difficult news’, rather than bad news (Strauss, Sharp et al., 1995; Ptacek & Eberhardt, 1996; Fallowfield & Jenkins, 2004).

In a study of diagnosis delivery in primary health care in Finland, three patterns of diagnosis delivery were described; (1) plain assertions, (2) diagnoses that included inexplicit reference to the evidence used to make the diagnosis, and (3) diagnoses where explicit reference was made to the evidence used. Plain assertions made no reference to the evidence, and diagnoses were stated as factually correct and unproblematic, for example “It *is*...”, whereas diagnoses with inexplicit reference to the evidence include ‘evidential’ verbs such as “It *seems to*” or “It *looks like*” and carried a lower level of certainty to plain assertions. Finally, where direct reference to the evidence was used, the doctors position the patients as ‘understanding recipients’ of their reasoning, for example “This *result shows*...” (Peräkylä, 1998; 2006).

Adding to the difficulty of diagnosis delivery for professionals is the situation where patients do not engage in the dialogue, providing minimal responses only. This leaves the professional without a robust understanding of the patient’s understanding of the diagnosis or outcomes. For example, in a study of 71 GP appointments where a diagnosis was given, patients in about two thirds (n=48) of appointments responded with silence or only minimal acknowledgements (e.g. uh huh, yep) (Peräkylä, 2006). In another study of GP appointments, Heath (1992) found that patients were passive when receiving the diagnosis of their illness, with most diagnoses being met with only minimal acknowledgement. For patient outcomes to be maximised, both participants (professionals and patients) must engage with the discourse (Vermeire, Hearnshaw et al., 2001).



The aim of this study therefore, was to describe the ways in which audiologists approach the delivery of diagnoses, both good news and difficult news, in infant diagnostic appointments following referral from Universal Newborn Hearing Screening (UNHS). Of particular interest were the ways that the talk during delivery of the diagnosis was constructed, and the linguistic strategies used to minimise the impact of the diagnosis and the responses of parents. Descriptions of this kind can serve to build standards of practice (Maynard & Frankel, 2006), identify areas where improvement is needed or provide exemplar models of clinical service delivery. Whilst guidelines exist for the delivery of bad news in paediatric audiology (English, Kooper et al., 2004) we are not aware of any linguistic studies which examine the way the diagnosis is delivered. The content of the discussion that occurred was also analysed to determine the topics raised by both parents and audiologists following diagnosis of a hearing loss.

### **6.3 Methods**

Twenty-three audiology appointments were audio-recorded at an Australian metropolitan children's hospital audiology clinic between June-September, 2010. All infants included in this study were referred for diagnostic testing after referral from Automated Auditory Brainstem Response (AABR) screening conducted in the UNHS program. Nine of these appointments form the basis of this study. Those selected include all appointments in which a diagnosis of sensorineural hearing loss (SNHL) was delivered: three bilateral SNHL, and three unilateral hearing loss (mixed or SNHL), and a random selection of three of the remaining 14 appointments in which a diagnosis of normal hearing was delivered. These nine appointments were included in the final analysis and transcribed in full. This number was deemed sufficient for the depth of analysis that took place and is in line with similar linguistic studies of professional-patient interaction (Ferguson & Elliot, 2001; Togher, 2001; Leahy,

2004; Lehtinen, 2013). Audiologists were also encouraged to provide a reflection following the appointments and they participated in a focus group following preliminary data analysis. In this session, transcript excerpts were discussed and the audiologists could discuss what occurred and comment on the discourse. Parents were also asked to fill in a questionnaire following the appointment, however the results of this are presented elsewhere. The data was therefore comprised of four related data sources, the audio-recordings, the transcripts of these, the audiologist reflections and the focus group. Together these form a robust representation of the appointments under study.

Interactions have been transcribed using Standard English spelling. Interactions were transcribed without standardisation or editing. Acknowledgements are transcribed using standard spellings e.g. Aha, mm-hmm, yep etc. Most punctuation used in the transcripts is Standard English however = = indicates simultaneous talk. A: indicates an utterance by the audiologist, M: by the mother and F: by the father.

### **6.3.1 Participants**

The appointments were conducted by four paediatric diagnostic audiologists with more than 6 years of experience (mean 15 years). Three of the audiologists were female, one male. Given the centralised way that newborn hearing screening is conducted in New South Wales in specialist hospital-based clinics, this represents around one third of the infant diagnostic audiologists working at the time of data collection. Children diagnosed with permanent hearing loss are then referred to the federal government's hearing healthcare organisation, Australian Hearing, for device fitting and management. Therefore, only a relatively small number of paediatric audiologists are employed within these specialist clinics throughout Australia.

Parents were invited to participate in the study at the time of appointment booking by an audiologist. Consent was re-established at the time of the appointment. The study was approved and conducted under the ethical oversight of the hospital Human Research Ethics Committee and Macquarie University's Human Research Ethics Committee. Both the mother and father were present in six of the appointments, whereas three appointments were attended by the mother only. All participants were native English speakers and none identified as being culturally Deaf.

### **6.3.2 Analysis**

The nine transcripts were analysed using a sub-discipline of linguistic discourse analysis called Interactional Sociolinguistics (IS) (Gumperz, 1982) which analyses conversations in their wider socio-cultural context. IS focusses on linguistic features such as turn-taking, content, pronoun use, hedging (e.g. using mitigating words to soften the blow) and disfluencies (breaks or irregularities disrupting the fluency of speech), and draws on the analyst's knowledge of the context when interpreting the data (Marra, 2012). This analysis allowed us to make observations about the interactions that determined both what was being said and why the interaction occurred as it did. The appointments all followed the same broad structure with two clearly distinguished phases: firstly, the audiometric testing phase and secondly, the results dissemination phase. This analysis is concerned only with the results dissemination phase of the appointment, specifically, the delivery of the diagnosis which occurs at the start of the results dissemination phase, immediately following the completion of testing. A thematic analysis (Braun & Clarke, 2006) was also conducted on this appointment phase to determine the topics that parents and audiologists raised following the diagnosis of hearing loss. The thematic analysis was conducted using the steps outlined by Braun and Clarke (2006), that is, familiarising yourself with the data, generating initial codes,

collating those codes into themes, reviewing codes and defining and naming the themes. This was performed by the researcher and discussed with her supervisor to ensure agreement.

## **6.4 Results**

Multiple linguistic features occurred during the diagnosis delivery. These are discussed below and excerpts are used as illustrative examples. Differences between good news delivery and difficult news delivery within these appointments were identified and are discussed. Following this, the topics raised by both parents and audiologists when hearing loss was diagnosed are presented. There were commonalities seen in the topics raised by parents within these appointments. These were compared to the information presented by the audiologists. Each transcript is labelled with the appointment code and diagnosis. SNHL is bilateral unless otherwise specified. Transcripts are of audiologist's utterances unless otherwise specified.

### **6.4.1 Signposts**

In all appointments, the diagnostic statement was preceded by an indication that the audiological testing was complete. This was either an explicit statement that testing was complete, as seen in the following experts, or was simply the removal of the testing apparatus (electrodes and earphones) which was audible in the recording.

1. "Okay, so that's the test." *Appointment A3 Unilateral SNHL*
2. Audiologist: "Okay. I think we're all finished up now so=="  
 Mother: "Okay."  
 Audiologist: "=="I'll go through all the results for you."  
*Appointment C1 SNHL*

3. "Look, I've got all the information I need." *Appointment D3 SNHL*

The use of these signposts served to indicate to the parents that they are about to have the news delivered. This was the only indication of the move from assessment to diagnosis that occurred in this data. In this study, the diagnosis of hearing loss was never preceded by a 'warm up' statement such as "I know you have been anxious about the results of these tests" or "I have some difficult news for you".

#### **6.4.2 Good news delivery**

The delivery of good news was relatively straightforward and delivered explicitly. The following three experts are examples of this.

4. "Okay, so her hearing is great." *Appointment B4 Normal Hearing*
5. "So in both ears he's doing fine." *Appointment D2 Normal Hearing*
6. "The left ear looks perfectly okay." *Appointment A5 Normal Hearing (following unilateral referral)*

Good news was presented early on in the results dissemination phase, immediately following the signpost in all cases. It was presented directly and there were no disfluencies observed. Further, when presenting these diagnoses, audiologists did not make any reference to the evidence used.

### 6.4.3 Difficult news delivery

#### 6.4.3.1 Disfluencies

In contrast to good news, difficult news delivery contained many disfluencies, which are breaks or irregularities disrupting the fluency of speech. These can be an indication of greater cognitive demand when planning an utterance (Corley & Stewart, 2008) or difficulty of the subject matter (Bortfeld, Leon et al., 2001). The following excerpts show that multiple disfluencies (shown in *italics*) occurred in the same utterance.

7. "But his, his hearing is not too bad, um his left ear's looking like just a mild loss, which looks like, because of the fluid in his ear." *Appointment C4 unilateral SNHL*
8. "Okay, um, on an audiogram if you were to transcribe it, which strictly speaking you-with these sorts of results you can't sort of say this is equivalent to a hearing level of whatever." *Appointment B1 SNHL*
9. "I can't get in a nice response at the very softer sounds so we could-we're looking at a mild hearing loss in both ears." *Appointment D3 SNHL*

In excerpt 8 it appeared that the audiologist had difficulty finding the correct word with their use of the word 'whatever', which provides no context about what the parents' should be comparing the loss to.

#### 6.4.3.2 Hedging

Hedging, which was seen frequently during the difficult diagnosis delivery, but not observed during good news delivery, is a linguistic strategy used to minimise the impact of an utterance. It involves using mitigating words to make utterances less direct and can also express doubt about the certainty of the diagnosis (Lehtinen, 2013). The following excerpts show examples of hedging (underlined) from the data.

10. "I can't get in a nice response at the very softer sounds." *Appointment D3 SNHL*
11. "Um, his left ear's looking like just a mild loss." *Appointment C4 unilateral SNHL*
12. "The right one is a little bit worse, so it looks like he might have mild to moderate hearing loss on that side but that it might be more than the fluid." *Appointment C4 unilateral SNHL*
13. "It looks like he's got a moderate hearing loss in the left ear." *Appointment B5 unilateral mixed hearing loss*

#### 6.4.3.3 Positive Evaluation of the Results

In this data, when normal hearing was identified, positive results were emphasised by the audiologists. The following excerpts highlight the ways that audiologists use strong positive descriptors when describing these results.

14. "Now the good news is her right ear is perfectly normal. Absolutely no problems. Fantastic hearing." *Appointment A3 unilateral SNHL*
15. "So he's coming in at the levels that tell us adequate hearing for speech and language development, at least three frequencies so that's really good. So in both ears he's doing fine." *Appointment D2 Normal Hearing*

When difficult news was presented, the audiologists also made attempts to emphasise positive aspects or frame the results in a neutral way as seen in the following excerpts.

16.

Audiologist: "So, I think he has an underlying bit of hearing loss in his right ear=="

Mother: "Right."

Audiologist: "==but still only mild to moderate=="

Mother: "Okay."

Audiologist: "==levels, which is not too bad actually." *Appointment C4 unilateral SNHL*

17.

Audiologist: "So we are detecting a hearing loss, she's not getting completely down to normal, but it's quite mild =="

Mother: "Okay."

Audiologist: "==which is a pretty good result if you're going to get a hearing loss."

*Appointment C1 SNHL*

18. "The really important thing is the right ear is fine" *Appointment B5 unilateral mixed hearing loss*

19. "The left ear I'm not getting a lot of response from at all." *Appointment A3 unilateral SNHL*

In the case of excerpt 19, the audiologist later stated, when questioned by the parent, that in fact there was no response from that ear indicating a profound level of hearing loss.

#### 6.4.3.4 Pronoun use

Previous research into the delivery of good and difficult news has shown that deliverers of news typically claim credit for good news by using the singular personal pronoun "I" and whereas those delivering difficult news typically attempt to distance themselves from the news and avoid pronouns (Maynard, 1998). In this data, when pronouns were used, the opposite was seen. Audiologists used the collective pronoun "we" when delivering good news, and the singular pronoun "I" when delivering difficult news.



20. "Okay. That's it. All over Red Rover. We did really well." *Appointment D2 Normal Hearing*

In the above transcript, the use of the pronoun "we" indicated that the audiologist was not taking full ownership of the testing process and included the infant, and possibly the parents, in the process. In contrast when delivering difficult news the audiologists used the singular personal pronoun "I", taking responsibility for the diagnosis and not including the infant and parents. The audiologists also inexplicitly referenced the test results as evidence for their findings with the use of the words "getting" and "get".

21. "Okay, so I'm actually getting a mild hearing loss." *Appointment C1 SNHL*

22. "The left ear I'm not getting a lot of response from at all." *Appointment A3 unilateral SNHL*

23. "I found it a bit hard to get clear things." *Appointment C4 unilateral SNHL*

#### **6.4.4 Parent responses**

In all appointments the statement of the diagnosis was met with only minimal acknowledgements (e.g. Mm, yep, okay, alright etc.) from the parents. For example,

24.

Audiologist: "So the reason that this took so long is because I found that he has a very mild hearing loss in both ears. But it's definitely there."

Mother: "Mm-hmm."

*Appointment B1 SNHL*

25.

Audiologist: "Okay, so her hearing is great."

Father: "Good."

*Appointment B4 Normal Hearing*

26.

Audiologist: "We're looking at a mild loss in both ears."

Mother: "Mm-hmm."

*Appointment D3 SNHL*

Following these minimal responses, all audiologists immediately began discussion of next steps, identifying potential causes, arranging follow up appointments and so forth.

#### **6.4.5 Content: Topics discussed in results dissemination**

When a child was diagnosed with a hearing loss, the resulting explanations by the audiologists all included the following broad topics: 1. The nature of the loss (ears affected, degree, and permanence); 2. Potential causes; 3. Developmental effects of hearing loss (speech and language development, difficulties expected etc.); 4. Aspects of audiological management (hearing aids, monitoring etc.); 5. Medical management and investigations (paediatrician, genetics counsellor, urinalysis etc.); 6. Information sources (written information, parent-to-parent support programs etc.); and, 7. Questions (if they had any then, how to get answers to questions they think of later). There was variation seen in the specific

elements discussed within these topics as they were tailored to the particular diagnosis. Table 6.1 summarises the topics raised by the audiologists during the results dissemination in each of the appointments where a hearing loss was diagnosed. The information and topics presented by the audiologists were quite medically and procedurally oriented, rather than socio-emotional.

There were commonalities in the topics or questions raised by parents whose infants were diagnosed with hearing loss. With the majority of questions related to the following topics: 1. Percentage hearing loss, 2. What the child is hearing (experiential questions), 3. Treatment (with a focus on curative treatment), 4. Causes, 5. Tracking type questions (confirming/clarifying/checking understanding) and 6. Administration. One mother asked about swimming, balance issues and stigma. One father asked about the likelihood of deterioration and expressed concerns about musical ability.

Table 6.2 provides examples of the topics raised by parents whose infant was diagnosed with a hearing loss.

**Table 6.1. The topics raised by audiologists during the results dissemination phase when a hearing loss was diagnosed.**

	Appointment	A3	B1	B5	C1	C4	D3
<b>Hearing loss:</b>							
Permanent		X	X	X	X	X	X
Temporary/Conductive				X		X	
Unilateral		X		X		X	
Bilateral			X		X		X
Degree		X	X	X	X	X	X
Audiogram			X	X	X		X
Result Waveforms				X			
Model of Ear							X
<b>Possible causes:</b>							
Don't know reasons		X	X				
Investigation of cause		X	X	X	X	X	X
Urinalysis		X	X	X	X		X
Scans-MRI/CT		X			X	X	X
Family audiometry					X		
<b>Developmental effects:</b>							
Speech and language		X	X	X	X	X	X
School		X		X	X	X	X
Difficulties in background noise		X		X	X	X	
Possibility of deterioration		X	X			X	X
Effects of transient otitis media		X		X	X	X	
<b>Audiological Management:</b>							
Hearing Aids		X	X		X	X	X
CIs		X				X	X
Monitoring		X		X	X		X
Australian Hearing		X	X	X	X	X	X
Keep interacting-singing, talking							X
<b>Medical management:</b>							
Social worker		X	X	X	X	X	X
Paediatrician		X	X		X	X	X
ENT					X	X	
Genetics counsellor		X	X	X	X	X	X
GP		X			X	X	
<b>Information sources:</b>							
Written information-provided		X	X	X	X	X	X
Useful websites		X					X
Parent to parent support		X	X		X	X	X
Unilateral hearing loss seminars		X		X			
<b>Emotional reaction</b>					X	X	X
<b>Any questions?</b>		X	X		X		X
How to contact			X	X	X	X	

**Table 6.2. Topics raised by parents following a hearing loss diagnosis in their infant.**

Topic	Examples
Percentage hearing loss	“Do you know what is the percentage of hearing loss or you don’t know that or you do know that?” <i>A3 mother</i>
	“So on a percentage what’s...” <i>B5 father</i>
	“Um with, with that I-I know it’s tough to say, but say a normal person is 100% hearing-” <i>B1 father</i>
What the child is hearing (experiential questions)	“So, what could he hear? He could only hear loud noises, so he can still hear; it’s not-” <i>C4 mother</i>
	“Say I had those right now, was talking-would I be able to-” <i>B1 father</i>
	“So can he hear me at the moment?” <i>C4 mother</i>
	“Okay, so he wouldn’t be able to hear what you’re saying?” <i>D3 father</i>
Treatment	“So what can we do to fix-” <i>C1 mother</i>
	“Do you um do you have much knowledge in um in what they, in treat- in treatments and things like with, it’s obvio- so it’s, it’s an inner ear problem are the inner ear, are they normally like ah treatable or...” <i>B1 father</i>
	“So is it something that you then replace the cochlea? Like there are cochlear implants?” <i>C4 mother</i>
Causes	“Would there be anything that’s causing that? Would it be temporary?” <i>C1 mother</i>
	“Are there any common causes?” <i>C1 mother</i>
	“Right. Is it to do with prematurity or is it to do with-” <i>C4 mother</i>
Tracking (confirming/clarifying/checking)	“What’s bilateral loss? What do you mean by it?” <i>C4 mother</i>
	“Right. He’s not at that stage?” <i>C4 mother</i>
	“So he needs to be down the front?” <i>D3 Father</i>
Administration	“When was that appointment, sorry? You said it was...” <i>C1 mother</i>
	“Will the paediatrician follow that up?” <i>C4 mother</i>
	“Do we need to have anything, sort of, marked into here?” <i>D3 Father</i>

Tables 6.1 and 6.2 show that audiologists provided information on a broad range of topics, whereas parents were primarily concerned with only three aspects; (i) what the child can hear, (ii) what caused the loss, and (iii) how it can be treated.

## **6.5 Discussion**

This research showed that when delivering a diagnosis of hearing loss the audiologists in this study used strategies to minimise the seriousness of the diagnosis, mitigating difficult news with hedging, and emphasising the positive aspects. All the audiologists used the singular pronoun “I” and multiple disfluencies were apparent. In contrast, when delivering good news, audiologists used the plural pronoun “we” and no disfluencies were observed. However again, the positives were emphasised. In all cases, both good and difficult news, parents provided only minimal acknowledgements in response to the statement of the diagnosis.

According to Maynard and Frankel (2006), difficult news threatens the professional-client relationship in a way that good news does not. They posit that good news is presented explicitly whereas difficult news is cloaked in order to enhance solidarity. This was observed in the data where good news was delivered in an explicitly positive manner and difficult news was delivered in a way that mitigated the impact and positives were emphasised. Unfortunately, the presentation of difficult news in this way can have a negative effect, serving to minimise concerns or belittle worries that parents may have (Clark & English, 2004; Lambert, 2012; Renzi, Whitaker et al., 2015). This type of mitigation can serve to protect the professional rather than the parent by providing ‘optimistic assertions’ that are not truly warranted (Teasdale, 1992). In the case of excerpt 17, the audiologist has confirmed the mother’s anxieties that her infant has a permanent hearing loss; however, the audiologist stated that it “is a pretty good result if you're going to get a hearing loss”. This ambiguous

statement is unlikely to have a positive effect and may lead to the mother feeling that her emotional response to the diagnosis is an over-reaction (Clark & English, 2004). This is not aligned with the aims of the appointment and can threaten the clinical relationship that has been developed.

When diagnoses are delivered in medical appointments, doctors often refer to test results and supporting information when making their diagnostic statement (Heath, 1992; Slade, Scheeres et al., 2008). In this study, the diagnosis was positioned directly after the assessment, minimising the inferential distance between the diagnosis and the evidence for the diagnosis. In this data, the audiologists made reference to the evidence in all cases where a hearing loss was diagnosed, but in doing so, they designed their utterances so that they only inexplicitly referenced the evidence for their diagnostic conclusion. In one appointment though, the audiologist also explained the tests results to the parents. No reference was made to the evidence when normal hearing was found and these results were presented as plain assertions (Peräkylä, 1998). This news is likely seen as unproblematic and non-threatening to the professional-client relationship.

The pronoun use found in this data of the current study was different to that described by Maynard (1998) where, in both medical and non-medical encounters, those delivering good news ‘take credit’ for the news, therefore emphasising their responsibility for the good news, with the use of the singular pronoun “I”. In Maynard’s data, those delivering bad or difficult news distanced themselves from the news, avoiding the use of “I”. This was not observed in the data of the current study, as the audiologists used the singular pronoun for the difficult news delivery, and the collective pronoun for good news delivery. It is unclear why this was the case, however it is known that parents, especially mothers, often blame themselves for illness and disability in their child (Heidari, Hasanpour, & Fooladi, 2013; Kurtzer-White & Luterman, 2003; Olshtain-Mann & Auslander, 2008). It may be that the use

of pronouns in this way serves to mitigate that situation, with the audiologist taking responsibility for the results.

When speaking as a member of an organisation people often refer to themselves as “we” rather than “I” to signal their role within the organisation. It is also common to see people switch between “we” and “I” in the same utterance to signal both their role as an independent person versus their role as part of an organisation. Speakers choose the appropriate descriptive word to signal their role (Drew & Heritage, 1992). It may follow then, that audiologists make use of this to signal the relative roles of the parents in the audiology appointments. They use both “you” to signal the parent’s role as an individual and “we” to signal the parent’s role as part of the rehabilitation ‘team’.

Parents responded to the diagnosis with only minimal acknowledgements, showing that they took a passive role in the diagnostic phase of the appointment. This is similar to a finding by Heath (1992) who found that patients in general practice appointments were reluctant to respond to the diagnosis with anything more than acknowledgement. Parents can have different levels of readiness to hear a diagnosis (Klein, Wynn et al., 2011) and this can affect their participation within an interaction. Similarly, hearing a diagnosis and realising the implications are different processes and can occur separately. That is, a patient can intellectually understand a diagnosis at the time of diagnosis delivery that is followed by a slow realisation of the repercussions of the diagnosis that can happen much later (Schaepe, 2011). Literature in this area recommends the use of ‘forecasting’ to prepare clients to receive difficult news (Maynard, 1996), such as “I am afraid I have difficult news” or “The results are not what we hoped for”. The use of forecasting was not observed in this study, although there was warning that the diagnosis was to be delivered through the use of signposts, the characteristics of the diagnosis were not presented.



A lack of response following diagnosis delivery can be problematic in audiological practice. Guidelines for delivering diagnoses recommend that the diagnosis be targeted to the level of understanding of the parents, and that information should be given only when parents request it (Clark & English, 2004). In order for this to occur, parents must first be encouraged to talk. Strategies exist in order to encourage parent participation. A longer pause after the delivery of the diagnostic statement, before discussion of management options may encourage participation, or indeed a direct invitation to respond may be worthwhile. Heath (1992) recommends that beginning the delivery of a diagnosis with a question can increase participation. For instance by asking, “If I were to tell you that there is a permanent hearing loss, would that fit with your expectations?” the parent must consider the possibility of a loss and present information about their expectations. The audiologist is then able to manage any uncertainties the parents may have and frame the diagnosis in a way that reflects the parent experience. This can be followed up with subsequent questions (e.g. “How do you feel about that?”) to encourage further participation. Another tactic to encourage client response is to present the diagnosis as being surprising, or in opposition to their expectations (Heath, 1992; Peräkylä, 2006).

Finally, we saw that audiologists provided information on a wide range of topics in the results dissemination phase of the appointment. In contrast, parents were primarily concerned with understanding the experiential effects of the hearing loss, causes and treatment options. Information about the cause of hearing loss was rated as a priority information need at the time of diagnosis in a study by Roush and Harrison (2002), as was information about managing emotional reactions and understanding hearing and hearing loss. In another study, parents reported adequate information about hearing loss and therapeutic options, however prognostic and developmental/experiential information was lacking (Fitzpatrick, Graham et al., 2007). In our study, the audiologists’ discussion topics were quite

skewed to the medical and procedural aspects and this has been seen in other studies (Matthijs, Loots et al., 2012). As we have seen from the literature, the communication that takes in diagnostic appointments and the information provided helps influence parents later decisions regarding habilitation (Sjoblad, Harrison et al., 2001; Young, Jones et al., 2005; Porter & Edirippulige 2007; Matthijs, Loots et al., 2012). A disconnect was seen in the information provided by audiologists and the information sought by parents. It may be pertinent then to prioritise parent questions and concerns in the initial discussions, and then discuss procedural issues once the parents' concerns have been addressed.

This study is the first linguistic analysis of the patterns of talk used in the delivery of diagnoses in paediatric audiology. It showed that there were some parallels with the delivery of diagnoses in medicine with the clinicians' use of hedging and emphasis of positive aspects, however there are also differences, as seen with the use of pronouns. We found that delivery of a diagnosis of normal hearing was explicit and straightforward, whereas the delivery of the diagnosis of hearing loss was presented with disfluencies, hedging and emphasis on positive elements, thereby minimising the impact. This study included only a small number of audiological diagnoses (9) from only one diagnostic centre; therefore, it would be useful to determine whether similar practices are observed in other centres. To fully understand the effects of engagement within the diagnostic phase of the appointment, parent satisfaction with different methods of diagnosis delivery should be investigated. Audiological research has shown that the way that a diagnosis is delivered can either facilitate or hinder parent acceptance of the diagnosis and willingness to seek management for their child's hearing loss (Sjoblad, Harrison et al., 2001; Young, Jones et al., 2005; Porter & Edirippulige, 2007; Matthijs, Loots et al., 2012). It is therefore important that the diagnosis of hearing loss is delivered using a number of communication strategies, including forecasting, a longer pause after stating the diagnosis and prioritising parent questions before procedural information so

that audiologists can maximise their professional effectiveness when delivering ‘difficult news’ to parents of infants.

## Chapter 7. Emotions and empathy in paediatric audiology appointments

### 7.1 Abstract

**Objective:** Parents of infants and children diagnosed with hearing loss report wanting to have the diagnosis delivered in an empathetic way by an empathetic clinician (Luterman & Kurtzer-White, 1999; Russ et al., 2004), however there is evidence to suggest that this does not occur consistently (Gilbey, 2010). Clinical empathy is associated with greater client satisfaction, greater adherence to treatment and better treatment outcomes (Adams et al., 2012; Blanch-Hartigan, 2013; Finset, Heyn, & Ruland, 2013) Despite its importance, it is an under researched topic in paediatric audiology.

**Design:** This study defined empathy as the ability to understand the emotions of others, and investigated expressions of empathy by audiologists in infant diagnostic appointments. Following the model of Schuman and Colleagues (1997), parent expressions of their emotion were described as being ‘direct’ or ‘indirect’ and responses to these were described as being ‘continuers’, ‘neutral’ or ‘terminators’. Continuer and neutral responses were determined to be more effective at conveying empathy as they allowed for exploration of the emotion, whereas terminator responses were less effective, as they prevented exploration of the emotion.

**Results:** Parents initiated the discussion of emotion, primarily in a direct way, with explicit expressions of their emotional state. Audiologists were inconsistent with their responses to these, with ‘continuer’, ‘neutral’ and ‘terminator’ responses evident across all appointments. When audiologists responded with ‘terminator’ responses, parents repeated

their emotional expression, providing further opportunity for the audiologists to respond with empathy.

**Conclusions:** That parents initiated discussion of emotion within this study confirms previous findings that parents' need empathy from audiologists. Further, when parents were provided with 'terminator' responses they repeated their expressions of emotion, sometimes multiple times, thereby preventing the conversation from moving forward and increasing appointment time. Health-care practitioners, including audiologists have a professional obligation to respond with empathy and help parents to manage their emotional reactions to the diagnoses that they deliver.

## 7.2 Introduction

Research looking at interaction in clinical settings has shown that empathy is a critical element in clinical communication (Adams et al., 2012; Blanch-Hartigan, 2013; Finset et al., 2013). Empathy is the ability to understand the feelings of another person. Empathy is variously described as a feeling or an expression and research on empathy is challenging and complex (Frankel, 2009). The ability to demonstrate empathy is associated with increased patient satisfaction, better patient outcomes, better adherence to treatment and faster symptom resolution (Adams et al., 2012; Blanch-Hartigan, 2013; Finset et al., 2013). Further, the absence of empathy in clinical communication is a contributing factor in many healthcare complaints (Schuman, Markakis, Beckman, & Frankel, 1997). There is a body of literature looking at expressions of empathy in medical encounters (Finset et al., 2013; Pedersen, 2009; Pollak et al., 2007; Zimmermann, Del Piccolo, & Finset, 2007) however there are fewer in audiology (Ekberg, Grenness, & Hickson, 2014; Gilbey, 2010; Rogers et al., 2016). Primarily, audiological studies of empathy investigate client recollections of empathy (Gilbey, 2010; Luterman & Kurtzer-White, 1999). These studies have found that parents of

infants diagnosed with hearing loss want the news delivered by empathetic clinicians (Luterman & Kurtzer-White, 1999; Russ et al., 2004) however they also suggest that parents are not receiving the empathy that they need (Gilbey, 2010). In a study investigating the expression of empathy in clinical interactions in adult audiology, it was found that psychosocial concerns raised by adult clients are often not appropriately responded to by audiologists (Ekberg, Grenness, et al., 2014). Given the issues raised by the above studies, this study investigates the expression of empathy in clinical interactions, recorded in real-time, in paediatric audiology. In this chapter, we describe the elements of communication from our recorded data that signal parents' needs for empathy in the context of audiological appointments that include the diagnosis of hearing loss in infants, as well as audiologists' responses to these.

In clinical appointments, when a client expresses an emotion or a concern this presents an 'empathic opportunity' for the clinician. There is variation in the literature as to the definition and description of these empathic opportunities, with the words 'cue', 'concern' and 'emotion' commonly used (Zimmermann et al., 2007). In general, however, 'concerns' often refer to direct expressions of emotion, for example "I am sad". 'Cues' refer to indirect expressions of emotion, where a client makes an expression that could reasonably be assumed to have an emotional basis, for example "This isn't what I was expecting" (Finset et al., 2013; Zimmermann et al., 2007). Previous research has shown that doctors are more easily able to identify direct expressions of emotion than indirect expressions (Butow, Brown, Cogar, Tattersall, & Dunn, 2002). Only occasionally within the literature is a distinction made between who initiates the disclosure or discussion of emotion, the client or the clinician (Finset et al., 2013).

Emotion may be conveyed with vocal qualities, such as tone, timbre, speech rate and loudness. Whilst much of the research exploring the decoding of emotional communication

focussed on body language and facial expression (Thompson, 2010), there is an increasing body of evidence looking at the relative contributions of different vocal qualities on the expression and understanding of human emotion (Gobl, & Chasaide, 2003; Scherer, 2003). Studies looking at decoding emotion, that is, listening to speech and correctly identifying the emotional state of the speaker, show that on average, listeners are able to correctly identify the emotion 60% of the time. This is approximately 5 times higher than if listeners had responded randomly (Scherer, 2003). Further, similar levels of accuracy are seen when listeners are asked to decode emotion from speech in a language they do not speak (Klaus, Scherer, Banse, & Wallbott, 2001). When emotion is conveyed in healthcare appointments, correct identification of the emotion is not required to respond appropriately. Rather, it is only necessary that the professional identifies that an emotion is being conveyed, and an empathic opportunity has arisen, in order for them to respond with empathy.

In order to convey empathy in response to an empathic opportunity, the clinician must first recognise the opportunity, correctly identify the emotion being expressed, and then effectively communicate back to the patient that they have understood that emotion, so that the patient themselves feels understood (Schuman et al., 1997). There are also differences in the way that studies define and describe the responses to empathic opportunities. In their study of medical appointments Schuman and colleagues (1997) studied transcripts of appointments to develop a model for describing interactions that constitute empathy in action. They described both direct and indirect opportunities within their data and the responses to these. Direct expressions were referred to as ‘empathic opportunities’, and indirect expressions as ‘potential empathic opportunities’. Responses were then referred to as either ‘continuers’, which was direct clinician recognition of the expressed emotion, or ‘terminators’, a clinician’s expression immediately following an empathic opportunity that directs the conversation away from the implied emotion. Similarly, other linguistic studies

(Adams et al., 2012) have described responses as being either ‘toward the emotion’, ‘away from the emotion’ or ‘neutral’. It can be stated that ‘continuers’ or ‘responses toward the emotion’ are more effective responses, allowing for exploration of the client concerns, and ‘terminators’ or ‘responses away from the emotion’ are less effective responses, as they do not allow for further discussion. ‘Neutral responses’ are primarily acknowledgements and/or clarifying questions which have also been found to be useful (Jansen, van Weert et al., 2010). Further studies have shown that even simply providing ‘minimal continuers’ following empathic opportunities (for example, “Mm hmm”, “go on”) are helpful for patients (Jansen et al., 2010). One study found that clinicians were more likely to allow for exploration of the emotion if the clinicians themselves initiated the discussion (Finset et al., 2013).

As previously stated, patient satisfaction with the clinical encounter is increased when doctors’ respond appropriately to their expressions of emotion. Increases in satisfaction can also occur when the clinician attempts to respond with empathy, despite incorrectly identification of the emotion that is being expressed. A study investigating emotional cues and doctors’ responses to these found that failing to respond to an emotion was more detrimental to patient satisfaction than wrongly identifying the emotion (Blanch-Hartigan, 2013). Even ‘neutral responses’, such as acknowledgements, appear to be more helpful for the patient than no response (Jansen et al., 2010). This finding again suggests that patients want to talk about their emotions in clinical appointments and have them acknowledged or responded to.

Other aspects of providing empathy in clinical interactions include listening, which is described by patients to be a defining feature of a good doctor (Jagosh, Donald Boudreau, Steinert, MacDonald, & Ingram, 2011), and providing space and time for the patient to disclose their emotions. Simply allowing the patient to express themselves and listening to



their expressions has been shown to strengthen relationships, and act as a therapeutic agent leading to better outcomes (Finset et al., 2013).

Question asking behaviour can be an indication of an unmet emotional need.

Luterman (1996) described three main types of motivation behind questioning by parents in audiological appointments. Questions were defined as: 1. 'content based', used purely for the purposes of gathering factual information; 2. 'confirmational', to confirm an opinion they already have; and, 3. 'affective/emotional', based on an emotional concern. Emotional questions may appear to be technical or content based on the surface and the underlying emotion may be missed (Clark & English, 2004). However, if something is of importance to the speaker then it is likely to be repeated (Kotjan, Purves, & Small, 2013; Zimmermann, Del Piccolo, & Finset, 2007). In this way we may see what on the surface appear to be seemingly technical questions repeated, if the underlying emotion is not attended to. This repetition again suggests a desire of patients to have their emotional needs attended to. Similarly, repetition of neutral statements has also been shown to indicate potential emotional importance to the speaker (Luborsky, 1994; Zimmermann, Del Piccolo, & Finset, 2007).

A commonly reported barrier to providing empathy and exploring emotions with clients is available appointment time (Derksen, Hartman, Bensing, & Lagro-Janssen, 2016; Halpern, 2003; Pedersen, 2009). Clinicians have reported feeling that they do not have enough time within their appointments to provide counselling to their clients. This is perhaps a difficult barrier to overcome, as appointment times will be influenced by many external institutional factors. However, there is evidence to suggest that by avoiding discussion of emotion when it arises during appointments, appointment time increases. As stated above, when clients do not have their emotional needs met they often repeat their concerns (directly or indirectly) until they are acknowledged (Ekberg, Grenness, et al., 2014; Kotjan et al., 2013), thereby increasing appointment time (Pollak et al., 2007). In their study of oncologists,

Butow and colleagues (2002) found that when doctors correctly responded to patient emotional cues appointment time was shorter than when cues were missed. Again, the study showed that patients whose cues were missed were more likely to provide additional cues than those whose cues were addressed.

Despite the importance of responding appropriately to emotional expressions, we are unaware of any linguistic studies looking at expression of and responses to emotion in paediatric audiology appointments. Therefore, this study explored emotional expressions and opportunities for empathy in infant diagnostic appointments following referral from Universal Newborn Hearing Screening (UNHS). Of particular interest to us, were the following questions: were emotions discussed in these appointments; were emotions expressed directly or indirectly; who initiated discussion of emotions; and, if parents expressed emotions, how did the audiologists respond? In this study, we created a number of linguistic categories to describe the different kinds of utterances used by both clinicians and audiologists during these kinds of appointments. Our categories were adapted for the purposes of this study from those used by Schuman and Colleagues (1997), and include both direct and indirect opportunities and the responses to these. Responses were defined as either ‘continuers’, ‘neutral responses’ or ‘terminators’ (see below for a detailed description of these categories). It was our understanding from the literature that ‘continuers’ and ‘neutral responses’ are more effective as they encourage further talk or expression of the emotions, and ‘terminators’ are less effective. In this study, we examined transcripts of recorded appointments between parents and audiologists, to analyse the linguistic contributions of both in detail. Our aim was to understand the dynamics that occur during conversations between parents and audiologists in appointments when parents first discover that their children have a hearing loss.

### 7.3 Methods

Twenty-three audiology appointments were audio-recorded at an Australian metropolitan children's hospital audiology clinic between June-September, 2010. All infants included in this study were referred for diagnostic testing after referral from Automated Auditory Brainstem Response (AABR) screening conducted in the UNHS program. Nine of these appointments form the basis of this study. Those selected include all appointments in which a diagnosis of sensorineural hearing loss (SNHL) was delivered: three bilateral SNHL, and three unilateral hearing loss (mixed or SNHL); and a random selection of three of the remaining 14 appointments in which a diagnosis of normal hearing was delivered. The nine appointments were included in the final analysis and were transcribed in full. This number was deemed sufficient for the depth of analysis that took place and is in line with similar linguistic studies of professional-patient interaction (Ferguson & Elliot, 2001; Leahy, 2004; Lehtinen, 2013; Togher, 2001). Audiologists were also encouraged to provide a reflective expression following the appointments and they participated in a focus group following preliminary data analysis. In this focus group session, transcript excerpts were discussed and the audiologists could discuss the scenarios and comment on the discourse. Parents were also asked to fill in a questionnaire following their appointments, the results of which are presented elsewhere. The data in the final analysis presented here consisted of the original audio-recordings of the appointments, the transcriptions of those recordings, the reflections of the audiologists and the responses of the audiologists during the focus group session. Together, these four sources of data provide a robust representation of the appointments under study (Iedema, 2007).

### **7.3.1 Participants**

The appointments were conducted by four paediatric diagnostic audiologists with more than 6 years of experience (mean 15 years). Three of the audiologists were female, one male. Given the centralised way that newborn hearing screening is conducted in New South Wales in specialist hospital-based clinics, this represents around one third of the infant diagnostic audiologists working at the time of data collection. Following a single diagnostic appointment, infants diagnosed with permanent hearing loss are referred to the federal government's hearing healthcare organisation, Australian Hearing, for device fitting and management. Therefore, only a relatively small number of paediatric audiologists are employed within these specialist clinics throughout Australia, and hence the limited number of paediatric diagnostic audiologists available for the study.

Parents were invited to participate in the study at the time of appointment booking by an audiologist. All parents with competence in English (i.e. those that did not request an interpreter) were invited to participate. Consent was re-established at the time of the appointment. The study was approved and conducted under the ethical oversight of the hospital Human Research Ethics Committee and Macquarie University's Human Research Ethics Committee. Both the mother and father were present in six of the appointments, whereas three appointments were attended by the mother only. All participants were native English speakers. None identified as having a hearing loss or being Deaf.

### **7.3.2 Analysis**

A qualitative discourse analysis was performed. This discourse analysis is based on that used in the field of Interactional Sociolinguistics (IS) as defined by Gumperz (1982). Discourse analysis allows us to make observations about interactions that determine both what is being said and why the interaction occurs as it does. Discursive studies have been

used in multiple healthcare fields to describe patient-professional interaction (Candlin & Roger, 2013). This study focusses on opportunities for empathy and the responses that are provided to these and we adapted the categories outlined by Schuman and Colleagues (1997). Examples are provided below. Researcher (RK) performed the coding, and a random sample of 10% was re-coded and cross-checked by another researcher. Discrepancies were discussed until there was 100% coding agreement between the researchers.

All the transcripts are written in Standard English and are transcribed without standardisation or editing. Non-standard spellings are used when they are needed to capture idioms or idiosyncrasies (e.g. gunna). Most punctuation used in the transcripts is Standard English however = = indicates simultaneous talk.

The data consists of the original audio-recordings, and the transcripts are representations of such. Transcripts alone cannot represent the richness of the original data, and cannot capture tone or other vocal qualities. The analysis of this data required repeated and systematic assessment of the audio recordings themselves. Emotion can be conveyed with multiple vocal qualities such as pitch, timbre, intensity and rate of speech. When inferring emotion, listeners use the multiple cues provided by the speaker's voice to determine the most likely emotion being expressed (Thompson, 2010). In this study, the researcher and her supervisor discussed the presence of emotionality in utterances, but did not attempt to define the emotion being expressed. The recognition of an empathic opportunity, and appropriate response to such, require only recognition that an emotion is being expressed, not correct identification of the emotion.

### **7.3.3 Definition of Empathic opportunities**

Here we provide examples of each category of empathic opportunity represented in our data, including direct and indirect expressions of emotion, and the responses to these,

which we define as ‘continuers’, ‘neutral responses’ and ‘terminators’. Empathic opportunities were defined as being ‘direct’, when an emotion was expressed explicitly (underlined below), and included crying, even though the emotion was not explicitly verbalised, or ‘indirect’ which were utterances where it could be logically assumed that there is an underlying emotion. Each transcript is labelled with the appointment code and speaker.

In brief, our categories are as follows:

#### *Direct expressions of emotion*

1. “Well it has been ever since I've known about it so...It's always been a bit of a worry.”  
*Mother appointment A5*
2. “I'm a bit stressed.” *Mother appointment B1*

#### *Indirect expressions of emotion*

3. “Yeah, I guess if we know why it happened too then it could also just reassure us as to it's just that ear and that was the problem and it's not going to happen.” *Mother appointment A3*
4. “At least he's not completely deaf?” *Mother appointment B5*

Responses were defined as being: ‘continuers’, where further exploration of the emotion was encouraged or the emotion was stated, validated or normalised; ‘neutral responses’, which were acknowledgements or clarifying questions; and, ‘terminators’, where the emotion was not responded to and often the topic is changed.

#### *Continuers*

5. “I know it's difficult for you.” *Audiologist appointment B5*
6. “Oh okay. So what kind of problems did you have?” *Audiologist appointment D2*

#### *Neutral responses*

7. "Yeah." *Audiologist Appointment C4*
8. "Oh okay." *Audiologist D3*

### *Terminators*

9. "Look, here's a tissue. I'll leave you for a couple of minutes so you can just get used to what I've said because, yeah, it is an impact and it's quite fine to be that way."  
*Audiologist appointment D3.*
10. "Um, so I don't really want you to be thinking ah in too great detail about all this stuff, um right now." *Audiologist appointment B1*

We hypothesised that the audiologists in our recorded data were not aware that they blocked patients' requests for their emotional needs to be met, by using 'terminators', nor were they aware of the frequency with which they did this during appointments when parents first discovered that their children had a hearing loss, and when their emotional needs were heightened.

## **7.4 Results**

All appointments in the data set presented empathic opportunities. Primarily, we found that emotional expressions were initiated by the parents and were direct. In this section, we examine both indirect and direct expressions made by parents, and the responses used by audiologists to these, in context, to better understand the impact they have on conversation with parents. We will also examine and compare the effect of the three different audiologists' responses to the parents' need for emotional support, that we identified in our data, namely 'continuers', 'neutral responses' and 'terminators'. We will see that the use of 'continuers' and 'neutral responses' keep the discourse open and allow audiologists the opportunity to respond in an empathetic way, while the use of 'terminators' close off opportunity for the

audiologist to offer expressions of empathy, and often lead to clients making further attempts to seek emotional support.

Firstly, we discuss direct expressions of emotion and the responses to these. Following this, indirect expressions of emotion and their responses are discussed. In this data, we also saw that parents repeated questions and continued to direct the conversation back to areas of importance, thus signalling an underlying concern. Finally, we discuss clinician-initiated discussion of emotion.

#### **7.4.1 Direct expressions of emotion**

All but one appointment within the data set included direct expressions of emotion initiated by the parents. That one particular appointment was unusual in that the infant concerned had in fact previously passed the hearing screening, however was sent for diagnostic assessment due to a cleft palate. In that sense, the appointment was primarily a confirmation of normal hearing. The appointment did however include empathic opportunities, when the audiologist was discussing the cleft palate and the surgical schedule with the parents, and when they were discussing the logistics of having a newborn.

There was a range of responses provided to direct expressions of emotion. In the excerpts below, we see how effectively the use of a ‘terminator’ by the audiologist closes down the conversation, and how the use of a ‘continuer’ keeps the conversation open, and allows the audiologist the opportunity to make an empathic contribution. In the following two excerpts from the same appointment, the audiologist is seen first providing both a ‘terminator’ response, which is less effective, and later, a ‘continuer’ response. These two excerpts are presented in the order in which they occurred in the appointment.



*Excerpt 11a, Appointment D3 (2 hours, 29 minutes)*

Father: "Is he likely to have to have a hearing aid throughout his life?"

Audiologist: "In listening situations, yeah."

Mother: (Begins crying)

*Direct Expression of Emotion*

Audiologist: "Look, here's a tissue. I'll leave you for a couple of minutes so you can just get used to what I've said because, yeah, it is an impact and it's quite fine to be that way.

*Terminator*

I'll be back in a tick, okay? I'll leave you to it."

In the above transcript the audiologist firstly gave the mother a tissue and then stated that they, the audiologist, would leave the room in response to the mother's crying, thus closing off an opportunity to explore the emotion. Providing the mother with a tissue and leaving the room signals that the communication was over for now. It may also have signalled to the mother that the audiologist was not comfortable with her expression of emotion.

*Excerpt 11b, Appointment D3 (2 hours, 54 minutes)*

Mother: (Crying) "Sorry."

*Direct Expression of Emotion*

Audiologist: "No, no reason to be sorry. Look, that's probably the first of a few tears and that's just you know - he's still the same boy that you walked in with but I've told you some news which, to some extent, will impact on his life, okay then, and you know possible prospects and everything that you've had. Nothing's changed okay. It's just that we know that he's got a hearing loss."

*Continuer*

In contrast to excerpt 11a, in excerpt 11b, the emotion was met with a ‘continuer’ response and validation of the emotion, when the audiologist stated that this is “probably the first of a few tears”.

The next two examples are from different appointments and again show the contrasting effects of ‘terminators’ and ‘continuers’.

*Excerpt 12, Appointment B1*

Audiologist:	“Um, it’s a free clinic and you get a paediatrician a genetics counsellor um an audiologist, social worker and you get to ask us any questions that you might have, ah and any you know, ask for any advice what to do next where to go: I’m having trouble with this that or the other, I didn’t follow what this Australian Hearing person said can you explain it to me better. Um, should we get any other tests done, can you tell me what these um blood test results.”	
Mother:	“Yep.” (voice wavering as beginning to cry)	<i>Direct Expression of Emotion</i>
Audiologist:	“Um, so I don’t really want you to be thinking, ah in too great detail about all this stuff um right now, read through the literature, um jot down questions that you might have-“	<i>Terminator</i>
Mother:	(stronger crying) “Sorry.”	<i>Direct Expression of Emotion</i>
Audiologist:	“That’s okay, that’s what the tissues are there for- um for the- the hearing support appointment which I’ll-unfortunately we don’t have any until September and that’s why it’d be good to get some of these other tests done beforehand if we can so that you don’t have to wait until after September to get them done.”	<i>Terminator</i>

In the above transcript, the first direct expression of emotion was conveyed with tone of voice, the mother’s wavering voice signalled she was on the verge of tears. The audiologist

replied with a ‘terminator’ and the mother then apologised for her emotion. The audiologist again replied with a ‘terminator’, by attempting to move the conversation onto appointment administration. The apology of the mother is a signal that she felt that her emotional reaction was not appropriate.

*Excerpt 13, Appointment C1*

Mother:	(Crying)	<i>Direct Expression of Emotion</i>
Audiologist:	“Do you need anything? Can I get you anything?”	<i>Continuer</i>
Mother:	“No, I’m okay. Just a bit shocked.”	<i>Direct Expression of Emotion</i>
Audiologist:	“It is a shock. You don’t want a water or anything?”	<i>Continuer</i>
Mother:	“No, I’m okay thanks.”	

In contrast, excerpt 13 demonstrates the use of ‘continuer’ responses. The audiologist first replied to the emotion, the mother’s crying, with a ‘continuer’, which then led the mother to articulate her emotion. This again was met with a ‘continuer’ by way of validation and repetition of the emotion when the audiologist stated, “It is a shock”.

#### **7.4.2 Indirect expressions of emotion**

Indirect expressions of emotion were utterances that could be reasonably assumed to have an underlying emotional basis, as signalled by the expression of a negative experience or concern. As mentioned above, in the data, when opportunities to show empathy were missed, parents frequently provided the audiologist further opportunity, either by repeating their questions or making their emotional expressions more explicit. In the following two

excerpts, the mother first provided a cue to her emotions, by making it clear that the news is unexpected, with an indirect expression of emotion.

Excerpt 14a, Appointment A3

- |              |  |                                       |
|--------------|--|---------------------------------------|
| Mother:      | “Also just caught off - I guess we kind of, well I did, I didn’t think there’d be anything wrong at the end of the day. I just figured she’s a bit congested and yeah alright, she’s not passed a few times, but didn’t really expect that kind of an outcome to be honest.” | <i>Indirect expression of emotion</i> |
| Audiologist: | “I guess, um, a question you haven’t thought of, but you’ll think of as soon as you walk out the door is, is ‘Is something going to happen to the other ear too?’.”  | <i>Terminator</i>                     |

The response by the audiologist was a ‘terminator’ as it ignored the mother’s expression of this being an unexpected result and focused on furthering the technical discussion. Stating that this was unexpected and that she was “caught off (guard)” could be an indication that this was a shock. In the focus group session following data collection, the audiologists agreed that this response was not an appropriate acknowledgement of the mother’s emotion.

The following was said about excerpt 14a during the focus group:

Audiologist A: “Oh gee. Why put that in their head?” (nervous laugh)

Audiologist C: “I would say it is not particularly an appropriate response, because, well I guess the mother is saying I am shocked and I wasn’t expecting anything to be wrong and the audiologist is answering with something completely different. Which hasn’t even entered their head.”

Audiologist B: “Saying here’s something else for you to be worrying about.”

Audiologist C: “What would have been appropriate would have been to say you know ‘I understand that you are shocked, you know it is a shock’”.

Following the terminating response seen in excerpt 14a (above), excerpt 14b (below) showed that a direct expression of emotion (underlined) was then made by the mother, which was again terminated by the audiologist, then again reiterated indirectly. A further and final indirect emotional expression was made, and this was again terminated.

Excerpt 14b Appointment A3

Mother:	"I just <u>worry</u> that, is there anything else wrong, you know?"	<i>Direct expression of emotion</i>
Audiologist:	"That's why you come and see the paediatrician."	<i>Terminator</i>
Mother:	"Is there anything else going on up here that's not..."	<i>Indirect expression of emotion</i>
Audiologist:	"She looks like a pretty normal kid actually."	<i>Terminator</i>
Mother:	"Yeah."	
Audiologist:	"We want to look at other features too like whether she's equal on both sides. Whether her ears are low."	
Mother:	"Yeah."	
Audiologist:	"There's just a few features that we look at. She looks fine."	
Mother:	"Yeah yeah, that's the only thing. It's like okay, well what else is going on in there? They're so little you can't really tell."	<i>Indirect expression of emotion</i>
Audiologist:	"Now, the place to get the urine ==	<i>Terminator</i>
Mother:	"Yep."	
Audiologist:	"==is a place called [xxxx]. It's on the second floor."	
Mother:	"Okay."	

In the final ‘terminator’ response, we see the audiologist changing the topic of conversation to administrative details. At this point the mother stopped providing either direct or indirect emotional expressions and did not raise them again.

In the next example, an ‘indirect expression of emotion’ was made by the mother and recognised by the audiologist who then provided a ‘continuer’ response.

Excerpt 15, Appointment B5

- Mother: “But he can hear to some degree in that ear?”
- Audiologist: “He can, I just have to make it loud enough for him and then we’re getting some response.”
- Mother: “At least he’s not completely deaf?” *Indirect expression of emotion*
- Audiologist: “But look even if he was, it wouldn’t be - I know it’s difficult for you ==” *Continuer*
- Mother: “Yeah.”
- Audiologist: “==as a parent, but for him, it’s not going to worry him at all.”
- Mother: “He’ll learn to manage?”
- Audiologist: “Absolutely.”

The audiologist recognised a concern of the mother, and named that concern (underlined above) and the mother responded with a clarifying question. It is important to note that simply recognising the difficulty for the mother was positive and allowed the audiologist to reassure the mother.

The next excerpt demonstrates use of a ‘neutral response’ following an indirect expression of emotion.

#### *Excerpt 16, Appointment C4*

Mother:	"So we're not so successful. We're trying to get him to feed; it's hard work."	<i>Indirect Expression of Emotion</i>
Audiologist:	"Is it?"	<i>Neutral</i>
Mother:	"Yeah."	
Audiologist:	"Cause the reflux - doesn't help, does it?"	<i>Continuer</i>
Mother:	"The reflux yeah and because his mouth's so small, it's really hard to get - so, I've got these sort of slow flow teats but it ends up coming out; he ends up spitting it out; it comes out. But anyway..."	<i>Continuation</i>

The mother expressed concerns about her difficulties with feeding, and the audiologist responded with the 'neutral response': "Is it?". This response did not lead to further discussion of difficulties, and the audiologist provided a 'continuer', which then prompted the mother to continue discussing her concerns. It is interesting to note that in appointment C4 the mother stated that the time since having her babies has been hard for her on eight occasions, and she also provided another 20 indirect expressions of emotion. Whilst the audiologist primarily responded with 'continuers' or 'neutral responses' the mother continued to express these concerns. We cannot comment on whether or not the mother felt supported in this appointment, because there was no follow up focus group with parents, however the frequency with which the mother mentioned her concerns may indicate that she could have benefited from further discussion about her support networks and or professional counselling.

#### **7.4.3 Repetition as a cue to importance**

Repetition appeared to be used by parents as a cue that an issue was important, or unaddressed. Previous research has shown that there may be underlying emotional bases to technical questions (Luborsky, 1994; Zimmermann, Del Piccolo, & Finset, 2007). Parents'

repetition of their questions signalled that the audiologists were not correctly identifying or were unaware of an underlying concern. For example, in the following three excerpts from appointment C1, the mother asked about causes of hearing loss. She was provided with accurate technical answers, and continued to repeat the question.

*Excerpt 17a Appointment C1*

- |              |   |                                       |
|--------------|---|---------------------------------------|
| Mother:      | "Would there be anything that's causing that? Would it be temporary?"                         | <i>Indirect expression of emotion</i> |
| Audiologist: | "It's not, no. If it was a temporary loss, we would have seen a blockage in the middle ear == | <i>Terminator</i>                     |
| Mother:      | "Yep."  |                                       |
| Audiologist: | "==when we did that test over there."   |                                       |
| Mother:      | "Okay."   |                                       |

**Later, the mother asked again, and was again provided detailed technical information.**

*Excerpt 17b Appointment C1*

- |              |  |                                       |
|--------------|--|---------------------------------------|
| Mother:      | "Are there any common causes?"   | <i>Indirect expression of emotion</i> |
| Audiologist: | "Genes is a big one, but you can't always - if they don't find the genes that they can test for - they can't test for that many that they know of. But if she doesn't have those genes, it doesn't necessarily mean it's not a genetic thing." | <i>Terminator</i>                     |
| Mother:      | "Mm."  |                                       |
| Audiologist: | "So it's a bit hard to definitely rule out that one, but I think that's probably one of the most common.<br><br>Sometimes it can be a virus or an infection that happened in pregnancy..."   |                                       |



Mother:	"Mm, but I didn't seem to have anything."	<i>Indirect expression of emotion</i>
Audiologist:	"No, I mean, it may not have been.  Um there's one that I'll actually get you to even possibly go to now==	<i>Terminator</i>
Mother:	"Mm."	
Audiologist:	"==if you have time, 'cause it's good if they have time, is to go down to pathology==	
Mother:	"Yep."	
Audiologist:	"==on level two."	
Mother:	"Mm-hmm."	
Audiologist:	"This is a form that's already signed. They'll give you a little bag to try and collect urine for her and they can test for one of them which is CMV, and they can do a test to see whether she had it at all."	
Mother:	"Okay."	

**It was not until later in the appointment that it appeared that she asked the question she was most worried about, seen below in excerpt 17c.**

*Excerpt 17c Appointment C1*

Mother:	"I went to a concert at six months. That wouldn't have done it, would it?" (nervous laughter)	<i>Indirect expression of emotion</i>
Audiologist:	"No, no, no. Totally not.  Don't <u>blame</u> yourself for this at all.  Unfortunately it's a lot more common than people know. It's nothing you've done or intended and she's still beautiful and going to do just as well, I'm sure."	<i>Continuer</i>  <i>Direct Expression of emotion</i>

Once the mother had signalled her concern, that she was responsible for causing the hearing loss by attending a concert, and the underlying emotion was identified and stated by the audiologist (underlined), the conversation moved on. Following this exchange, the mother's tone of voice changed to a more relaxed tone and she asked no more questions about causes of the hearing loss. It is likely that she was worried that she has caused the hearing loss, and was having difficulty verbalising it. It therefore appeared that this was an effective way to respond to the expression of emotion on the part of the audiologist. Interestingly, in all appointments where a permanent hearing loss was diagnosed, mothers made one or more comments to suggest that they felt responsible for causing the hearing loss.

In the next series of five excerpts (18a-18e), the father is seen repeating questions that appeared to be content based, and the audiologist provided content answers to these. However, the amount of repetition, and the inability of the father to move on from this detail suggested an underlying and unmet emotional need.

*Excerpt 18a Appointment D3*

- |              |  |                                       |
|--------------|--|---------------------------------------|
| Audiologist: | "On that information I've given you so far what- any questions so far?"                      |                                       |
| Father:      | "Well, I guess compared to an adult or another child, what's a good little analogy I guess?" | <i>Indirect expression of emotion</i> |
| Audiologist: | "He's not going to hear the softer sounds of speech over a distance, ==                      | <i>Terminator</i>                     |
| Father:      | "Right."   |                                       |
| Audiologist: | "== so if you're speaking in a whisper..."   |                                       |
| Mother:      | "Right, he wouldn't hear it?"  |                                       |
| Audiologist: | "He wouldn't hear it. He's going to-"  |                                       |

Father:	"What sort of distance?"	<i>Indirect expression of emotion</i>
Audiologist:	"Well, at the moment, he's going to hear everything that you say because he's so close to you."	<i>Terminator</i>
Mother:	"Yep."	
Audiologist:	"When he's crawling around and moving around and running around over a distance, he's not going to hear you so well, okay?"	
Mother:	"Okay."	
Audiologist:	"In a classroom situation, if he's sitting up the back of the classroom and the teacher's at the front, he's not always going to hear what she says=="	
Mother:	"Right."	
Audiologist:	"==because it's just not going to be quite loud enough for him."	
Mother:	"Mm."	
Father:	"So he needs to be down the front?"	<i>Indirect expression of emotion</i>
Audiologist:	"Exactly."	<i>Terminator</i>
Father:	"Right."	
Audiologist:	"Yep, down the front, so that's-"	
Father:	"You also - sorry."	
Audiologist:	"No, go on."	
Father:	"You also said it was permanent, unlikely to..."	<i>Indirect expression of emotion</i>
Audiologist:	"Yeah. It's not something - I don't know whether you've heard of some people who've had operations	<i>Terminator</i>

and treatments for their hearing losses - like grommets is quite a common..."

In the above excerpt, the father appeared to be having difficulty understanding the day-to-day impacts of the hearing loss on his child, and is focussed on the concept of listening over a distance. In the next excerpt (18b), he repeated a question already asked and addressed in the previous excerpt (18a) "Over what sort of distance would he be having trouble with?".

*Excerpt 18b Appointment D3*

Audiologist: "When he's older and toddling and running around, that's not going to be the same. That's when something like hearing aids would help to make the sounds louder for him."

Mother: "Mm."

Father: "Over what sort of distance would he have trouble with?" *Indirect expression of emotion*

Audiologist: "Be having more trouble?" *Neutral*

Father: "Yeah."

Audiologist: "Um, I think once he's over more than a metre away from you, and if you're just speaking at a normal conversational level, he may not catch all of what's being said== *Terminator*

Father: "Okay."

Audiologist: "==or he'd be misinterpreting what's said. He may hear the sounds a bit differently. Therefore, if he's going to hear them differently, he may produce them differently."

Mother: "Mm okay."

Audiologist:	“The impact is also, then, on his speech production as well.”	
Father:	“Okay, so he wouldn't be able to hear what you're saying?”	<i>Indirect expression of emotion</i>
Audiologist:	“At this distance, he'd probably be catching most of it but maybe not the beginnings and the ends you know. It's all very hypothetical but I would imagine that he'd be getting most of what I say, but sometimes he'd be missing some bits of what I was saying==	<i>Terminator</i>
Mother:	“Mm.”	
Audiologist:	== the softer sounds of the speech which are normally the consonant sounds ==	
Father:	“Yep.”	
Audiologist:	==which are normally at the beginnings and the ends of words.  Now, on this graph here - it's just a visual graph - I don't know, which may assist you in understanding where he should be and where he is. The circles are the right ear...”	

**In the next excerpt (18c), there was a potential clue to the underlying concern of the father when he asked about the impacts of the hearing loss on his child's life. At this point the audiologist began to take on an exasperated tone, suggesting that they recognised the repetitive nature of the questioning, however they continued to provide terminating responses.**

*Excerpt 18c Appointment D3*

Father:	“So what are, I guess what are the impacts, obviously, on his life that we need to...”	<i>Indirect expression of emotion</i>
Audiologist:	“Well, basically, it's just that the hearing loss will mean that if he's not hearing over a distance, he's not going	

	to hear so well. It may be that he's going to be a kid running around with hearing aids on in a learning/listening situation, okay?"	<i>Terminator</i>
Father:	"Mm-hmm."	
Audiologist:	"He's going to hear you at home. He probably might want to have hearing aids when he's watching his television. Otherwise, he might just have it too loud and annoy everyone else, okay then?"	
	That would be as far as it goes. Hearing aids are just so he hears sounds a bit - he hears speech a bit better, understands it better, and repeats it better."	
Father:	"Mm-hmm."	
Audiologist:	"The impact in the meantime is that you'll be trying to investigate what the causes are, okay, um and ah yeah."	
Father:	"Okay, so he won't need a hearing aid the whole time - like when he's out and about on the streets?"	<i>Indirect expression of emotion</i>
Audiologist:	"More than likely, no, no, because he's going to hear fine in terms of hearing traffic and you guys. It's more learning/listening situations."	<i>Terminator</i>
Father:	"Okay, so when he needs to concentrate intently on something?"	<i>Indirect expression of emotion</i>
Audiologist:	"That's right, yeah. And in the classroom, probably that's when he's going to be using them, yeah."	<i>Terminator</i>
Father:	"So he's not going to be a Yo Yo Ma. Is that what you're saying?"	<i>Indirect expression of emotion</i>
Audiologist:	"What's a yo yo male?"	<i>Neutral</i>
Father:	"A very classic - like a classically trained musician."	
Audiologist:	"There's no reason - of course he can still learn music and do music and all that sort of stuff. It's just that he	<i>Indirect expression of emotion</i>

might just have the amplifier turned up a little bit louder than everyone else.”

Father: “Alright, okay.”

Audiologist: “Put it in terms – I think the hearing is – understanding hearing loss is very difficult because it's, to some extent, hidden.”

Again the audiologist’s exasperation appeared with the comment “There’s no reason- of course he can still learn music and do music and all that stuff”. Later again, the father returned to the topic of distance.

*Excerpt 18d Appointment D3*

Father: “If we're up close to him and whispering – like, to there – will he hear?” *Indirect expression of emotion*

Audiologist: “Yeah, yeah, okay?” *Terminator*

It's just more over a distance, the source of sound's going to get decreased, okay? As I was saying before, ten years ago, he would have probably – you would have found out about this – you would have come in when he was around about three or four because his speech wasn't as good as what it should have been. But we're going to circumvent that problem because he's going to, maybe at some stage, maybe have some hearing aids.

He is going to hear a little bit better. He's going to be plugged into some early intervention programs so that we can optimise everything that he's got, okay? We know he's got a hearing loss and we're going to monitor it.”

Mother: “Okay, yeah.”

As above, the audiologist became more frustrated with the line of questioning, as indicated with “yeah, yeah okay?”. In the fifth and final excerpt from this appointment, we

saw that the father may be getting closer to articulating his real concern when he asked about sign language.

*Excerpt 18e Appointment D3*

Father:	"He's not going to need sign language or anything like that ..."	<i>Indirect expression of emotion</i>
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Audiologist:	"No, not at all. No, he's going to be hearing fine."	<i>Terminator</i>
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He's not going to be needing sign language. He's not going to have deaf speech or anything like that. In terms of his speech, if you did nothing, he just might have a slight speech - you mightn't even have that, but he's - no, he will hear. He won't need sign language."

Father:	"Okay."
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It was not clear at the conclusion of the appointment if the father's concerns were adequately addressed; however, this serves as a demonstration that if something is of importance to a parent then there are often multiple opportunities to address it. It also demonstrated that the audiologist noticed the repetition in questioning, however was focussed on the technical aspects. Due to the exasperation shown by the audiologist, it was unlikely that they were aware of the potential underlying concern of the father.

Outside of the appointment, in the feedback session, the audiologists began to identify a potential emotional basis to the father's questions.



Audiologist D: "Or is it just a blocking mechanism, is he purposely, one way of coping with it 'cause he's in shock."

Audiologist B: "It's also a big question to answer, a hard question to answer."

Audiologist D: "What do you say 'it's hard to know what it actually means for him day-to-day'."

Audiologist C: "And it depends on the child."

Audiologist A: "And the circumstance."

Audiologist C: "And their cognitive, how clever they are, you don't know."

Audiologist B: "But you also don't know what he means by 'It's hard to know what it actually means, like for him day to day.' There's more to it that- there's some threat still that's he's not saying, even to Mum."

Audiologist C: "Well is he going to be prejudiced by other kids, is he going to have friends, is...bullied."

#### 7.4.4 Clinician initiated discussion of emotion

Primarily, in this study the parents initiated the discussion of emotion. There was one notable case where the audiologist initiated a discussion of emotion (shown below), which occurred after a parent had attempted to initiate this, and the audiologist had responded with a 'terminator'.

*Excerpt 19a Appointment B1 (19 minutes from start of appointment)*

Mother:	"It's <u>horrible</u> . It's one of those things that you sort of do at the hospital just as a matter of routine and something comes out."	<i>Direct expression of emotion</i>
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Audiologist:	(to self) "Good connection."	<i>Terminator</i>
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Mother:	"It's <u>stressful</u> = ="	<i>Direct expression of emotion</i>
---------	-----------------------------	-------------------------------------

Audiologist:	"= = But um -at least, since we've been doing this since 2002 kids are now aided or given implants ah, aided before two months of age or given implants before four months of age and because they're being given these	<i>Technical response</i>
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devices and being given useful hearing at a very young age their speech and language abilities are very good.”

In the excerpt 19a, the audiologist did not effectively respond to the empathic opportunity presented by the mother, instead they provided a ‘terminator’. The mother provided a second empathic opportunity. In both instances, the expression of the mother’s emotion was direct. From this point, the conversation moved on until the audiologist then revisited the discussion of emotion.

*Excerpt 19b Appointment B1 (41 minutes from start of appointment)*

- |              |   |                                     |
|--------------|---|-------------------------------------|
| Audiologist: | “How are you feeling?”  | <i>Elicit emotion</i>               |
| Mother:      | “I’m a bit <u>stressed</u> .”   | <i>Direct expression of emotion</i> |
| Audiologist: | “Well, I can understand that.”  | <i>Continuer</i>                    |
| Mother:      | “I just sort of expect all these tests just to be fairly routine.”  | <i>Continuation</i>                 |
| Audiologist: | “Yeah that’s, that’s the thing, you get so many of them as well that if you worried about every single test that got done = = “ |                                     |
| Mother:      | “= = oh you’d send yourself mental.”  |                                     |
| Audiologist: | “You would be a nervous wreck.”   | <i>Continuer</i>                    |

While excerpt 19a was taking place, the audiologist was preparing the baby for testing. It was likely that the audiologist was preoccupied with this task when they did not respond to the emotion. It appeared though, that they have made a ‘mental note’ to return later, which they did once the baby was settled to sleep. Following this second exchange,

where the emotion was verbalised, a ‘continuer’ was provided and the emotion was explored and validated, the mother’s tone of voice changed markedly as she became more relaxed.

## **7.5 Discussion**

In this study, we investigated the discussion of emotion in diagnostic audiology appointments for infants referred through UNHS. We found that parents initiated discussion of emotion within these appointments and in many cases, opportunities to demonstrate empathy arose when a parent directly stated their emotions. It is unsurprising that parents initiated discussion of emotion within these appointments, as previous research has clearly shown that parents need to have their emotional needs met (Luterman & Kurtzer-White, 1999). However, the direct nature of these expressions appears to be rarer in the literature, with many studies finding that empathic opportunities are often indirect (Schuman et al., 1997). It is important that health-care practitioners can recognise the opportunities to show empathy within the discourse, so that they may respond with the correct strategy to satisfy the parents’ needs. Health-care practitioners, including audiologists, have a professional obligation to help parents manage their emotional reactions to the diagnosis of hearing loss in their children. Encouraging parents to express their emotions allows them to feel supported, and can also help the clinician identify additional services that families may need (Ptacek & Eberhardt, 1996).

We found that there was variation in the way these empathic opportunities were responded to by the audiologists, even within a single appointment. When an empathic opportunity was met with a ‘terminator’, rather than a ‘continuer’ or ‘neutral response’, the request for emotional support was always repeated. Our data showed that ‘terminator’ responses suggested that audiologists did not recognise the meaning of the parent’s utterances (English, Mendel, Rojeski, & Hornak, 1999), or indicated the discomfort they felt when a

parent expressed an emotion (Derksen et al., 2016; Fallowfield & Jenkins, 2004; Quill, 1989). Research in medicine has shown that doctors' perception of the success of their delivery of diagnoses is related to the level of distress experienced by their patients, with greater levels of distress indicating a less successful appointment (Ptacek, Ptacek, & Ellison, 2001). Further, delivery of diagnoses of illness and disability in a child is rated as more stressful for the clinician than the delivery of diagnoses for an adult (Harrison & Walling, 2010).

These studies of interactions suggest that health-care professionals may avoid discussion of emotion due to their own feelings of stress within the appointments (Lefebvre & Levert, 2006). Ironically though, the greater the avoidance of the emotional aspects of the conversation, the lower the satisfaction of the parents (Ong et al., 2000; Stewart, 1995). Similarly, while limits on appointment time has been stated to be a barrier to empathic communication in medical appointments, avoidance of appropriate responses to parents' need for emotional support led to parents repeating the concern (Derksen et al., 2016; Halpern, 2003; Luborsky, 1994; Pedersen, 2009; Zimmermann, Del Piccolo, & Finset, 2007), thus increasing appointment time.

As seen in other studies (Butow et al., 2002; Ekberg, Grenness, et al., 2014; Pollak et al., 2007), and previously stated here, when audiologists failed to respond appropriately to emotions, parents repeated them. We made the observation that the repetition of seemingly technical questions by parents (as seen in excerpts 18a-18e) could also signal underlying emotions or concerns, and repetition was a common occurrence in the data. Repetition could be said to lead to an increase in appointment time and could prevent conversation from moving forward. In their book on audiologic counselling, Clark and English (2004) discuss the potential impact that offering counselling to clients may have on appointment time. They propose that counselling need not take extra time, however, that audiological counselling is an alternative way to use appointment time, ensuring that all information provided to the

client is relevant and motivated by the client's needs. Rather than viewing counselling as an additional task to be completed in the clinic, it should be inherent in all our interactions with clients. This is the philosophy behind 'embedded counselling' (Derry & Murphy, 1986) which is when counselling takes place during an interaction between a clinician and a client, where the main reason for the consultation is not counselling. Embedded counselling can involve focussing on the clients immediate needs, having a collaborative relationship with the client and responding appropriately to empathic opportunities. Empathic opportunities frequently occurred within discussion of technical information as seen in excerpts 18a-18e. By responding to expressions of emotion the clinician can open up the conversation to talk beyond the practical issues to the broader client experience (McLeod, 2008).

The results of this study are important for clinical audiology as they showed that parents wanted to have their emotional reactions to the diagnosis of hearing loss in their children acknowledged and provided repeated opportunities when audiologists failed to do so. Audiologists need to be aware of repetition as a cue to how important an issue is to the parents and they need to respond appropriately. If audiologists are able to recognise that parents are repeating concerns they can use this as a prompt to ask clarifying questions thus allowing for a greater exploration of parent reactions and the provision of emotional support. In contrast though, too much emphasis on negative emotional reactions can lead to the patient having less hope (Schmid Mast et al., 2005). Hope should be conveyed when delivering a diagnosis, but not at the expense of the truth. Hope can be conveyed by providing information that emphasises the parent's ability to cope (Ptacek & Eberhardt, 1996), and parenting skills that they already possess (Strauss et al., 1995). It can also be conveyed by talking about the child's ability to live a full life, as seen in some of the transcripts.

In other studies, the effect of gender on disclosure of emotions has been investigated. Female clinicians are more likely to open the space for the client to express emotions and

female clients are more likely to express emotions (Butow et al., 2002; Finset et al., 2013).

This study was too small to allow for the investigation of gender effects, however both ‘continuers’ and ‘terminators’ were provided by all the audiologists within the study, both male and female.

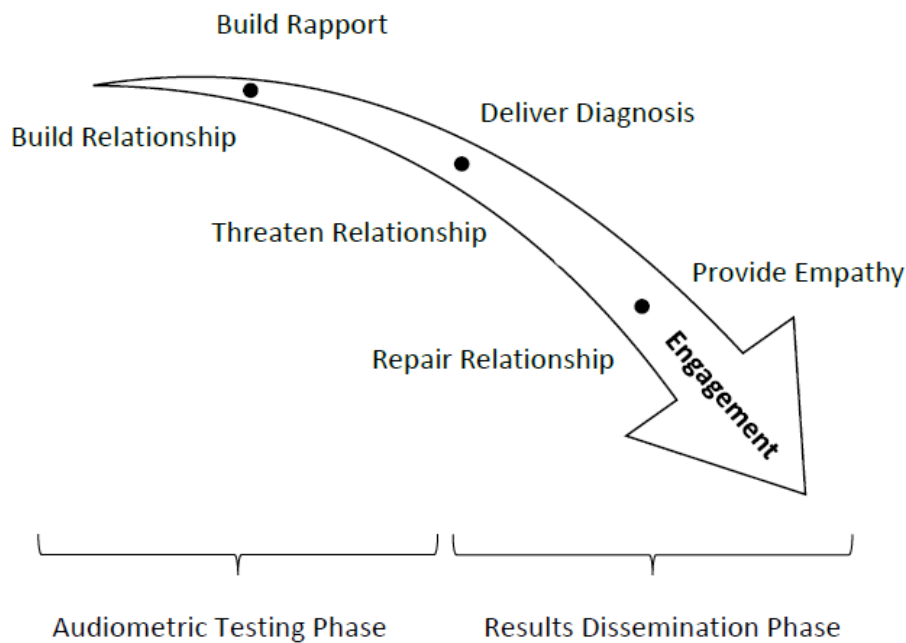
This study confirmed that parents whose infants had audiological testing following referral from UNHS did attempt to engage the audiologists in discussion of their emotional reactions to the process and diagnosis. Audiologists have a duty to help parents manage their reactions to the diagnosis that they deliver. Given that this was a small study with few audiologists participating, it is imperative that further linguistic analysis of these appointments and issues take place.

## **Chapter 8. Conclusions**

### **8.1 Brief review of the framework**

This thesis has investigated communication between audiologists and parents of infants attending diagnostic hearing assessment following referral from Universal Newborn Hearing Screening (UNHS). The analysis was conducted on nine audio-recorded appointments, their detailed transcripts, pre-study surveys completed by the audiologists, post-appointment reflections also completed by the audiologists, the results of a focus group discussion with the audiologists and the results of parent surveys, again following the appointments. In other words, we made a five-way analysis of the data in order to triangulate our findings.

The thesis began with the premise that communication is critical to family-centred practice and that descriptive studies of practice are needed in order to understand the dynamics of communication during these appointments. Our particular focus in the analysis were the poorly described and potentially more stressful aspects of the communication, namely, rapport building, diagnosis delivery, and discussion of emotion. These three aspects were chosen because they represent different phases of clinical relationship negotiation, with rapport building used to form a relationship, the delivery of the diagnosis representing a threat to the relationship (Maynard & Frankel, 2006), and responses to emotional reactions providing an opportunity to rebuild the relationship. They also represent areas of practice where audiologists may lack specific training (Whicker, Munoz, Butcher, Schultz, & Twohig, 2017) and that they may find particularly stressful (Lefebvre & Levert, 2006). A model of the phases of clinical relationship negotiation is shown in Figure 8.1.



**Figure 8.1 Model of the phases of clinical relationship negotiation.**

The figure represents the communication of the audiologist and its effect on the relationship with the parents in infant diagnostic appointments. Audiologists are required to build the relationship in the audiological testing phase of the appointment. The relationship is then threatened with the delivery of the diagnosis at the start of the results dissemination phase of the appointment. Audiologists need to repair the relationship whilst simultaneously managing the decreasing engagement of the parents within the appointment.

A series of four chapters addressed these areas by providing information about what occurs within these appointments, who controls the interaction and what they say, the techniques that audiologists use to build rapport within these appointments, the structure of diagnosis delivery and responses to the diagnosis, and finally, the discussion of emotional reactions to the appointment and diagnosis. The six key findings of our research are described below.



## **8.2 Key findings and contributions to the field**

### **8.2.1 Audiologists intend to deliver family-centred practice**

The results of supporting data sources (surveys, reflections and focus group), presented in Chapter 3, demonstrate that the audiologists within this study all reported a lack of training in communication and counselling, and that this had become more evident to them since the introduction of UNHS. All audiologists expressed concern about their inability to support parents during the diagnostic appointment and highlighted the need for individualised approaches to each appointment based upon the needs of each family. They expressed concern about the potential negative impacts on parents of the diagnosis of hearing loss in their child, namely, depriving the parents of having a ‘perfect’ child and adding stress to an already stressful time for these families. However, they also mentioned the positive aspects of early diagnosis for the family, such as knowing that they were doing everything possible to help the infant develop language from the beginning of their lives. The audiologists also reported having to manage multiple sources of pressure during each appointment: managing their own stress, including the parents within the diagnostic process, responding appropriately and supportively to parent reactions, providing information in an individualised way to aid understanding, and time pressures. Attempting to provide each family with individualised communication and support and including parents within the appointment are critical elements of family-centred practice (Mead & Bower, 2000).

The results from the appointment recordings and transcripts demonstrate the communicative attempts of the audiologists to include parents in the conversation, by asking questions and providing pauses thereby giving the parents the time to talk. However, they also show that parents may resist these efforts of inclusion (Chapter 4). We also found that audiologists use many rapport building strategies to level the relationship between themselves

and parents, by minimising their power and increasing the power of the parents within these appointments (Chapter 5). Audiologists use multiple linguistic strategies to minimise the impact of the diagnosis of hearing loss, such as hedging and emphasising the positive aspects of early diagnosis (Chapter 6). In addition, they showed attempts to respond to parent concerns with empathy, however our findings also show that they were inconsistent in their approaches to this. This inconsistency in response with empathy was seen when the audiologists used strategies firstly to stop the discussion of emotion and secondly to encourage the discussion of emotion, even within a single appointment (Chapter 7). Finally, we found that the audiologists were unaware of how frequently expressions of emotion were blocked within the appointments and they confirmed this during our focus group discussions.

It is our view that the breadth of conversational strategies utilised by audiologists during appointments demonstrated an effort to offer an inclusive, individualised, supportive and empowering services to the families attending this clinic. These are all essential qualities of family-centred practice (Mead & Bower, 2000). The audiologists in this study expressed an interest in improving their communication through their participation in the project and in particular during the focus group. Due to the small sample size, it is not possible to predict if other audiologists would be equally receptive to recommendations to improve their communication to parents, nor whether other audiologists who work within these specific environments of delivering diagnoses to parents of newborn children would behave in the same or similar ways. However, given the highly specialised practices of these audiologists, coupled with the global trend of moving towards UNHS programs, this is worthy of further investigation.

### **8.2.2 Communication and the level of parent engagement both change throughout the appointments, with parent engagement decreasing during results dissemination**

Chapter 4 was a mixed methods analysis of the types and numbers of different utterances made within the appointments between mothers, fathers and audiologists. A linguistic move analysis was conducted based on that described by Halliday (1994) and Eggins and Slade (1997), and inferential statistics were used to determine the strength of the conclusions. The types of utterances (moves) were identified and described. Broadly, these move types can be classified as either initiating moves (for example, questions and statements) or responding moves (for example, answers and acknowledgements). Depth of communication was also investigated and determined by the relative frequencies of initiating moves and responding moves for each participant within an appointment. The appointments were analysed in two distinct phases, the audiometric testing phase and the results dissemination phase. Our findings showed that audiologists and mothers make similar numbers of moves, whereas fathers make significantly fewer moves during these appointments. The moves that mothers made in the audiometric testing phase were varied (both initiating and responding moves), however they became primarily responding moves in the results dissemination phase, indicating a decrease in the level of maternal engagement during this phase. These two results together show that whilst mothers and audiologists are both active within these appointments, they are not equal participants. Further, we discussed the attempts by one audiologist to engage a mother in a particular appointment (D3), and our findings clearly demonstrated that whilst the audiologist was asking questions and providing conversational pauses to allow the mother space to participate, the mother resisted these efforts to engage, providing only acknowledgements and backchannels in response. The use of varied moves types by the audiologists throughout the entire appointment suggests that

audiologists have primary control of the interaction; however, this may be facilitated in part by the parents forfeiting their turns to speak.

### **8.2.3 Audiologists employ many rapport building strategies and use these to adjust the inherent power dynamics within appointments**

Chapter 5 used a general inductive approach (Thomas, 2006) and epistemic approach (Heritage, 2012a, 2012b) to the analysis of the discourse. Relational talk was identified and classified into three broad epistemic categories: 1) Impact/threat minimisers: utterances in which the audiologist reduced their epistemic standing below that of the parent; 2) Finding common ground: utterances in which the audiologist attempted to reach equal epistemic standing with the parents; and 3) Encouragers: utterances in which the audiologist elevated the epistemic standing of the parents. Within these three categories, we identified 15 distinct rapport building strategies within the discourse. These strategies were used by the audiologists throughout the entire appointment, demonstrating a consistent effort to build and maintain the clinical relationship. When the relationship was threatened by the diagnosis of hearing loss in the infant, rapport building strategies were used by audiologists in an attempt to rebuild the relationship. Further, there were significantly more rapport building strategies used by audiologists in the results dissemination phase of the appointment when a hearing loss was diagnosed than when the infant was found to have normal hearing. This increase in the number of rapport building strategies, which elevate the epistemic standing of the parents, may have helped to empower parents whose infants had been diagnosed with hearing loss.

### **8.2.4 Audiologists use linguistic strategies to minimise the impact of the diagnosis of hearing loss**

Chapter 6 used Interactional Sociolinguistics (Gumperz, 1982) to analyse diagnosis delivery within these appointments. We found that good news was delivered explicitly,

immediately, in a straightforward manner and without disfluencies. Strong positive descriptors were used and the audiologists used the inclusive pronoun ‘we’ when discussing good news. In contrast, difficult news delivery contained many disfluencies, perhaps signalling a higher cognitive load or difficulty with the subject matter on the part of the audiologist (Bortfeld, Leon, Bloom, Schober, & Brennan, 2001; Corley & Stewart, 2008), hedging strategies were used to minimise the impact, and again positive aspects were emphasised. When delivering difficult news, audiologists used the singular pronoun ‘I’, taking responsibility for the diagnosis, and potentially minimising parental feelings of blame.

#### **8.2.5 There was a mismatch between the type of information provided by audiologists and that sought by parents**

Chapter 6 also demonstrated that audiologists provided information on a wide range of topics when hearing loss was diagnosed, and these topics were primarily medical and procedural in nature. In contrast, parents consistently sought information on the prognostic and experiential aspects of the hearing loss, and asked about curative treatments and causes of the loss. This mismatch has previously been identified in the literature (Fitzpatrick et al., 2007; Matthijs et al., 2012; Porter & Edirippulige, 2007), and this study provides evidence that this mismatch persists, despite the efforts of audiologists to be family-centred.

#### **8.2.6 Audiologists attempted to provide empathy, however there were inconsistencies in their approach to this**

The audiologists all expressed concern in the supportive data sources (surveys, reflections and focus group) about their ability to manage parent emotional responses and respond with empathy. All audiologists within the data were variously seen providing both ‘continuer’ responses to parent expression of emotion, thereby allowing for exploration of the emotion, and ‘terminator’ responses, blocking further exploration of the emotion (Chapter 7).

In one case (page 150), a terminator response was provided when the audiologist prioritised procedural aspects (preparing the baby for testing) over discussion of emotion, however in this instance the audiologist returned to the discussion of emotion after the infant had been settled to sleep. In other cases, audiologists appeared unaware that they were limiting parent expression of emotion, or that parents may repeat seemingly technical questions that have an underlying emotional basis (Clark & English, 2004; D. Luterman, 1996). This study also demonstrated parents' repeated attempts to have their emotional needs met within these appointments. This discourse analysis corroborates what has been found in other studies with different methods: that parents expect to receive services from an empathetic audiologist, but this does not always occur (Gilbey, 2010).

### **8.3 Limitations of the research**

We acknowledge that this research is limited by a small sample size of participating audiologists (four), and the number of appointments in our data set, which captured a diagnosis of hearing loss. That is, while twenty-three appointments were audio-recorded, only six captured a diagnosis of hearing loss. However, the triangulation of our data, coupled with the detail of the discourse that we were able to capture through our close analysis of the talk between audiologists and parents in the context of real appointments, adds both rigor and depth to our findings.

Secondly, all the audiologists participating in this study practice at the same clinic. This particular clinic has a culture of accountability, strong leadership, and parent engagement. Whilst standard clinical practice within this setting is that most appointments are conducted by a single audiologist, all test results are confirmed by another audiologist, and the clinic holds monthly results meetings where result audits occur, and results are compared to the findings of subsequent medical investigations. Further, this clinic is

committed to ongoing quality assurance and has surveyed parents on their experiences with the service, which has resulted in improvements to service provision. These audiologists are also actively involved in research, and regularly present their research at conferences. These aspects demonstrate the commitment of these audiologists to evidence-based practice and parent experiences, which may not be representative of all clinics and limits generalisability of the findings.

Thirdly, the audiological procedures in Australia differ considerably to other parts of the world, where small numbers of hospital-based diagnostic audiologists are responsible for testing and diagnosis delivery, and rehabilitation is provided by audiologists at the Federal Government's Australian Hearing program. The structure means that the audiologists delivering the diagnosis do not provide subsequent rehabilitation. Therefore, following diagnosis delivery, there is no continuation of the clinical relationship. We acknowledge that the above three factors, limit the generalisability of the findings presented in this study. Nonetheless, the results of this detailed case study provide linguistic analysis that would be usefully considered in communication training for audiologists as well as other health professionals.

Finally, we acknowledge that our research is limited because parents were not invited to participate in a focus group to clarify the interpretations of the discourse made within this thesis. In some cases, it was unclear from the discourse what the parents were aiming to communicate and a focus group session may have helped to resolve this issue. A series of targeted questions could have clearly identified which communicative behaviours used by audiologists that parents found helpful or unhelpful. This represents an area for future research.

## **8.4 Future research**

The main limitations of this research stem from the lack of generalisability and limited participant numbers. These issues could be addressed by conducting similar studies in other audiology clinics in Australia and abroad, where UNHS occurs but the healthcare systems are different. In addition, further research to explore how parents respond to specific approaches to diagnosis delivery are important to identify best practice within specific socio-cultural frameworks in healthcare settings and to explore differences globally could shed more light into models of family-centred care for the field of diagnostic audiology.

Given the findings of this research and the changes that have already occurred to the audiology teaching program at Macquarie University as a result, namely an increase in communication and counselling training, it would be useful to survey the preparedness of recent Macquarie graduate students' to communicate effectively with their clients, in order to determine the impact of these changes more broadly within the field of audiology, as well as specifically for diagnostic paediatric audiology.

The audiologists who participated in this study have also taken part in some communication training as part of a follow up to this study. Following this training, a further twenty-four appointments were audio-recorded, the results of which will be analysed to determine if changes to practice have occurred as a result.

## **8.5 Conclusions**

This research has demonstrated that communication in appointments where a diagnosis of hearing loss in infants is discussed is indeed complex. Good communication is a critical element to the delivery of family-centred practice (Grenness et al., 2014b; Mead & Bower, 2000). Before our research began, the audiologists in this study reported training



limitations and concerns about their communicative abilities. These concerns have also been identified within the literature (Crandell & Weiner, 2002; English & Weist, 2005; English & Zoladkiewicz, 2005). Theories of how professionals learn practice describe learning as the application of pre-learned knowledge and skills, or as a process of watching, listening to, and seeing others carry out practice. These two descriptions show learning as a process that is not purely cognitive, but also a practical one (McGregor & Lee, 2016). Therefore, there is a critical need to develop the communication and counselling skills of audiologists and audiology students in a systematic, practical way. Communication and interpersonal skills can be taught (Baile & Aaron, 2005). Training can increase a professional's confidence in their ability to deliver diagnoses (Ptacek & McIntosh, 2009). However, in order to be effective, training must be evidence-based. It must demonstrate practice limitations, the reasons these occur and the effects of these on practice. Professionally effective behaviour must be modelled, and then practiced. Targeted, specific feedback is also required from trainers (Maguire & Pitceathly, 2002; Moeller et al., 2013).

Given that infant diagnostic appointments are primarily conducted by a single audiologist in Australia, there are currently limited opportunities for modelling practice and providing/receiving feedback. It is our view that a culture of collaboration in the profession of audiology should be fostered. For audiology students, there is an expectation of continued education and mentoring because the skills that student audiologists learn during their education and training effectively need to be relearned after graduation, as audiologists adjust to their role as 'professional audiologist' and the increased expectations that come with this change in identity (Slotnick, 2001). Finally, feedback from clients self-reflection on practice should be encouraged (Moeller et al., 2013). Together these things can serve to improve practice, professional confidence and parent experience.

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## 8.7 Appendices

### Appendix 1 Site ethics approval

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**University of Wollongong**

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**APPROVAL – SES&IAHS AUTHORISATION**  
In reply please quote HE09/271  
Further Enquiries Ph: 4221 4457

11 November 2009

**Ms Rebecca Summons**  
Room 551, Building C5A  
Department of Linguistics  
Macquarie University  
NSW 2109

Dear Ms Summons

Thank you for your letter of 9 November 2009 responding to the HREC review of the ethics application below. I am pleased to advise that the application has been **approved**.

Ethics Number: HE09/271; AuRed No. HREC/09/WGONG/91  
Project Title: Parent Experiences with Universal Newborn Hearing Screening  
Name of Researchers: Ms Rebecca Summons, Dr Catherine McMahon, Dr Jeannette McGregor

Documents Reviewed/Approved: NEAF application  
Parent Information and Consent V4, dated 9 November 2009  
Audiologist Information and Consent V4, dated 9 November 2009  
Parent Questionnaire V2, dated 16 October 2009  
Audiologists Pre Study Questions V2, dated 16 October 2009  
Audiologist Reflective Statement V2, dated 16 October 2009  
Application to and correspondence with Macquarie University HREC

Approval Date: 11 November 2009  
Expiry Date: 10 November 2010

The University of Wollongong/SES&IAHS Health and Medical HREC is constituted and functions in accordance with the NHMRC *National Statement on Ethical Conduct in Human Research*. The HREC has reviewed the research proposal for compliance with the *National Statement* and approval of this project is conditional upon your continuing compliance with this document. As evidence of continuing compliance, the Human Research Ethics Committee requires that researchers immediately report:

- proposed changes to the protocol including changes to investigators involved
- serious or unexpected adverse effects on participants
- unforeseen events that might affect continued ethical acceptability of the project.

You are also required to complete monitoring reports annually and at the end of your project. You will be notified by email to complete a report approximately 6 weeks prior to the date your ethics approval expires. The reports must be completed, signed by the appropriate Head of Department, and returned to the Research Services Office prior to the expiry date.

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**Research Services Office** University of Wollongong NSW 2522 Australia  
Telephone: +61 2 4221 3386 Facsimile: +61 2 4221 4338  
research\_services@uow.edu.au www.uow.edu.au/research  
CRICOS Provider No: 00102E

**Before you can proceed with the project you must first have authorisation from the Governance Units of the hospitals involved. If you have not already done so you will need to submit a Site Specific Assessment Form to the Governance Officer responsible for each Unit, and include a copy of the HREC application and approval.**

Yours sincerely,



**Dr Nadia Crittenden**

**Chairperson**

**UOW&SESAHS Health and Medical HREC**

cc. Dr Catherine McMahon, Dept of Linguistics, Macquarie University.

## Appendix 2 Macquarie University ethics approval



Research Office  
Research Hub, Building C5C East  
MACQUARIE UNIVERSITY NSW 2109

Phone +61 (0)2 9850 8612  
Fax +61 (0)2 9850 4465  
Email [ro@vc.mq.edu.au](mailto:ro@vc.mq.edu.au)

Ethics  
Phone +61 (0)2 9850 6848  
Email [ethics.secretariat@vc.mq.edu.au](mailto:ethics.secretariat@vc.mq.edu.au)

17 April 2009

Miss Rebecca Summons  
551, Building C5A  
Department of Linguistics  
Macquarie University  
NSW 2109

Reference: HE27MAR2009-D06380HS

Dear Miss Summons,

*Title of project: Parent Experiences with Universal Newborn Hearing Screening*

Thank you for your recent correspondence. Your responses have addressed the issues raised by The Faculty of Human Sciences Sub-Committee of the Ethics Review Committee (Human Research). Approval of the above application is granted, effective 15<sup>th</sup> April 2009, and you may now proceed with your research.

### STANDARD REQUIREMENTS ATTACHED TO APPROVAL:

1. Approval will be for a period of twelve (12) months. At the end of this period, if the project has been completed, abandoned, discontinued or not commenced for any reason, you are required to submit a Final Report on the project. If you complete the work earlier than you had planned you must submit a Final Report as soon as the work is completed. The Final Report is available at: [http://www.research.mq.edu.au/researchers/ethics/human\\_ethics/forms](http://www.research.mq.edu.au/researchers/ethics/human_ethics/forms)
2. However, at the end of the 12 month period if the project is still current you should instead submit an application for renewal of the approval if the project has run for less than five (5) years. This form is available at [http://www.research.mq.edu.au/researchers/ethics/human\\_ethics/forms](http://www.research.mq.edu.au/researchers/ethics/human_ethics/forms). If the project has run for more than five (5) years you cannot renew approval for the project. You will need to complete and submit a Final Report (see Point 1 above) and submit a new application for the project. (The five year limit on renewal of approvals allows the Sub-Committee to fully re-review research in an environment where legislation, guidelines and requirements are continually changing, for example, new child protection and privacy laws).
3. Please remember the Sub-Committee must be notified of any alteration to the project.
4. You must notify the Sub-Committee immediately in the event of any adverse effects on participants or of any unforeseen events that might affect continued ethical acceptability of the project.
5. At all times you are responsible for the ethical conduct of your research in accordance with the guidelines established by the University [http://www.research.mq.edu.au/researchers/ethics/human\\_ethics/policy](http://www.research.mq.edu.au/researchers/ethics/human_ethics/policy).

If you will be applying for or have applied for internal or external funding for the above project **it is your responsibility** to provide Macquarie University's Research Grants Officer with a copy of this letter as soon as possible. The Research Grants Officer will not inform external funding agencies that you have final approval for

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ETHICS REVIEW COMMITTEE (HUMAN RESEARCH)  
MACQUARIE UNIVERSITY

your project and funds will not be released until the Research Grants Officer has received a copy of this final approval letter.

Yours sincerely

*P.P. C. Bawls*

Dr Shirley Wyver  
Chair, FoHS Ethics Review Sub-Committee, Ethics Review Committee (Human Research)

Cc: Dr Catherine McMahon, Department of Linguistics

## Appendix 3 Permission to modify and use Audiologic Counseling Evaluation

1/11/2018

Mail - rebecca.kim@mq.edu.au

### RE: Audiologic Counselling Evaluation

English, Kristina M <ke3@uakron.edu>

Tue 12/01/2010 11:53 AM

old emails

To: Rebecca Summons <rebecca.summons@ling.mq.edu.au>;

Cc: susan.naeve.velguth@cmich.edu <susan.naeve.velguth@cmich.edu>;

Hi again, Rebecca, both Susan and I am happy to grant permission for you to adapt the ACE for your project. Please keep us posted on your progress. I wish you much success -- this will be an important contribution!

Kris English, Ph.D.  
Associate Professor  
The University of Akron  
181 Polsky  
Akron OH 44325-3001  
PH: (330) 972-6116  
FAX: (330) 972-7884

From: Rebecca Summons [Rebecca.Summons@ling.mq.edu.au]  
Sent: Sunday, January 10, 2010 8:44 PM  
To: English, Kristina M  
Subject: Audiologic Counselling Evaluation

Dear Dr English,

Happy New year, I hope you had an enjoyable and relaxing holiday season.

I am not sure if you recall a quick conversation that we had in Nottingham regarding the ACE. We spoke very briefly about the possibility of modifying it for use with parents in my PhD study.

I am at the point where I am trying to finalise the tools for my study and would like to formally ask for permission to use this tool.

I am attaching a copy of the modified version, some items have been used verbatim, others modified slightly and there are some new items also.

I would appreciate your thoughts. Once again, thank you for your time.

Kind regards,  
Rebecca

Rebecca Summons  
Associate Lecturer in Audiology  
Room C5A 551  
Faculty of Human Sciences  
Macquarie University  
NSW 2109 Australia

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www.ling.mq.edu.au

CRICOS Provider No 00002J



## Appendix 4 Audiologist pre-study questions

### Experiences with newborn hearing screening.

Pre-study questions for Audiologists.

Participant Number: \_\_\_\_\_

Please answer the following questions. If you require more space please feel free to attach more pages.

1. What is the highest level of education that you have completed?  
\_\_\_\_\_
2. How long have you been a practicing audiologist?  
\_\_\_\_\_
3. How much of that time has been spent in paediatrics?  
\_\_\_\_\_
4. When you first began working in paediatric diagnosis, how prepared did you feel to deliver the diagnosis of hearing loss in a child?  
\_\_\_\_\_  
\_\_\_\_\_
5. Have you done any formal training in counselling? As part of your audiological qualifications/ as part of your professional development/other. Please give details.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. In your experience, how much and what type of information do parents want at the time of diagnosis of a hearing loss in their infant?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
7. What do you feel are the main challenges you face as an Audiologist working in the area of newborn diagnostic testing?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. How do you think the field of paediatric Audiology has changed for Audiologists since the introduction of newborn hearing screening?

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9. How do you think the field of paediatric Audiology has changed for parents since the introduction of newborn hearing screening?

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## Appendix 5 Parent questionnaire

Participant Number \_\_\_\_\_

### Parent Questionnaire

(based on the Audiologic Counseling Evaluation by English & Naeve-Velguth  
Available at: <http://gozips.uakron.edu/~ke3/ACE.pdf>)

Please circle a number on the scale from 1-5 (1= Not at All, 5= Definitely or Always)

Feel free to make your own comments.

#### A. Getting Started

1. Did the Audiologist greet you and your baby with a warm and welcoming manner?

1    2    3    4    5

2. Did the Audiologist enquire about your child's wellbeing?

1    2    3    4    5

3. Did the Audiologist arrange the environment well?

1    2    3    4    5

4. Did the Audiologist make you feel comfortable?

1    2    3    4    5

5. Did the Audiologist clearly explain the purpose of the appointment and what would be happening in the appointment?

1    2    3    4    5

6. Did the Audiologist ask you if you had any questions before they began the testing?

1    2    3    4    5

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### B. Testing your babies' hearing

7. Did the Audiologist explain what the testing involved?

1      2      3      4      5

8. Were you present for testing?

Yes

No

8 a. If you were not present for the test, would you have liked to be?

1      2      3      4      5

9. Did the Audiologist explain the test results as they were acquired?

1      2      3      4      5

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### C. Delivering the Test Results

10. Did the audiologist begin with a 'warm up' comment such as "I know you have been anxious about the results of these tests" or "I have some difficult news for you"?

1      2      3      4      5

11. Did the Audiologist describe the test results briefly and simply?

1      2      3      4      5

12. Did the Audiologist wait for your response after telling you the test results?

1      2      3      4      5

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### D. Your Understanding of the Results and Reaction to the Situation

13. Did you understand the test results?

1      2      3      4      5

14. Did the Audiologist acknowledge your emotional reactions to the test results?

1      2      3      4      5

15. Did you feel comfortable reacting to the test results?

1      2      3      4      5

16. Did the Audiologist allow you to set the pace for the discussion of the results?

1      2      3      4      5

17. Did the Audiologist give you the information that you had asked for?

1      2      3      4      5

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### **E. Eliciting Information**

18. Did the Audiologist specifically invite you to ask questions?

1      2      3      4      5

19. Did the Audiologist check that you had understood what was being discussed?

1      2      3      4      5

20. Did the Audiologist respond to both the content and the underlying emotional concern of your questioning?

1      2      3      4      5

Comment: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### **F. Giving a Timeframe for Action**

21. Did the Audiologist describe the steps that you need to take in the near future (scheduling follow up appointments and so forth)?

1      2      3      4      5

22. Did the Audiologist suggest a set of activities to consider between appointments (such as providing written material about hearing and hearing loss, keeping a log of your babies' responses to sounds, or giving you a checklist of age appropriate listening behaviors)?

1      2      3      4      5

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### **G. General Considerations**

23. Did the Audiologist appear supportive during the consultation?

1      2      3      4      5

24. Did the Audiologist use appropriate body language during the appointment?

1      2      3      4      5

25. Did the Audiologist convey compassion during the appointment?

1      2      3      4      5

26. Did the Audiologist tailor the pace of the appointment to suit you?

1      2      3      4      5

27. Did the Audiologist effectively manage the time available?

1      2      3      4      5

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## **Appendix 6 Audiologist reflective statement prompts**

### **Audiologist Reflective Statement.**

The following are suggestions of areas that you may want to comment on after the diagnostic appointment. They are just suggestions; please feel free to comment on any aspect of the interaction. You may write your comments or record them by speaking into the portable audio recorder.

What do you feel you did well in that diagnostic appointment and why?

What would you have liked to have done better and why?

Do you think the parents understood the diagnosis?

Do you think the parents accepted the diagnosis?

Do you think that you were able to provide the parents with the information that they wanted?

Do you think that you effectively attended to the emotional needs of the parents?

## **Appendix 7 Move codes**

### MOVE STRUCTURE CODES

#### Initiating Moves

Statement: S

Question: Q

Offer: O

Command: C

#### Expected Responding Moves

Answer: An

Acknowledge: K

Respond to Command: rC

Respond to Offer: rO

Backchannel: B

#### Discretionary Moves

Tracking: t

Responding to tracking: rt

Challenging: ch

Response to Challenge: rch

#### Participants

Audiologist: A

Mother: M

Father: F

Other family member: G

More than one Audiologist: A1, A2 etc.

#### Question Type

Open (WH question): w

Closed (yes/no question): y

#### Information themes

Hearing: h

System: s

Baby: b

Emotion: e

Lower case b, m or f in second position indicates question being directed at baby(b) , mother (m) or father (f).

Eg. AbQy- Audiologist is asking the baby a yes/no question

One dash (-) means the utterance is cut off. Two equals signs (=) indicate over talking.



PARTICIPANT	CATEGORY	MOVE			CODE
				<b>THEMES</b>	
				<b>Hearing/System</b>	
	<b>Statement</b>	<b>S</b>		<b>h/s</b>	
<b>A</b>		S		h	ASh
				s	ASs
<b>M</b>		S		h	MSH
				s	MSs
<b>F</b>		S		h	FSH
				s	FSs
<b>G</b>		S		h	GSh
				s	GSs
	<b>Question</b>	<b>Q</b>	<b>Type</b>		
			<b>Wh/YesNo</b>		
			<b>w/y</b>		
<b>A</b>		Q	w	h	AQwh
		Q	w	s	AQws
		Q	y	h	AQyh
		Q	y	s	AQys
<b>M</b>		Q	w	h	MQwh
		Q	w	s	MQws
		Q	y	h	MQyh
		Q	y	s	MQys
<b>F</b>		Q	w	h	FQwh
		Q	w	s	FQws
		Q	y	h	FQyh
		Q	y	s	FQys
	<b>Offer</b>	<b>O</b>			
	<b>Command</b>	<b>C</b>			
	<b>Answer</b>	<b>An</b>			
	<b>Acknowledge</b>	<b>K</b>			
	<b>Response</b>	<b>r</b>			
	<b>Challenging</b>	<b>ch</b>			
	<b>Tracking</b>	<b>t</b>			
	<b>Backchannel</b>	<b>B</b>			
	<b>Patient Cue</b>	<b>Cue</b>			

## Appendix 8 Move code tables

### Appendix 7

#### Appointment A3

	Audiometric testing phase			Results dissemination phase		
	Audiologist	Mother	Father	Audiologist	Mother	Father
<b>Initiating moves</b>						
Command	5					
Question-Open	10	2	1	2		
Question-Closed	21	13	1	8	5	
Question-Assumptive	10	1		1		
Statement-General	76	37	2	52	18	
Statement-Emotion					4	
Statement-Baby	12	44			1	
Statement- Hearing	2	2		12	4	
Statement-System	55	17		30	1	
Talk directly to Baby	29	43	1	1	3	
<b>Responding moves</b>						
Answer Question	14	40	7	6	10	2
Acknowledge/ Backchannel	19	87	5	6	98	1
Tracking	27	10	7	2	2	
Responding to statements/tracking	23	66	3	5	20	1
Total Moves	303	362	27	125	166	4

## Appointment A5

	Audiometric testing phase			Results dissemination phase		
	Audiologist	Mother	Father	Audiologist	Mother	Father
<b>Initiating moves</b>						
Command	4					
Question-Open	7	1	2	3		
Question-Closed	28	22		4	5	
Question-Assumptive	4	3				
Statement-General	64	37		24	7	
Statement-Emotion		5				
Statement-Baby	9	16		1	4	
Statement- Hearing	12	3		3		
Statement-System	64	5		11		
Talk directly to Baby	24	43		4	4	
<b>Responding moves</b>						
Answer Question	20	37		4	7	
Acknowledge/ Backchannel	12	91	5		27	
Tracking	14	6	1	1	2	
Responding to statements/tracking	9	16				
Total Moves	271	285	8	55	56	0

## Appointment B1

	Audiometric testing phase			Results dissemination phase		
	Audiologist	Mother	Father	Audiologist	Mother	Father
<b>Initiating moves</b>						
Command	11			2		
Question-Open	3		2	1		
Question-Closed	22	6		5	3	
Question-Assumptive	1	1				
Statement-General	22	19	2	11	4	2
Statement-Emotion	1	3				
Statement-Baby	2	3				
Statement- Hearing	9	4	3	14	1	
Statement-System	42	2		28	1	
Talk directly to Baby	12	14		2	3	1
<b>Responding moves</b>						
Answer Question	8	20	4	4	4	1
Acknowledge/ Backchannel	22	23	5	1	47	11
Tracking	12	14	3	2	5	2
Responding to statements/tracking	13	12	3	3	3	
Total Moves	180	121	22	73	71	17

## Appointment B4

	Audiometric testing phase			Results dissemination phase		
	Audiologist	Mother	Father	Audiologist	Mother	Father
<b>Initiating moves</b>						
Command	11					
Question-Open	4			1	1	
Question-Closed	17	2	2	2	1	
Question-Assumptive	3					
Statement-General	10	3		3	1	1
Statement-Emotion						
Statement-Baby	17	10	4	1	1	
Statement- Hearing	1			3		
Statement-System	42			7		
Talk directly to Baby	24	8	2			
<b>Responding moves</b>						
Answer Question	2	13	4	2	1	
Acknowledge/ Backchannel	10	12	9	1	5	2
Tracking	5				1	
Responding to statements/tracking		2		1		
Total Moves	146	50	21	21	11	3

## Appointment B5

	Audiometric testing phase			Results dissemination phase		
	Audiologist	Mother	Father	Audiologist	Mother	Father
<b>Initiating moves</b>						
Command	12			8		
Question-Open	2	5		3	1	
Question-Closed	24	16	7	3	3	1
Question-Assumptive	2					
Statement-General	9	4	5	8	1	1
Statement-Emotion	1					
Statement-Baby	15	11	6	5	2	
Statement- Hearing	30	1		43		
Statement-System	80	1	1	65	1	
Talk directly to Baby	21	10		1	3	
<b>Responding moves</b>						
Answer Question	22	17	3	4	3	4
Acknowledge/ Backchannel	5	59	7	1	74	6
Tracking	15	15	3	4	9	
Responding to statements/tracking	15		6	5	3	1
Total Moves	253	139	38	150	100	13

## Appointment C1

	Audiometric testing phase			Results dissemination phase		
	Audiologist	Mother	Father	Audiologist	Mother	Father
<b>Initiating moves</b>						
Command	4	2		2		
Question-Open	4				2	
Question-Closed	13			17	9	
Question-Assumptive	10	1		3		
Statement-General	20	6		22	6	
Statement-Emotion				6	2	
Statement-Baby	12	6		1	1	
Statement- Hearing	3	2		40	1	
Statement-System	26			45		
Talk directly to Baby	18	3		1	1	
<b>Responding moves</b>						
Answer Question	1	21		11	16	
Acknowledge/ Backchannel	25	15		9	109	
Tracking	5	6		3	6	
Responding to statements/tracking	2	3		8	7	
Total Moves	143	65		168	160	

## Appointment C4

	Audiometric testing phase			Results dissemination phase		
	Audiologist	Mother	Father	Audiologist	Mother	Father
<b>Initiating moves</b>						
Command	2					
Question-Open	5	3		5	4	
Question-Closed	27	7		5	17	
Question-Assumptive	8					
Statement-General	14	9		6		
Statement-Emotion	3	4				
Statement-Baby	18	76		6	1	
Statement- Hearing	5	6		53	1	
Statement-System	76	11		77	6	
Talk directly to Baby	47	30		1		
<b>Responding moves</b>						
Answer Question	8	35		19	8	
Acknowledge/ Backchannel	70	7		6	125	
Tracking	51	5		1	18	
Responding to statements/tracking	4	43		17		
Total Moves	338	236		196	180	



## Appointment D2

	Audiometric testing phase			Results dissemination phase		
	Audiologist	Mother	Father	Audiologist	Mother	Father
<b>Initiating moves</b>						
Command	12			1		
Question-Open	12	2		4		
Question-Closed	33	2		8		
Question-Assumptive	10			2		
Statement-General	23	33		8	7	
Statement-Emotion						
Statement-Baby	6	8			1	
Statement- Hearing	11	5		13		
Statement-System	33	8		14	3	
Talk directly to Baby	30	48		3	4	
<b>Responding moves</b>						
Answer Question	9	55			12	
Acknowledge/ Backchannel	27	8		5	6	
Tracking	29	2		5	1	
Responding to statements/tracking	2	14		2	6	
Total Moves	237	185		65	40	

### Appointment D3

	Audiometric testing phase			Results dissemination phase		
	Audiologist	Mother	Father	Audiologist	Mother	Father
<b>Initiating moves</b>						
Command	4					
Question-Open	7					
Question-Closed	35	8	3	8		14
Question-Assumptive	31			1		
Statement-General	81	22	12	31	6	3
Statement-Emotion		1		3	1 (crying)	
Statement-Baby	3	16			1	
Statement- Hearing	3	2		42		
Statement-System	25	2	2	46		
Talk directly to Baby	21	64	3		2	
<b>Responding moves</b>						
Answer Question	8	54	19	14	5	1
Acknowledging	21	38	14		28	12
Backchannel		2	1		68	26
Tracking	11	7		6	2	1
Responding to statements/tracking	7	8	8	5	5	3
Total Moves	257	224	62	157	117	60